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YEAR BOOK

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COMMONWEALTH OF AUSTRALIA.

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BY

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PREFACE.

By the Constitution of the Commonwealth of Australia, the Parliament of the Commonwealth is empowered "to make laws for the peace, order, and good government of the Commonwealth, with respect to Census and Statistics." In the exercise of the power so conferred, a "Census and Statistics Act" was passed in 1905, and in the year following the "Commonwealth Bureau of Census and Statistics" was created. The first Official Year Book was published early in 1908. The publication here presented is the seventeenth Official Year Book issued under the authority of the Commonwealth Government.

The synopsis on pp. VIII. to XXIII. immediately following shows the general arrangement of the work. In addition to the ordinary Chapters, each issue contains special articles dealing with some particular subject or subjects of more or less permanent interest. These cannot of course be repeated year after year, but in some instances a brief condensation is given in subsequent issues. While portion of the matter contained in Year Books Nos. 1 to 16 has been reduced to synopses or deleted in the present issue, the special index provided at the end of the volume will assist in tracing it in previous issues.

The present issue contains two specially-contributed articles, one dealing with "Co-operation in Australia," placed at the end of Chapter XIII., "Labour, Wages, and Prices," and the other relating to "Marine and Fresh-water Fisheries of Australia," which will be found at the close of Chapter XX., "Fisheries."

Amongst the new matter contained in the various Chapters, mention may be made of the table showing the strength of the permanent Civil Service in the Commonwealth and States, statement of salaries paid to members of Commonwealth and State Parliaments, and number of Consular representatives in Australia—incorporated in Chapter III., "General Government": the description of the basis of municipal rating and limits for rates in Chapter IV., "Local Government": value of Australian production and exports according to industry, and excise table, in Chapter VI., "Oversea Trade": information regarding the Commonwealth Public Service Superannuation Fund and transactions of Co-operative Societies in Chapter VIII., "Finance": statement of the activities of Employers' Associations in Chapter XIII., "Labour, Wages, etc.": the account of the origin and comparative numbers at various dates of the aboriginal population in Chapter XXIV., "Population": while the section dealing with Aircraft in Chapter VII., "Transport, etc.," has been largely re-written.

The full text of the Commonwealth Constitution Act and Amendments appears on pages 20 to 37.

Recent information or returns which have come to hand since the various Chapters were sent to press will be found in the Appendix, p. 1051.

The material contained in each issue is always carefully examined, but it would be idle to hope that all error has been avoided. The Commonwealth Statistician desires to express appreciation of the opportunity afforded him of improving the Year Book, by those who have been kind enough to point out defects or make suggestions.

PREFACE.

My best thanks are due to the State Statisticians, to the responsible officers of the various Commonwealth and State Departments, and to others, who have kindly, and often at considerable trouble, supplied information for this issue.

In conclusion, I wish to express my keen appreciation of the valuable work performed by Mr. Stonham, the editor of the Year Book, and also of the services rendered by the officers in charge of the various branches of the Commonwealth Bureau of Census and Statistics, upon whom has devolved the duty of revising, or in some cases of re-writing the Chapters relative to their respective branches.

CHAS. H. WICKENS,
Commonwealth Statistician.

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,
Melbourne, October 2nd, 1924.

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STATISTICAL SUMMARY.

STATISTICAL SUMMARY, AUSTRALIA, 1871 TO 1923.

Heading.	Years.							
	1871.	1881.	1891.	1901.	1911.	1921.	1923.	
Population ..	Males	928,918	1,247,059	1,736,617	2,004,836	2,382,232	2,798,727	2,930,302
	Females	771,970	1,059,677	1,504,368	1,820,077	2,191,554	2,710,346	2,819,505
	Total	1,700,888	2,306,736	3,240,985	3,824,913	4,573,786	5,509,073	5,749,807
Births ..	No.	63,625	80,004	110,187	102,945	122,193	136,188	135,222
	Rate	38.00	35.26	34.47	27.16	27.21	24.95	28.77
Deaths ..	No.	22,175	33,327	47,430	46,830	47,869	54,076	53,326
	Rate	13.24	14.69	14.84	12.22	10.66	9.91	9.89
Marriages ..	No.	11,623	17,244	23,862	27,753	39,482	46,869	44,541
	Rate	6.94	7.60	7.47	7.32	8.79	8.59	7.83
Agriculture—								
Wheat ..	Area, acs.	1,279,778	3,002,064	3,335,528	5,115,965	7,427,834	9,719,042	9,507,666
	Yld., bshl.	11,917,741	21,443,862	25,675,265	38,561,619	71,636,347	129,088,806	124,798,643
	Av. „	9.31	7.14	7.70	7.54	9.64	13.28	13.13
Oats ..	Area, acs.	225,492	194,816	246,129	461,430	616,794	733,406	..
	Yld., bshl.	4,251,630	4,795,897	5,726,256	9,789,854	9,561,833	12,147,433	..
	Av. „	18.85	24.62	23.27	21.22	15.50	16.56	..
Barley ..	Area, acs.	48,164	75,864	68,068	74,511	116,466	298,910	..
	Yld., bshl.	726,158	1,353,380	1,178,560	1,519,819	2,056,836	6,085,685	..
	Av. „	15.08	17.84	17.31	20.40	18.19	20.36	..
Maize ..	Area, acs.	142,078	165,777	284,428	294,849	340,065	305,186	..
	Yld., bshl.	4,576,635	5,726,266	9,261,922	7,034,786	8,939,855	7,840,438	..
	Av. „	32.21	34.54	32.56	23.86	26.29	25.69	..
Hay ..	Area, acs.	303,274	768,388	942,166	1,688,402	2,518,351	2,994,519	..
	Yld., tons	375,871	707,194	1,067,255	2,024,608	2,867,973	3,902,189	..
	Av. „	1.24	1.00	1.13	1.20	1.14	1.30	..
Potatoes(a) ..	Area, acs.	67,911	76,265	112,834	109,685	190,463	149,144	..
	Yld., tons	212,896	243,216	380,477	322,524	301,489	338,091	..
	Av. „	3.13	3.19	3.37	2.94	2.31	2.60	..
SugarCane(d) ..	Area, acs.	11,576	19,708	45,444	86,950	101,010	197,293	..
	Yld., tons	176,632	349,627	737,573	1,367,802	1,682,250	2,436,890	..
	Av. „	15.25	17.74	16.23	15.73	16.65	18.99	..
Vineyards ..	Area, acs.	16,253	14,570	48,882	63,677	60,602	82,414	..
	Wine, gal.	2,104,000	1,488,000	3,535,000	5,816,087	4,975,147	8,502,578	..
Total value all agricultural production ..	£	8,941,000	15,519,000	16,480,000	23,835,000	38,774,000	81,889,700	..
Pastoral, dairying, etc.—								
Live Stock	Sheep No.	40,072,955	65,092,719	106,421,068	72,940,211	93,003,521	82,226,470	..
	Cattle „	4,277,228	8,010,991	11,112,112	8,491,428	11,828,954	14,441,309	..
Horses	„	701,530	1,088,029	1,584,737	1,620,420	2,278,226	2,438,182	..
	Pigs	686,017	703,188	845,888	931,309	1,110,721	960,385	..
Wool prod., lb. greasy		179,000,000	332,759,000	631,587,000	543,131,661	721,298,288	641,514,435	..
Butter production lbs.	(e)	(e)	47,433,564	101,671,066	211,578,745	267,071,340	..	
Cheese „	(e)	(e)	19,146,929	11,575,692	15,886,712	32,653,003	..	
Bacon and ham „	(e)	(e)	(c)	34,020,629	53,264,652	58,614,459	..	
Total estimated value of pastoral and dairying production ..	£	20,736,000	29,538,000	39,256,000	36,890,000	69,832,000	113,671,000	..
Mineral production—								
Gold ..	£	7,916,627	5,194,390	5,281,309	14,017,508	10,551,624	4,018,685	3,151,418
Silver and lead ..	£	36,528	45,622	3,736,352	2,367,687	3,022,177	1,539,992	3,453,472
Copper ..	£	830,242	714,003	367,373	2,215,431	2,564,278	803,957	1,245,836
Tin ..	£	24,020	1,145,689	560,502	448,234	1,209,973	418,418	572,041
Zinc ..	£	369	200	2,979	4,067	1,415,169	285,455	1,411,652
Coal ..	£	330,759	637,865	1,914,026	2,602,770	3,929,673	11,014,831	10,549,571
Total value all mineral production ..	£	9,190,330	7,820,290	12,108,759	21,922,665	23,494,324	19,977,384	22,190,926
Forestry production—								
Quantity of local timber sawn or hewn								
1,000 sup. ft.	(e)	(e)	(e)	452,131	604,794	590,495	..	
Manufactories—								
No. of factories					14,455	18,023	..	
Hands employed	No.				311,710	395,425	..	
Wages paid	£	(b)	(b)	(b)	27,528,371	68,050,361	..	
Total value of output	£				133,022,090	320,331,765	..	
Value added in process of manufacture	£				54,017,714	129,921,500	..	

(a) Partly estimated 1871 and 1881. effective comparison is impossible.

(b) Owing to variation in classification and lack of information

(c) Information not available.

(d) Area of productive cane.

STATISTICAL SUMMARY.—AUSTRALIA, 1871 TO 1923—continued.

Heading.	Years.						
	1871.	1881.	1891.	1901.	1911.	1921.	1923.
Shipping—							
Oversea vessels (No. ent. & cleared ton.)	2,748 1,312,642	3,284 2,549,364	3,778 4,726,307	4,028 6,541,991	4,174 9,984,801	3,674 9,503,018	2,935 9,172,226
Commerce (c)—							
Imports oversea £	17,017,000	29,067,000	37,711,000	42,434,000	66,967,488	103,066,436	140,569,853
" per head £	10/3/3	12/16/2	11/16/0	11/3/11	14/18/2	18/14/1	24/8/11
Exports oversea £	21,725,000	27,528,000	36,043,000	49,696,000	79,482,258	127,846,535	119,567,407
" per head £	12/19/6	12/2/8	11/5/6	13/2/2	17/13/10	23/4/1	20/15/11
Total oversea trade £	38,742,000	56,595,000	73,754,000	92,130,000	146,449,746	230,912,971	260,137,260
" per head £	23/2/9	24/18/10	23/1/6	24/6/1	32/12/0	41/18/2	45/4/10
Customs and excise duties .. £	..	4,809,328	7,440,869	8,656,530	13,515,005	27,565,199	35,752,044
" per head, £	..	2/2/5	2/6/7	2/5/8	2/19/2	5/0/1	6/4/4
Principal Oversea Ex-ports (a)							
Wool } lbs. (greasy) £	176,635,800	323,369,200	619,259,800	518,018,100	720,364,900	927,833,700	578,662,125
" £	9,459,629	13,173,026	19,940,029	15,237,454	26,071,193	47,977,044	56,196,774
Wheat } centals £	479,954	3,218,792	5,876,875	12,156,035	33,088,704	59,968,334	35,947,288
" £	193,732	1,189,762	1,938,864	2,774,643	9,641,608	28,644,155	13,979,242
Flour } tons £	12,988	49,549	33,363	96,814	175,891	359,734	511,749
" £	170,415	519,635	328,423	589,604	1,391,529	5,519,881	5,313,527
Butter } lbs. £	1,812,700	1,298,800	4,239,500	34,607,400	101,722,100	127,347,400	65,440,742
" £	45,813	39,383	206,868	1,451,168	4,637,362	7,968,078	4,874,910
Skins and hides £	100,123	316,878	873,695	1,250,938	3,227,236	3,136,810	6,291,834
Tallow .. £	914,278	644,149	571,069	677,745	1,935,836	1,441,795	850,898
Meats .. £	566,780	362,965	460,894	2,611,244	4,303,159	5,542,102	3,542,168
Timber (undressed) £	42,586	118,117	38,448	731,301	1,023,960	1,158,166	1,251,727
Gold .. £	7,184,833	6,445,365	5,703,532	14,315,741	12,045,766	3,483,239	2,850,807
Silver and lead £	37,891	57,954	1,932,278	2,250,253	3,212,584	2,583,641	4,404,075
Copper .. £	598,538	676,515	417,687	1,619,145	2,345,961	705,358	468,065
Coal .. £	134,355	361,081	645,972	986,957	900,622	1,099,899	1,460,148
Govt. Railways—							
Lgth. of line open, mls.	970	3,832	9,541	12,579	16,078	23,296	23,881
Capital cost £	19,269,786	42,741,350	99,764,090	123,223,779	152,194,603	237,479,693	253,526,519
Gross revenue £	1,102,650	3,910,122	8,654,085	11,038,468	17,847,837	35,936,900	39,524,527
Working expenses £	608,332	2,141,735	5,630,182	7,133,617	10,945,727	29,969,954	29,513,440
Per cent. of work'g expenses on earnings %	55.17	54.77	65.06	64.63	61.33	83.39	74.67
Postal—							
Letters and postcards dealt with No.	24,382,000	67,640,000	157,297,000	220,853,000	453,063,000	569,343,456	594,278,573
" per head .. No.	14.54	29.61	49.07	58.26	100.90	104.36	105.49
Newspapers dealt with No.	3,336,000	38,063,000	85,280,000	102,727,000	141,638,000	130,882,425	151,144,886
" per head .. No.	7.95	16.66	26.61	27.10	31.54	23.99	26.83
Cheque-paying Banks—							
Note circulation £	2,456,487	3,978,711	4,417,269	3,406,175	876,428	211,187	207,228
Coin & bullion held £	6,163,869	9,108,243	16,712,923	19,737,572	30,024,225	22,092,371	21,922,281
Advances £	26,039,573	57,732,824	129,741,583	89,167,499	116,769,133	233,214,626	255,042,530
Deposits £	21,856,959	53,849,455	98,345,338	90,965,530	147,103,081	273,866,737	311,321,503
Savings Banks—							
Number of accounts open	100,713	250,070	614,741	964,553	1,600,112	3,327,456	3,598,901
Total deposits £	3,193,285	7,854,480	15,536,592	30,882,645	59,393,682	154,396,051	171,640,608
Aver. per account £	31/14/2	31/8/2	25/5/6	32/0/4	37/2/4	46/8/0	47/13/10
" head of population £	1/18/9	3/10/5	4/18/7	8/3/0	13/8/5	28/0/4	30/3/6
State Schools—							
Number of schools ..	2,502	4,494	6,231	7,012	8,060	9,445	..
Teachers .. No.	4,641	9,028	12,564	14,500	16,971	26,120	..
Enrolment ..	236,710	432,320	661,153	638,478	638,850	819,042	..
Aver. attendance ..	137.767	255.143	350.773	450.246	463.799	666.498	..

(a) Australian produce, except gold, which includes re-exports. Preliminary figures for 1923. (b) Decrease due to prohibition of re-issue. (c) Figures for Commerce for years 1921 and 1923 relate to year ended 30th June following.

CHRONOLOGICAL TABLE.

CHRONOLOGICAL TABLE OF CHIEF EVENTS SINCE THE ESTABLISHMENT OF SETTLEMENT IN AUSTRALIA.

NOTE.—The Government was centralized in Sydney, New South Wales, up to 1825, when Tasmania (Van Diemen's Land) was made a separate colony. In the Table, the names now borne by the States serve to indicate the localities.

Year.

- 1788 N.S.W.—Arrival of "First Fleet" at Botany Bay. Land in vicinity being found unsuitable for settlement, the expedition moved to Sydney Cove (now Port Jackson). Formal possession of Port Jackson taken by Captain Phillip on 26th January. Formal proclamation of colony on 7th February. Branch settlement established at Norfolk Island. French navigator Lapérouse visited Botany Bay. First cultivation of wheat and barley. First grape vines planted.
- 1789 N.S.W.—First wheat harvest at Parramatta, near Sydney. Discovery of Hawkesbury River. Outbreak of small-pox amongst aborigines.
- 1790 N.S.W.—"Second Fleet" reached Port Jackson. Landing of the New South Wales Corps. Severe suffering through lack of provisions. First circumnavigation of Australia by Lieut. Ball.
- 1791 N.S.W.—Arrival of "Third Fleet." Territorial seal brought by Governor King.
- 1792 N.S.W. Visit of *Philadelphia*, first foreign trading vessel.
- 1793 N.S.W.—First free immigrants arrived in the *Bellona*. First Australian church opened at Sydney. Tas.—D'Entrecasteaux discovered the Derwent River.
- 1794 N.S.W.—Establishment of settlement at Hawkesbury River.
- 1795 N.S.W.—Erection of the first printing press at Sydney. Descendants of strayed cattle discovered at Cowpastures, Nepean River.
- 1796 N.S.W.—First Australian theatre opened at Sydney. Coal discovered by fishermen at Newcastle.
- 1797 N.S.W.—Introduction of merino sheep from Cape of Good Hope.
- 1798 Tas.—Insularity of Tasmania proved by voyage of Bass and Flinders.
- 1800 N.S.W.—First export of coal. First Custom House in Australia established at Sydney. Flinders' charts published.
- 1801 N.S.W.—First colonial manufacture of blankets and linen.
- 1802 Vic.—Discovery of Port Phillip by Lieut. Murray. S.A.—Discovery of Spencer's and St. Vincent Gulfs by Flinders. Q'land.—Discovery of Port Curtis and Port Bowen by Flinders.
- 1803 N.S.W.—First Australian wool taken to England by Capt. Macarthur. Issue of "The Sydney Gazette," first Australian newspaper. Vic.—Attempted colonization of Port Phillip by Collins. Discovery of Yarra by Grimes. Tas.—First settlement formed at Risdon by Lieut. Bowen.
- 1804 N.S.W.—Insurrection of convicts at Castle Hill. Vic.—Abandonment of settlement at Port Phillip. Tas.—Foundation of settlement at Hobart by Collins, and at Yorktown by Colonel Paterson.
- 1805 N.S.W.—First extensive sheep farm established at Camden by Capt. Macarthur. Portion of convicts from Norfolk Island transferred to Tasmania.
- 1806 N.S.W.—Shortage of provisions. Floods. Tas.—Settlement at Launceston.
- 1807 N.S.W.—Final shipment of convicts from Norfolk Island. First shipment of merchantable wool (245 lbs.) to England.
- 1808 N.S.W.—Deposition of Governor Bligh.
- 1810 N.S.W.—First post-office established at Sydney. First race meeting in Australia at Hyde Park, Sydney. Tas.—First Tasmanian newspaper printed.
- 1813 N.S.W.—Passage across Blue Mountains discovered by Wentworth, Lawson, and Blaxland. Macquarie River discovered by Evans.
- 1814 N.S.W.—Australia, previously known as "New Holland," received present name on recommendation of Flinders. Creation of Civil Courts.

Year.

- 1815 N.S.W.—Town of Bathurst founded by Governor Macquarie. First steam engine in Australia erected at Sydney. Lachlan River discovered by Evans. Tas.—Arrival of first immigrant ship with free settlers. First export of wheat to Sydney.
- 1816 N.S.W.—Botanic Garden formed at Sydney.
- 1817 N.S.W.—Oxley's first exploration inland. Discovery of Lakes George and Bathurst and the Goulburn Plains by Meehan and Hume. First bank in Australia opened at Sydney.
- 1818 N.S.W.—Cessation of free immigration. Liverpool Plains, and the Peel, Hastings, and Manning Rivers discovered by Oxley, and Port Essington, by Captain King.
- 1819 N.S.W.—First Australian Savings Bank opened at Sydney.
- 1820 Tas.—First importation of pure merino sheep.
- 1821 Tas.—Establishment of penal settlement at Macquarie Harbour.
- 1823 N.S.W.—First Australian Constitution. Discovery of gold at Fish River by Assistant-Surveyor McBrien. Qld.—Brisbane River discovered by Oxley.
- 1824 N.S.W.—Erection into Crown Colony. Executive Council formed. Establishment of Supreme Court at Sydney, and introduction of trial by jury. First Australian Enactment (Currency Bill) passed by the Parliament at Sydney. Proclamation of freedom of the press. First manufacture of sugar. Vic.—Hume and Hovell, journeying overland from Sydney, arrived at Corio Bay. Qld.—Penal settlement founded at Moreton Bay (Brisbane). Fort Dundas Settlement formed at Melville Island, N. Terr.
- 1825 Tas.—Separation of Van Diemen's Land (Tasmania).
- 1826 N.S.W.—Settlement in Illawarra District. Vic.—Settlement at Corinella, Western Port, formed by Captain Wright. W.A.—Military Settlement founded at King George's Sound, Albany, by Major Lockyer.
- 1827 N.S.W.—Colony became self-supporting. Feverish speculation in land and stock. Qld.—Darling Downs and the Condamine River discovered by Allan Cunningham.
- 1828 N.S.W.—Second constitution. First Census. Sturt's expedition down Darling River. Cotton first grown in Sydney Botanical Gardens. Gas first used at Sydney. Richmond and Clarence Rivers discovered by Captain Rous. Vic.—Abandonment of settlement at Western Port. Qld.—Cunningham discovered a route from Brisbane to the Darling Downs, and explored Brisbane River to its source.
- 1829 N.S.W.—Sturt's expedition down Murrumbidgee River. W.A.—Foundation of settlement at Swan River. Foundation of Perth.
- 1830 N.S.W.—Insurrection of convicts at Bathurst. Sturt, voyaging down Murrumbidgee and Murray Rivers, arrived at Lake Alexandrina. Tas.—Trouble with natives. Black line organized to force aborigines into Tasmania's Peninsula, but failed. Between 1830 and 1835, however, George Robinson, by friendly suasion, succeeded in gathering the small remnant of aborigines (203) into settlement on Flinders Island.
- 1831 N.S.W.—Crown lands first disposed of by public competition. Mitchell's explorations north of Liverpool Plains. Arrival at Sydney of first steamer, *Sophia Jane*, from England, S.S. *Surprise*, first steamship built in Australia, launched at Sydney. First coal shipped from Australian Agricultural Company's workings at Newcastle, N.S.W. First assisted immigration to N.S.W. S.A.—Wakefield's first colonization committee. W.A.—Appointment of Executive and Legislative Councils.
- 1832 N.S.W.—Savings Bank of N.S.W. established.
- 1833 N.S.W.—First School of Arts established at Sydney.
- 1834 N.S.W.—First settlement at Twofold Bay. Vic.—Settlement formed at Portland Bay by Henty Bros. Qld.—Leichhardt reached Gulf of Carpentaria. S.A.—Formation of the South Australian Association. W.A.—Severe reprisals against natives at Pinjarrah.
- 1835 N.S.W.—Establishment of depot at Fort Bourke on the Darling River, by Mitchell. Vic.—John Batman arrived at Port Phillip; made treaty with the natives for 600,000 acres of land; claim afterwards disallowed by Imperial Government. John Pascoe Fawkner founded Melbourne.
- 1836 N.S.W.—Mitchell's overland journey from Sydney to Cape Northumberland, Vic., "Squatting" formally recognised. Vic.—Proclamation of Port Phillip district as open for settlement. S.A.—Settlement founded at Adelaide under Governor Hindmarsh.

Year.

- 1837 N.S.W.—Appointment in London of Select Committee on Transportation. Vic.—Melbourne planned and named by Governor Bourke. First Victorian post-office established in Melbourne. First overlanders from Sydney arrived at Port Phillip. S.A.—Adelaide planned by Captain Light.
- 1838 N.S.W.—Discontinuance of assignment of convicts. Drought and failure of crops. Frenzied speculation. Qld.—Settlement of German missionaries at Brisbane. S.A.—“Overlanding” of cattle from Sydney to Adelaide along the Murray route by Hawden and Bonney. Settlement at Port Essington, Northern Territory, formed by Captain Bremer.
- 1839 N.S.W.—Gold found at Vale of Clwydd by Count Strzelecki. S.A.—Lake Torrens discovered by Eyre. Port Darwin discovered by Captain Stokes. W.A.—Murchison River discovered by Captain Grey.
- 1840 N.S.W.—Abolition of transportation to New South Wales. Land regulations—proceeds of sales to be applied to payment for public works and expenditure on immigration. Monetary crisis. Vic.—Determination of northern boundary. Qld.—Penal settlement broken up and Moreton Bay district thrown open. S.A.—Eyre began his overland journey from Adelaide to King George’s Sound.
- 1841 N.S.W.—Gold found near Hartley by Rev. W. B. Clarke. Separation of New Zealand. W.A.—Completion of Eyre’s overland journey from Adelaide to King George’s Sound. Tas.—Renewal of transportation.
- 1842 N.S.W.—Incorporation of Sydney. Vic.—Incorporation of Melbourne. S.A.—Discovery of copper at Kapunda.
- 1843 N.S.W.—First Representative Constitution. First manufacture of tweed. Financial crisis. Qld.—Moreton Bay granted legislative representation.
- 1844 S.A.—Sturt’s last expedition inland. Qld.—Leichhardt’s expedition from Condamine River to Port Essington.
- 1845 N.S.W.—Mitchell’s explorations on the Barcoo. Qld.—Explorations by Mitchell and Kennedy. S.A.—Discovery of the Burra copper deposits. Sturt discovered Cooper’s Creek.
- 1846 N.S.W.—Initiation of meat preserving. Qld.—Foundation of settlement at Port Curtis. S.A.—Proclamation of North Australia. W.A.—Foundation of New Norcia Mission.
- 1847 N.S.W.—Iron smelting commenced near Berrima. Overland mail established between Sydney and Adelaide. Vic.—Melbourne created a City. Qld.—Explorations by Leichhardt, Burnett, and Kennedy.
- 1848 Qld.—Leichhardt’s last journey. Kennedy speared by the blacks at York Peninsula. Chinese brought in as shepherds.
- 1849 N.S.W.—Indignation of colonists at arrival of convict ship *Hashemy*. Exodus of population to goldfields of California. Vic.—*Randolph* prevented from landing convicts. Qld.—Assignment of convicts per *Hashemy* to squatters on Darling Downs. W.A.—Commencement of transportation to Western Australia.
- 1850 N.S.W.—Final abolition of transportation. First sod of first Australian railway turned at Sydney. Vic.—Gold discovered at Clunes by Hon. W. Campbell. Representative government granted. S.A.—Representative government granted. W.A.—Pearl oysters found by Lieut. Helpman at Saturday Island Shoal. Tas.—Representative government granted.
- 1851 N.S.W.—Payable gold discovered by Hargraves at Lewis Ponds and Summerhill Creeks. Telegraph first used. Vic.—Separation of Port Phillip—erected into independent colony under the name of Victoria. Discovery of gold in various localities. “Black Thursday,” 6th Feb., a day of intense heat, when several persons died and a vast amount of damage to property was occasioned by fires. W.A.—Proclamation of Legislative Council Act.
- 1852 N.S.W.—Destruction of Gundagai by flood—77 lives lost. Arrival of the *Chusan*, first P. and O. mail steamer from England. S.A.—First steamer ascends the Murray River to the junction with the Darling. Tas.—Meeting of first elective Council protests against transportation. Payable gold discovered at The Nook, near Fingal, and at Nine Mile Springs.
- 1853 Tas.—Abolition of transportation.
- 1854 N.S.W.—Russian war-scare and volunteer movement. Vic.—Opening of first Victorian railway—Flinders-street to Port Melbourne. Riots on Ballarat goldfields. Storming of the Eureka Stockade, 3rd Dec.

- Year.
- 1855 N.S.W.—Opening of railway—Sydney to Parramatta. Introduction of Responsible Government. Mint opened. Vic.—Proclamation of Constitution. Qld.—Gregory's expedition in search of Leichhardt. Tas.—Responsible Government introduced.
- 1856 N.S.W.—First elective Parliament. Pitcairn Islanders placed on Norfolk Island. S.A.—Responsible Government introduced. W.A.—A. C. Gregory's expedition in search of Leichhardt.
- 1857 N.S.W.—Heavy floods. Wreck of the *Dunbar* (119 lives lost), and *Catherine Adamson* (21 lives lost), at Sydney Heads. Select Committee on Federation. Vic.—Manhood suffrage established. S.A.—Passage of Torrens' Real Property Act.
- 1858 N.S.W.—Establishment of manhood suffrage and vote by ballot. Telegraphic communication between Sydney, Melbourne, and Adelaide. Qld.—Canoona gold rush.
- 1859 Qld.—Proclamation of Queensland as separate colony. Tas.—First submarine cable, via Circular Head and King Island, to Cape Otway.
- 1860 N.S.W.—Disastrous floods on the Shoalhaven and at Araluen. Vic.—Burke and Wills left Melbourne on their journey across Continent. S.A.—Copper discoveries at Wallaroo and Moonta.
- 1861 N.S.W.—Anti-Chinese riots at Lambing Flat and Burrangong goldfields. Opening of first tramway in Sydney. Regulation of Chinese immigration. Vic.—Burke and Wills perished at Cooper's Creek, near Innamincka, S.A.
- 1862 N.S.W.—Raid by bushrangers on the Lachlan gold escort (£14,000 taken), Abolition of State aid to religion. Real Property Act. S.A.—Stuart crossed the Continent from south to north. W.A.—Severe floods—damage to property, £30,000. First export of pearl-shell.
- 1863 Vic.—Intercolonial Conference at Melbourne. S.A.—Northern Territory taken over. W.A.—Initiation of settlement in the North-west district.
- 1864 N.S.W.—Frequent outrages by bushrangers. Qld.—First railway begun and opened. First sugar made from Queensland cane. Tas.—First successful shipment of English salmon ova.
- 1865 N.S.W.—Destruction by fire of St. Mary's Cathedral, Sydney.
- 1866 N.S.W.—Passage of Public Schools Act of (Sir) Henry Parkes. Qld.—Financial crisis. S.A.—Introduction of camels for exploration, etc.
- 1867 Vic.—Imposition of protective tariff. Qld.—Discovery of gold at Gympie.
- 1868 N.S.W.—Attempted assassination of the Duke of Edinburgh at Clontarf, near Sydney. W.A.—Arrival of the *Hougomont*, last convict ship. Tas.—First sod of first railway (Launceston and Western) turned by Duke of Edinburgh.
- 1869 N.S.W.—Establishment of Eskbank Iron Company. W.A.—First telegraph line opened from Perth to Fremantle.
- 1870 N.S.W.—Intercolonial Exhibition opened at Sydney. Imperial troops withdrawn. Vic.—Intercolonial Congress at Melbourne. S.A.—Commencement of transcontinental telegraph.
- 1871 N.S.W.—Permanent military force raised. Vic.—Increase of protective duties. W.A.—Passage of Elementary Education Act. Forrest's explorations. Tas.—Discovery of tin at Mount Bischoff. Launceston-Western railway opened for traffic.
- 1872 N.S.W.—International Exhibition at Sydney. Vic.—Mint opened. S.A.—Cable from Java to Port Darwin. Completion of transcontinental telegraph line. W.A.—Cyclonic storms—destruction of town of Roebourne.
- 1873 N.S.W.—Intercolonial Conference at Sydney. First volunteer encampment. Inauguration of mail service with San Francisco.
- 1874 N.S.W.—Triennial Parliaments Act passed. Intercolonial Conference. W.A.—John and Alexander Forrest arrived at Overland Telegraph from Murchison.
- 1875 Qld.—Transfer of Port Albany Settlement to Thursday Island. S.A.—Wreck of the *Gothenburg*—Judge Wearing and other well-known Adelaide citizens drowned.
- 1876 N.S.W.—Completion of cable—Sydney (La Perouse) to Wellington (Wakapuaka). W.A.—Violent gale at Exmouth Gulf, number of pearling vessels wrecked, 69 lives lost. Giles crosses colony from east to west. Tas.—Death of Truganini, last representative of Tasmanian aborigines.
- 1877 W.A.—Opening of telegraphic communication with South Australia.
- 1878 N.S.W.—Seamen's strike. Vic.—“Black Wednesday”—wholesale dismissal of civil servants. Qld.—Restriction of Chinese immigration.

Year.

- 1879 N.S.W.—First artesian bore at Killara. International Exhibition at Garden Palace, Sydney. First steam tramway. W.A.—A. Forrest's explorations in the Kimberley district, and discovery of the Fitzroy pastoral country.
- 1880 N.S.W.—Public Instruction Act passed. Vic.—Opening of first Victorian International Exhibition at Melbourne.
Federal Conference, at Melbourne and Sydney.
- 1881 N.S.W.—Further restrictions on Chinese immigration. W.A.—Cyclone near Roebourne wrecked number of pearling vessels. On the Ashburton, 1,000 sheep destroyed by cyclone.
Visit to Australia of T.R.H. Prince Albert Victor and Prince George of Wales.
- 1882 N.S.W.—Garden Palace destroyed by fire. W.A.—Nugget of gold found between Roebourne and Cossack.
- 1883 N.S.W.—Discovery of silver at Broken Hill. Completion of railway between New South Wales and Victoria. Qld.—Annexation of New Guinea—repudiated by Imperial authorities.
Federal Conference held at Sydney. Federal Council created.
- 1884 Federation Bill passed in Victoria and rejected in New South Wales. British protectorate declared over New Guinea.
- 1885 N.S.W.—Military contingent sent to the Sudan. Opening of the Broken Hill Proprietary Silver Mines. W.A.—Gold found by prospectors on the Margaret and Ord Rivers in the Kimberley district Tas.—Silver-lead discovered at Mount Zeehan.
- 1886 N.S.W.—Wreck of the *Ly-ee-Moon*, *Coringamite*, and *Helen Nicol*. Tas.—Discovery of gold and copper at Mount Lyell.
First session of Federal Council met at Hobart on the 26th January.
- 1887 N.S.W.—Disaster at Bulli coal mine (81 lives lost). Peat's Ferry (Hawkesbury River) railway accident. S.A.—International Exhibition at Adelaide. W.A.—Cyclone destroyed nearly the whole pearling fleet off the Ninety-Mile Beach—200 lives lost. Gold discovered at Southern Cross.
Australasian Conference in London. Australasian Naval Defence Force Act passed.
- 1888 N.S.W.—Centennial celebrations. Restrictive legislation against Chinese, imposing poll-tax of £100. Vic.—Second Victorian International Exhibition held at Melbourne. Qld.—Railway communication opened between Sydney and Brisbane.
Conference of Australian Ministers at Sydney to consider question of Chinese immigration. First meeting of the Australasian Association for the Advancement of Science held in Sydney.
- 1889 Qld.—Direct railway communication established between Brisbane and Adelaide. W.A.—Framing of new Constitution.
- 1890 N.S.W.—Strike at Broken Hill. Maritime and shearers' strikes. Payment of members of Parliament. Qld.—Wreck of the *Quetta*—146 lives lost. Floods and hurricanes. W.A.—Responsible Government granted.
Meeting at Melbourne of Australasian Federation Conference.
- 1891 N.S.W.—Election to Legislative Assembly of 35 Labour members. Arrival of Australian Auxiliary Squadron. Cessation of assisted immigration. W.A.—Discovery of gold on the Murchison.
Federal Convention in Sydney: draft bill framed and adopted.
- 1892 N.S.W.—Broken Hill miners' strike. Run on Government Savings Bank. W.A.—Discovery of gold by Messrs. Bayley and Ford at Coolgardie.
- 1893 N.S.W.—Departure by the *Royal Tar* of colonists for "New Australia." Electoral Act—"One man one vote." Financial crisis, chiefly affecting the eastern States.
- 1894 N.S.W.—Shearers' strike. S.A.—Adult Suffrage Bill.
- 1895 N.S.W.—Free-trade tariff. Land and income taxes introduced.
Conference of Premiers at Hobart *re* Federation.
- 1896 N.S.W.—People's Federal Convention at Bathurst.
- 1897 S.A.—Earthquake and hurricane in Northern Territory. Town of Palmerston destroyed.
- 1897-8 Sessions of Federal Convention at Adelaide, Sydney, and Melbourne.
- 1898 N.S.W.—First surplus of wheat for export.
Draft Federal Constitution Bill submitted to electors in Victoria, New South Wales, South Australia, and Tasmania. Requisite statutory number of votes not obtained in New South Wales.

- Year.
- 1899 First contingent of Australian troops sent to South Africa. Conference of Premiers in Melbourne to consider amendments to Federal Constitution Bill. Referendum—Bill accepted by New South Wales, Victoria, Queensland, South Australia, and Tasmania.
- 1900 N.S.W.—Old-age pensions instituted.
Contingents of naval troops sent to China.
Commonwealth Constitution Act received Royal Assent, 9th July.
Proclamation of Commonwealth signed, 17th September. Mr. (afterwards Sir) Edmund Barton formed first Federal Ministry.
- 1901 Vic.—Old-age Pensions instituted.
Proclamation of the Commonwealth at Sydney. First Federal Parliament opened at Melbourne by the Duke of Cornwall and York. Interstate free-trade established.
- 1902 N.S.W.—Disastrous explosion at Mount Kembla Colliery—95 lives lost. W.A.—Opening of pumping station at Northam in connexion with Goldfields water supply. Completion of Pacific Cable (all-British)
First Federal Tariff.
- 1903 Vic.—Railway Strike (Enginemen). W.A.—Coolgardie and Kalgoorlie Water Supply Scheme completed.
Inauguration of the Federal High Court.
- 1905 N.S.W.—Re-introduction of assisted immigration.
- 1906 Wireless telegraphy installed between Queenscliff, Vic., and Devonport, Tas. Papua taken over by Commonwealth.
- 1907 N.S.W.—Telephone, Sydney to Melbourne, opened.
Imperial Conference in London.
- 1908 Vic.—Railway accident at Braybrook Junction (Sunshine)—44 killed, 412 injured; compensation paid, £126,000.
Yass-Canberra chosen as site of Federal Capital. Interstate Premiers' Conference at Melbourne.
- 1909 N.S.W.—Miners' strikes at Broken Hill and Newcastle. S.A.—*Clan Ranald* foundered in St. Vincent's Gulf—40 drowned. W.A.—Cyclone at Broome.
Imperial Defence Conference in London—Commonwealth ordered two destroyers and one first-class cruiser for fleet unit. Visit of Lord Kitchener to report and advise on Commonwealth military defence. Loss of the *Waratah* with 300 passengers and crew.
- 1910 Vic.—Railway accident at Richmond—9 killed, over 400 injured; compensation paid, £129,000. W.A.—Cyclone at Broome—several pearling vessels wrecked, three whites and many coloured fishermen drowned.
Referendum on financial relations between the Commonwealth and the States. Penny postage. Arrival of the *Yarra* and *Parramatta*, first vessels of Australian navy. Australian Notes Act passed and first Commonwealth notes issued. Admiral Sir R. Henderson visited Australia to advise on naval defence.
- 1911 First Federal Census. Transfer of Northern Territory to Commonwealth. Introduction of compulsory military training. Launch of Commonwealth destroyer *Warrego* at Sydney. Establishment of penny postage to all parts of British Empire.
- 1912 Opening of Commonwealth Bank. First payments of Maternity Bonus. First sod turned at Port Augusta of Trans-Australian Railway (Port Augusta to Kalgoorlie). Gift of £1,000,000 to charities by Mrs. Walter Hall, Sydney, N.S.W.
- 1913 Arrival of battle cruiser *Australia*, and cruisers *Melbourne* and *Sydney*. Federal Capital named Canberra and foundation stone laid. Appointment of Interstate Commission.
- 1914 Visit of General Sir Ian Hamilton to report on military defence scheme. Double dissolution of Federal Parliament. Visit of British Association for the Advancement of Science.
European War. Australian Navy transferred to Imperial Navy. Captured vessels added to Australian fleet. Submarine *AE1* lost at sea whilst on service in the vicinity of New Britain. German Pacific possessions seized by Australian expeditionary force (military and naval). Australian troops offered to, and accepted by Imperial Government. German Cruiser *Emden* destroyed at North Cocos Island by H.M.A.S. *Sydney*.

Year.

- 1915 Opening of Broken Hill Proprietary's Ironworks at Newcastle, N.S.W. Navy Department created.
Australian troops landed at Dardanelles on 25th April. Loss of Submarine AE2 in operations at the Dardanelles. Census taken of Wealth and Income, and of males in Australia between ages of 17 and 60. Australian troops withdrawn from Gallipoli on 19th December.
- 1916 Record wheat harvest (180,000,000 bushels). Australian troops transferred to France. Visit of Rt. Hon. W. M. Hughes, P.C., K.C., Prime Minister, to Canada, Great Britain, and South Africa, and to troops in England and France. Acquisition of steamships by the Commonwealth. First Military Service Referendum.
- 1917 National Ministry formed. General strike. Kalgoorlie-Port Augusta railway completed. Second Military Service Referendum.
- 1918 Population of Australia reaches 5,000,000. Australian troops in France formed into an Army Corps, commanded by Lieut.-Gen. Sir John Monash. Cessation of hostilities and surrender of Germany. Repatriation Department created. Australia House (Strand, London) opened by the King. Deaths of Sir G. H. Reid and of Lord Forrest of Bunbury.
- 1918-1919 Visit to America and Europe of Rt. Hon. W. M. Hughes, P.C., K.C., Prime Minister, representative at Peace Conference.
- 1919 Epidemic of influenza. Seamen's strike. Strike of Broken Hill miners. Aerial flight England to Australia by Capt. Sir Ross Smith and Lieut. Sir Keith Smith. Death of Hon. Alfred Deakin. Visit to Australia of General Sir W. Birdwood. Visit of Admiral Lord Jellicoe.
- 1920 Visit to Australia of H.R.H. the Prince of Wales. Aerial flight England to Australia by Lieuts. Parer and McIntosh. Deaths of Rt. Hon. Sir Edmund Barton and of Rt. Hon. Sir Samuel Griffith.
- 1921 Visit to Imperial Conference of Rt. Hon. W. M. Hughes, P.C., K.C., Prime Minister. Second Commonwealth Census. Germany's Indemnity fixed (Australia's share approximately £63,000,000). Visit of Senator Pearce (Minister for Defence) to Disarmament Conference at Washington. Colliery disaster at Mt. Mulligan, Queensland—76 lives lost. Mandate given to Australia over Territory of New Guinea. First direct wireless press message, England to Australia.
- 1922 Economic Conference at Sydney. First lock on River Murray opened at Blanchetown, South Australia.
- 1923 Rt. Hon. S. M. Bruce, P.C., M.C., Prime Minister. Premiers' Conference, Melbourne. First sod, site of Federal Parliament House at Canberra, turned. Pan-Pacific Science Congress, Melbourne. Visit of Rt. Hon. S. M. Bruce, P.C., M.C., Prime Minister, to Imperial Conference, London, and afterwards to European and Gallipoli battlefields (September, 1923, to March, 1924). Police dispute in Melbourne, with accompanying riots.

OFFICIAL YEAR BOOK
OF THE
COMMONWEALTH OF AUSTRALIA, 1923,
AND EARLIER YEARS.

CHAPTER I.

**DISCOVERY, COLONIZATION, AND FEDERATION OF
AUSTRALIA.**

§ 1. Early Knowledge of Australia.

1. **Introduction.**—It is proposed to give here only a brief summary of the more important facts relating to the early history of Australian discovery. A more complete account of this subject, together with bibliographical references thereto, may be found in Year Book No. 1 (pp. 44 to 51), although this account must be modified somewhat in view of later investigations.

2. **Early Tradition.**—It would appear that there was an early Chaldean tradition as to the existence of an Austral land to the south of India. Rumours to that effect in course of time found their way to Europe, and were probably spread by voyagers from Indian seas, more especially by the Greek soldiers who accompanied Alexander the Great [B.C. 356–323] to India. References to this *Terra Australis* are found in the works of Ælianus [A.D. 205–234], Manilius [probably a contemporary of Augustus or Tiberius Cæsar], and Ptolemy [A.D. 107–161]. In some of the maps of the first period of the Middle Ages there is evidence which might warrant the supposition of the knowledge of the existence of a *Terra Australis*, while some idea of the Austral land appears in the maps and manuscripts of the fourteenth and fifteenth centuries. But much of the map-drawing in these early days was more or less fanciful, and there is no evidence definitely connecting this so-called *Terra Australis* with Australia.

3. **Discovery of Australia.**—(i) *General.* The Venetian traveller, Marco Polo [1254–1324], refers to a land called Locac, which through a misunderstanding of his meaning was long thought to be Australia. But Marco Polo knew nothing of any land to the south of Java, and in any case the description given of the so-called Locac could not possibly be applied to Australia, as the writer speaks of elephants, etc. On a Mappamundi in the British Museum, of not later date than 1489, there is a coast-line which has been considered to represent the west coast of Australia. Investigation by Wood and others proves this claim to be merely fanciful. Martin Behaim's globe, the

oldest known globe extant, constructed in 1492, also shows what purports to be a part of Australia's coast-line, and a globe discovered in Paris bears an inscription to the effect that the *Terra Australis* was discovered in 1499. These also have other countries located in impossible positions. The term *Terra Australis* was, however, also applied to the region now known as Tierra del Fuego, hence little weight can be attached to this reference.

In the Dauphin map [about 1530–1536] Jave la Grande has been supposed by some to represent Australia, but an inspection of the fanciful animals and other figures thereon lends no weight to the idea. As a matter of fact much of this map-drawing was simply an attempt to support the old notion that the land surface of the southern hemisphere must balance that of the northern.

(ii) *Arab Expeditions.* It has been stated that the Arabs had come to Australia long before the Portuguese, the Spanish, or the Dutch, but there is no evidence to support the statement.

(iii) *Spanish and Portuguese Expeditions.* The last decade of the fifteenth century and the commencement of the sixteenth saw numerous expeditions equipped in the ports of Spain and Portugal for the purpose of exploiting the new world. The Portuguese rounded the southernmost Cape of Africa, which became known as the Cape of Good Hope, and pushed eastward. The Spaniards, relying on the scientific conclusion that the world was spherical, attempted to get to the east by deliberately starting out west, Magalhaens by so doing reaching the Philippine Islands in 1521.

It may be mentioned that in 1606, Quiros, on reaching the island that has retained the name of Espiritu Santo (the largest island of the New Hebrides group) thought that he had come to this great land of the South, and therefore named the group *La Australia del Espiritu Santo*. Torres, who had been with him, passed through the strait which now bears his name, and proceeded to the Philippine Islands. This voyage marks the close of Spanish activity in the work of discovery in the South Seas.

(iv) *Discoveries by the Dutch.* With the decline of Portuguese and Spanish naval supremacy came the opportunity of the Dutch for discovery. Cornelius Wytfliet's map, of which there was an English edition, published at Louvain in 1597, indicates roughly the eastern and western coasts of Australia, as well as the Gulf of Carpentaria. The following often quoted passage, occurs in Wytfliet's "*Descriptionis Ptolemaicae Augmentum.*" "The *Australis Terra* is the most southern of all lands. It is separated from New Guinea by a narrow strait. Its shores are hitherto but little known, since, after one voyage and another, that route has been deserted and seldom is the country visited, unless when sailors are driven there by storms. The *Australis Terra* begins at one or two degrees from the equator, and is maintained by some to be so great in extent that, if it were thoroughly explored, it would be regarded as a fifth part of the world."

The Dutch East India Company, in 1605, sent the *Duyfken* from Bantam to explore the Islands of New Guinea. During March in the following year the *Duyfken* coasted along the southern shores of New Guinea, and followed the west coast of Cape York Peninsula as far as Cape Keer-Weer (Turn again). Dirck Hartogs (on the plate in the Amsterdam Museum recording his voyage the name is written Dirck Hatichs), in the *Eendracht* in 1616, sailed along a considerable part of the west coast of the Continent. It may be mentioned that the route was not definitely selected, but that the navigator simply went further East than the usual course from the Cape to Java.

In 1618 the *Zeeuwolf* found land in lat. 20° 15' south, and in the following year Frederik Houtman discovered the reef off the west coast, now known as *Houtman's Abrolhos*.

In 1622 the Dutch vessel *Leeuwin* rounded the Cape at the south-west of the continent which now bears that name, and in 1623 the Dutch vessels *Pera* and *Arnhem*

discovered Arnhem Land, the peninsula on the western side of the Gulf of Carpentaria, which was so named in compliment to Peter Carpentier, Governor of the Dutch East India Company.

In 1627, Francis Thysz, commander of the *Gulle Zeepaerd*, with Pieter Nuyts, of the Dutch Council of Seventeen, on board, coasted along a portion of the shore of the Great Australian Bight. In 1628, De Witt, commander of the *Vianen*, discovered land on the north-west, viz., in about latitude 21° S. The *Batavia*, commanded by Francis Pelsart, was wrecked on the western coast of Australia in 1629. Pelsart was the first to carry to Europe an authentic account of the west coast of Australia, which, however, he described in the most unfavourable terms. The yachts *Amsterdam* and *Wesel*, under Gerrit Pool, visited the Gulf of Carpentaria in 1636.

Abel Janszoon Tasman, in command of two vessels, the *Heemskerck* and *Zeehaen*, set out in 1642 to ascertain the extent of the great southern continent. He named Van Diemen's Land, imagining it to be part of Australia proper, and sailing north-easterly discovered New Zealand. In his second voyage in 1644, Tasman visited the northern coast of Australia, sailing round the Gulf of Carpentaria and along the north-west coast as far down as the Tropic of Capricorn. The period of Dutch discoveries may be said to have ended with Tasman's second voyage, and, with the decline of Dutch maritime power, their interest in Australian discovery vanished. It may, however, be pointed out that William de Vlamingh landed at the mouth of the Swan River at the end of 1696

4. Discoveries by the English.—The north-western shores of Australia were first visited by William Dampier, in the *Cygnat*, in 1688. In describing the country, Dampier stated that he was certain that it joined neither Asia, Africa, nor America. In 1699 he again visited Australia, in command of H.M.S. *Roebuck*, and on his return to England published an account in which a description is given of trees, flowers, birds, and reptiles observed, and of encounters with natives.

It was a question at the end of the seventeenth century whether Tasmania and New Zealand were parts of Australia, or whether they were separated from it, but themselves formed part of a great Antarctic Continent. Lieutenant James Cook's first voyage, though primarily undertaken for the purpose of observing the transit of Venus from Otaheite, had also for its objective to ascertain whether the unexplored part of the southern hemisphere be only an immense mass of water or contain another continent. In command of H.M.S. *Endeavour*, a barque of 370 tons burthen, carrying about eighty-five persons, and accompanied by Sir Joseph Banks, Dr. Solander the naturalist, Green the astronomer, draughtsmen, and servants, Cook, after observing the transit of Venus at Otaheite, turned towards New Zealand, sighting that land on the 8th October, 1769, in the neighbourhood of Poverty Bay. Circumnavigating the North and South Islands, he proved that New Zealand was connected neither with the supposed Antarctic continent nor with Australia, and took formal possession thereof in the name of the British Crown. On the 20th April, 1770, at 6 a.m., Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who first saw it. Coasting northwards, Botany Bay was discovered on the 29th April, 1770. The *Endeavour* dropped anchor, and Cook landed on the following day. On the 2nd May, 1770, a seaman named Sutherland died and was taken ashore to be buried; he was probably the first British subject buried on Australian soil. Cook sailed along the coast in a northerly direction for nearly 1,300 miles until the 12th June, 1770, when the *Endeavour* was seriously damaged by striking a coral reef in the vicinity of Trinity Bay. Repairs occupied nearly two months, and the *Endeavour* then again set her course to the north, sailing through Torres Straits and anchoring in the Downs on the 14th June, 1771. In 1772 Cook was put in command of the ships *Resolution* and *Adventure*, with a view of ascertaining whether a great southern continent existed, and having satisfied himself that, even if it did, it lay so far to the south as to be useless for trade and settlement, he returned to England in 1774. Cook's last voyage was undertaken in 1776, and he met his death on the 14th February, 1779, by which date practically the whole coast of Australia had been explored. The only remaining discovery of importance to be made was the existence of a channel between Tasmania and Australia. This was discovered by Flinders and Bass in 1798.

§ 2. The Annexation of Australia.

1. **Annexation of Eastern Part of Australia, 1770.**—Although representatives of the nations mentioned in the previous section landed or claim to have landed on the shores of Australia on various occasions during the sixteenth and seventeenth centuries, it was not until the 23rd August, 1770, that the history of Australia was brought into definite political connexion with western civilization. It was on that date that Captain Cook took possession "of the whole eastern coast, from lat. 38° to this place, lat. 10½° S., in right of His Majesty King George the Third." Cook, however, proclaimed British sovereignty only over what are now the eastern parts of New South Wales and Queensland, and formal possession, on behalf of the British Crown, of the whole of the eastern part of the Australian Continent and Tasmania was not taken until the 26th January, 1788. It was on this last date that Captain Phillip's commission, first issued to him on the 12th October, 1786, and amplified on the 2nd April, 1787, was read to the people whom he had brought with him in the "First Fleet."

A full historical account of the period referred to may be found in the "Historical Records of New South Wales," vol. I., parts 1 and 2.

2. **Original Extent of New South Wales.**—The commission appointed Phillip "Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty-nine minutes south, and of all the country inland westward as far as the one hundred and thirty-fifth degree of east longitude reckoning from the meridian of Greenwich, including all the islands adjacent in the Pacific Ocean within the latitudes aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south."

Although in November, 1769, Captain Cook had taken possession of the North Island of New Zealand, and in January, 1770, also of the South Island, it is a matter of doubt whether, at the time when Captain Phillip's commission was drawn up, New Zealand was considered as one of the "islands adjacent in the Pacific Ocean." The facts that under the Supreme Court Act (Imperial) of 1823, British residents in New Zealand were brought under the jurisdiction of the court at Sydney, while in 1839 there was a proposal on the part of the British Government to appoint a Consul in New Zealand, would leave this an open question, as nothing more than extra-territorial jurisdiction may have been intended. Various hoistings of flags notwithstanding, New Zealand does not appear to have unequivocally become British territory until 1840. In that year, on the 29th January, Captain Hobson arrived at the Bay of Islands. On the following day he read the commission, which extended the boundaries of the colony of New South Wales so as to embrace and comprehend the Islands of New Zealand. On the 5th February the Treaty of Waitangi, made with the native chiefs, was signed. Finally, on the 21st May, British sovereignty over the islands of New Zealand was explicitly proclaimed. From that date until the 3rd May, 1841, New Zealand was indubitably a dependency of New South Wales.

3. **Annexation of Western Australia, 1829.**—In June, 1825, Lieut.-General Sir R. Darling, then Governor of New South Wales, sent Major Lockyer, with a party numbering about 75, to found a settlement at King George III. Sound. The expedition sailed from Sydney on the 9th November, 1826, and landed at the Sound on the 26th December following, and hoisted the British flag. The settlement was at first governed from Sydney, but on the 7th March, 1831, it was removed to the Swan River Settlement, and the convict portion of the population removed to Van Diemen's Land. In 1826 Captain James Stirling was sent in H.M.S. *Success* on special service in connexion with the removal of the penal settlement from Melville Island, and was authorized to explore part of Western Australia. A party from this vessel explored the Swan River on the 8th March, and King George's Sound was reached on the 2nd April. In consequence of the favourable report made by Captain Stirling, the Imperial Government decided to establish a colony at Swan River. Captain Stirling was accordingly despatched as Lieutenant-Governor with a party of intending settlers in the *Parmelia*, and in the following month

H.M.S. *Challenger*, under Captain Fremantle, was sent off from the Cape of Good Hope. On the 2nd May, 1829, Captain Fremantle hoisted the British flag on the south head of the Swan River, and took possession of "all that part of New Holland which is not included within the territory of New South Wales," and in the following month the *Parmelia* arrived off Garden Island. Thus, before the middle of 1829, the whole territory now known as the Commonwealth of Australia had been constituted a dependency of the United Kingdom.

For a fuller account of the discovery and annexation of Western Australia reference may be made to the Western Australian Year Book, 1905, part I.

§ 3. The Creation of the Several Colonies.

1. **New South Wales as Original Colony.**—From what has been said, the mainland of Australia was, in Governor Phillip's commission of 1786, divided by the 135th meridian of east longitude into two parts. The earliest colonists believed that Van Diemen's Land—the present State of Tasmania—was actually joined to the mainland, and it was not till 1798 that the contrary was known. In that year, by sailing through Bass Straits, Flinders proved that it was an island. The territory of New South Wales, as originally constituted, and of New Zealand, which may be included, although Cook's annexation was not properly given effect to until 1840, was thus :—

	Square Miles.
Australia, east of 135° longitude east	1,454,312
Van Diemen's Land	26,215
New Zealand	104,471
Total	1,584,998

The western part of Australia, not then annexed, comprised originally 1,494,054 square miles.

2. **Separation of Van Diemen's Land, 1825.**—In 1825, Van Diemen's Land, as Tasmania was then called, was politically separated from New South Wales, being constituted a separate colony on the 14th June of that year. This reduced the area of New South Wales and its territorial dependencies by 26,215 square miles, that is, to 1,558,783 square miles.

3. **Extension of New South Wales Westward, 1827.**—In 1827 the western or inland boundary of New South Wales was extended westward to the 129th meridian, thus increasing its area by 518,134 square miles, and making it, including New Zealand and excluding Tasmania, 2,076,917 square miles, or excluding also New Zealand, 1,972,446 square miles.

4. **Western Australia constituted a Colony, 1829.**—The territory annexed by Captain Fremantle in 1829, viz., "all that part of New Holland which is not included within the territory of New South Wales," extended eastward to the 129th meridian, and comprised 975,920 square miles. The constitution of this area into the Colony of Western Australia, now one of the six States of the Commonwealth, was the consequence of Fremantle's act. By it the annexation of the whole of the Continent of Australia by the British Crown was completed. The Australian colonies at this time were as indicated in the following table :—

Colony.	Date of Annexation.	Date of Creation.	Date of First Permanent Settlement.	Area Square Miles.
New South Wales (including New Zealand) ..	1770	1786	1788	2,076,917
Van Diemen's Land ..		1825	1803	26,215
Western Australia	1829	1829	1829	975,920

5. **Creation of South Australia as a Province, 1836.**—On the 15th August, 1834, the Act 4 and 5 William IV., cap. 95. was passed, creating South Australia a “province,” and towards the end of the year 1836 settlement took place. The first governor, Captain Hindmarsh, R.N., arrived at Holdfast Bay on the 28th December, 1836, and on the same day the new colony was officially proclaimed. The new colony embraced 309,850 square miles of territory, which, lying south of the 26th parallel of south latitude, and between the 141st and 132nd meridians of east longitude, was up to that time included within the territory of New South Wales. Thus the area of New South Wales and New Zealand was reduced to 1,767,067 square miles.

6. **Separation of New Zealand, 1840.**—New Zealand, nominally annexed by Captain Cook and formally declared by proclamation in 1840 as a dependency of New South Wales, was, by letters patent of the 16th November of that year, constituted a separate colony under the powers of the Act 3 and 4 Vic., cap. 62, of the 7th August, 1840. Proclamation of the separation was made on the 3rd May, 1841. The area of the colony is 104,471 square miles. This separation reduced the political territory of New South Wales to 1,662,596 square miles.

7. **The Colony of Northern Australia, 1847.**—In the year 1846, when the British Government was experiencing difficulty as regards the transportation of convicts, an attempt was made by Mr. Gladstone, then Colonial Secretary, to establish a purely penal colony, without free settlers (at least at the outset), to be called Northern Australia. This colony did not succeed in securing a permanent place on the map, though its intended metropolis was successfully established and still bears Mr. Gladstone's name. The new colony comprised such of the territories of the colony of New South Wales as lay to the northward of latitude 26° S. Sir Charles Fitzroy, then Governor of New South Wales, was by letters patent appointed Governor of Northern Australia, the actual administration being left in the hands of a Superintendent, who was to be implicitly guided by instruction from the Governor. At the same time Northern Australia was constituted a separate colony under its own Government, although the authority which the Secretary of State for the Colonies would otherwise exercise had been deputed in the first instance to the Governor of New South Wales. In the *London Gazette* of the 8th May, 1846, Colonel Barney, R.E., was appointed Lieutenant-Governor of Northern Australia, and on the 25th January, 1847, he reached Port Curtis, accompanied by other public officers of the new colony. On the 30th January the ceremony of swearing in the officials of Northern Australia was proceeded with, and on the same day the first *Government Gazette* of the new colony was issued in manuscript. This gazette contained a formal proclamation to the effect that all the land lying to the north of latitude 26° S. should thereafter be known as Northern Australia, and specified the names of the members of the Executive and Legislative Councils of the new colony. The headquarters of the Superintendent and other officials were established at Gladstone, although no other steps appear to have been taken towards securing a permanent settlement. In July, 1846, when Earl Grey succeeded Mr. Gladstone as Secretary of State for the Colonies, one of his first official steps was the complete reversal of the policy of his predecessor with respect to the founding of the new colony of Northern Australia, and by a despatch dated the 15th November, 1846, Sir Charles Fitzroy was informed that the letters patent under which the new colony was constituted had been revoked. This news was received at Gladstone on the 15th April, 1847, and on the 9th May following the settlement was broken up. The territories comprised in the Colony of Northern Australia then reverted to New South Wales.

8. **Separation of Victoria, 1851.**—In 1851, what was known as the “Port Phillip District” of New South Wales, was constituted the Colony of Victoria, “bounded on the north and north-east by a straight line drawn from Cape Howe to the nearest source of the River Murray, and thence by the course of that river to the eastern boundary of the colony of South Australia.” The area of the new colony was 87,884 square miles, and its separate existence took effect from the 1st July, 1851, upon the issuing of the writs for the first election of elective members of the Legislative Council; this reduced the territory of New South Wales to 1,574,712 square miles.

9. **Separation of Queensland, 1859.**—The northern squatting districts of Moreton, Darling Downs, Burnett, Wide Bay, Maranoa, Leichhardt, and Port Curtis, together with the reputed county of Stanley, were granted an independent administration and formed

into a distinct colony under the name of Queensland, by letters patent dated the 6th June, 1859, although separation from New South Wales was not consummated until the 10th December of the same year, upon the assumption of office of the first Governor. The territory originally comprised in the new colony was described in the letters patent as being so much of the colony of New South Wales as lies northwards of a line commencing on the sea coast at Point Danger, in latitude about 28° 8' south, running westward along the Macpherson and Dividing Ranges and the Dumaresq River to the MacIntyre River, thence downward to the 29th parallel of south latitude, and following that parallel westerly to the 141st meridian of east longitude, which is the eastern boundary of South Australia, together with all the adjacent islands, their members, and appurtenances in the Pacific Ocean. In Year Book No. 1 it was stated that the western boundary of the new colony was defined by the letters patent of the 6th June, 1859, as being "the 141st meridian of longitude from the 29th to the 26th parallel, and thence the 138th meridian north to the Gulf of Carpentaria." Further investigations have however, shown that this statement is incorrect, and that the western boundary was not specifically defined. The western limits of the new colony were, however, defined by inference from the fact that its area comprised the territory to the northward of a line extending as far west as the 141st meridian of east longitude, i.e., the 141st meridian was the western boundary. The area of the new colony thus constituted was 554,300 square miles. By this separation the remaining territory of New South Wales was divided into two parts, one of 310,372 square miles, of which 309,432 square miles constitute the present State of New South Wales, and 940 square miles the Federal Capital Territory. The other area comprised 710,040 square miles, of which 116,200 square miles form now a part of Queensland, 523,620 square miles form the Northern Territory, and 70,220 square miles form now a part of South Australia.

10. **The Colonies at the Close of 1859.**—Since the separation of Queensland, no other creation of colonies has taken place in Australia, though the boundaries of New South Wales, Queensland, and South Australia were altered later. The dates of foundation of the Australasian colonies, and their areas at the close of 1859, were therefore as hereunder:—

AUSTRALASIAN COLONIES AS AT THE CLOSE OF 1859.

Colony.	Date of Annexation.	Date of Creation.	Date of First Permanent Settlement.	Area Square miles.
New South Wales	1770	1786	1788	1,020,412
Tasmania	1770	1825	1803	26,215
South Australia	1770	1834	1836	309,850
Victoria	1770	1851	1834	87,884
Queensland	1770	1859	1824	554,300
Western Australia	1829	1829	1829	975,920
New Zealand	1840	1841	1814	104,471(a)

(a) By proclamation dated 10th June, 1901, the area of the Dominion of New Zealand was increased by 280 square miles, making it now 104,751 square miles, by the inclusion of the Cook Group and other islands.

11. **The Changing Boundaries of the Colonies.**—When, on the 15th August, 1834, the Imperial Government constituted the province of South Australia, there lay between its western boundary and the eastern boundary of Western Australia (as proclaimed by Fremantle in 1829) a strip of country south of the 26th parallel of south latitude, and between the 132nd and 129th meridians of east longitude, legally included within the territory of New South Wales. The area of this territory, frequently but improperly referred to as "No Man's Land," has been calculated to cover approximately 70,220 square miles. On the 10th October, 1861, by the authority of the Imperial Act 24 and 25 Vic., cap. 44, the western boundary of South Australia was extended so as to cover this strip, and to coincide with the eastern boundary of Western Australia—the 129th meridian. By letters patent dated the 13th March, 1861, forwarded by the Colonial Secretary to the Governor of Queensland on the 12th April, 1862, the area of Queensland was increased by the annexation of "so much of the colony of New South Wales as lies

to the northward of the 26th parallel of south latitude, and between the 141st and 138th meridians of east longitude, together with all and every the adjacent islands, their members, and appurtenances, in the Gulf of Carpentaria." The area of South Australia was therefore increased by 70,220 square miles, and became 380,070 square miles, while the area of Queensland increased by 116,200 square miles, became 670,500 square miles. Nearly two years after the accession of territory, viz., on the 6th July, 1863, the Northern Territory, containing 523,620 square miles—also formerly a part of New South Wales—was, by letters patent, brought under the jurisdiction of South Australia, which therefore controlled an area of 903,690 square miles; whilst that of New South Wales was diminished by these additions to South Australia, and by the separation of the colonies of New Zealand, Victoria and Queensland, till its area became only 310,372 square miles. The territories of Tasmania, Western Australia, and the three other separated colonies with the exception of some minor islands added to Queensland, remain as originally fixed.

12. **The Colonies in 1900.**—From what has been said in the previous sub-section it will be seen that the immense area generally known as Australasia had by 1863 been divided into seven distinct colonies, the combined areas of which amounted to 3,079,332 square miles.

§ 4. Establishment of the Commonwealth of Australia.

1. **General.**—On the 1st January, 1901, the colonies mentioned, with the exception of New Zealand, were federated under the name of the "Commonwealth of Australia," the designation of "Colonies"—excepting in the case of the Northern Territory, to which the designation "Territory" is applied—being at the same time changed into that of "States." The total area of the Commonwealth of Australia is, therefore, 2,974,581 square miles. The dates of creation and the areas of its component parts, as determined on the final adjustment of their boundaries, are shown in the following table:—

THE COMMONWEALTH OF AUSTRALIA.—AREA, ETC., OF COMPONENT PARTS.

State.	Year of Formation into Separate Colony.	Present Area in Square Miles.	State.	Year of Formation into Separate Colony.	Present Area in Square Miles.
New South Wales(a)	1786	310,372(a)	Tasmania ..	1825	26,215
Victoria.. ..	1851	87,884	Northern Territory	1863	523,620
Queensland ..	1859	670,500			
South Australia ..	1834	380,070	(b) Area of the Commonwealth ..	..	2,974,581
Western Australia	1829	975,920			

(a) On the 1st January, 1911, the Federal Capital Territory embracing an area of 940 square miles was taken over by the Commonwealth from the State of New South Wales, the area of that State therefore is now 309,432 square miles.

(b) The present Dominion of New Zealand was constituted a separate colony in 1841. The addition of its area, 104,751 square miles, to the total shown in the table above, gives a total for Australasia of 3,079,332 square miles as referred to in 12 *ante*.

2. **Transfer of the Northern Territory to the Commonwealth.**—On the 7th December, 1907, the Commonwealth and the State of South Australia entered into an agreement for the surrender to and acceptance by the Commonwealth of the Northern Territory, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the Northern Territory Surrender Act 1907 (assented to on the 14th May, 1908), and by the Commonwealth Parliament under the Northern Territory Acceptance Act 1910 (assented to on the 16th November, 1910). The Territory accordingly was transferred by proclamation to the Commonwealth on the 1st January, 1911.

3. **Transfer of the Federal Capital Territory to the Commonwealth.**—On the 18th October, 1909, the Commonwealth and the State of New South Wales entered into an

agreement for the surrender to and acceptance by the Commonwealth of an area of 912 square miles as the seat of Government of the Commonwealth. In December, 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on the 5th December, 1910, a proclamation was issued vesting the Territory in the Commonwealth on and from the 1st January, 1911. By the Jervis Bay Territory Acceptance Act 1915, an area of 28 square miles at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was accepted by the Commonwealth.

4. **Transfer of British New Guinea or Papua.**—Under the administration of the Commonwealth, but not included in it, is British New Guinea or *Papua*, finally annexed by the British Government in 1884. This territory was for a number of years administered by the Queensland Government, but was transferred to the Commonwealth by proclamation on the 1st September, 1906, under the authority of the Papua Act (Commonwealth) of 16th November, 1905. The area of Papua is about 90,540 square miles.

5. **Transfer of Norfolk Island.**—Although administered for many years by the Government of New South Wales, this island was, until 1st July, 1914, a separate Crown colony. On that date it was taken over by the Federal Parliament as a territory of the Commonwealth.

§ 5. The Exploration of Australia.

1. **Introduction.**—A fairly complete, though brief, account of the Exploration of Australia was given in Year Book No. 2 (pp. 20 to 39). It is proposed to give here only a brief summary of the more important facts relating to the subject.

2. **Eastern Australia.**—(i) *General.* The first steps towards the exploration of New South Wales were taken by Captain Phillip and his officers, who, during 1788 and the years immediately following, made a number of excursions in the neighbourhood of Port Jackson, to Broken Bay, and along the Hawkesbury and Nepean Rivers.

(ii) *French Voyages of Exploration, 1788 to 1802.* Towards the close of the 18th century the French, who were supposed to covet territory in Australia, sent out several exploring expeditions. In 1788 two vessels under the command of Lapérouse put into Botany Bay to refit. In 1792 the French Admiral D'Entrecasteaux was in Australian waters with two vessels and discovered and named several places on the Tasmanian coasts. In 1800 an expedition, sent out by the French Republic, examined parts of the coasts of Van Diemen's Land and South Australia. It was chiefly in consequence of rumours to the effect that the French intended to establish a colony in Australia, that steps were taken by the British to form settlements at various places on the Australian coasts.

(iii) *Bass and Flinders, 1796 to 1803.* In 1796 and 1797 Bass and Flinders explored the coast in a southerly direction from Port Jackson as far as Western Port. In 1798 Bass, accompanied by Flinders and eight seamen, circumnavigated the island of Tasmania, thus proving the existence of the strait which now bears his name. In 1801 Flinders again came to Australia in command of H.M.S. *Investigator*, which was the first vessel to completely circumnavigate the Australian continent.

(iv) *Discovery of Port Phillip, 1802.* On the 5th January, 1802, Lieutenant Murray, who had been sent out to trace the coast between Point Schanck and Cape Otway, sighted the entrance to Port Phillip, which he did not, however, enter, owing to stress of weather, until the 15th February. Shortly afterwards Flinders entered Port Phillip, and in 1803 Charles Robbins explored the Yarra for some miles above the present site of Melbourne.

(v) *The Blue Mountains Crossed, 1813.* In 1813 Gregory Blaxland succeeded in effecting a passage over the Blue Mountains, which had previously proved an inaccessible barrier to all attempts to extend the infant colony in a westerly direction. G. W. Evans, following on Blaxland's tracks, soon penetrated further inland and discovered and named the Fish, Campbell, Macquarie, and Lachlan Rivers. In 1817 and 1818

John Oxley, Allan Cunningham, Charles Frazer, and others explored a considerable part of the Lachlan and Macquarie Rivers, and discovered and named the Castlereagh River, the Arbutnot Range, the Liverpool Plains, the Hastings River, and Port Macquarie.

(vi) *Hamilton Hume, 1814 to 1824.* In 1816 Hamilton Hume, who two years previously had explored the country round Berrima, discovered and named the Goulburn Plains and Lake Bathurst. In 1824, accompanied by William Hilton Howell, Hume, starting off from Lake George, reached the Murrumbidgee and sighted the Snowy Mountains. On the 16th December, 1824, he reached the Southern Ocean at the spot where Geelong now stands. This expedition had a great and immediate influence on the extension of Australian settlement.

(vii) *Allan Cunningham, 1817 to 1829.* In 1823 Cunningham, who had accompanied Oxley in 1817, discovered and named Pandora's Pass, leading to the Liverpool Plains from the Upper Hunter, and in 1827 he discovered the Darling Downs.

(viii) *Charles Sturt, 1828 to 1830.* In 1828 the Darling River was discovered by Sturt, who in the following year explored the Murray River, tracing it to its mouth at Lake Alexandrina in Encounter Bay. Sturt thus connected his overland journey with the discoveries of Flinders and other coastal explorers. In the meantime discovery on the Australian coasts had been followed up by Captains Wickham and Stokes in H.M.S. *Beagle*.

(ix) *Sir Thomas Mitchell, 1831 to 1846.* In 1831 Mitchell discovered the lower courses of the Peel (Namoio), Gwydir, and Dumaresq Rivers, and identified the Upper Darling. Two years later he explored the country between the Bogan and Macquarie Rivers, and in 1835 he traced the Darling 300 miles down from Bourke. In 1836 he ascended the Murray and Loddon Rivers and discovered the Avoca, the Campaspe, and the Wimmera Rivers, reaching the coast near Cape Northumberland. On his return journey Mitchell visited Portland Bay, where he found the Henty family established, and ascending Mount Macedon, he saw and identified Port Phillip. In 1845 and 1846 Mitchell again set out, accompanied by Edmund B. Kennedy, and explored the Narran, Balonne, and Culgoa Rivers. Ascending the Balonne, he turned westward, exploring the Maranoa and the Warrego. Proceeding to the north he then discovered the Belyando and the Barcoo Rivers.

(x) *McMillan, Strzelecki, Leslie and Russell, 1839 to 1841.* In the meantime other explorers had been on the field and had made numerous discoveries. In 1839 and 1840 Angus McMillan discovered and named Lake Victoria, the Nicholson, Mitchell, and Macallister Rivers, and explored the country as far as the Latrobe River. In 1840 Strzelecki discovered Mount Kosciusko, the Latrobe River, and Lake King. In 1840 and 1841 Patrick Leslie and Stuart Russell explored the Condamine River.

(xi) *Leichhardt, 1844 to 1845.* In 1844 and 1845 Ludwig Leichhardt made a number of discoveries. Leaving the Condamine River he discovered the Dawson River, Peak Downs, the Planet and Comet Rivers, and Zamia Creek. Later on he found and named the Mackenzie, Isaacs, Suttor, Burdekin, Lynd, Mitchell, Leichhardt, Nicholson, McArthur and Roper Rivers, and after exploring part of the coast of the Gulf of Carpentaria, reached the settlement of Victoria at Port Essington. In 1848 Leichhardt equipped another expedition and set out from the Cogoon. No sure clue as to his fate or as to the fate of his companions has ever come to light.

(xii) *Kennedy, 1847 to 1848.* In 1848 Edmund Kennedy, who had accompanied Mitchell in 1845 and 1846, and who had further explored the Barcoo and Victoria Rivers in 1847, attempted to make his way up the eastern coast of Cape York Peninsula. After great hardships he reached the Escape River, where he was murdered by the blacks.

(xiii) *A. C. Gregory, 1846 to 1858.* A. C. Gregory's earliest explorations were in Western Australia, where in 1846 he discovered Lake Moore. In 1855 Gregory explored the Fitzmaurice and Victoria Rivers and Sturt's Creek. He examined the Gilbert River and its tributaries, and made his way in a westerly direction across to Brisbane. In 1858 Gregory explored the districts near the Barcoo and Thompson Rivers, Strzelecki's Creek, and Lake Blanche.

(xiv) *Later Exploration of the North East, 1859 to 1872.* After Kennedy's ill-fated expedition the main portion of Eastern Australia was fairly well known. Certain parts

of what is now Queensland, however, still remained unexplored. These were examined by G. E. Dalrymple in 1859, by Frederick Walker in 1862, by Frank and Alex Jardine in 1864, and by William Hann in 1872. Hann discovered the Tate, Walsh, Palmer and Normanby Rivers. This expedition practically completed the exploration of Eastern Australia. The gold discoveries on the Palmer River, in Queensland, following soon after, led to a considerable amount of minor exploration being carried out by prospectors whose labours are, however, unrecorded.

3. **Central Australia.**—(i) *General.* In 1836 Colonel Light surveyed the shores of St. Vincent's Gulf, and selected the site for the settlement at Adelaide. In the same year Mitchell had succeeded in travelling overland from the Darling to Cape Northumberland, and the settlers found little difficulty in driving stock from various parts of New South Wales to the new country. A great deal of minor exploration was done by these pioneers, the first of whom to lead the way across to the Port Phillip settlement with sheep in 1837 was Charles Bonney. In 1838 the overlanding of stock was extended to Adelaide by Joseph Hawdon.

(ii) *Eyre, 1838 to 1841.* In 1841 Edward John Eyre, who had previously discovered Lake Hindmarsh, and had explored the country to the north-east of Spencer's Gulf, succeeded, after great hardship, in reaching Albany overland from Adelaide. After this expedition settlers soon spread in a northerly direction from Adelaide, and various expeditions in search of grazing country were carried out by these pioneers.

(iii) *Sturt's Later Explorations, 1844 to 1845.* In 1844 Charles Sturt, whose explorations in Eastern Australia have already been referred to, set out from the Darling on an expedition to reach the centre of the continent. He reached his furthest point in latitude 24° 30' S. and longitude 137° 58' E. in September, 1845, and, after enduring great privations, was compelled to retreat through want of water.

(iv) *Stuart, 1858 to 1862.* John MacDouall Stuart accompanied Captain Sturt on his last expedition. After minor explorations in the vicinity of Lake Eyre, Stuart made an unsuccessful attempt to cross the continent from south to north in 1860. After discovering the Frew, Fincke, and Stevenson Creeks, Chambers Pillar, and the McDonnell Range, he camped at the centre of Australia on the 22nd April, 1860. In the following year Stuart was placed in command of an expedition equipped by the South Australian Government, and succeeded in crossing the continent, reaching the sea at Chambers Bay on the 25th July, 1862.

(v) *Burke and Wills Expedition, 1860 to 1861.* In 1860 Robert O'Hara Burke and William Wills led an expedition northward from Melbourne to explore the country as far as the Gulf of Carpentaria. Through their arrangements having miscarried, both Burke and Wills perished in the bush, after having crossed the continent and returned to their depot at Fort Wills, only to find it deserted. Various relief expeditions were sent out, and among them may be specially mentioned Howitt's Relief Expedition, the Queensland Relief Expeditions under Walker and Landsborough, and the South Australian Relief Party under McKinlay. Though the actual work of exploration carried out by the Burke and Wills expedition was unimportant, the discoveries made by the relief parties sent out were of great value in opening up Central Australia.

(vi) *Giles, 1872 to 1876.* In 1872 Ernest Giles discovered Lake Amadeus and Mount Olga. In that year and in the following one he made unsuccessful attempts to force his way through the desert to the settlements of Western Australia. In 1875 Giles, accompanied by W. H. Tietkins, set out from Beltana, and after making his way in the vicinity of latitude 30° S., to the settled districts of Western Australia, returned to the Peake telegraph station by way of the Murchison, Gascoyne, and Ashburton Rivers.

(vii) *Later Explorations.* Other explorations in Central Australia were carried out by Major Warburton (1873), W. C. Grosse (1873), W. O. Hodgkinson (1875), Nathaniel Buchanan (1878), Frank Scarr (1878), Ernest Favenc (1878–83), H. V. Barclay (1877), A. Johns and P. Saunders (1876), David Lindsay (1883), H. Stockdale (1884), W. H. Tietkins (1889), A. Searcy (1882–96), and Hubbe (1896).

4. **Western Australia.**—(i) *General.* In 1791 George Vancouver, in command of H.M.S. *Discovery*, reached and named King George's Sound. On the 26th December, 1826, Major Lockyer, with a detachment of soldiers, landed at King George's Sound to form a

settlement, under instructions from Sir Ralph Darling, then Governor of New South Wales. The settlement was established in order to forestall the French, who, it was rumoured, intended to occupy the harbour. Early in 1827 Captain James Stirling and Charles Frazer examined and reported upon the Swan River district with a view to forming a settlement there. In 1829 Captain Fremantle landed at the mouth of the Swan River and took possession of the country. A month later Stirling arrived with the first settlers.

(ii) *Early Explorers.* In November, 1829, Alexander Collie and Lieutenant Preston explored the coast between Cockburn Sound and Géographe Bay, and in the following month Dr. T. B. Wilson, R.N., discovered and named the Denmark River.

In 1830 John Septimus Roe explored the country in the neighbourhood of Cape Naturaliste and between the Collie and Preston Rivers, and in 1835 examined the districts between the headwaters of the Kalgan and Hay Rivers. In 1836 and 1839 Roe explored the country north and east of Perth, and in 1848 traced the course of the Pallinup River for some distance.

Other early explorers in the West were Ensign R. Dale (1830), Captain Bannister (1831), W. K. Shenton (1831), J. G. Bussell (1831), Lieutenant Preston (1831), Alexander Collie (1832), F. Whitfield (1833) A. Hillman (1833), G. F. Moore (1834), and Lieutenant Bunbury (1836).

(iii) *Grey, 1837 to 1839.* In 1837 Captain (afterwards Sir) George Grey discovered and traced the Glenelg River. In 1839 he explored the country between the Williams and Leschenault Rivers, and later succeeded in making his way along the coast from the mouth of the Gascoyne River to Perth.

(iv) *F. T. Gregory, 1857 to 1861.* In 1857 and 1858 Frank T. Gregory examined the upper reaches of the Murchison River and reached the Gascoyne River, which he descended to its mouth, whence he made his way to Perth. In 1861 Gregory explored the north-western districts, discovering the Fortescue, Ashburton, Shaw, De Grey, and Oakover Rivers.

(v) *John Forrest, 1869 to 1883.* In 1869 John Forrest (later Lord Forrest of Bunbury) penetrated to the east some distance past Mount Margaret and discovered Lake Barlee. In 1870 he succeeded in making his way from Perth to Adelaide via Esperance Bay, Israelite Bay, and Eucla, and in 1874, accompanied by his brother Alexander and four others, he crossed from Geraldton to the overland telegraph line near Peake Station. In 1883 Forrest explored a large portion of the Kimberley Division, Cambridge Gulf, and the lower part of the Ord River.

(vi) *Alexander Forrest, 1871 to 1879.* In 1879 Alexander Forrest, who had previously accompanied his brother on two expeditions, made his way from the De Grey River to the Daly Waters Station on the overland telegraph line, via Beagle Bay, the King Leopold Range, Nicholson Plains, and the Ord and Victoria Rivers.

(vii) *L. A. Wells, 1892 to 1897.* In 1892 Wells examined practically the whole of the still unexplored districts between Giles' track of 1876 and Forrest's route of 1874, and in 1896 and 1897 he explored the country between the East Murchison and Fitzroy Rivers.

(viii) *Later Explorations in Western Australia.* During the latter part of the 19th century various expeditions were sent out to explore those parts of Western Australia (chiefly in the north-western districts) which still remained unknown. Those whose names are connected with the later exploration of Western Australia are—David Carnegie (1896–7) who discovered a practical stock route between Kimberley and Coolgardie; W. Carr-Boyd (1883–96), who explored the country near the Rawlinson Ranges and made several excursions between the southern goldfields of Western Australia and the South Australian border; H. F. Johnston, G. R. Turner, and E. T. Hardman (1884), who discovered the Mary and Elvire Rivers; F. S. Brockman, Charles Crossland, Gibb Maitland, and Dr. F. M. House (1901), who explored the extreme north of the State; F. H. Hann (1896–1907), who made various excursions in the north-west and between Laverton and Oodnadatta.

(ix) *Other Explorers.* Other explorers whose names are connected with the exploration of Western Australia are:—George Eliot, who, in 1839, explored the country between the Williams and Leschenault; William Nairne Clark, who, in 1841, discovered immense

jarrah and karri forests in the south-west; R. H. Bland (1842); H. Landor (1842); Lieutenant Helpmann (1844); Captain H. M. Denham (1858); B. D. Clarkson, C. E. and A. Dempster, and C. Harper (1861); C. C. Hunt and Ridley (1863); R. J. and T. C. Sholl (1865); A. McRae (1866); Philip Saunders and Adam Johns (1876); H. Stockdale (1884); H. Anstey (1887); F. Newman and W. P. Goddard (1890); J. H. Rowe (1895); C. A. Burrows and A. Mason (1896); Hugh Russell (1897); and John Muir (1901).

§ 6. The Constitutions of the States.

1. **Introduction.**—The subject of “General Government” is dealt with in some detail in Chapter III., but it has been thought desirable here to give a brief statement of the constitutional history of Australia, with a view of showing how the present Constitutions of the States have been built up.

2. **Early Constitutional History.**—(i) *General.* The earliest statute relating to Australia was passed in the year 1784, for the purpose of empowering the King in Council to appoint places in Australia to which convicts might be transported. By an Order in Council dated the 6th of December, 1786, His Majesty’s “territory of New South Wales, situated on the east part of New Holland,” was appointed such a place. Captain Phillip, who was appointed the first Governor and Vice-Admiral of the territory, was empowered by his commission and letters patent to make ordinances for the good government of the settlement. By an Act passed in 1787, authority was given for the establishment of a court of criminal jurisdiction in Sydney. In the early days of settlement, the Governor’s power was almost absolute, and his rule virtually despotic, tempered by his own discretion and by the knowledge that he was responsible to the Imperial authorities for any maladministration. By Acts passed in 1819, 1821, and 1822, the Governor was given limited powers to impose local taxation in the shape of Customs duties on spirits, tobacco, and other goods imported into the Colony.

(ii) *The First Constitutional Charter.* In 1823 an Act was passed authorizing the creation of a Council, consisting of from five to seven persons charged with certain legislative powers of a limited character. This was the first constitutional charter of Australia, and was later improved and amended by an Act passed in 1828, and applied both to New South Wales and to Van Diemen’s Land, which had been politically separated in 1825.

(iii) *First Representative Legislature.* In 1842 an important measure was passed by the Imperial Government, establishing for the first time in Australia, a Legislature partly, but not wholly, representative in character. It was enacted that there should be within the colony of New South Wales a Legislative Council, to consist of thirty-six members, twelve of whom were to be nominated by the Sovereign and twenty-four elected by the inhabitants of the colony. The Act contained provisions defining the legislative functions of the Council, and regulated the giving or withholding of the Royal assent to Bills passed by the Council. This Act did not grant responsible government to New South Wales; the heads of the Departments and other public officers continued to hold their offices at the pleasure of the Crown, as represented by the Governor. The new Council was opened by Sir George Gipps, on the 1st August, 1843.

(iv) *The Australian Colonies Government Act 1850.* The next important Act relating to representative government in Australia is the Australian Colonies Government Act, passed in 1850. The two main objects of this Act were (a) the separation of the Port Phillip District from New South Wales, and (b) the establishment of an improved system of government in all the Australian colonies. For New South Wales, for the separated Victoria, for Van Diemen’s Land, and for South Australia, similar Legislatures were prescribed. The general provisions of the Act provided that the existing Legislature in New South Wales should decide the number of members of which a new Council was to consist in that colony, and should perform the same task for Victoria. On the issue of the writs for the first election in Victoria, separation was to be deemed complete. One-third of the number of members of the Council in each Colony was to be nominated by the Crown. The existing Legislatures in Van Diemen’s Land and South Australia were to decide as to the number of members in the new Council in each, but they were

not to exceed twenty-four. Power was given to the Governor and Legislative Council in each colony to alter the qualifications of electors and members as fixed by the Act, or to establish, instead of the Legislative Council, a Council and a House of Representatives, or other separate Legislative Houses, to be appointed or elected by such persons and in such manner as should be determined, and to vest in such Houses the powers and functions of the old Council. The powers and functions of the Councils under this Act were as follows :—(a) To make laws for the peace, order, and good government of the colony ; (b) to impose taxation, including the imposition of Customs duties ; and (c) to appropriate to the public service the whole of the public revenue arising from taxes, duties, rates, and imposts. The restrictions on the powers and functions of the Councils were as follows :—(a) That no such law should be repugnant to the law of England, (b) that no such law should interfere with the sale and appropriation of Crown lands, (c) that no Customs duties of a differential character should be imposed, and (d) that it should not be lawful for the Council to pass any Bill appropriating to the public service any sum of money for any purpose unless the Governor should have previously recommended that provision for such appropriation be made.

3. **New South Wales.**—After the Act just referred to had been proclaimed, an Electoral Bill for New South Wales was passed, increasing the number of members of the Council from thirty-six to fifty-four, of whom thirty-six were to be elective and eighteen nominee members. The extraordinary increase in the wealth and prosperity of the colony owing to the discovery of gold soon imparted new and unforeseen features to its political and social conditions. In 1851 a remonstrance was despatched by the Legislative Council of New South Wales to the Secretary of State for the Colonies, in which objection was taken to the form of Constitution which the Imperial authorities proposed to grant under the Act of 1850, on the grounds (a) that it did not place the control of all revenue and taxation entirely in the hands of the Colonial Legislature, (b) that all offices of trust and emolument should be filled by the Governor and Executive Council, unfettered by instructions from the Secretary of State for the Colonies, and (c) that plenary powers of legislation should be conferred on the Colonial Legislature. In 1852 the Secretary of State for the Colonies, in a despatch to the Governor of New South Wales, promised to give effect to the wishes of the Legislative Council, and suggested that the Legislative Council should proceed to frame a Constitution resembling that of Canada and based on a bi-cameral Legislature. A select committee of the Council was accordingly appointed to draft a Constitution, and as a result of the deliberations of this body the new Constitution was, on the 21st December, 1853, adopted by the Council and transmitted to the Secretary of State for the Colonies. As it contained provisions in excess of the powers conferred by the Act of 1850, the Bill could not receive the Royal assent, but had to be introduced into the Imperial Parliament. With some amendments the Bill was passed by the Imperial Government, and received the Royal assent on the 16th July, 1855. It is now known as the New South Wales Constitution Act 1855, and under its provisions a fully responsible system of government was granted. The entire management and control of Crown lands was conferred on the New South Wales Parliament, while the provisions of former Acts respecting the allowance and disallowance of Bills were preserved. Subject to the provisions of the Act, power to make laws amending the Constitution was given to the New South Wales Parliament. The first Parliament, under the new Constitution, was opened by Sir William T. Denison, on the 22nd May, 1856. The Constitution was amended by Acts passed in 1857, 1884 and 1890, these Acts being repealed and consolidated by the Constitution Amendment Act of 1902. The last amending Act was passed in 1916.

4. **Victoria.**—After the proclamation of the Australian Colonies Government Act of 1850, the old Legislative Council of New South Wales met on the 28th March, 1851, for the purpose of making electoral and judicial arrangements required to bring the new Act into force in Victoria. Two Acts were passed specially concerning Victoria. The first provided for the continuation of the powers and functions of all public officers resident within the Port Phillip District until removed or reappointed by the Government of Victoria. The other Act provided that the Legislative Council of Victoria should consist of thirty members, ten nominee and twenty elective. On the 1st July, 1851, writs for the election of the elective members of the new Legislative Council of Victoria were issued, and separation became complete. On the 15th July, Mr. La Trobe was appointed the

first Lieutenant-Governor of the colony. The powers and functions of the new Council were, under the Act of 1850, similar to those of the reorganized Legislative Council of New South Wales. The next important stage in the constitutional history of Victoria was that which was consummated by the attainment of a fully responsible system of government. In 1853 a despatch, similar to that received by the Governor of New South Wales (see above), was received by the Lieutenant-Governor of Victoria from the Secretary of State for the Colonies. A Constitution was drafted by a committee of the Legislative Council, and it was embodied in a Bill which was passed and reserved for the Queen's assent on 28th March, 1854. This Bill contained clauses similar to those of the New South Wales Bill relating to the assent of the Governor to bills and the Sovereign's power to disallow the same; to the sale and appropriation of Crown lands; and to the amendment of the Constitution by the Victorian Parliament. As the new Constitution contained provisions beyond those authorized by the Act of 1850, a special Enabling Act was necessary. The Bill was passed and assented to on the 16th July, 1855, and the new Constitution was proclaimed on the 23rd November following. Several amendments have since been made, chiefly with reference to the term of membership and the qualifications of members and electors. The last amending Act was passed in 1922.

5. **Queensland.**—As part of New South Wales, the Moreton Bay District enjoyed the benefits of responsible government under the Constitution Act of 1855. For electoral purposes the district was, in 1856, divided into eight electorates, returning nine members to the Legislative Assembly of New South Wales.

By an Act passed in 1842 the Queen was empowered to erect into a separate colony any part of the territory of New South Wales lying to the northward of 26° south latitude, which was altered by the Australian Colonies Government Act 1850 to 30° south latitude. By the New South Wales Constitution Act 1855 the power previously granted to alter the northern boundary of New South Wales was distinctly preserved, and Her Majesty was authorized, by letters patent, to erect into a separate colony any territory which might be so separated. It was further enacted that Her Majesty, either by such letters patent, or by Order in Council, might make provision for the government of any such new colony, and for the establishment of a Legislature therein, in manner as nearly resembling the form of government and legislature established in New South Wales as the circumstances of the new colony would permit. The separation was effected by letters patent dated the 6th June, 1859, and the Constitution of the new colony was embodied in an Order in Council of the same date.

The Order in Council provided that there should be within the colony of Queensland a Legislative Council and a Legislative Assembly, with the advice and consent of which Her Majesty should have the power to make laws for the peace, welfare, and good government of the colony in all cases whatsoever. The powers and functions granted to this Legislature were substantially the same as those granted to New South Wales and Victoria under their respective Constitution Acts, and similar restrictions were imposed. The first Parliament under the new Constitution was convened on the 29th May, 1859. There have been several amendments of the Constitution, the latest having been made in 1921.

6. **South Australia.**—The creation of South Australia as a Province has already been referred to above. In the exercise of the provisions of the Act by which the Province was created, a governor; a judge, seven commissioners, and other officials were appointed. The Governor, with the concurrence of the Chief Justice, the Colonial Secretary, and the Advocate-General, or two of them, was authorized to make laws and impose taxes. The control of the Crown lands was placed in the hands of the Commissioners. In 1841, the settlement being involved in financial difficulties, a loan was advanced by the British Government. Under an Act passed in 1842 the system of government was remodelled; the colonization commissioners were abolished, and the Province became a Crown colony. The Queen was empowered to constitute a nominated Legislative Council, consisting of the Governor and seven other persons resident in the colony, with power to make laws for the good government thereof. This system of government continued in force until the inauguration of a new scheme under the provisions of the Australian Colonies Government Act 1850, referred to above.

In 1853, the Legislative Council of South Australia, in pursuance of the powers conferred by the Act of 1850, passed a Bill to establish a bi-cameral Legislature for South

Australia. The Royal assent was, however, refused on the grounds that the Bill contained a provision limiting the right of the Crown in respect of the disallowance of Bills, which provision was in excess of the powers conferred by the Act of 1850. In 1855 a new Legislative Council, partly elective and partly nominee, having been duly constituted, a second Bill, based on the Tasmanian Constitution Bill, to create a bi-cameral Legislature, was passed and duly received the Royal assent in 1856. This Act, known as the South Australian Constitution Act 1856, confers no legislative powers except by reference to the Act of 1850. In order to ascertain the principal legislative powers and functions of the Parliament of South Australia reference must therefore be made to the Australian Colonies Government Act 1850, defining the legislative powers and functions of the Council for which it was substituted. The first session of the new Parliament commenced on the 22nd April, 1857, during the Governorship of Sir Richard Graves McDonnell.

The legislative powers of the South Australian Parliament have been considerably enlarged by several Imperial Acts. In 1855 an Act was passed authorizing the Legislature of each of the Australian colonies to sell, dispose of, and legislate with reference to Crown lands in the colony. In 1865 the Colonial Laws Validity Act removed the common law restriction which prevented colonial legislators from passing any law repugnant to the law of England. In 1873 the prohibition contained in the Australian Colonies Government Act 1850 was, by the Australian Colonies Duties Act, abolished so far as intercolonial duties were concerned. There have been a large number of amendments to the Constitution, the latest having been passed in 1921.

7. *Western Australia.*—In 1829 the first Imperial Act relating to the Government of Western Australia was passed. By that Act, the King in Council was empowered to make and constitute, and to authorize any three or more persons resident within the settlements to make and constitute laws, institutions, and ordinances for the peace, order, and good government of the settlements in Western Australia. By an Order in Council dated the 1st November, 1830, the first Executive Council was constituted, while in the following year a Legislative Council, which consisted at first solely of members of the Executive Council, was formed. This system of government remained unaltered for many years, though the number of members of both Councils was increased from time to time. In August, 1870, the nominee Legislative Council was dissolved, and writs were issued (under the Australian Colonies Government Act 1850, the provisions of which did not apply to Western Australia until that colony was able to defray its own expenses) for the election of a Council to consist of twelve elected and six nominated members. These numbers were again increased from time to time until the last Legislative Council under the old form of government, which expired on the 21st October, 1890, consisted of twenty-six members, of whom four were official members, five were nominees of the Crown, and seventeen were elected by the different constituencies. As far back as 1873 a movement was commenced in Western Australia for responsible government as it existed in the eastern colonies. In 1889 the Legislative Council was dissolved, and a general election took place, the principal question being the introduction of responsible government. A resolution in favour of the change was passed by the new Council without dissent, and a Constitution providing for the creation of a bi-cameral Legislature was accordingly drafted. In August, 1890, an enabling Bill received the Royal assent, and responsible government was proclaimed in the colony on the 21st October, 1890. Under this Act the Legislative Council was a nominative chamber, subject to the provision that after the expiration of six years, or as soon as the colony acquired a population of 60,000, the Council should be constituted by election. The first Parliament under the new Constitution met on the 30th December, 1890. On the 18th July, 1893, the population of the colony being then over 60,000, the Legislature of Western Australia passed an Act to amend the Constitution, abolishing the nominee Council, and substituting one elected by the qualified inhabitants of the colony. The present Constitution of Western Australia differs but little from those of the other States of the Commonwealth. It has been amended by various Acts, the last of which was passed in 1921.

8. *Tasmania.*—Under an Order in Council dated the 14th June, 1825, and made in pursuance of the provisions of an Act passed in 1823, Van Diemen's Land, as it was officially known until the year 1853, was separated from New South Wales and was

proclaimed a separate colony. A Lieutenant-Governor was appointed, and an Executive and a Legislative Council were called into existence, the latter being on the same model as that introduced into the other colonies at the earliest stages of their constitutional progress. It was not until the Imperial Act of 1850 was passed, that a system of representative government was introduced into Tasmania. A Constitution Bill was drafted and passed by the Legislative Council, and was assented to and proclaimed on the 24th October, 1856.

The Constitution of South Australia was based upon that of Tasmania, and the remarks made above with reference to the Constitution of the former State apply equally to the Constitution of the latter State.

The first Parliament under the new Constitution was opened on the 2nd December, 1856. The Constitution has been amended by various Acts, the latest of which was passed in 1921.

9. **Reservation of Bills.**—The reservation of Bills passed by the Legislature of any State was formerly dealt with both by the instructions given to the State Governors and by various State Constitution Acts. The Australian States Constitution Act 1907 amended the law with respect to the reservation of Bills, and provided that the following Bills must be reserved for the signification of His Majesty's pleasure thereon, viz. :—Any Bill which (a) alters the Constitution of the Legislature of the State, or (b) affects the salary of the Governor of the State, or (c) is, under any Act of the Legislature of the State passed after the passing of the Australian States Constitution Act 1907, or under any provision contained in the Bill itself, required to be reserved. The Act does not, however, affect the reservation of Bills in accordance with any instructions given to the Governor of a State by His Majesty.

§ 7. The Federal Movement in Australia.

1. **Early Stages in the Federal Movement.**—A summary is given in Year Book No. 1 (pp. 17 to 21) of the "Federal Movement in Australia" from its earliest inception to its consummation. Limits of space will permit of the insertion of a synopsis only in the present issue.

Notwithstanding that, owing to the circumstances of their growth, the initial tendency in Australia was naturally towards the individualistic evolution of the several settlements, from the earliest period there was a clear recognition of the importance of intercolonial reciprocity. Governor Fitzroy, in 1846, and Earl Grey, in 1847, saw that there were questions which affected "Australia collectively, the regulation of which in some uniform manner, and by some single authority, may be essential to the welfare of them all," and a "central legislative authority for the whole of the Australian colonies" was actually contemplated. Even so far back as 1849, a Privy Council Committee recommended a uniform tariff, and the constituting of one of the Governors as Governor-General of Australia, Sir Charles Fitzroy being actually appointed as "Governor-General of all Her Majesty's Australian Possessions." The office, however, was nominal rather than actual, and expired in 1861. Dr. Lang's idea of "a great federation of all the colonies of Australia" was put forward in 1852, and a Victorian committee in 1853 advocated the value of a General Assembly of Delegates for the whole of Australia.

The need of union was urged by the *Sydney Morning Herald* in 1854, and, although Wentworth sought in 1857 to bring about the creation of a Federal Assembly, a draft "Enabling Bill" proved unacceptable to Her Majesty's Government. In the same year Mr. (afterwards Sir) Charles Gavan Duffy secured the appointment of a select committee of the Victorian Legislative Assembly to consider the necessity of a federal union of the Australasian colonies. The need for such a union was unanimously affirmed, the general opinion being that it should not be longer delayed. In the same year, a select committee of the New South Wales Legislative Council also considered this question, fully recognizing that antagonisms and jealousies were likely to arise through delay.

Union was in a fair way toward realization when the advent of the Cowper Administration destroyed all chance of attaining it, owing to the antagonism of Mr. Cowper and

Mr. (afterwards Sir) James Martin. South Australia, also in the same year, and Queensland in 1859, were both unfavorable to the federal scheme. A second attempt by Mr. Duffy to bring about a conference in 1860 failed also.

Tariff differences, however, compelled political attention to the matter, and in 1862 correspondence was opened up by South Australia regarding tariff uniformity. By means of intercolonial conferences between 1863 and 1880 some degree of uniformity in legislation and a measure of concerted administration were realized. In March, 1867, Mr. (afterwards Sir) Henry Parkes expressed himself as follows:—" . . . The time has arrived when these colonies should be united by some federal bond. . . . There are questions projecting themselves . . . which cannot be dealt with by . . . individual Governments. . . . I believe it will lead to a permanent federal understanding." A Bill passed, however, was shelved by the Home Government.

2. **The Federal Council.**—The conference of November-December, 1880, and January, 1881, recommended the creation of a Federal Council, believing that the time had not arrived for a Federal Constitution with a Federal Parliament. Until 1883, however, every effort proved abortive, but in November of that year a convention, at which the seven colonies and Fiji were represented, met in Sydney. A Bill to establish a Federal Council for Australasia, drafted by Mr. (later Sir) Samuel Griffith, was, after some modification by a committee of the convention, adopted. In July and August, 1884, the Crown was addressed, praying for the enactment of a Federal Council Act. New South Wales and New Zealand, however, held aloof, the view of Sir Henry Parkes being that a "council" would impede the way for a sure and solid federation. The Bill introduced by the Earl of Derby in the House of Lords on the 23rd April, 1885, became law on the 14th August as "The Federal Council of Australasia Act 1885." The Council's career however, soon showed that it could not hope to be effective, and it met for the last time in January, 1899.

3. **Formative Stages of the Federal Movement.**—As early as 1878 the necessity for federal defence was vividly brought into Australian consciousness, and arrangements for naval protection were entered into with the Imperial Government. These were ratified by the Australasian Naval Force Act. Queensland, however, did not come into line until 1891.

Early in 1889, Sir Henry Parkes had confidentially suggested to Mr. Duncan Gillies the necessity for a Federal Parliament and Executive. Unable to accept the latter's suggestion that New South Wales should give its adhesion to the Federal Council, the former statesman urged the institution of "a National Convention for the purpose of devising and reporting upon an adequate scheme of Federal Government." This led to the Melbourne Conference of 6th February, 1890. It was at the banquet on this occasion that, in proposing "A United Australasia," Mr. James Service pointed out that the tariff question was "a lion in the path," which federationists must either slay, or by which they must be slain; in the reply to which Sir Henry Parkes made use of his historic phrase, *the crimson thread of kinship runs through us all*. Certain elements of doubt being expressed as to the motives underlying the movement, Sir Henry Parkes said:—"We desire to enter upon this work of Federation without making any condition to the advantage of ourselves, without any stipulation whatever, with a perfect preparedness to leave the proposed convention free to devise its own scheme, and, if a central Parliament comes into existence, with a perfect reliance upon its justice, upon its wisdom, and upon its honour . . . I think . . . an overwhelming majority of my countrymen . . . will approve of the grand step . . . uniting all the colonies under one form of beneficent government, and under one national flag."

The first National Australasian Convention, under Sir Henry Parkes' presidency, was convened on the 2nd March, 1891, all the colonies and New Zealand being represented. The Bill then drafted was considered by the Parliaments of New South Wales, Victoria, South Australia, and Tasmania, but not by those of Queensland, Western Australia, and New Zealand, and though the parliamentary process of dealing with the matter failed, federal sentiment was strengthening. The collapse of the "land boom" had made apparent how intimately the interests of each colony were related; and the dangers of disunion became impressively obvious. The Australian Natives' Association took up the federal cause with enthusiasm, Federation leagues were established, the issues were widely and intelligently discussed. The unification scheme of Sir George Dibbs helped to make the issue a real one.

At the Conference of Premiers at Hobart on the 29th January, 1895, it was agreed that federation "was the great and pressing question of Australian politics," and that "the framing of a Federal Constitution" was an urgent duty. The resuscitation of the whole matter led to the passing of Enabling Acts. In New South Wales, the Act received the Royal assent on the 23rd December, 1895; South Australia anticipated this by three days; the Tasmanian Bill was passed on the 10th January, 1896, the Victorian on the 7th March, 1896; Western Australia fell into line on the 27th October. The "People's Federal Convention," held at Bathurst, N.S.W., in November, 1896, gave a considerable impulse to the movement; to wait longer for Queensland was considered unnecessary, and the 4th March, 1897, was fixed as the date for the election of federal representatives for New South Wales, Victoria, South Australia, and Tasmania. Western Australia followed suit, and on the 22nd March the representatives met at Adelaide.

The discussions made it evident that the federal point of view had advanced considerably. Constitutional, Finance, and Judiciary Committees were appointed, and a Bill drafted. This, reported to the Convention on the 22nd April, was adopted on the following day, and the Convention adjourned till September. The Parliaments of New South Wales, Victoria, South Australia, Tasmania, and Western Australia discussed the question before the Sydney Session of the Convention, which opened on the 2nd September, 1897. The business of the Convention involved the general reconsideration of the whole Bill, and the consideration of no less than 286 suggested amendments. This work gave a definite character to that of the Melbourne Session of 1898, extending from the 20th January to the 17th March, the necessity of reaching a final decision giving to its deliberations corresponding weight.

4. **Votes on the Question of Federation.**—Eleven weeks after this last convention, the first popular vote was taken on Federation in New South Wales, Victoria, South Australia, and Tasmania. Though the decision was overwhelming in favour of Federation in three of the States, and there was a distinct majority in its favour in New South Wales, the majority was legally insufficient. On the 22nd January, 1899, the Premiers of the six colonies met at Melbourne in a conference initiated by the Right Honourable G. H. Reid, P.C., and seven amendments were made in the Bill. This step virtually effected the solution of the few outstanding difficulties which could in any way be regarded as fundamental.

On the occasion of the second popular vote, Queensland also joined in, and the general majority in favour of Federation was more than doubled, that for New South Wales itself having been more than quadrupled when compared with the first vote. The following table shows the two results:—

VOTES FOR AND AGAINST FEDERATION.

Votes.		N.S.W.	Victoria.	Sth. Aust.	Tas.	Qld.	TOTALS.
1st Vote	{ For Federation ..	71,595	100,520	35,800	11,797	—	219,712
	{ Against „ ..	66,228	22,099	17,320	2,716	—	108,363
	{ Majority ..	5,367	78,421	18,480	9,081	—	111,349
2nd Vote	{ For Federation ..	107,420	152,653	65,990	13,437	38,488	377,988
	{ Against „ ..	82,741	9,805	17,053	791	30,996	141,386
	{ Majority ..	24,679	142,848	48,937	12,646	7,492	236,602

5. **Enactment of the Constitution.**—The Secretary of State for the Colonies (the Right Honourable Joseph Chamberlain) expressed the hope on the 22nd December, 1899, that a delegation of the federating colonies would visit England on the occasion of the submission of the Commonwealth Bill to the Imperial Parliament. The delegation consisted of Mr. (later Sir) Edmund Barton (N.S.W.), Mr. Alfred Deakin (Vic.), Mr. C. C. Kingston (S.A.), Sir P. O. Fysh (Tas.), and later Mr. S. H. Parker was appointed delegate for Western Australia, and Mr. W. P. Reeves for New Zealand. After discussion as to whether there should be some modification in the Bill, it was introduced into the House of Commons

on the 14th May ; the second reading was moved on the 21st of the same month ; the discussion in committee commenced on the 18th June ; and the Royal assent was given on the 9th July, 1900.

On the 31st July a referendum in Western Australia on the question of federating gave the result :—For, 44,800 ; against, 19,691 ; that is to say, a majority of 25,109 in favour of union. On the 21st August both Houses of Parliament in that State passed addresses praying that it might be included as an original State of the Commonwealth.

On the 17th September, 1900, Her Majesty Queen Victoria signed the proclamation declaring that on and after the first day of January, 1901, the people of New South Wales, Victoria, South Australia, Queensland, Tasmania, and Western Australia should be united in a Federal Commonwealth, under the name of the Commonwealth of Australia.

§ 8. Creation of the Commonwealth

1. **The Constitution Act**—The Commonwealth of Australia Constitution Act, 63 and 64 Vict., Chapter 12, namely, “An Act to constitute the Commonwealth of Australia,” as amended by the Constitution Alteration (Senate Elections) Act 1906, and the Constitution Alteration (State Debts) Act 1909 is given *in extenso* hereunder.

THE COMMONWEALTH OF AUSTRALIA CONSTITUTION ACT, 63 & 64 VICT., CHAPTER 12.

An Act to constitute the Commonwealth of Australia. [9th July, 1900.]

WHEREAS the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, humbly relying on the blessing of Almighty God, have agreed to unite in one indissoluble Federal Commonwealth under the Crown of the United Kingdom of Great Britain and Ireland, and under the Constitution hereby established :

And whereas it is expedient to provide for the admission into the Commonwealth of other Australasian Colonies and possessions of the Queen :

Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows :—

1. This Act may be cited as the Commonwealth of Australia Constitution Act.
2. The provisions of this Act referring to the Queen shall extend to Her Majesty's heirs and successors in the sovereignty of the United Kingdom.
3. It shall be lawful for the Queen, with the advice of the Privy Council, to declare by proclamation that, on and after a day therein appointed, not being later than one year after the passing of this Act, the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, and also, if Her Majesty is satisfied that the people of Western Australia have agreed thereto, of Western Australia, shall be united in a Federal Commonwealth under the name of the Commonwealth of Australia. But the Queen may, at any time after the proclamation, appoint a Governor-General for the Commonwealth.
4. The Commonwealth shall be established, and the Constitution of the Commonwealth shall take effect, on and after the day so appointed. But the Parliaments of the several colonies may at any time after the passing of this Act make any such laws, to come into operation on the day so appointed, as they might have made if the Constitution had taken effect at the passing of this Act.
5. This Act, and all laws made by the Parliament of the Commonwealth under the Constitution, shall be binding on the courts, judges, and people of every State and of every part of the Commonwealth, notwithstanding anything in the laws of any State ; and the laws of the Commonwealth shall be in force on all British ships, the Queen's ships of war excepted, whose first port of clearance and whose port of destination are in the Commonwealth.

6. “The Commonwealth” shall mean the Commonwealth of Australia as established under this Act.

“The States” shall mean such of the colonies of New South Wales, New Zealand, Queensland, Tasmania, Victoria, Western Australia, and South Australia, including the

northern territory of South Australia, as for the time being are parts of the Commonwealth, and such colonies or territories as may be admitted into or established by the Commonwealth as States : and each of such parts of the Commonwealth shall be called " a State."

" Original States " shall mean such States as are parts of the Commonwealth at its establishment.

7. The Federal Council of Australasia Act, 1885, is hereby repealed, but so as not to affect any laws passed by the Federal Council of Australasia and in force at the establishment of the Commonwealth.

Any such law may be repealed as to any State by the Parliament of the Commonwealth, or as to any colony not being a State by the Parliament thereof.

8. After the passing of this Act the Colonial Boundaries Act 1895 shall not apply to any colony which becomes a State of the Commonwealth ; but the Commonwealth shall be taken to be a self-governing colony for the purposes of that Act.

9. The Constitution of the Commonwealth shall be as follows :—

THE CONSTITUTION.

This Constitution is divided as follows :—

- Chapter I.—The Parliament :
 - Part I.—General :
 - Part II.—The Senate :
 - Part III.—The House of Representatives :
 - Part IV.—Both Houses of the Parliament :
 - Part V.—Powers of the Parliament :
 - Chapter II.—The Executive Government :
 - Chapter III.—The Judicature :
 - Chapter IV.—Finance and Trade :
 - Chapter V.—The States :
 - Chapter VI.—New States :
 - Chapter VII.—Miscellaneous :
 - Chapter VIII.—Alteration of the Constitution.
- The Schedule.

CHAPTER I.—THE PARLIAMENT.

PART I.—GENERAL.

1. The legislative power of the Commonwealth shall be vested in a Federal Parliament, which shall consist of the Queen, a Senate, and a House of Representatives, and which is hereinafter called " The Parliament," or " The Parliament of the Commonwealth."

2. A Governor-General appointed by the Queen shall be Her Majesty's representative in the Commonwealth, and shall have and may exercise in the Commonwealth during the Queen's pleasure, but subject to this Constitution, such powers and functions of the Queen as Her Majesty may be pleased to assign to him.

3. There shall be payable to the Queen out of the Consolidated Revenue Fund of the Commonwealth, for the salary of the Governor-General, an annual sum which, until the Parliament otherwise provides, shall be ten thousand pounds.

The salary of a Governor-General shall not be altered during his continuance in office.

4. The provisions of this Constitution relating to the Governor-General extend and apply to the Governor-General for the time being, or such person as the Queen may appoint to administer the Government of the Commonwealth ; but no such person shall be entitled to receive any salary from the Commonwealth in respect of any other office during his administration of the Government of the Commonwealth.

5. The Governor-General may appoint such times for holding the sessions of the Parliament as he thinks fit, and may also from time to time, by Proclamation or otherwise, prorogue the Parliament, and may in like manner dissolve the House of Representatives.

After any general election the Parliament shall be summoned to meet not later than thirty days after the day appointed for the return of the writs.

The Parliament shall be summoned to meet not later than six months after the establishment of the Commonwealth.

6. There shall be a session of the Parliament once at least in every year, so that twelve months shall not intervene between the last sitting of the Parliament in one session and its first sitting in the next session.

PART II.—THE SENATE.

7. The Senate shall be composed of senators for each State, directly chosen by the people of the State, voting, until the Parliament otherwise provides, as one electorate.

But until the Parliament of the Commonwealth otherwise provides, the Parliament of the State of Queensland, if that State be an Original State, may make laws dividing the State into divisions and determining the number of senators to be chosen for each division, and in the absence of such provision the State shall be one electorate.

Until the Parliament otherwise provides there shall be six senators for each Original State. The Parliament may make laws increasing or diminishing the number of senators for each State, but so that equal representation of the several Original States shall be maintained and that no Original State shall have less than six senators.

The senators shall be chosen for a term of six years, and the names of the senators chosen for each State shall be certified by the Governor to the Governor-General.

8. The qualification of electors of senators shall be in each State that which is prescribed by this Constitution, or by the Parliament, as the qualification for electors of members of the House of Representatives; but in the choosing of senators each elector shall vote only once.

9. The Parliament of the Commonwealth may make laws prescribing the method of choosing senators, but so that the method shall be uniform for all the States. Subject to any such law, the Parliament of each State may make laws prescribing the method of choosing the senators for that State.

The Parliament of a State may make laws for determining the times and places of elections of senators for the State.

10. Until the Parliament otherwise provides, but subject to this Constitution, the laws in force in each State, for the time being, relating to elections for the more numerous House of the Parliament of the State shall, as nearly as practicable, apply to elections of senators for the State.

11. The Senate may proceed to the despatch of business, notwithstanding the failure of any State to provide for its representation in the Senate.

12. The Governor of any State may cause writs to be issued for elections of senators for the State. In case of the dissolution of the Senate the writs shall be issued within ten days from the proclamation of such dissolution.

13. As soon as may be after the Senate first meets, and after each first meeting of the Senate following a dissolution thereof, the Senate shall divide the senators chosen for each State into two classes, as nearly equal in number as practicable; and the places of the senators of the first class shall become vacant at the expiration of [the third year] *three years*,* and the places of those of the second class at the expiration of [the sixth year] *six years*,* from the beginning of their term of service; and afterwards the places of senators shall become vacant at the expiration of six years from the beginning of their term of service.

The election to fill vacant places shall be made [in the year at the expiration of which] *within one year before** the places are to become vacant.

For the purpose of this section the term of service of a senator shall be taken to begin on the first day of [January] *July** following the day of his election, except in the cases of the first election and of the election next after any dissolution of the Senate, when it shall be taken to begin on the first day of [January] *July** preceding the day of his election.

* As amended by section 2 of the Constitution Alteration (Senate Elections) 1906. The words in square brackets have been repealed; amendments are shown in italics.

14. Whenever the number of senators for a State is increased or diminished, the Parliament of the Commonwealth may make such provision for the vacating of the places of senators for the State as it deems necessary to maintain regularity in the rotation.

15. If the place of a senator becomes vacant before the expiration of his term of service, the Houses of Parliament of the State for which he was chosen shall, sitting and voting together, choose a person to hold the place until the expiration of the term, or until the election of a successor as hereinafter provided, whichever first happens. But if the Houses of Parliament of the State are not in session at the time when the vacancy is notified, the Governor of the State, with the advice of the Executive Council thereof, may appoint a person to hold the place until the expiration of fourteen days after the beginning of the next session of the Parliament of the State, or until the election of a successor, whichever first happens.

At the next general election of members of the House of Representatives, or at the next election of senators for the State, whichever first happens, a successor shall, if the term has not then expired, be chosen to hold the place from the date of his election until the expiration of the term.

The name of any senator so chosen or appointed shall be certified by the Governor of the State to the Governor-General.

16. The qualifications of a senator shall be the same as those of a member of the House of Representatives.

17. The Senate shall, before proceeding to the despatch of any other business, choose a senator to be the President of the Senate; and as often as the office of President becomes vacant the Senate shall again choose a senator to be the President.

The President shall cease to hold his office if he ceases to be a senator. He may be removed from office by a vote of the Senate, or he may resign his office or his seat by writing addressed to the Governor-General.

18. Before or during any absence of the President, the Senate may choose a senator to perform his duties in his absence.

19. A senator may, by writing addressed to the President, or to the Governor-General if there is no President or if the President is absent from the Commonwealth, resign his place, which thereupon shall become vacant.

20. The place of a senator shall become vacant if for two consecutive months of any session of the Parliament he, without the permission of the Senate, fails to attend the Senate.

21. Whenever a vacancy happens in the Senate, the President, or if there is no President or if the President is absent from the Commonwealth, the Governor-General, shall notify the same to the Governor of the State in the representation of which the vacancy has happened.

22. Until the Parliament otherwise provides, the presence of at least one-third of the whole number of the senators shall be necessary to constitute a meeting of the Senate for the exercise of its powers.

23. Questions arising in the Senate shall be determined by a majority of votes, and each senator shall have one vote. The President shall in all cases be entitled to a vote; and when the votes are equal the question shall pass in the negative.

PART III.—THE HOUSE OF REPRESENTATIVES.

24. The House of Representatives shall be composed of members directly chosen by the people of the Commonwealth, and the number of such members shall be, as nearly as practicable, twice the number of the senators.

The number of members chosen in the several States shall be in proportion to the respective numbers of their people, and shall, until the Parliament otherwise provides, be determined, whenever necessary, in the following manner:—

- (i) A quota shall be ascertained by dividing the number of the people of the Commonwealth, as shown by the latest statistics of the Commonwealth, by twice the number of the senators:

- (ii) The number of members to be chosen in each State shall be determined by dividing the number of the people of the State, as shown by the latest statistics of the Commonwealth, by the quota; and if on such division there is a remainder greater than one-half of the quota, one more member shall be chosen in the State.

But notwithstanding anything in this section, five members at least shall be chosen in each Original State.

25. For the purposes of the last section, if by the law of any State all persons of any race are disqualified from voting at elections for the more numerous House of the Parliament of the State, then, in reckoning the number of the people of the State or of the Commonwealth, persons of that race resident in that State shall not be counted.

26. Notwithstanding anything in section twenty-four, the number of members to be chosen in each State at the first election shall be as follows :—

New South Wales	..	23	South Australia	..	6
Victoria	..	20	Tasmania	..	5
Queensland	..	8			

Provided that if Western Australia is an Original State, the numbers shall be as follows :—

New South Wales	..	26	South Australia	..	7
Victoria	..	23	Western Australia	..	5
Queensland	..	9	Tasmania	..	5

27. Subject to this Constitution, the Parliament may make laws for increasing or diminishing the number of the members of the House of Representatives.

28. Every House of Representatives shall continue for three years from the first meeting of the House, and no longer, but may be sooner dissolved by the Governor-General.

29. Until the Parliament of the Commonwealth otherwise provides, the Parliament of any State may make laws for determining the divisions in each State for which members of the House of Representatives may be chosen, and the number of members to be chosen for each division. A division shall not be formed out of parts of different States.

In the absence of other provision, each State shall be one electorate.

30. Until the Parliament otherwise provides, the qualification of electors of members of the House of Representatives shall be in each State that which is prescribed by the law of the State as the qualification of electors of the more numerous House of Parliament of the State; but in the choosing of members each elector shall vote only once.*

31. Until the Parliament otherwise provides, but subject to this Constitution, the laws in force in each State for the time being relating to elections for the more numerous House of the Parliament of the State shall, as nearly as practicable, apply to elections in the State of members of the House of Representatives.

32. The Governor-General in Council may cause writs to be issued for general elections of members of the House of Representatives.

After the first general election, the writs shall be issued within ten days from the expiry of a House of Representatives or from the proclamation of a dissolution thereof.

33. Whenever a vacancy happens in the House of Representatives, the Speaker shall issue his writ for the election of a new member, or if there is no Speaker or if he is absent from the Commonwealth the Governor-General in Council may issue the writ.

34. Until the Parliament otherwise provides, the qualifications of a member of the House of Representatives shall be as follows :—

- (i) He must be of the full age of twenty-one years, and must be an elector entitled to vote at the election of members of the House of Representatives, or a person qualified to become such elector, and must have been for three years at the least a resident within the limits of the Commonwealth as existing at the time when he is chosen :

* The franchise qualification was determined by the Commonwealth Franchise Act 1902.

- (ii) He must be a subject of the Queen, either natural-born or for at least five years naturalized under a law of the United Kingdom, or of a Colony which has become or becomes a State, or of the Commonwealth, or of a State.

35. The House of Representatives shall, before proceeding to the despatch of any other business, choose a member to be the Speaker of the House, and as often as the office of Speaker becomes vacant the House shall again choose a member to be the Speaker.

The Speaker shall cease to hold his office if he ceases to be a member. He may be removed from office by a vote of the House, or he may resign his office or his seat by writing addressed to the Governor-General.

36. Before or during any absence of the Speaker, the House of Representatives may choose a member to perform his duties in his absence.

37. A member may by writing addressed to the Speaker, or to the Governor-General if there is no Speaker or if the Speaker is absent from the Commonwealth, resign his place, which thereupon shall become vacant.

38. The place of a member shall become vacant if for two consecutive months of any session of the Parliament he, without the permission of the House, fails to attend the House.

39. Until the Parliament otherwise provides, the presence of at least one-third of the whole number of the members of the House of Representatives shall be necessary to constitute a meeting of the House for the exercise of its powers.

40. Questions arising in the House of Representatives shall be determined by a majority of votes other than that of the Speaker. The Speaker shall not vote unless the numbers are equal, and then he shall have a casting vote.

PART IV.—BOTH HOUSES OF THE PARLIAMENT.

41. No adult person who has or acquires a right to vote at elections for the more numerous House of the Parliament of a State shall, while the right continues, be prevented by any law of the Commonwealth from voting at elections for either House of the Parliament of the Commonwealth.

42. Every senator and every member of the House of Representatives shall before taking his seat make and subscribe before the Governor-General, or some person authorized by him, an oath or affirmation of allegiance in the form set forth in the schedule to this Constitution.

43. A member of either House of the Parliament shall be incapable of being chosen or of sitting as a member of the other House.

44. Any person who—

- (i) Is under any acknowledgment of allegiance, obedience, or adherence to a foreign power, or is a subject or a citizen or entitled to the rights or privileges of a subject or a citizen of a foreign power : or
- (ii) Is attainted of treason, or has been convicted and is under sentence, or subject to be sentenced, for any offence punishable under the law of the Commonwealth or of a State by imprisonment for one year or longer : or
- (iii) Is an undischarged bankrupt or insolvent : or
- (iv) Holds any office of profit under the Crown, or any pension payable during the pleasure of the Crown out of any of the revenues of the Commonwealth : or
- (v) Has any direct or indirect pecuniary interest in any agreement with the Public Service of the Commonwealth otherwise than as a member and in common with the other members of an incorporated company consisting of more than twenty-five persons :

shall be incapable of being chosen or of sitting as a senator or a member of the House of Representatives.

But sub-section iv. does not apply to the office of any of the Queen's Ministers of State for the Commonwealth, or of any of the Queen's Ministers for a State, or to the receipt of pay, half-pay, or a pension by any person as an officer or member of the Queen's

navy or army, or to the receipt of pay as an officer or member of the naval or military forces of the Commonwealth by any person whose services are not wholly employed by the Commonwealth.

45. If a senator or member of the House of Representatives—

- (i) Becomes subject to any of the disabilities mentioned in the last preceding section : or
- (ii) Takes the benefit, whether by assignment, composition, or otherwise, of any law relating to bankrupt or insolvent debtors : or
- (iii) Directly or indirectly takes or agrees to take any fee or honorarium for services rendered to the Commonwealth, or for services rendered in the Parliament to any person or State :

his place shall thereupon become vacant.

46. Until the Parliament otherwise provides, any person declared by this Constitution to be incapable of sitting as a senator or as a member of the House of Representatives shall, for every day on which he so sits, be liable to pay the sum of one hundred pounds to any person who sues for it in any court of competent jurisdiction.

47. Until the Parliament otherwise provides, any question respecting the qualification of a senator or of a member of the House of Representatives, or respecting a vacancy in either House of the Parliament, and any question of a disputed election to either House, shall be determined by the House in which the question arises.

48. Until the Parliament otherwise provides, each senator and each member of the House of Representatives shall receive an allowance of four hundred pounds a year, to be reckoned from the day on which he takes his seat.*

49. The powers, privileges, and immunities of the Senate and of the House of Representatives, and of the members and the committees of each House, shall be such as are declared by the Parliament, and until declared shall be those of the Commons House of Parliament of the United Kingdom, and of its members and committees, at the establishment of the Commonwealth.

50. Each House of the Parliament may make rules and orders with respect to—

- (i) The mode in which its powers, privileges, and immunities may be exercised and upheld :
- (ii) The order and conduct of its business and proceedings either separately or jointly with the other House.

PART V.—POWERS OF THE PARLIAMENT.†

51. The Parliament shall, subject to this Constitution, have power to make laws for the peace, order, and good government of the Commonwealth with respect to :—

- (i) Trade and commerce with other countries, and among the States :
- (ii) Taxation ; but so as not to discriminate between States or parts of States :
- (iii) Bounties on the production or export of goods, but so that such bounties shall be uniform throughout the Commonwealth :
- (iv) Borrowing money on the public credit of the Commonwealth :
- (v) Postal, telegraphic, telephonic, and other like services :
- (vi) The naval and military defence of the Commonwealth and of the several States, and the control of the forces to execute and maintain the laws of the Commonwealth :
- (vii) Lighthouses, lightships, beacons and buoys :
- (viii) Astronomical and meteorological observations :
- (ix) Quarantine :
- (x) Fisheries in Australian waters beyond territorial limits :
- (xi) Census and statistics :

* By the Parliamentary Allowances Act 1907, the amount of the allowance was increased to £600 a year ; and by the Parliamentary Allowances Act 1920 to £1,000 a year. (The latter Act also apportioned special allowances to the President of the Senate ; the Speaker of the House of Representatives ; the Chairmen of Committees in both Houses ; and the Opposition Leaders in both Houses.)

† Particulars of proposed laws which were submitted to referenda are given in Chapter III., General Government.

- (xii) Currency, coinage, and legal tender :
- (xiii) Banking, other than State banking ; also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money :
- (xiv) Insurance, other than State insurance ; also State insurance extending beyond the limits of the State concerned :
- (xv) Weights and measures :
- (xvi) Bills of exchange and promissory notes :
- (xvii) Bankruptcy and insolvency :
- (xviii) Copyrights, patents of inventions and designs, and trade marks :
- (xix) Naturalization and aliens :
- (xx) Foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth :
- (xxi) Marriage :
- (xxii) Divorce and matrimonial causes ; and in relation thereto, parental rights, and the custody and guardianship of infants :
- (xxiii) Invalid and old-age pensions :
- (xxiv) The service and execution throughout the Commonwealth of the civil and criminal process and the judgments of the courts of the States :
- (xxv) The recognition throughout the Commonwealth of the laws, the public Acts and records, and the judicial proceedings of the States :
- (xxvi) The people of any race, other than the aboriginal race in any State, for whom it is deemed necessary to make special laws :
- (xxvii) Immigration and emigration :
- (xxviii) The influx of criminals :
- (xxix) External affairs :
- (xxx) The relations of the Commonwealth with the islands of the Pacific :
- (xxxi) The acquisition of property on just terms from any State or person for any purpose in respect of which the Parliament has power to make laws :
- (xxxii) The control of railways with respect to transport for the naval and military purposes of the Commonwealth :
- (xxxiii) The acquisition, with the consent of a State, of any railways of the State on terms arranged between the Commonwealth and the State :
- (xxxiv) Railway construction and extension in any State with the consent of that State :
- (xxxv) Conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State :
- (xxxvi) Matters in respect of which this Constitution makes provision until the Parliament otherwise provides :
- (xxxvii) Matters referred to the Parliament of the Commonwealth by the Parliament or Parliaments of any State or States, but so that the law shall extend only to States by whose Parliaments the matter is referred, or which afterwards adopt the law :
- (xxxviii) The exercise within the Commonwealth, at the request or with the concurrence of the Parliaments of all the States directly concerned, of any power which can at the establishment of this Constitution be exercised only by the Parliament of the United Kingdom or by the Federal Council of Australasia :
- (xxxix) Matters incidental to the execution of any power vested by this Constitution in the Parliament or in either House thereof, or in the Government of the Commonwealth, or in the Federal Judicature, or in any department or officer of the Commonwealth.

52. The Parliament shall, subject to this Constitution, have exclusive power to make laws for the peace, order, and good government of the Commonwealth, with respect to—

- (i) The seat of Government of the Commonwealth, and all places acquired by the Commonwealth for public purposes :
- (ii) Matters relating to any department of the public service the control of which is by this Constitution transferred to the Executive Government of the Commonwealth :
- (iii) Other matters declared by this Constitution to be within the exclusive power of the Parliament.

53. Proposed laws appropriating revenue or moneys, or imposing taxation, shall not originate in the Senate. But a proposed law shall not be taken to appropriate revenue or moneys, or to impose taxation, by reason only of its containing provisions for the imposition or appropriation of fines or other pecuniary penalties, or for the demand or payment or appropriation of fees for licences, or fees for services under the proposed law.

The Senate may not amend proposed laws imposing taxation, or proposed laws appropriating revenue or moneys for the ordinary annual services of the Government.

The Senate may not amend any proposed laws so as to increase any proposed charge or burden on the people.

The Senate may at any stage return to the House of Representatives any proposed law which the Senate may not amend, requesting, by message, the omission or amendment of any items or provisions therein. And the House of Representatives may, if it thinks fit, make any of such omissions or amendments, with or without modifications.

Except as provided in this section, the Senate shall have equal power with the House of Representatives in respect of all proposed laws.

54. The proposed law which appropriates revenue or moneys for the ordinary annual services of the Government shall deal only with such appropriation.

55. Laws imposing taxation shall deal only with the imposition of taxation, and any provisions therein dealing with any other matter shall be of no effect.

Laws imposing taxation, except laws imposing duties of customs or of excise, shall deal with one subject of taxation only; but laws imposing duties of customs shall deal with duties of customs only, and laws imposing duties of excise shall deal with duties of excise only.

56. A vote, resolution, or proposed law for the appropriation of revenue or moneys shall not be passed unless the purpose of the appropriation has in the same session been recommended by message of the Governor-General to the House in which the proposal originated.

57. If the House of Representatives passes any proposed law, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, and if after an interval of three months the House of Representatives, in the same or the next session, again passes the proposed law with or without any amendments which have been made, suggested, or agreed to by the Senate, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, the Governor-General may dissolve the Senate and the House of Representatives simultaneously. But such dissolution shall not take place within six months before the date of the expiry of the House of Representatives by effluxion of time.

If after such dissolution the House of Representatives again passes the proposed law, with or without any amendments which have been made, suggested, or agreed to by the Senate, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, the Governor-General may convene a joint sitting of the members of the Senate and of the House of Representatives.

The members present at the joint sitting may deliberate and shall vote together upon the proposed law as last proposed by the House of Representatives, and upon amendments, if any, which have been made therein by one House and not agreed to by the other, and any such amendments which are affirmed by an absolute majority of the total number of the members of the Senate and House of Representatives shall be taken to have been carried, and if the proposed law, with the amendments, if any, so carried is affirmed by an absolute majority of the total number of members of the Senate and House of Representatives, it shall be taken to have been duly passed by both Houses of the Parliament, and shall be presented to the Governor-General for the Queen's assent.

58. When a proposed law passed by both Houses of the Parliament is presented to the Governor-General for the Queen's assent, he shall declare, according to his discretion, but subject to this Constitution, that he assents in the Queen's name, or that he withholds assent, or that he reserves the law for the Queen's pleasure.

The Governor-General may return to the House in which it originated any proposed law so presented to him, and may transmit therewith any amendments which he may recommend, and the Houses may deal with the recommendation.

59. The Queen may disallow any law within one year from the Governor-General's assent, and such disallowance on being made known by the Governor-General by speech or message to each of the Houses of the Parliament, or by Proclamation, shall annul the law from the day when the disallowance is so made known.

60. A proposed law reserved for the Queen's pleasure shall not have any force unless and until within two years from the day on which it was presented to the Governor-General for the Queen's assent the Governor-General makes known, by speech or message to each of the Houses of Parliament, or by Proclamation, that it has received the Queen's assent.

CHAPTER II.—THE EXECUTIVE GOVERNMENT.

61. The executive power of the Commonwealth is vested in the Queen and is exercisable by the Governor-General as the Queen's representative, and extends to the execution and maintenance of this Constitution, and of the laws of the Commonwealth.

62. There shall be a Federal Executive Council to advise the Governor-General in the government of the Commonwealth, and the members of the Council shall be chosen and summoned by the Governor-General and sworn as Executive Councillors, and shall hold office during his pleasure.

63. The provisions of this Constitution referring to the Governor-General in Council shall be construed as referring to the Governor-General acting with the advice of the Federal Executive Council.

64. The Governor-General may appoint officers to administer such departments of State of the Commonwealth as the Governor-General in Council may establish.

Such officers shall hold office during the pleasure of the Governor-General. They shall be members of the Federal Executive Council, and shall be the Queen's Ministers of State for the Commonwealth.

After the first general election no Minister of State shall hold office for a longer period than three months unless he is or becomes a senator or a member of the House of Representatives.

65. Until the Parliament otherwise provides, the Ministers of State shall not exceed seven in number, and shall hold such offices as the Parliament prescribes, or, in the absence of provision, as the Governor-General directs.*

66. There shall be payable to the Queen, out of the Consolidated Revenue Fund of the Commonwealth, for the salaries of the Ministers of State, an annual sum which, until the Parliament otherwise provides, shall not exceed twelve thousand pounds a year.*

67. Until the Parliament otherwise provides, the appointment and removal of all other officers of the Executive Government of the Commonwealth shall be vested in the Governor-General in Council, unless the appointment is delegated by the Governor-General in Council or by a law of the Commonwealth to some other authority.

68. The command in chief of the naval and military forces of the Commonwealth is vested in the Governor-General as the Queen's representative.

69. On a date or dates to be proclaimed by the Governor-General after the establishment of the Commonwealth the following departments of the public service in each State shall be transferred to the Commonwealth :—

Posts, telegraphs, and telephones :	Lighthouses, lightships, beacons, and buoys :
Naval and military defence :	Quarantine.

But the departments of customs and of excise in each State shall become transferred to the Commonwealth on its establishment.

70. In respect of matters which, under this Constitution, pass to the Executive Government of the Commonwealth, all powers and functions which at the establishment of the Commonwealth are vested in the Governor of a Colony, or in the Governor of a Colony with the advice of his Executive Council, or in any authority of a Colony, shall vest in the Governor-General, or in the Governor-General in Council, or in the authority exercising similar powers under the Commonwealth, as the case requires.

* By the Ministers of State Acts 1915 and 1917, the Ministers of State may exceed seven, but shall not exceed nine. £15,300 annually was allotted by these Acts for their salaries; and £300 per annum each was added by the Parliamentary Allowances Act 1920.

CHAPTER III.—THE JUDICATURE.

71. The judicial power of the Commonwealth shall be vested in a Federal Supreme Court, to be called the High Court of Australia, and in such other federal courts as the Parliament creates, and in such other courts as it invests with federal jurisdiction. The High Court shall consist of a Chief Justice, and so many other Justices, not less than two, as the Parliament prescribes.

72. The Justices of the High Court and of the other Courts created by the Parliament—

- (i) Shall be appointed by the Governor-General in Council :
- (ii) Shall not be removed except by the Governor-General in Council, on an address from both Houses of the Parliament in the same session, praying for such removal on the ground of proved misbehaviour or incapacity :
- (iii) Shall receive such remuneration as the Parliament may fix ; but the remuneration shall not be diminished during their continuance in office.

73. The High Court shall have jurisdiction, with such exceptions and subject to such regulations as the Parliament prescribes, to hear and determine appeals from all judgments, decrees, orders, and sentences—

- (i) Of any Justice or Justices exercising the original jurisdiction of the High Court :
 - (ii) Of any other federal court, or court exercising federal jurisdiction ; or of the Supreme Court of any State, or of any other court of any State from which at the establishment of the Commonwealth an appeal lies to the Queen in Council :
 - (iii) Of the Inter-State Commission, but as to questions of law only :
- and the judgment of the High Court in all such cases shall be final and conclusive.

But no exception or regulation prescribed by the Parliament shall prevent the High Court from hearing and determining any appeal from the Supreme Court of a State in any matter in which at the establishment of the Commonwealth an appeal lies from such Supreme Court to the Queen in Council.

Until the Parliament otherwise provides, the conditions of and restrictions on appeals to the Queen in Council from the Supreme Courts of the several States shall be applicable to appeals from them to the High Court.

74. No appeal shall be permitted to the Queen in Council from a decision of the High Court upon any question, howsoever arising, as to the limits inter se of the Constitutional powers of the Commonwealth and those of any State or States, or as to the limits inter se of the Constitutional powers of any two or more States, unless the High Court shall certify that the question is one which ought to be determined by Her Majesty in Council.

The High Court may so certify if satisfied that for any special reason the certificate should be granted, and thereupon an appeal shall lie to Her Majesty in Council on the question without further leave.

Except as provided in this section, this Constitution shall not impair any right which the Queen may be pleased to exercise by virtue of Her Royal prerogative to grant special leave of appeal from the High Court to Her Majesty in Council. The Parliament may make laws limiting the matters in which such leave may be asked, but proposed laws containing any such limitation shall be reserved by the Governor-General for Her Majesty's pleasure.

75. In all matters—

- (i) Arising under any treaty :
- (ii) Affecting consuls or other representatives of other countries :
- (iii) In which the Commonwealth, or a person suing or being sued on behalf of the Commonwealth, is a party :
- (iv) Between States, or between residents of different States, or between a State and a resident of another State :
- (v) In which a writ of Mandamus or prohibition or an injunction is sought against an officer of the Commonwealth :

the High Court shall have original jurisdiction.

76. The Parliament may make laws conferring original jurisdiction on the High Court in any matter—

- (i) Arising under this Constitution, or involving its interpretation :
- (ii) Arising under any laws made by the Parliament :
- (iii) Of Admiralty and maritime jurisdiction :
- (iv) Relating to the same subject-matter claimed under the laws of different States.

77. With respect to any of the matters mentioned in the last two sections the Parliament may make laws—

- (i) Defining the jurisdiction of any federal court other than the High Court :
- (ii) Defining the extent to which the jurisdiction of any federal court shall be exclusive of that which belongs to or is invested in the courts of the States :
- (iii) Investing any court of a State with federal jurisdiction.

78. The Parliament may make laws conferring rights to proceed against the Commonwealth or a State in respect of matters within the limits of the judicial power.

79. The federal jurisdiction of any court may be exercised by such number of judges as the Parliament prescribes.

80. The trial on indictment of any offence against any law of the Commonwealth shall be by jury, and every such trial shall be held in the State where the offence was committed, and if the offence was not committed within any State the trial shall be held at such place or places as the Parliament prescribes.

CHAPTER IV.—FINANCE AND TRADE.

81. All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund, to be appropriated for the purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this Constitution.

82. The costs, charges, and expenses incident to the collection, management, and receipt of the Consolidated Revenue Fund shall form the first charge thereon ; and the revenue of the Commonwealth shall in the first instance be applied to the payment of the expenditure of the Commonwealth.

83. No money shall be drawn from the Treasury of the Commonwealth except under appropriation made by law.

But until the expiration of one month after the first meeting of the Parliament the Governor-General in Council may draw from the Treasury and expend such moneys as may be necessary for the maintenance of any department transferred to the Commonwealth and for the holding of the first elections for the Parliament.

84. When any department of the public service of a State becomes transferred to the Commonwealth, all officers of the department shall become subject to the control of the Executive Government of the Commonwealth.

Any such officer who is not retained in the service of the Commonwealth shall, unless he is appointed to some other office of equal emolument in the public service of the State, be entitled to receive from the State any pension, gratuity, or other compensation, payable under the law of the State on the abolition of his office.

Any such officer who is retained in the service of the Commonwealth shall preserve all his existing and accruing rights, and shall be entitled to retire from office at the time, and on the pension or retiring allowance, which would be permitted by the law of the State if his service with the Commonwealth were a continuation of his services with the State. Such pension or retiring allowance shall be paid to him by the Commonwealth ; but the State shall pay to the Commonwealth a part thereof, to be calculated on the proportion which his term of service with the State bears to his whole term of service, and for the purpose of the calculation his salary shall be taken to be that paid to him by the State at the time of the transfer.

Any officer who is, at the establishment of the Commonwealth, in the public service of a State, and who is, by consent of the Governor of the State with the advice of the

Executive Council thereof, transferred to the public service of the Commonwealth, shall have the same rights as if he had been an officer of a department transferred to the Commonwealth and were retained in the service of the Commonwealth.

85. When any department of the public service of a State is transferred to the Commonwealth—

- (i) All property of the State of any kind, used exclusively in connexion with the department, shall become vested in the Commonwealth; but, in the case of the departments controlling customs and excise and bounties, for such time only as the Governor-General in Council may declare to be necessary;
- (ii) The Commonwealth may acquire any property of the State, of any kind used, but not exclusively used in connexion with the department; the value thereof shall, if no agreement can be made, be ascertained in, as nearly as may be, the manner in which the value of land, or of an interest in land, taken by the State for public purposes is ascertained under the law of the State in force at the establishment of the Commonwealth;
- (iii) The Commonwealth shall compensate the State for the value of any property passing to the Commonwealth under this section: if no agreement can be made as to the mode of compensation, it shall be determined under laws to be made by the Parliament;
- (iv) The Commonwealth shall, at the date of the transfer, assume the current obligations of the State in respect of the department transferred.

86. On the establishment of the Commonwealth, the collection and control of duties of customs and of excise, and the control of the payment of bounties, shall pass to the Executive Government of the Commonwealth.

87. During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, of the net revenue of the Commonwealth from duties of customs and of excise not more than one-fourth shall be applied annually by the Commonwealth towards its expenditure.

The balance shall, in accordance with this Constitution, be paid to the several States, or applied towards the payment of interest on debts of the several States taken over by the Commonwealth.

88. Uniform duties of customs shall be imposed within two years after the establishment of the Commonwealth.

89. Until the imposition of uniform duties of customs—

- (i) The Commonwealth shall credit to each State the revenues collected therein by the Commonwealth.
- (ii) The Commonwealth shall debit to each State—
 - (a) The expenditure therein of the Commonwealth incurred solely for the maintenance or continuance, as at the time of transfer, of any department transferred from the State to the Commonwealth;
 - (b) The proportion of the State, according to the number of its people, in the other expenditure of the Commonwealth.
- (iii) The Commonwealth shall pay to each State month by month the balance (if any) in favour of the State.

90. On the imposition of uniform duties of customs the power of the Parliament to impose duties of customs and of excise, and to grant bounties on the production or export of goods, shall become exclusive.

On the imposition of uniform duties of customs all laws of the several States imposing duties of customs or of excise, or offering bounties on the production or export of goods, shall cease to have effect, but any grant of or agreement for any such bounty lawfully made by or under the authority of the Government of any State shall be taken to be good if made before the thirtieth day of June, one thousand eight hundred and ninety-eight, and not otherwise.

91. Nothing in this Constitution prohibits a State from granting any aid to or bounty on mining for gold, silver, or other metals, nor from granting, with the consent of both Houses of the Parliament of the Commonwealth expressed by resolution, any aid to or bounty on the production or export of goods.

92. On the imposition of uniform duties of customs, trade, commerce, and intercourse among the States, whether by means of internal carriage or ocean navigation, shall be absolutely free.

But notwithstanding anything in this Constitution, goods imported before the imposition of uniform duties of customs into any State, or into any Colony which, whilst the goods remain therein, becomes a State, shall, on thence passing into another State within two years after the imposition of such duties, be liable to any duty chargeable on the importation of such goods into the Commonwealth, less any duty paid in respect of the goods on their importation.

93. During the first five years after the imposition of uniform duties of customs and thereafter until the Parliament otherwise provides—

- (i) The duties of customs chargeable on goods imported into a State and afterwards passing into another State for consumption, and the duties of excise paid on goods produced or manufactured in a State and afterwards passing into another State for consumption, shall be taken to have been collected not in the former but in the latter State :
- (ii) Subject to the last sub-section, the Commonwealth shall credit revenue, debit expenditure, and pay balances to the several States as prescribed for the period preceding the imposition of uniform duties of customs.

94. After five years from the imposition of uniform duties of customs, the Parliament may provide, on such basis as it deems fair, for the monthly payment to the several States of all surplus revenue of the Commonwealth.

95. Notwithstanding anything in this Constitution, the Parliament of the State of Western Australia, if that State be an original State, may, during the first five years after the imposition of uniform duties of customs, impose duties of customs on goods passing into that State and not originally imported from beyond the limits of the Commonwealth ; and such duties shall be collected by the Commonwealth.

But any duty so imposed on any goods shall not exceed during the first of such years the duty chargeable on the goods under the law of Western Australia in force at the imposition of uniform duties, and shall not exceed during the second, third, fourth, and fifth of such years respectively, four-fifths, three-fifths, two-fifths, and one-fifth of such latter duty, and all duties imposed under this section shall cease at the expiration of the fifth year after the imposition of uniform duties.

If at any time during the five years the duty on any goods under this section is higher than the duty imposed by the Commonwealth on the importation of the like goods, then such higher duty shall be collected on the goods when imported into Western Australia from beyond the limits of the Commonwealth.

96. During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit.

97. Until the Parliament otherwise provides, the laws in force in any Colony which has become or becomes a State with respect to the receipt of revenue and the expenditure of money on account of the Government of the Colony, and the review and audit of such receipt and expenditure, shall apply to the receipt of revenue and the expenditure of money on account of the Commonwealth in the State in the same manner as if the Commonwealth, or the Government or an officer of the Commonwealth, were mentioned whenever the Colony, or the Government or an officer of the Colony, is mentioned.

98. The power of the Parliament to make laws with respect to trade and commerce extends to navigation and shipping, and to railways the property of any State.

99. The Commonwealth shall not, by any law or regulation of trade, commerce, or revenue, give preference to one State or any part thereof over another State or any part thereof.

100. The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation.

101. There shall be an Inter-State Commission, with such powers of adjudication and administration as the Parliament deems necessary for the execution and maintenance, within the Commonwealth, of the provisions of this Constitution relating to trade and commerce, and of all laws made thereunder.*

102. The Parliament may by any law with respect to trade or commerce forbid, as to railways, any preference or discrimination by any State, or by any authority constituted under a State, if such preference or discrimination is undue and unreasonable, or unjust to any State; due regard being had to the financial responsibilities incurred by any State in connexion with the construction and maintenance of its railways. But no preference or discrimination shall, within the meaning of this section, be taken to be undue and unreasonable, or unjust to any State, unless so adjudged by the Inter-State Commission.

103. The members of the Inter-State Commission—

- (i) Shall be appointed by the Governor-General in Council :
- (ii) Shall hold office for seven years, but may be removed within that time by the Governor-General in Council, on an address from both Houses of the Parliament in the same session praying for such removal on the ground of proved misbehaviour or incapacity :
- (iii) Shall receive such remuneration as the Parliament may fix; but such remuneration shall not be diminished during their continuance in office.

104. Nothing in this Constitution shall render unlawful any rate for the carriage of goods upon a railway, the property of a State, if the rate is deemed by the Inter-State Commission to be necessary for the development of the territory of the State, and if the rate applies equally to goods within the State and to goods passing into the State from other States.

105. The Parliament may take over from the States their public debts [as existing at the establishment of the Commonwealth],† or a proportion thereof according to the respective numbers of their people as shown by the latest statistics of the Commonwealth, and may convert, renew, or consolidate such debts, or any part thereof; and the State shall indemnify the Commonwealth in respect of the debts taken over, and thereafter the interest payable in respect of the debts shall be deducted and retained from the portions of the surplus revenue of the Commonwealth payable to the several States, or if such surplus is insufficient, or if there is no surplus, then the deficiency or the whole amount shall be paid by the several States.

CHAPTER V.—THE STATES.

106. The Constitution of each State of the Commonwealth shall, subject to this Constitution, continue as at the establishment of the Commonwealth, or as at the admission or establishment of the State, as the case may be, until altered in accordance with the Constitution of the State.

107. Every power of the Parliament of a Colony which has become or becomes a State, shall, unless it is by this Constitution exclusively vested in the Parliament of the Commonwealth or withdrawn from the Parliament of the State, continue as at the establishment of the Commonwealth, or as at the admission or establishment of the State, as the case may be.

108. Every law in force in a Colony which has become or becomes a State, and relating to any matter within the powers of the Parliament of the Commonwealth, shall, subject to this Constitution, continue in force in the State; and, until provision is made in that behalf by the Parliament of the Commonwealth, the Parliament of the State shall have such powers of alteration and of repeal in respect of any such law as the Parliament of the Colony had until the Colony became a State.

109. When a law of a State is inconsistent with a law of the Commonwealth, the latter shall prevail, and the former shall, to the extent of the inconsistency, be invalid.

* The Commission was brought into existence in 1913, under Act No. 33 of 1912, by the appointment of Commissioners for seven years. This period has expired, but no fresh appointments have been made.

† Under Section 2 of the Constitution Alteration (State Debts) 1909, the words in square brackets are omitted.

110. The provisions of this Constitution relating to the Governor of a State extend and apply to the Governor for the time being of the State, or other chief executive officer or administrator of the government of the State.

111. The Parliament of a State may surrender any part of the State to the Commonwealth; and upon such surrender, and the acceptance thereof by the Commonwealth, such part of the State shall become subject to the exclusive jurisdiction of the Commonwealth.

112. After uniform duties of customs have been imposed, a State may levy on imports or exports, or on goods passing into or out of the State, such charges as may be necessary for executing the inspection laws of the State; but the net produce of all charges so levied shall be for the use of the Commonwealth; and any such inspection laws may be annulled by the Parliament of the Commonwealth.

113. All fermented, distilled, or other intoxicating liquids passing into any State or remaining therein for use, consumption, sale, or storage, shall be subject to the laws of the State as if such liquids had been produced in the State.

114. A State shall not, without the consent of the Parliament of the Commonwealth, raise or maintain any naval or military force, or impose any tax on property of any kind belonging to the Commonwealth, nor shall the Commonwealth impose any tax on property of any kind belonging to a State.

115. A State shall not coin money, nor make anything but gold and silver coin a legal tender in payment of debts.

116. The Commonwealth shall not make any law for establishing any religion, or for imposing any religious observance, or for prohibiting the free exercise of any religion, and no religious test shall be required as a qualification for any office or public trust under the Commonwealth.

117. A subject of the Queen, resident in any State, shall not be subject in any other State to any disability or discrimination which would not be equally applicable to him if he were a subject of the Queen resident in such other State.

118. Full faith and credit shall be given, throughout the Commonwealth, to the laws, the public Acts and records, and the judicial proceedings of every State.

119. The Commonwealth shall protect every State against invasion and, on the application of the Executive Government of the State, against domestic violence.

120. Every State shall make provision for the detention in its prisons of persons accused or convicted of offences against the laws of the Commonwealth, and for the punishment of persons convicted of such offences, and the Parliament of the Commonwealth may make laws to give effect to this provision.

CHAPTER VI.—NEW STATES.

121. The Parliament may admit to the Commonwealth or establish new States, and may upon such admission or establishment make or impose such terms and conditions, including the extent of representation in either House of the Parliament, as it thinks fit.

122. The Parliament may make laws for the government of any territory surrendered by any State to and accepted by the Commonwealth, or of any territory placed by the Queen under the authority of and accepted by the Commonwealth, or otherwise acquired by the Commonwealth, and may allow the representation of such territory in either House of the Parliament to the extent and on the terms which it thinks fit.

123. The Parliament of the Commonwealth may, with the consent of the Parliament of a State, and the approval of the majority of the electors of the State voting upon the question, increase, diminish, or otherwise alter the limits of the State, upon such terms and conditions as may be agreed on, and may, with the like consent, make provision respecting the effect and operation of any increase or diminution or alteration of territory in relation to any State affected.

124. A new State may be formed by separation of territory from a State, but only with consent of the Parliament thereof, and a new State may be formed by the union of two or more States or parts of States, but only with the consent of the Parliaments of the States affected.

CHAPTER VII.—MISCELLANEOUS.

125. The seat of Government of the Commonwealth shall be determined by the Parliament, and shall be within territory which shall have been granted to or acquired by the Commonwealth, and shall be vested in and belong to the Commonwealth, and shall be in the State of New South Wales, and be distant not less than one hundred miles from Sydney.

Such territory shall contain an area of not less than one hundred square miles, and such portion thereof as shall consist of Crown lands shall be granted to the Commonwealth without any payment therefor.

The Parliament shall sit at Melbourne until it meet at the seat of Government.

126. The Queen may authorize the Governor-General to appoint any person, or any persons jointly or severally, to be his deputy or deputies within any part of the Commonwealth, and in that capacity to exercise during the pleasure of the Governor-General such powers and functions of the Governor-General as he thinks fit to assign to such deputy or deputies, subject to any limitations expressed or directions given by the Queen; but the appointment of such deputy or deputies shall not affect the exercise by the Governor-General himself of any power or function.

127. In reckoning the numbers of the people of the Commonwealth, or of a State or other part of the Commonwealth, aboriginal natives shall not be counted.

CHAPTER VIII.—ALTERATION OF THE CONSTITUTION.

128. This Constitution shall not be altered except in the following manner:—

The proposed law for the alteration thereof must be passed by an absolute majority of each House of the Parliament, and not less than two nor more than six months after its passage through both Houses the proposed law shall be submitted in each State to the electors qualified to vote for the election of members of the House of Representatives.

But if either House passes any such proposed law by an absolute majority, and the other House rejects or fails to pass it or passes it with any amendment to which the first-mentioned House will not agree, and if after an interval of three months the first-mentioned House in the same or the next session again passes the proposed law by an absolute majority with or without any amendment which has been made or agreed to by the other House, and such other House rejects or fails to pass it or passes it with any amendment to which the first-mentioned House will not agree, the Governor-General may submit the proposed law as last proposed by the first-mentioned House, and either with or without any amendments subsequently agreed to by both Houses, to the electors in each State qualified to vote for the election of the House of Representatives.

When a proposed law is submitted to the electors the vote shall be taken in such manner as the Parliament prescribes. But until the qualification of electors of members of the House of Representatives becomes uniform throughout the Commonwealth, only one-half the electors voting for and against the proposed law shall be counted in any State in which adult suffrage prevails.

And if in a majority of the States a majority of the electors voting approve the proposed law, and if a majority of all the electors voting also approve the proposed law, it shall be presented to the Governor-General for the Queen's assent.

No alteration diminishing the proportionate representation of any State in either House of the Parliament, or the minimum number of representatives of a State in the House of Representatives, or increasing, diminishing, or otherwise altering the limits of the State, or in any manner affecting the provisions of the Constitution in relation thereto, shall become law unless the majority of the electors voting in that State approve the proposed law.

SCHEDULE.

OATH.

I, A.B., do swear that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, Her heirs and successors according to law. SO HELP ME GOD!

AFFIRMATION.

I, A.B., do solemnly and sincerely affirm and declare that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, Her heirs and successors according to law.

(NOTE.—The name of the King or Queen of the United Kingdom of Great Britain and Ireland for the time being is to be substituted from time to time.)

2. **The Royal Proclamation.**—The preceding Act received the Royal assent on the 9th July, 1900. This made it lawful to declare that the people of Australia should be united in a Federal Commonwealth. This proclamation, made on the 17th September, 1900, constituted the Commonwealth as from the 1st January, 1901: it reads as follows:—

BY THE QUEEN.

A PROCLAMATION.

(Signed) VICTORIA R.

WHEREAS by an Act of Parliament passed in the Sixty-third and Sixty-fourth Years of Our Reign, intituled “An Act to constitute the Commonwealth of Australia,” it is enacted that it shall be lawful for the Queen, with the advice of the Privy Council, to declare by Proclamation, that, on and after a day therein appointed, not being later than One year after the passing of this Act, the people of *New South Wales, Victoria, South Australia, Queensland, and Tasmania*, and also, if Her Majesty is satisfied that the people of *Western Australia* have agreed thereto, of *Western Australia*, shall be united in a Federal Commonwealth under the name of the Commonwealth of Australia.

And whereas We are satisfied that the people of *Western Australia* have agreed thereto accordingly.

We therefore, by and with the advice of Our Privy Council, have thought fit to issue this Our Royal Proclamation, and We do hereby declare that on and after the First day of *January* One thousand nine hundred and one, the people of *New South Wales, Victoria, South Australia, Queensland, Tasmania, and Western Australia* shall be united in a Federal Commonwealth under the name of the Commonwealth of *Australia*.

Given at Our Court at *Balmoral* this Seventeenth day of *September*, in the Year of Our Lord One thousand nine hundred, and in the Sixty-fourth Year of Our Reign.

GOD SAVE THE QUEEN.

§ 9. Commonwealth Legislation.

1. **The Commonwealth Parliaments.**—The first Parliament of the Commonwealth was convened by proclamation dated 29th April, 1901, by His Excellency the late Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on the 9th May following by H.R.H. the Duke of Cornwall and York, who had been sent to Australia for that purpose by His Majesty the King; the Rt. Hon. Sir Edmund Barton, P.C., G.C.M.G., K.C., being Prime Minister.

The following table gives the number and duration of Parliaments since Federation:—

COMMONWEALTH PARLIAMENTS, 1901 TO 1924.

Number of Parliament.	Date of Opening.	Date of Dissolution.
First	29th April, 1901	23rd November, 1903
Second	2nd March, 1904	12th October, 1906
Third	20th February, 1907	19th February, 1910
Fourth	1st July, 1910	23rd April, 1913
Fifth	9th July, 1913	30th July, 1914(a)
Sixth	8th October, 1914	26th March, 1917
Seventh	14th June, 1917	3rd November, 1919
Eighth	26th February, 1920	6th November, 1922
Ninth	28th February, 1923	

(a) On this occasion, the Governor-General, acting on the advice of the Ministry, and under section 57 of the Constitution, granted a dissolution of both the Senate and the House of Representatives, this being the first occasion since Federation on which a dissolution of both Houses had occurred.

2. **Governors-General and Ministries.**—The following statements show the names of the several Governors-General, and the constitution of the Ministries which have directed the administration of the affairs of the Commonwealth since its creation:—

(a) GOVERNORS-GENERAL.

- Rt. Hon. EARL OF HOPETOUN (afterwards MARQUIS OF LINLITHGOW), P.C., K.T., G.C.M.G., G.C.V.O. Sworn 1st January, 1901; recalled 9th May, 1902.
 Rt. Hon. HALLAM BARON TENNYSON, G.C.M.G. (Act. Governor-General). Sworn 17th July, 1902.
 Rt. Hon. HALLAM BARON TENNYSON, G.C.M.G. (Governor-General). Sworn 9th January, 1903; recalled 21st January, 1904.
 Rt. Hon. HENRY STAFFORD BARON NORTHCOTE, P.C., G.C.M.G., G.C.I.E., C.B. Sworn 21st January, 1904; recalled 8th September, 1908.
 Rt. Hon. WILLIAM HUMBLE EARL OF DUDLEY, P.C., G.C.M.G., G.C.V.O., etc. Sworn 9th September, 1908; recalled 31st July, 1911.
 Rt. Hon. THOMAS BARON DENMAN, P.C., G.C.M.G., K.C.V.O. Sworn 31st July, 1911; recalled 16th May, 1914.
 Rt. Hon. SIR RONALD CRAUFURD MUNRO FERGUSON (afterwards VISCOUNT NOVAR OF RAITH), P.C., G.C.M.G. Sworn 18th May, 1914; recalled 5th October, 1920.
 Rt. Hon. HENRY WILLIAM BARON FORSTER OF LEPE, P.C., G.C.M.G. Sworn 6th October, 1920.

(b) BARTON ADMINISTRATION, 1st January, 1901, to 23rd September, 1903.

DEPARTMENTS.	MINISTERS.
External Affairs	Rt. Hon. SIR EDMUND BARTON, P.C., G.C.M.G., K.C.
Attorney-General	Hon. ALFRED DEAKIN.
Home Affairs	{ Hon. SIR WILLIAM JOHN LYNE, K.C.M.G. (to 7/8/'03). Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (from 7/8/'03).*
Treasurer	Rt. Hon. SIR GEORGE TURNER, P.C., K.C.M.G.
Trade and Customs	{ Rt. Hon. CHARLES CAMERON KINGSTON, P.C., K.C. (resigned 24/7/'03). Hon. SIR WILLIAM JOHN LYNE, K.C.M.G. (from 7/8/'03). Hon. SIR JAMES ROBERT DICKSON, K.C.M.G. (died 10/1/'01).
Defence	{ Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (17/1/'01 to 7/8/'03).* Hon. JAMES GEORGE DRAKE (from 7/8/'03).
Postmaster-General	{ Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (to 17/1/'01).* Hon. JAMES GEORGE DRAKE (5/2/'01 to 7/8/'03). Hon. SIR PHILIP OAKLEY FYSH, K.C.M.G. (from 7/8/'03).
Vice-President Executive Council	Hon. RICHARD EDWARD O'CONNOR, K.C.
Without Portfolio	{ Hon. N. E. LEWIS (to 23/4/'01).† Hon. SIR PHILIP OAKLEY FYSH, K.C.M.G. (26/4/'01 to 7/8/'03).

(c) FIRST DEAKIN ADMINISTRATION, 23rd September, 1903, to 26th April, 1904.

DEPARTMENTS.	MINISTERS.
External Affairs	Hon. ALFRED DEAKIN.
Trade and Customs	Hon. SIR WILLIAM JOHN LYNE, K.C.M.G.
Treasurer	Rt. Hon. SIR GEORGE TURNER, P.C., K.C.M.G.
Home Affairs	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.*
Attorney-General	Hon. JAMES GEORGE DRAKE.
Postmaster-General	Hon. SIR PHILIP OAKLEY FYSH, K.C.M.G.
Defence	Hon. AUSTIN CHAPMAN.
Vice-President Executive Council	Hon. THOMAS PLAYFORD.

(d) WATSON ADMINISTRATION, 26th April to 17th August, 1904.

DEPARTMENTS.	MINISTERS.
Treasurer	Hon. JOHN CHRISTIAN WATSON.
External Affairs	Hon. WILLIAM MORRIS HUGHES.‡
Attorney-General	Hon. HENRY BOURNES HIGGINS, K.C.
Home Affairs	Hon. EGERTON LEE BACHELOR.
Trade and Customs	Hon. ANDREW FISHER.§
Defence	Hon. ANDERSON DAWSON.
Postmaster-General	Hon. HUGH MAHON.
Vice-President Executive Council	Hon. GREGOR MCGREGOR.

* Created Lord Forrest of Bunbury, 1918. † K.C.M.G., 1902. ‡ P.C., 1916. § P.C., 1911.

(e) REID-McLEAN ADMINISTRATION, 17th August, 1904, to 4th July, 1905.

DEPARTMENTS.	MINISTERS.
External Affairs	Rt. Hon. GEORGE HOUSTON REID, P.C., K.C.*
Trade and Customs	Hon. ALLAN McLEAN.
Attorney-General	Hon. SIR JOSIAH HENRY SYMON, K.C.M.G., K.C.
Treasurer	Rt. Hon. SIR GEORGE TURNER, P.C., K.C.M.G.
Home Affairs	Hon. DUGALD THOMSON.
Defence	Hon. JAMES WHITESIDE McCAY.†
Postmaster-General	Hon. SYDNEY SMITH.
Vice-President Executive Council	Hon. JAMES GEORGE DRAKE.

(f) SECOND DEAKIN ADMINISTRATION, 4th July, 1905, to 12th November, 1908.

DEPARTMENTS.	MINISTERS.
External Affairs	HON. ALFRED DEAKIN.
Attorney-General	{ Hon. ISAAC ALFRED ISAACS, K.C. (to 12/10/'06). Hon. LITTLETON ERNEST GROOM (from 12/10/'06).
Trade and Customs	{ Hon. SIR WILLIAM JOHN LYNE, K.C.M.G. (to 30/7/'07). Hon. AUSTIN CHAPMAN (from 30/7/'07).
Treasurer	{ Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G. (to 30/7/'07).§ Hon. SIR WILLIAM JOHN LYNE (from 30/7/'07). Hon. AUSTIN CHAPMAN (to 30/7/'07).
Postmaster-General	{ Hon. SAMUEL MAUGER (from 30/7/'07). Hon. THOMAS PLAYFORD (to 24/1/'07).
Defence	{ Hon. THOMAS THOMSON EWING (from 24/1/'07).§ Hon. LITTLETON ERNEST GROOM (to 12/10/'06).
Home Affairs	{ Hon. THOMAS THOMSON EWING (from 12/10/'06 to 24/1/'07).|| Hon. JOHN HENRY KEATING (from 24/1/'07). Hon. THOMAS THOMSON EWING (to 12/10/'06).||
Vice-President Executive Council	{ Hon. JOHN HENRY KEATING (from 12/10/'06 to 20/2/'07). Hon. ROBERT WALLACE BEST (from 20/2/'07).|| Hon. J. H. KEATING (from 5/7/'05 to 12/10/'06).
Honorary Ministers	{ Hon. S. MAUGER (from 12/10/'06 to 30/7/'07). Hon. J. HUME COOK (from 23/1/'08).

(g) FIRST FISHER ADMINISTRATION, 12th November 1908, to 2nd June, 1909

DEPARTMENTS.	MINISTERS.
Treasurer	Hon. ANDREW FISHER.¶
Attorney-General	Hon. WILLIAM MORRIS HUGHES.**
External Affairs	Hon. EGERTON LEE BATCHELOR.
Home Affairs	Hon. HUGH MAHON.
Postmaster-General	Hon. JOSIAH THOMAS.
Defence	Hon. GEORGE POSTER PEARCE.‡‡
Trade and Customs	Hon. FRANK GWYNNE TUDOR.
Vice-President Executive Council	Hon. GREGOR MCGREGOR.
Honorary Minister	Hon. JAMES HUTCHISON.

(h) THIRD DEAKIN ADMINISTRATION, 2nd June, 1909, to 29th April, 1910.

DEPARTMENTS.	MINISTERS.
Prime Minister (without Portfolio)	Hon. ALFRED DEAKIN.
Defence	Hon. JOSEPH COOK.††
Treasurer	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.§
Trade and Customs	Hon. SIR ROBERT WALLACE BEST, K.C.M.G.
External Affairs	Hon. LITTLETON ERNEST GROOM.‡
Attorney-General	Hon. PATRICK McMAHON GLYNN.
Postmaster-General	Hon. SIR JOHN QUICK.
Home Affairs	Hon. GEORGE WARBURTON FULLER.
Vice-President Executive Council	Hon. EDWARD DAVIS MILLEN.
Honorary Minister	Colonel The Hon. JUSTIN FOX GREENLAW FOXTON, C.M.G.

* K.C.M.G., 1909; G.C.M.G., 1911; G.C.B., 1916. † K.C.M.G., 1918. ‡ K.C.M.G., K.C., 1924.
§ Created Lord Forrest of Bunbury, 1918. || K.C.M.G., 1908. ¶ P.C., 1911. ** P.C., 1916.
†† P.C., 1914; G.C.M.G., 1918. ‡‡ P.C., 1921.

(i) SECOND FISHER ADMINISTRATION, 29th April, 1910, to 24th June, 1913.

DEPARTMENTS.	MINISTERS.
Treasurer	Hon. ANDREW FISHER.*
Attorney-General	Hon. WILLIAM MORRIS HUGHES.†
External Affairs	{ Hon. EGERTON LEE BATCHELOR (died Oct., 1911). Hon. JOSIAH THOMAS (from 14/10/'11).
Postmaster-General	{ Hon. JOSIAH THOMAS (to 14/10/'11). Hon. CHARLES EDWARD FRAZER (from 14/10/'11).
Defence	Hon. GEORGE FOSTER PEARCE.**
Trade and Customs	Hon. FRANK GWYNNE TUDOR.
Home Affairs	Hon. KING O'MALLEY.
Vice-President Executive Council	Hon. GREGOR MCGREGOR.
Honorary Ministers	{ Hon. EDWARD FINDLEY. Hon. CHARLES EDWARD FRAZER (to 14/10/'11). Hon. ERNEST ALFRED ROBERTS (from 23/10/'11).

(j) COOK ADMINISTRATION, 24th June, 1913, to 17th September, 1914.

DEPARTMENTS.	MINISTERS.
Home Affairs	Hon. JOSEPH COOK.‡
Treasurer	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.§
Attorney-General	Hon. WILLIAM HILL IRVINE, K.C.¶
Defence	Hon. EDWARD DAVIS MILLEN.
External Affairs	Hon. PATRICK McMAHON GLYNN, K.O.
Trade and Customs	Hon. LITTLETON ERNEST GROOM.††
Postmaster-General	Hon. AGAR WYNNE.
Vice-President Executive Council	Hon. JAMES HIERS MCCOLL.
Honorary Ministers	{ Hon. JOHN SINGLETON CLEMONS. Hon. WILLIAM HENRY KELLY.

(k) THIRD FISHER ADMINISTRATION, 17th September, 1914, to 27th October, 1915.

DEPARTMENTS.	MINISTERS.
Treasurer	Rt. Hon. ANDREW FISHER, P.C.
Attorney-General	Hon. WILLIAM MORRIS HUGHES.†
Defence	Hon. GEORGE FOSTER PEARCE.**
Trade and Customs	Hon. FRANK GWYNNE TUDOR.
External Affairs	{ Hon. JOHN ANDREW ARTHUR (died December, 1914). Hon. HUGH MAHON (from 14/12/'14).
Home Affairs	Hon. WILLIAM OLIVER ARCHIBALD.
Postmaster-General	Hon. WILLIAM GUTHRIE SPENCE.
Minister for the Navy	Hon. JENS AUGUST JENSEN (from 12/7/'15).
Vice-President Executive Council	Hon. ALBERT GARDINER.
Assistant Ministers	{ Hon. HUGH MAHON (to 14/12/'14). Hon. JENS AUGUST JENSEN (to 12/7/'15). Hon. EDWARD JOHN RUSSELL.

(l) FIRST HUGHES ADMINISTRATION from 27th October, 1915, to 14th November, 1916.

DEPARTMENTS.	MINISTERS.
Prime Minister and Attorney-General	Hon. WILLIAM MORRIS HUGHES.†
Defence	Hon. GEORGE FOSTER PEARCE.**
Trade and Customs	{ Hon. FRANK GWYNNE TUDOR (to 14/9/'16). Hon. WILLIAM MORRIS HUGHES (from 29/9/'16).
Treasurer	Hon. WILLIAM GUY HIGGS.¶
Minister for the Navy	Hon. JENS AUGUST JENSEN.
Home Affairs	Hon. KING O'MALLEY.
External Affairs	Hon. HUGH MAHON.
Postmaster-General	Hon. WILLIAM WEBSTER.
Vice-President Executive Council	Hon. ALBERT GARDINER.¶
Assistant Minister	Hon. EDWARD JOHN RUSSELL.¶

* P.C., 1911. † P.C., 1916. ‡ P.C., 1914; G.C.M.G., 1918. § Created Lord Forrest of Bunbury, 1918. ¶ K.C.M.G., 1914. ¶ Resigned 27/10/'16. ** P.C., 1921. †† K.C.M.G., K.C., 1924.

(m) SECOND HUGHES ADMINISTRATION from 14th Nov., 1916, to 17th Feb., 1917.

DEPARTMENTS.	MINISTERS.
Prime Minister and Attorney-General	Rt. Hon. WILLIAM MORRIS HUGHES, P.C.
Minister for Defence	Hon. GEORGE FOSTER PEARCE.¶
Minister for the Navy	Hon. JENS AUGUST JENSEN.
Postmaster-General	Hon. WILLIAM WEBSTER.
Treasurer	Hon. ALEXANDER POYNTON.
Minister for Trade and Customs ..	Hon. WILLIAM OLIVER ARCHIBALD.
Minister for Home Affairs	Hon. FREDERICK WILLIAM BAMFORD.
Minister for Works	Hon. PATRICK JOSEPH LYNCH.
Vice-President Executive Council	Hon. WILLIAM GUTHRIE SPENCE.
Assistant Ministers	{ Hon. EDWARD JOHN RUSSELL. Hon. WILLIAM HENRY LAIRD SMITH.

(n) AUSTRALIAN NATIONAL WAR GOVERNMENT from 17th February, 1917, to 8th January, 1918.

DEPARTMENTS.	MINISTERS.
Prime Minister and Attorney-General	Rt. Hon. WILLIAM MORRIS HUGHES, P.C.
Minister for the Navy	Rt. Hon. JOSEPH COOK, P.C.*
Treasurer	Rt. Hon. SIR JOHN FORREST, P.C., G.C.M.G.†
Minister for Defence	Hon. GEORGE FOSTER PEARCE.¶
Vice-President Executive Council	{ Hon. EDWARD DAVIS MILLEN. Hon. LITTLETON ERNEST GROOM¶ (from 16/11/'17). Hon. EDWARD DAVIS MILLEN (from 28/9/'17).
Minister for Repatriation	Hon. WILLIAM ALEXANDER WATT.‡
Minister for Works and Railways	Hon. PATRICK MCMAHON GLYNN, K.C.
Minister for Home and Territories	Hon. JENS AUGUST JENSEN.
Postmaster-General	Hon. WILLIAM WEBSTER.
Honorary Ministers	{ Hon. LITTLETON ERNEST GROOM.¶ Hon. EDWARD JOHN RUSSELL.

(o) AUSTRALIAN NATIONAL WAR GOVERNMENT from 10th January, 1918, to 9th February, 1923.

DEPARTMENTS.	MINISTERS.
Prime Minister and Minister for External Affairs	Rt. Hon. WILLIAM MORRIS HUGHES, P.C., K.C.
Attorney-General	{ Rt. Hon. WILLIAM MORRIS HUGHES, P.C., K.C. (to 21/12/'21). Hon. LITTLETON ERNEST GROOM¶ (from 21/12/'21).
Minister for the Navy	{ Rt. Hon. JOSEPH COOK, P.C.* (to 28/7/'20). Hon. WILLIAM HENRY LAIRD SMITH (from 28/7/'20 to 21/12/'21). Rt. Hon. LORD FORREST, P.C., G.C.M.G. (to 27/3/'18; died 4th September, 1918).
Treasurer	{ Hon. WILLIAM ALEXANDER WATT.‡ (from 27/3/'18; resigned 15/6/'20). Rt. Hon. JOSEPH COOK, P.C.* (from 28/7/'20 to 21/12/'21). Hon. STANLEY MELBOURNE BRUCE, M.C.§ (from 21/12/'21).
Minister for Defence	{ Hon. GEORGE FOSTER PEARCE.¶ (to 21/12/'21). Hon. WALTER MASSY GREENE (from 21/12/'21).
Minister for Repatriation	Hon. EDWARD DAVIS MILLEN.
Minister for Works and Railways	{ Hon. WILLIAM ALEXANDER WATT.‡ Hon. LITTLETON ERNEST GROOM¶ (from 27/3/'18 to 21/12/'21). Hon. RICHARD WITTY FOSTER (from 21/12/'21).
Minister for Home and Territories	{ Hon. PATRICK MCMAHON GLYNN, K.C. (to 3/2/'20). Hon. ALEXANDER POYNTON (from 4/2/'20 to 21/12/'21). Rt. Hon. GEORGE FOSTER PEARCE, P.C. (from 21/12/'21). Hon. JENS AUGUST JENSEN (to 13/12/'18).
Minister for Trade and Customs	{ Hon. WILLIAM ALEXANDER WATT.‡ (from 13/12/'18). Hon. WALTER MASSY GREENE (from 17/1/'19 to 21/12/'21). Hon. ARTHUR STANISLAUS RODGERS (from 21/12/'21).
Postmaster-General	{ Hon. WILLIAM WEBSTER (to 3/2/'20). Hon. GEORGE HENRY WISE (from 4/2/'20 to 21/12/'21). Hon. ALEXANDER POYNTON (from 21/12/'21).
Minister for Health	{ Hon. WALTER MASSY GREENE (from 10/3/'21). Hon. LITTLETON ERNEST GROOM¶ (to 27/3/'18).
Vice-President Executive Council	{ Hon. EDWARD JOHN RUSSELL (from 27/3/'18 to 21/12/'21). Hon. JOHN EARLE (from 21/12/'21). Hon. EDWARD JOHN RUSSELL (to 27/3/'18). Hon. ALEXANDER POYNTON (from 26/3/'18 to 4/2/'18). Hon. GEORGE HENRY WISE (from 26/3/'18 to 4/2/'18). Hon. WALTER MASSY GREENE (from 26/3/'18 to 17/1/'19). Hon. RICHARD BEAUMONT ORCHARD (from 26/3/'18 to 31/1/'19).
Honorary Ministers	{ Hon. SIR GRANVILLE DE LAUNE RYRIE, K.C.M.G., C.B., V.D. (from 4/2/'20). Hon. WILLIAM HENRY LAIRD SMITH (from 4/2/'20 to 28/7/'20). Hon. ARTHUR STANISLAUS RODGERS (from 28/7/'20 to 21/12/'21). Hon. HECTOR LAMOND (from 21/12/'21).

* G.C.M.G., 1918. † Created Lord Forrest of Bunbury, 1918. ‡ P.C., 1920. § P.C., 1923. ¶ P.C., 1921. ¶ K.C.M.G., K.C., 1924.

(p) BRUCE-PAGE GOVERNMENT from 9th February, 1923.

DEPARTMENTS.	MINISTERS.
Prime Minister and Minister for External Affairs	Rt. Hon. STANLEY MELBOURNE BRUCE, P.C., M.C.
Treasurer	Hon. EARLE CHRISTMAS GRANTON PAGE.
Minister for Home and Territories	Rt. Hon. GEORGE FOSTER PEARCE, P.C.
Attorney-General	Hon. SIR LITTLETON ERNEST GROOM, K.C.M.G., K.C.
Postmaster-General	Hon. WILLIAM GERRAND GIBSON.
Minister for Trade and Customs	
and Minister for Health ..	Hon. AUSTIN CHAPMAN.
Minister for Works and Railways	Hon. PERCY GERALD STEWART.
Minister for Defence	Hon. ERIC KENDALL BOWDEN.
Vice-President of the Executive Council	Hon. LLEWELYN ATKINSON.
Honorary Ministers	{ Hon. REGINALD VICTOR WILSON. Hon. THOMAS WILLIAM CRAWFORD.

A further list of the Ministers of State for the Commonwealth, arranged according to the respective offices occupied, is given in Chapter III., General Government.

3. The Course of Legislation.—The actual legislation by the Commonwealth Parliament up to the end of the 1923 session is indicated in alphabetical order in "Vol. XXI. of the Acts of the Parliament of the Commonwealth of Australia, passed during the year 1923, with Tables, Appendix, and Indexes." A "Chronological Table of Acts passed from 1901 to 1923, showing how they are affected by subsequent legislation or lapse of time" is also given, and further "A Table of Commonwealth Legislation," for the same period, "in relation to the several provisions of the Constitution," is furnished. Reference may be made to these for complete information. The nature of Commonwealth legislation up to December, 1923, and its relation to the several provisions of the Constitution, are set forth in the following tabular statement, from which Acts which have been repealed or which are no longer in force have been omitted:—

COMMONWEALTH LEGISLATION—ANALYTIC TABLE.*

Section of Constitution.	Short Title of Commonwealth Act.
	AMENDMENT OF THE CONSTITUTION.
	Constitution Alteration (Senate Elections) 1906.
	Constitution Alteration (State Debts) 1909.
	PARLIAMENTARY AND ELECTORAL LAW.
8—30	PARLIAMENTARY FRANCHISE— Commonwealth Electoral Act 1918—1922.
9—34	ELECTIONS— Commonwealth Electoral Act 1902—1911.† Commonwealth Electoral Act 1918—1922. Senate Elections Act 1903—1922.
24	DETERMINATION OF NUMBER OF MEMBERS OF HOUSE OF REPRESENTATIVES— Representation Act 1905. Northern Territory Representation Act 1922.
47	DISPUTED ELECTIONS AND QUALIFICATIONS— Commonwealth Electoral Act 1918—1922, ss. 183—201.
48	ALLOWANCES TO MEMBERS— Parliamentary Allowances Act 1920. Northern Territory Representation Act 1922 (s. 6).
49	PRIVILEGES OF PARLIAMENT— Parliamentary Papers Act 1908.

* This table has been prepared by Sir Robert Garran, Solicitor-General of the Commonwealth.

† With the exception of s. 210 of the *Commonwealth Electoral Act* 1902, and s. 18 of the *Commonwealth Electoral Act* 1905, the *Commonwealth Electoral Act* 1902—1911 has been repealed by the *Commonwealth Electoral Act* 1918. See *Commonwealth Gazette*, 25th November, 1918, p. 2257, 21st March, 1919, p. 401, and 14th November, 1920, p. 2277.

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
	GENERAL LEGISLATION.
51 (i)	<p>TRADE AND COMMERCE—EXTERNAL AND INTERSTATE— Australian Industries Preservation Act 1906–1910 [<i>Trusts and Dumping</i>]. Commerce (Trade Descriptions) Act 1905. Commonwealth Shipping Act 1923. Customs Act 1901–1923. Customs Tariff (Industries Preservation) Act 1921–1922. Enemy Contracts Annulment Act 1915. Navigation Act 1912–1920. Norfolk Island Act 1913 (s. 15). Northern Territory Acceptance Act 1910–1919 (s. 13). River Murray Waters Act 1915–1923. Sea-Carriage of Goods Act 1904 [<i>Bills of Lading</i>]. Seamen's Compensation Act 1911. Secret Commissions Act 1905. Spirits Act 1906–1923. Sugar Purchase Act 1915–1920. Trading with the Enemy Act 1914–1921. War Precautions Act Repeal Act 1920–1923.</p>
(ii)	<p>TAXATION— <i>Machinery Acts—</i> Beer Excise Act 1901–1923. Customs Act 1901–1923. Customs Tariff (Industries Preservation) Act 1921–1922. Distillation Act 1901–1923. Entertainment Tax Assessment Act 1916. Estate Duty Assessment Act 1914–1922. Excise Act 1901–1923. Excise Procedure Act 1907. Income Tax Assessment Act 1922–1923. Income Tax Collection Act 1923. Land Tax Assessment Act 1910–1923. Spirits Act 1906–1923. Taxation of Loans Act 1923. War-time Profits Tax Assessment Act 1917–1918.</p> <p><i>Taxing Acts—</i> Customs Tariff 1902 [<i>Section 5 and Schedule repealed by Customs Tariff 1908</i>]. Customs Tariff 1921–1923. Customs Tariff (Industries Preservation) Act 1921–1922. Customs Tariff (New Zealand Preference) 1922. Customs Tariff (South African Preference) 1906 ; affected by <i>Customs Tariff 1908 (s. 9)*</i> and by <i>Customs Tariff 1921–1922 (s. 15)</i>. Customs Tariff (Sugar) 1922. Customs Tariff Validation Acts 1917 and 1919 ; affected by <i>Customs Tariff 1921 (s. 12 (2))</i>. Entertainments Tax Act 1916–1922. Estate Duty Act 1914. Excise Tariff 1902 ; amended by <i>Sugar Rebate Abolition Act 1903, Excise Tariff 1905*, Excise Tariff (Amendment) 1906*, Excise Tariff 1908*, and Excise (Sugar) 1910</i>. Excise Tariff 1906 [<i>Agricultural Machinery</i>]. Excise Tariff 1921. Income Tax Acts 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923. Land Tax Act 1910–1922. War-time Profits Tax Act 1917.</p>
(iii)	<p>BOUNTIES ON PRODUCTION OR EXPORT— Iron and Steel Products Bounty Act 1922. Meat Export Bounties Act 1923. Shale Oil Bounty Act 1917–1923. Sulphur Bounty Act 1923.</p>

* Acts whose short titles are printed in italics with a * have been repealed or have expired.

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
	GENERAL LEGISLATION—<i>continued.</i>
51 (iv)	BORROWING MONEY ON THE PUBLIC CREDIT OF THE COMMONWEALTH— Audit Act 1901–1920 (ss. 55–59). Commonwealth Bank Act 1911–1920 (ss. 53–58). Commonwealth Inscribed Stock Act 1911–1918. Funding Arrangements Act 1921. Immigration Loan Act 1922. Loan Act 1911–1914, 1912–1914, 1913–1914, 1914, 1915, 1918, 1919, 1920, 1921, 1921 (No. 2), 1922, 1923. Loans Redemption and Conversion Act 1921. Loans Securities Act 1919. National Debt Sinking Fund Act 1923. Repatriation Loan Act 1921. States Loan Act 1916; 1917. Sugar Purchase Act 1915–1920. Tasmanian Loan Redemption Act 1919. Taxation of Loans Act 1923. Treasury Bills Act 1914–1915. War Gratuity Acts 1920. War Loan Act (No. 1) 1915; (No. 2) 1915; (No. 3) 1915; (No. 1) 1916; 1917; 1918; 1920. War Loan (United Kingdom) Act 1914–1917; 1915–1917; (No. 2) 1916. War Loan Securities Repurchase Act 1918.
(v)	POSTAL, TELEGRAPHIC, AND TELEPHONIC SERVICES— Commonwealth Electoral Act 1918–1922 (ss. 212, 213). Pacific Cable Act 1911. Post and Telegraph Act 1901–1923. Post and Telegraph Rates Act 1902–1923. Postal Rates Act 1910. Purchase Telephone Lines Acquisition Act 1911. Tasmanian Cable Rates Act 1906. Telegraph Act 1909. Wireless Telegraphy Act 1905–1919.
(vi)	NAVAL AND MILITARY DEFENCE— <i>General—</i> Air Force Act 1923. Control of Naval Waters Act 1918. Deceased Soldiers Estates Act 1918–1919. Defence Act 1903–1918. Defence Lands Purchase Act 1913. Defence Retirement Act 1922. Naval Agreement Act 1903–1912. Naval Defence Act 1910–1918. Telegraph Act 1909. <i>War Legislation—</i> Australian Imperial Force Canteens Fund Act 1920. Australian Soldiers' Repatriation Act 1920–1922. Deceased Soldiers' Estates Act 1918–1919. Enemy Contracts Annulment Act 1915. Legal Proceedings Control Act 1919. Moratorium Act 1919. Termination of the Present War (Definition) Act 1919. Trading with the Enemy Act 1914–1921. Treaties of Peace (Austria and Bulgaria) Act 1920. Treaties of Washington Act 1922. Treaty of Peace (Germany) Act 1919–1920. Treaty of Peace (Hungary) Act 1921. War Gratuity Acts 1920. War Precautions Act Repeal Act 1920–1923. War Service Homes Act 1918–1923. War Service Homes Commission Validating Act 1921. Wheat Storage Act 1917.

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
	GENERAL LEGISLATION— <i>continued.</i>
51 (vii)	LIGHTHOUSES, LIGHTSHIPS, BEACONS AND BUOYS— Lighthouses Act 1911-1919.
(viii)	ASTRONOMICAL AND METEOROLOGICAL OBSERVATIONS— Meteorology Act 1906.
(ix)	QUARANTINE— Quarantine Act 1908-1920.
(xi)	CENSUS AND STATISTICS— Census and Statistics Act 1905-1920.
(xii)	CURRENCY, COINAGE, AND LEGAL TENDER— Coinage Act 1909. Commonwealth Bank Act 1911-1920 (ss. 60A-60AB).
(xiii)	BANKING, OTHER THAN STATE BANKING, ETC. Commonwealth Bank Act 1911-1920.
(xiv)	INSURANCE— Life Assurance Companies Act 1905. Marine Insurance Act 1909.
(xvi)	BILLS OF EXCHANGE AND PROMISSORY NOTES— Bills of Exchange Act 1909-1912.
(xviii)	COPYRIGHT, PATENTS, DESIGNS AND TRADE MARKS— Copyright Act 1912. Customs Act 1901-1923 (s. 52 (a), 57). Designs Act 1906-1912. Patents Act 1903-1921. Patents, Trade Marks, and Designs Act 1910. Trade Marks Act 1905-1922.
(xix)	NATURALIZATION AND ALIENS— Aliens Registration Act 1920. Immigration Act 1901-1920. Nationality Act 1920-1922. War Precautions Act Repeal Act 1920-1923.
(xxiii)	INVALID AND OLD-AGE PENSIONS— Invalid and Old-age Pensions Act 1908-1923.
(xxiv)	SERVICE AND EXECUTION THROUGHOUT COMMONWEALTH OF PROCESS AND JUDGMENTS OF STATE COURTS— Service and Execution of Process Act 1901-1922.
(xxv)	RECOGNITION OF STATE LAWS, RECORDS, ETC. State Laws and Records Recognition Act 1901.
(xxvi)	PEOPLE OF ANY RACE, OTHER THAN ABORIGINAL—SPECIAL LAWS— Commonwealth Electoral Act 1918-1922 (s. 39). Invalid and Old-age Pensions Act 1908-1923 (ss. 16, 21). Pacific Island Labourers Act 1901-1906. Post and Telegraph Act 1901-1923 (s. 16).
(xxvii)	IMMIGRATION AND EMIGRATION— Contract Immigrants Act 1905. Emigration Act 1910. Immigration Act 1901-1920. Pacific Island Labourers Act 1901-1906. Passports Act 1920. War Precautions Act Repeal Act 1920-1923 (s. 9).
(xxviii)	INFLUX OF CRIMINALS— Immigration Act 1901-1920 (s. 3 (ga), (gb)).
(xxix)	EXTERNAL AFFAIRS— Extradition Act 1903. High Commissioner Act 1909. Nauru Island Agreement Act 1919. Treaties of Washington Act 1922.
(xxx)	RELATIONS WITH PACIFIC ISLANDS— Pacific Island Labourers Act 1901-1906. Nauru Island Agreement Act 1919. New Guinea Act 1920.

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
	GENERAL LEGISLATION—<i>continued.</i>
51 (xxx1)	ACQUISITION OF PROPERTY FOR PUBLIC PURPOSES— Commonwealth Railways Act 1917 (s. 63). Defence Lands Purchase Act 1913. Kalgoorlie to Port Augusta Railway Lands Act 1918–1920. Lands Acquisition Act 1906–1916 ; 1912. Lands Acquisition (Defence) Act 1918. Lighthouses Act 1911–1919 (ss. 5, 6). Northern Territory (Administration) Act 1910. Northern Territory Railway Extension Act 1923. Purchase Telephone Lines Acquisition Act 1911. Seat of Government Act 1908. Seat of Government Acceptance Act 1909 ; 1922. Seat of Government (Administration) Act 1910 (s. 10). War Service Homes Act 1918–1923 (s. 16).
(xxxii)	CONTROL OF RAILWAYS FOR DEFENCE PURPOSES— Defence Act 1903–1918 (ss. 64–66, 80, 124).
(xxxiv)	RAILWAY CONSTRUCTION AND EXTENSION IN ANY STATE WITH THE CONSENT OF THAT STATE— Commonwealth Railways Act 1917. Kalgoorlie to Port Augusta Railway Act 1911–1912. Kalgoorlie to Port Augusta Railway Lands Act 1918–1920. Northern Territory Railway Extension Act 1923.
(xxxv)	CONCILIATION AND ARBITRATION FOR THE PREVENTION AND SETTLEMENT OF INDUSTRIAL DISPUTES EXTENDING BEYOND THE LIMITS OF ANY ONE STATE— Arbitration (Public Service) Act 1920. Commonwealth Conciliation and Arbitration Act 1904–1921. Industrial Peace Acts 1920.
(xxxix)	MATTERS INCIDENTAL TO THE EXECUTION OF POWERS— Acts Interpretation Act 1901–1918. Acts Interpretation Act 1904–1916. Advances to Settlers Act 1923. Agreements Validation Act 1923. Air Navigation Act 1920. Amendments Incorporation Act 1905–1918. Appropriation and Supply Acts. Arbitration (Public Service) Act 1920. Committee of Public Accounts Act 1913–1920. Commonwealth Inscribed Stock Act 1911–1918. Commonwealth Public Service Act 1922. Commonwealth Public Works Committee Act 1913–1921. Commonwealth Salaries Act 1907. Commonwealth Shipping Act 1923. Commonwealth Workmen's Compensation Act 1912. Crimes Act 1914–1915. Defence Retirement Act 1922. Evidence Act 1905. Excise Procedure Act 1907. Income Tax Collection Act 1923. Institute of Science and Industry Act 1920. Jury Exemption Act 1905–1922. Main Roads Development Act 1923. Maternity Allowance Act 1912. Returned Soldiers' Woollen Company Loan Act 1921. Royal Commissions Act 1902–1912. Rules Publication Act 1903–1916. Solicitor-General Act 1916. South Australian Farmers' Agreement Act 1922. Statutory Declarations Act 1911–1922. Superannuation Act 1922. Treaties of Washington Act 1922. War Precautions Act Repeal Act 1920–1923. Westralian Farmers' Agreement Act 1920 ; 1921. Wheat Pool Advances Act 1923.

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
EXECUTIVE GOVERNMENT.	
65	NUMBER OF MINISTERS— Ministers of State Act 1917.
67	APPOINTMENT AND REMOVAL OF OFFICERS— Australian Soldiers Repatriation Act 1920–1922 (ss. 7–21). Commonwealth Bank Act 1911–1920 (s. 16). Commonwealth Public Service Act 1922. Commonwealth Railways Act 1917 (ss. 5–15, 46–54). Commonwealth Shipping Act 1923 (ss. 6, 11). Defence Act 1903–1918 (s. 63). High Commissioners Act 1909 (ss. 8, 9). Institute of Science and Industry Act 1920 (ss. 7, 14). National Debt Sinking Fund Act 1923 (s. 6). New Guinea Act 1920 (ss. 6–12). Norfolk Island Act 1913 (ss. 7, 9). Northern Territory Acceptance Act 1910–1919 (ss. 9, 11, 12). Papua Act 1905–1920 (s. 19). Solicitor-General Act 1916. Superannuation Act 1922 (ss. 61–75). Tariff Board Act 1921–1923 (ss. 5–9). Trading with the Enemy Act 1914–1921 (s. 2A). War Service Homes Act 1918–1920 (ss. 5–15). War Service Homes Commissioner Validating Act 1921.
THE JUDICATURE.	
71–80	CONSTITUTION AND PROCEDURE OF THE HIGH COURT— High Court Procedure Act 1903–1915. Judiciary Act 1903–1920.
73	APPELLATE JURISDICTION OF THE HIGH COURT— Estate Duty Assessment Act 1914–1922 (s. 28). Income Tax Assessment Act 1922–1923 (s. 51). Inter-State Commission Act 1912 (s. 42). Judiciary Act 1903–1920. Land Tax Assessment Act 1910–1923 (s. 46). Norfolk Island Act 1913 (s. 11). Papua Act 1905–1920 (s. 43). War-time Profits Tax Assessment Act 1917–1918 (s. 29).
76	ORIGINAL JURISDICTION OF THE HIGH COURT— (1) <i>In matters arising under the Constitution or involving its interpretation—</i> Judiciary Act 1903–1920 (ss. 23, 30A, 88). (2) <i>In matters arising under Laws made by the Parliament—</i> Australian Industries Preservation Act 1906–1910 (ss. 10, 11, 13, 21, 22, and 26). Commonwealth Conciliation and Arbitration Act 1904–1921 (s. 31). Commonwealth Electoral Act 1918–1922 (ss. 183, 202). Copyright Act 1912 (s. 37 (2)). Customs Act 1901–1923 (ss. 221, 227, 245). Defence Act 1903–1918 (s. 91). Designs Act 1906–1912 (s. 39 (3)). Estate Duty Assessment Act 1914–1922 (ss. 39–41). Excise Act 1901–1923 (ss. 109, 115, 134). Income Tax Assessment Act 1922–1923 (ss. 50–53). Industrial Peace Acts 1920. Judiciary Act 1903–1920. Land Tax Assessment Act 1910–1923 (s. 44). Lands Acquisition Act 1906–1916 (ss. 10, 11, 24, 36–39, 45, 46, 50, 54, 56, 59). Navigation Act 1912–1920 (ss. 383, 385). Patents Act 1903–1921 (ss. 47, 58, 67, 75–77, 84–87A, 111). Post and Telegraph Act 1901–1923 (ss. 29, 43). Referendum (Constitution Alteration) Act 1906–1919 (ss. 27, 31). Trade Marks Act 1905–1922 (ss. 34, 35, 44, 45, 70–72, 95). Trading with the Enemy Act 1914–1921 (ss. 9c, 9F). War-time Profits Tax Assessment Act 1917–1918 (s. 28).

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
THE JUDICATURE—<i>continued.</i>	
(iii)	ORIGINAL JURISDICTION OF THE HIGH COURT— <i>continued</i> — (3) <i>In matters of Admiralty and Maritime Jurisdiction</i> — Judiciary Act 1903–1920 (ss. 30, 30A).
77 (ii)	EXCLUDING JURISDICTION OF STATE COURTS— Judiciary Act 1903–1920 (ss. 38, 38A, 39, 57, 59).
(iii)	INVESTING STATE COURTS WITH FEDERAL JURISDICTION— Commonwealth Conciliation and Arbitration Act 1904–1921 (ss. 44–46, 48). Commonwealth Electoral Act 1918–1922 (ss. 44, 58, 184). Copyright Act 1912 (ss. 14–17). Customs Act 1901–1923 (ss. 221, 227, 245). Defence Act 1903–1918 (s. 91). Designs Act 1906–1912 (ss. 25, 39). Estate Duty Assessment Act 1914–1922 (s. 24). Excise Act 1901–1923 (ss. 109, 115, 134). Income Tax Assessment Act 1922–1923 (s. 50). Judiciary Act 1903–1920 (ss. 17, 39, 68). Land Tax Assessment Act 1910–1923 (s. 44). Navigation Act 1912–1920 (ss. 91, 92, 318–320, 380–383, 385, 395). Patents Act 1903–1921 (ss. 30, 47, 58, 67, 75–77, 84–87A, 111). Post and Telegraph Act 1901–1923 (ss. 29, 43). Trade Marks Act 1905–1922 (ss. 34, 35, 44, 45). War-time Profits Tax Assessment Act 1917–1918 (s. 28).
78	RIGHT TO PROCEED AGAINST COMMONWEALTH OR STATE— Judiciary Act 1903–1920 (ss. 56–67).
FINANCE.	
81	APPROPRIATION OF MONEYS— Appropriation and Supply Acts. Audit Act 1901–1920 (ss. 36–37, 62A). Funding Arrangements Act 1921. Loans Redemption and Conversion Act 1921.
83	PAYMENT OF MONEYS— Audit Act 1901–1920 (ss. 31–37, 62A).
93	CREDITING OF REVENUE AND DEBITING OF EXPENDITURE— Surplus Revenue Acts 1908, 1909, 1910.
94	DISTRIBUTION OF SURPLUS REVENUE— Surplus Revenue Acts 1908, 1909, 1910.
96	ASSISTANCE TO STATES— Tasmania Grant Act 1922; 1923.
97	AUDIT OF PUBLIC ACCOUNTS— Audit Act 1901–1920.
98	NAVIGATION AND SHIPPING— Lighthouses Act 1911–1919. Navigation Act 1912–1920. River Murray Waters Act 1915–1923. Sea-Carriage of Goods Act 1904. Seamen's Compensation Act 1911.
100	USE OF WATERS— River Murray Waters Act 1915–1923.
101–104	INTER-STATE COMMISSION— Inter-State Commission Act 1912.
THE STATES.	
118	RECOGNITION OF STATE LAWS, RECORDS, ETC. State Laws and Records Recognition Act 1901.
119	PROTECTION OF STATES FROM INVASION AND VIOLENCE— Defence Act 1903–1918 (s. 51).

COMMONWEALTH LEGISLATION—ANALYTIC TABLE—*continued.*

Section of Constitution.	Short Title of Commonwealth Act.
	TERRITORIES.
122	GOVERNMENT OF TERRITORIES— Defence Act 1903-1918 (s. 49). Jervis Bay Territory Acceptance Act 1915. Judiciary Act 1903-1920 (ss. 11, 68 (g)). Nauru Island Agreement Act 1915. New Guinea Act 1920. Norfolk Island Act 1913. Northern Territory Acceptance Act 1910-1919. Northern Territory (Administration) Act 1910. Northern Territory Railway Extension Act 1923. Northern Territory Representation Act 1922. Papua Act 1905-1920. Patents Act 1903-1921 (s. 4A). Pine Creek to Katherine River Railway Act 1913. Pine Creek to Katherine River Railway Survey Act 1912. Removal of Prisoners (Territories) Act 1923. Seat of Government Acceptance Act 1909. Seat of Government (Administration) Act 1910. Wireless Telegraphy Act 1905-1919.
	MISCELLANEOUS.
125	SEAT OF GOVERNMENT— Seat of Government Act 1908. Seat of Government Acceptance Act 1909 ; 1922. Seat of Government (Administration) Act 1910.
128	ALTERATION OF CONSTITUTION— Constitution Alteration (Senate Elections) 1906. Constitution Alteration (State Debts) 1909. Referendum (Constitution Alteration) Act 1906-1919.

CHAPTER II.

PHYSIOGRAPHY.

§ 1. General Description of Australia.

1. **Geographical Position.**—(i) *General.* The Australian Commonwealth, which includes the island continent of Australia proper and the island of Tasmania, is situated in the Southern Hemisphere, and comprises in all an area of about 2,974,581 square miles, the mainland alone containing about 2,948,366 square miles. Bounded on the west and east by the Indian and Pacific Oceans respectively, it lies between longitudes 113° 9' E. and 153° 39' E., while its northern and southern limits are the parallels of latitude 10° 41' S. and 39° 8' S., or, including Tasmania, 43° 39' S. On its north are the Timor and Arafura Seas and Torres Strait, on its south the Southern Ocean and Bass Strait. The extreme points are "Steep Point" on the west, "Cape Byron" on the east, "Cape York" on the north, "Wilson's Promontory" on the south, or, if Tasmania be included, "South East Cape."

(ii) *Tropical and Temperate Regions.* Of the total area of Australia nearly 40 per cent. lies within the tropics. Assuming, as is usual, that the latitude of the Tropic of Capricorn is 23° 30' S., its correct value for 1924 is 23° 26' 57.02", and it decreases about 0.47" per annum, the areas within the tropical and temperate zones are approximately as follows:—

AUSTRALIA—AREAS OF TROPICAL AND TEMPERATE REGIONS.

(STATES AND TERRITORY PARTIALLY WITHIN TROPICS.)

Areas.	Queensland.	Western Australia.	Northern Territory.	Total.
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.
Within Tropical Zone	359,000	364,000	426,320	1,149,320
Within Temperate Zone	311,500	611,920	97,300	1,020,720
Ratio of Tropical part to whole State ..	0.535	0.373	0.814	0.530
Ratio of Temperate part to whole State	0.465	0.627	0.186	0.470

Thus the tropical part is roughly about one-half (0.530) of the three territories mentioned above or about five-thirteenths of the whole of Australia (0.386).

2. **Area of Australia compared with Areas of other Countries.**—It is not always realized that the area of Australia is nearly as great as that of the United States of America, that it is four-fifths of that of Canada, that it is over one-fifth of the area of the whole of the British Empire, that it is more than three-fourths of the whole area of Europe, and that it is about 25 times as large as the United Kingdom or Italy. This great area, coupled with a limited population, renders the solution of the problem of Australian development a particularly difficult one. The areas of Australia and of other countries are given in the following table:—

AREA OF AUSTRALIA AND OF OTHER COUNTRIES.

Country.	Area.	Country.	Area.
Continental Divisions—	Sq. miles.	Asia—	Sq. miles.
Europe	3,983,366	Russia	6,284,200
Asia	16,575,415	China and Dependencies ..	4,277,170
Africa	12,367,884	British India and Adminis- tered Territories ..	1,093,074
North and Central America and West Indies ..	8,604,066	Arabia	1,000,000
South America	7,324,241	Feudatory Indian States	709,555
Australasia and Polynesia	3,463,773	Persia	628,000
		Dutch East Indies ..	572,950
Total, exclusive of Arctic and Antarctic Conts.	52,318,745	Turkey, inc. Armenia and Kurdistan	271,262
		Japan (and Dependencies)	260,738
Europe—		Afghanistan	245,000
Russia	1,806,960	Siam	194,580
France	212,659	Iraq (Mesopotamia) ..	143,250
Spain	194,800	Philippine Islands (inc. of Sulu Archipelago) ..	115,026
Germany	182,271	Laos	96,500
Sweden	173,035	Omán	82,000
Poland	146,821	Bokhara	79,440
Finland	132,510	British Borneo, Brunei, and Sarawak	77,106
Norway	124,964	Syria	60,000
Rumania	122,282	Cambodia	57,900
United Kingdom	121,633	Nepál	54,000
Italy and annexed Pro- vinces	117,982	Tonking	40,530
Serb, Croat, and Slovene State	96,134	Annam	39,758
Lithuania	59,633	Federated Malay States ..	27,506
Czecho-Slovakia	54,241	Ceylon	25,331
Greece	41,933	Khiva	24,310
Bulgaria	39,841	Malay Protectorate (inc. Johore)	23,486
Iceland	39,709	Cochin China	22,000
Hungary	35,790	Bhután	20,000
Portugal	35,490	Armenia	15,240
Azerbaijan	33,970	Aden and Dependencies ..	9,000
Austria	32,352	Palestine	9,000
Georgia	25,760	Timor, etc. (Portuguese In- dian Archipelago) ..	7,330
Latvia	25,000	Cyprus	3,584
Spitzbergen Bear and ad- jacent islands	25,000	Goa, Damao, and Diu ..	1,638
Denmark	17,144	Straits Settlements	1,600
Estonia	16,955	Sokotra	1,382
Switzerland	15,975	Kwantung	538
Albania	14,500	Hong Kong and Dependen- cies	391
Netherlands	13,205	Wei-hai-wei	285
Belgium	11,752	Bahrein Islands	250
Turkey	10,882	French India (Pondicherry, etc.)	196
Luxemburg	999	Kwang Chau Wan	190
Danzig	754	Maldivo Islands	115
Andorra	191	Macao, etc.	4
Malta	118		
Liechtenstein	65	Total, Asia	16,575,415
San Marino	38		
Monaco	8	Africa—	
Fiume	8	French Sahara	1,544,000
Gibraltar	2	Anglo-Egyptian Sudan ..	1,014,400
		French Equatorial Africa	982,049
Total, Europe	3,983,366		

AREA OF AUSTRALIA AND OF OTHER COUNTRIES—*continued.*

Country.	Area.	Country.	Area.
<i>AFRICA—continued.</i>	Sq. miles.	<i>AFRICA—continued.</i>	Sq. miles.
Belgian Congo	909,654	Comoro Islands, Mayotte, etc.	790
French Sudan	617,600	St. Thomas and Principe Islands	360
Angola	484,800	Seychelles	156
South African Union ..	473,089	St. Helena	47
Rhodesia	440,000	Ascension	34
Portuguese East Africa ..	428,132		
Tripolitania and Cyrenaica	406,000	Total, Africa	12,367,884
Tanganyika Territory ..	365,000		
Abyssinia	350,000		
Egypt	350,000	<i>North and Central America and West Indies—</i>	
Territory of the Niger ..	347,400	Canada	3,729,665
Mauritania	347,400	United States	3,026,789
Nigeria and Protectorate	335,700	Mexico	767,198
South-west Africa	322,400	Alaska	590,884
Bechuanaland Protectorate	275,000	Newfoundland and Labra- dor	162,734
Madagascar	228,000	Nicaragua	51,660
Morocco	223,800	Guatemala	48,290
Algeria (inc. Algerian Sahara)	222,180	*Greenland	46,740
Kenya Colony and Protec- torate	200,000	Honduras	44,275
Cameroon (French)	166,489	Cuba	44,164
Upper Volta	154,400	Costa Rica	23,000
Italian Somaliland	139,430	Santo Domingo	19,332
Ivory Coast	121,976	Salvador	13,176
Uganda Protectorate	110,300	Haiti	10,204
Rio de Oro and Adrar	109,200	British Honduras	8,592
French Guinea	95,218	Jamaica, inc. Turks, Caicos and Cayman Is.	4,431
Gold Coast Protectorate (with Nth. Territories)	80,000	Bahamas	4,404
Senegal	74,112	Porto Rico	3,435
British Somaliland	68,000	Trinidad and Tobago	1,976
Tunis	50,000	Leeward Islands	715
Eritrea	45,435	Guadeloupe and Dependen- cies	688
Dahomey	42,460	Windward Islands	516
Liberia	40,000	Curaçao and Dependencies	403
Nyasaland Protectorate ..	39,573	Martinique	385
Cameroon (British)	31,000	Barbados	166
Sierra Leone and Protec- torate	31,000	Virgin Islands of U.S.A., St. Pierre and Miquelon ..	93
Togoland (French)	21,893	Bermudas	19
Portuguese Guinea	13,940		
Togoland (British)	12,600	Total, N. and C. America and W. Indies	8,604,066
Basutoland	11,716		
Spanish Guinea (Rio Muni, etc.)	10,810	<i>South America—</i>	
Spanish Morocco	7,700	Brazil	3,275,510
Swaziland	6,678	Argentine Republic	1,153,119
French Somali Coast	5,790	Peru	722,461
Gambia and Protectorate	4,134	Bolivia	514,155
Cape Verde Islands	1,480	Colombia (exc. of Panama)	440,846
Zanzibar	1,020		
Réunion	970		
Ifni	965		
Mauritius and Dependencies	809		
Fernando Po, etc.	795		

* Danish colony only. Total area has been estimated as between 827,000 and 850,000 square miles.

AREA OF AUSTRALIA AND OF OTHER COUNTRIES—*continued.*

Country.	Area.	Country.	Area.
SOUTH AMERICA—<i>continued.</i>	Sq. miles.	AUSTRALASIA AND POLYNESIA	Sq. miles.
Venezuela	398,594	— <i>continued.</i>	
Chile	289,828	British Solomon Islands ..	11,000
Ecuador	174,155	New Caledonia and Depen-	
British Guiana	89,480	dencies	7,650
Paraguay	75,673	Fiji	7,083
Uruguay	72,153	Hawaii	6,449
Dutch Guiana	46,060	New Hebrides	5,500
Panama	32,380	French Establishments in	
French Guiana	32,000	Oceania	1,520
Falkland Islands and		Territory of Western Samoa	1,250
South Georgia	7,300	Gilbert and Ellice Islands	1,011
Panama Canal Zone ..	527	Marianne, Caroline, and	
		Marshall Islands	960
Total, South America ..	7,324,241	Tonga	385
		Guam	210
Australasia and Polynesia—		Samoa (U.S.A. part)	58
Commonwealth of Australia	2,974,581	Norfolk Island	13
Dutch New Guinea	160,692	Nauru Island	10
New Zealand and Depen-			
dencies	103,861	Total, Australasia and	3,463,773
Territory of New Guinea	91,000	Polynesia	
Papua	90,540	British Empire	13,358,674

The figures quoted in the table have, in most cases, been extracted from the Statesman's Year-Book for 1923.

3. Areas of Political Subdivisions.—As already stated, Australia consists of six States and the Northern and Federal Capital Territories. The areas of these, and their proportions of the total of Australia, are shown in the following table:—

AUSTRALIA—AREA OF STATES AND TERRITORIES.

State or Territory.	Area.	Percentage on Total.
	Sq. miles.	
New South Wales	309,432	10.40
Victoria	87,884	2.96
Queensland	670,500	22.54
South Australia	380,070	12.78
Western Australia	975,920	32.81
Tasmania	26,215	0.88
Northern Territory	523,620	17.60
Federal Capital Territory ..	940	0.03
Total	2,974,581	100.00

4. **Coastal Configuration.**—(i) *General.* There are no striking features in the configuration of the coast; the most remarkable indentations are the Gulf of Carpentaria on the north, and the Great Australian Bight on the south. The Cape York Peninsula on the extreme north is the only other remarkable feature in the outline. In Year Book No. 1, an enumeration of the features of the coast-line of Australia was given (see pp. 60 to 68).

(ii) *Coast-line.* The lengths of coast-line, exclusive of minor indentations, of each State and of the whole continent, and the area per mile of coast-line, are shown in the following table :—

AUSTRALIA—COAST LINE AND AREA PER MILE THEREOF.

State.	Coast-line.	Area ÷ Coast-line.	State.	Coast-line.	Area ÷ Coast-line.
	Miles.	Sq. miles.		Miles.	Sq. miles.
New South Wales(a)	700	443	South Australia	1,540	247
Victoria ..	680	129	Western Australia	4,350	224
Queensland ..	3,000	223	Continent (b) ..	11,310	261
Northern Territory	1,040	503	Tasmania ..	900	29

(a) Including Federal Capital Territory.

(b) Area 2,948,366 square miles.

For the entire Commonwealth of Australia this gives a coast-line of 12,210 miles and an average of 244 square miles for one mile of coast-line. According to Strelbitski, Europe has only 75 square miles of area to each mile of coast-line, and, according to recent figures, England and Wales have only one-third of this, viz., 25 square miles.

(iii) *Historical Significance of Coastal Names.* It is interesting to trace the voyages of some of the early navigators by the names bestowed by them on various coastal features—thus Dutch names are found on various points of the Western Australian coast, in Nuyt's Archipelago, in the Northern Territory and in the Gulf of Carpentaria; Captain Cook can be followed along the coasts of New South Wales and Queensland; Flinders' track is easily recognised from Sydney southwards, as far as Cape Catastrophe, by the numerous Lincolnshire names bestowed by him; and the French navigators of the end of the eighteenth and the beginning of the nineteenth century have left their names all along the Western Australian, South Australian, and Tasmanian coasts.

5. **Geographical Features of Australia.**—In each of the earlier issues of this Year Book fairly complete information has been given concerning some special geographical element. The nature of this information and its position in the various Year Books can be readily ascertained on reference to the special index following the index to maps and graphs at the end of this work.

6. **Fauna, Flora, Geology, and Seismology of Australia.**—Special articles dealing with these features have appeared in previous Year Books, but limits of space naturally preclude their repetition in each volume. As pointed out in 5 *supra*, however, the nature and position of these articles can be readily ascertained from the special index.

§ 2. Climate and Meteorology of Australia.*

1. **Introductory.**—In preceding Year Books some account was given of the history of Australian meteorology, including reference to the development of magnetic observations and the equipment for the determination of various climatological records. (See Year Book No. 3, pp. 79, 80.) In Year Book No. 4, pp. 84 and 87, will be found a short sketch of the creation and organization of the Commonwealth Bureau of Meteorology, and a résumé of the subjects dealt with at the Meteorological Conference of 1907. Space will not permit of the inclusion of this matter in the present issue.

2. **Meteorological Publications.**—The following publications are issued daily from the Central Meteorological Bureau, viz. :—(i) Weather charts. (ii) Rainfall maps.

* Prepared from data supplied by the Commonwealth Meteorologist, H. A. Hunt, Esquire, F.R. Met. Soc.

(iii) Bulletins, Victorian and Interstate, showing pressure, temperature, wind, rain, cloud extent, and weather. Similar publications are also issued from the divisional offices in each of the State Capitals.

Commencing with January, 1910, the "Australian Monthly Weather Report," containing statistical records from representative selected stations, with rain maps and diagrams, etc., is being published. Complete rainfall and other climatological data are published in volumes of meteorological statistics for each State separately.

The first text book of Australian meteorology, "Climate and Weather of Australia," was published in 1913.

In addition, fifteen Bulletins of Climatology have been published, particulars of which are given in preceding issues of the Official Year Book (see No. 12, page 54).

3. General Description of Australia.—A considerable portion (0.530) of three divisions of Australia is north of the tropic of Capricorn—that is to say, within the States of Queensland and Western Australia, and the Northern Territory, no less than 1,149,320 square miles belong to the tropical zone, and 1,020,720 to the temperate zone. The whole area of Australia within the temperate zone, however, is 1,825,261 square miles; thus the tropical part is about 0.386, or about five-thirteenths of the whole, or the "temperate" region is half as large again as the "tropical" (more accurately 1.591). By reason of its insular geographical position, and the absence of striking physical features, Australia is, on the whole, less subject to extremes of weather than are regions of similar area in other parts of the globe; and latitude for latitude Australia is, on the whole more temperate.

The altitudes of the surface of Australia range up to a little over 7,300 feet, hence its climate embraces a great many features, from the characteristically tropical to what is essentially alpine, a fact indicated in some measure by the name Australian Alps given to the southern portion of the great Dividing Range.

On the coast, the rainfall is often abundant and the atmosphere moist, but in some portions of the interior it is very limited, and the atmosphere dry. The distribution of forest, therefore, with its climatic influence, is very uneven. In the interior, in places, there are fine belts of trees, but there are large areas also which are treeless, and where the air is hot and parching in summer. Again, on the coast, even so far south as latitude 35°, the vegetation is tropical in its luxuriance, and to some extent also in character. Climatologically, therefore, Australia may be said to present a great variety of features.

4. Meteorological Divisions.—(i) *General.* The Commonwealth Meteorologist has divided Australia, for climatological and meteorological purposes, into five divisions. The boundaries between these may be thus defined:—(a) Between divisions I. and II., the boundary between South and Western Australia, viz., the 129th meridian of east longitude; (b) between divisions II. and III., a line starting at the Gulf of Carpentaria, along the Norman River to Normanton, thence a straight line to Wilcannia on the Darling River, New South Wales; (c) between divisions II. and IV., a line from Wilcannia along the Darling River to its junction with the Murray; (d) between divisions II. and V., a line from the junction of the Darling and Murray Rivers, along the latter to Encounter Bay; (e) between divisions III. and IV., a line starting at Wilcannia, along the Darling, Barwon, and Dumaresq Rivers to the Great Dividing Range, and along that range and along the watershed between the Clarence and Richmond Rivers to Evans Head on the east coast of Australia; (f) between divisions IV. and V., a line from the junction of the Darling and Murray Rivers along the latter to its junction with the Murrumbidgee, along the Murrumbidgee to the Tumut River, and along the Tumut River to Tumut, thence a straight line to Cape Howe; (g) Tasmania is included in division V.

The population included within these boundaries at the Census of the 4th April, 1921, was approximately as follows:—

Division	I.	II.	III.	IV.	V.
Population	332,000	500,000	824,000	1,915,000	1,866,000

In these divisions, the order in which the capitals occur is as follows:—(a) Perth, (b) Adelaide, (c) Brisbane, (d) Sydney, (e) Melbourne, and (f) Hobart; and the climatological and meteorological statistics relating to the capital cities are dealt with herein in accordance with that order.

(ii) *Special Climatological Stations.* The latitudes, longitudes, and altitudes of special stations, the climatological features of which are graphically represented hereinafter, are as follows :—

SPECIAL CLIMATOLOGICAL STATIONS—AUSTRALIA.

Locality.	Height above Sea Level.	Latitude.		Longitude.		Locality.	Height above Sea Level.	Latitude.		Longitude.	
		S.	E.	S.	E.			S.	E.		
	Feet.	deg.	min.	deg.	min.		Feet.	deg.	min.	deg.	min.
Perth ..	197	31	57	115	50	Darwin ..	97	12	28	130	51
Adelaide ..	140	34	56	138	35	Daly Waters	691	16	16	133	23
Brisbane ..	137	27	28	153	2	Alice Springs	1,926	23	38	133	37
Sydney ..	138	33	52	151	12	Dubbo ..	870	32	18	148	35
Melbourne ..	115	37	49	144	58	Laverton, W.A.	1,530	28	40	122	23
Hobart ..	177	42	53	147	20	Coolgardie ..	1,389	30	57	121	10

5. *Temperatures.*—(i) *Comparisons with other Countries.* In respect of Australian temperatures generally, it may be pointed out that the isotherm for 70° Fahrenheit extends in South America and South Africa so far south as latitude 33°, while in Australia it reaches only so far south as latitude 30°, thus showing that, on the whole, Australia has latitude for latitude a more temperate climate than other places in the Southern Hemisphere.

The comparison is even more favourable when the Northern Hemisphere is included, for in the United States the 70° isotherm extends in several of the western States so far north as latitude 41°. In Europe, the same isotherm reaches almost to the southern shores of Spain, passing, however, afterwards along the northern shores of Africa till it reaches the Red Sea, when it bends northward along the eastern shore of the Mediterranean till it reaches Syria. In Asia, nearly the whole of the land area south of latitude 40° N. has a higher temperature than 70°.

The extreme range of shade temperatures in summer and winter in a very large part of Australia amounts to probably only 81°. In Siberia, in Asia, the similar range is no less than 171°, and in North America 153°, or approximately double the Australian range.

Along the northern shores of Australia the temperatures are very equable. At Darwin, for example, the difference in the means for the hottest and coldest months is only 8.3°, and the extreme readings for the year, or the highest maximum in the hottest month and the lowest reading in the coldest month, show a difference of under 50°.

Coming southward, the extreme range of temperature increases gradually on the coast, and in a more pronounced manner inland.

(ii) *Hottest and Coldest Parts.* A comparison of the temperatures recorded at coast and inland stations shows that, in Australia, as in other continents, the range increases with increasing distance from the coast.

In the interior of Australia, and during exceptionally dry summers, the temperature occasionally reaches or exceeds 120° in the shade, and during the dry winters the major portion of the country to the south of the tropics is subject to ground frosts. An exact knowledge of temperature disposition cannot be determined until the interior becomes more settled, but from data procurable it would appear that the hottest area of the continent is situated in the northern part of Western Australia about the Marble Bar and Nullagine goldfields, where the maximum shade temperature during the summer sometimes exceeds 100° continuously for days and weeks. The coldest part of Australia is the extreme south-east of New South Wales and extreme east of Victoria—the region of the Australian Alps. Here the temperature seldom, if ever, reaches 100°, even in the hottest of seasons.

Tasmania as a whole enjoys a most moderate and equable range of temperature throughout the year, although occasionally hot winds may cross the Straits and cause the temperature to rise to 100° in the low-lying parts.

(iii) *Monthly Maximum and Minimum Temperatures.* The normal monthly maximum and minimum temperatures can be best shown by means of graphs, which exhibit the

nature of the fluctuation of each for all available years. In the diagram herein for nine representative places in Australia, the upper heavy curves show the mean maximum, and the lower heavy curves the mean minimum temperatures based upon daily observations, while the other curves show the humidities.

6. **Humidity.**—After temperature, humidity is the most important element of climate, as regards its effect on human comfort, rainfall supply, and in connexion with engineering problems generally.

In this publication for the first time, the *absolute humidity* has been graphically represented in the form of inches of vapour pressure (i.e. that portion of the barometric pressure due to vapour). It is this total quantity of moisture in the air which affects personal comfort, plays an important part in varying the density of the atmosphere, and in heating and refrigerating processes. The more commonly quoted value, called the *relative humidity*, refers to the ratio which the actual moisture contents of the air bear to the total amount possible if saturation existed at the given temperature, and is usually quoted as a percentage. The relative humidity is an important factor in all drying operations, but is much less important than the absolute humidity as affecting animal life.

The mean monthly vapour pressure has also been added to the tables of climatological data for the capital cities on pp. 74 to 79.

The normal monthly values of vapour pressure, it should be noted, combine to make the annual curve for this element which is comparable with the maximum and minimum temperature curves, but the relative humidities consisting as they do of the extremes for each month, do not show the normal annual fluctuation which would be about midway between the extremes.

The order of stations in descending values of vapour pressure is Darwin, Daly Waters, Brisbane, Sydney, Perth, Adelaide, Melbourne, Hobart and Alice Springs, while the relative humidity diminishes in the order, Sydney, Hobart, Darwin, Brisbane, Melbourne, Perth, Adelaide, Daly Waters and Alice Springs.

7. **Evaporation.**—(i) *General.* The rate and quantity of evaporation in any territory is influenced by the prevailing temperature, and by atmospheric humidity, pressure, and movement. In Australia, the question is of perhaps more than ordinary importance, since in its drier regions water has often to be conserved in "tanks"* and dams. The magnitude of the economic loss by evaporation will be appreciated from the tabular records herein, which show that the yearly amount varies from about 32 inches at Hobart to 94 inches at Alice Springs in the centre of the Continent. Over the inland districts of the Continent it has been calculated that evaporation equals the rainfall where the annual totals are about 36 inches, the variations above and below this quantity being inverse.

(ii) *Monthly Evaporation Curves.* The curves showing the mean monthly evaporation in various parts of Australia disclose how characteristically different are the amounts for the several months in different localities. The evaporation for representative places is shown on the diagram herein.

(iii) *Loss by Evaporation.* In the interior of Australia the possible evaporation is greater than the actual rainfall. Since the loss by evaporation depends largely on the exposed area, tanks and dams so designed that the surface shall be a minimum are advantageous. Further, the more protected from the direct rays of the sun and from winds, by means of suitable tree planting, the less will be the loss by evaporation. These matters are naturally of more than ordinary concern in the drier districts of Australia.

8. **Rainfall.**—(i) *General.* As even a casual reference to climatological maps indicating the distribution of rainfall and prevailing direction of wind would clearly show, the rainfall of any region is determined mainly by the direction and route of the prevailing winds, by the varying temperatures of the earth's surface over which they blow, and by the physiographical features generally.

Australia lies within the zones of the south-east trades and prevailing westerly winds. The southern limit of the south-east trade strikes the eastern shores at about 30° south latitude, and, with very few exceptions, the heaviest rains of the Australian continent are precipitated along the Pacific slopes to the north of that latitude, the varying quantities being more or less regulated by the differences in elevation of the shores and of the chain of mountains upon which the rain-laden winds blow from the New South Wales northern

* In Australia, artificial storage ponds or reservoirs are called "tanks."

border to Thursday Island. The converse effect is exemplified on the north-west coast of Western Australia, where the prevailing winds, blowing from the interior of the continent instead of from the ocean, result in the lightest coastal rain in Australia.

The westerly winds, which skirt the southern shores, are responsible for the very reliable, although generally light to moderate, rains enjoyed by the south-western portion of Western Australia, by the south-eastern agricultural areas of South Australia, by a great part of Victoria, and by the whole of Tasmania.

(ii) *Factors determining Distribution and Intensity of Rainfall.* (iii) *Time of Rainfall.* In Official Year Book No. 6 (see pp. 72 to 74) some notes were given of the various factors governing the distribution, intensity, and period of Australian rainfall.

(iv) *Wettest and Driest Regions.* The wettest known part of Australia is on the north-east coast of Queensland, between Port Douglas and Cardwell, where three stations situated on, or adjacent to, the Johnstone and Russell Rivers have an average annual rainfall of between 144 and 165 inches. The maximum and minimum falls there are:—Goondi, 241.53 in 1894 and 67.88 inches in 1915, or a range of 173.65 inches; Innisfail, 211.24 in 1894 and 69.87 inches in 1902, or a range of 141.37 inches; Harvey Creek, 254.77 in 1921 and 80.47 inches in 1902, or a range of 174.30 inches.

On four occasions more than 200 inches have been recorded at Goondi, the last of these being in 1910, when 204.82 inches were registered. The record at this station covers a period of 31 years.

Harvey Creek, in the shorter period of 24 years has three times exceeded 200 inches, the total for 1921 being 254.77 inches, and at the South Johnstone Sugar Experiment Station, where a gauge has recently been established, 202.52 inches were recorded in 1921.

The driest known part of the continent is about the Lake Eyre district in South Australia (the only part of the continent below sea level), where the annual average is but 5 inches, and where the fall rarely exceeds 10 inches for the twelve months.

The inland districts of Western Australia were at one time regarded as the driest part of Australia, but authentic observations in recent years over the settled districts in the east of that State show that the annual average is from 10 to 12 inches.

(v) *Quantities and Distribution of Rainfall.* The departure from the normal rainfall increases greatly and progressively from the southern to the northern shores of the continent, and similarly also at all parts of the continent subject to capricious monsoonal rains, as the comparisons hereunder will show. The general distribution is best seen from the rainfall map herein which shows the areas subject to average annual rainfalls lying between certain limits. The areas enjoying varying quantities of rainfall determined from the latest available information are shown in the following table:—

AVERAGE ANNUAL RAINFALL DISTRIBUTION.

Average Annual Rainfall.	N.S.W. (a)	Victoria.	Queens- land.	South Australia.	Northern Territory	Western Australia.	Tas. mania. (b)	Total. (b)
	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.	sqr. mls.
Under 10 inches	44,997	nil	91,012	317,600	138,190	513,653	nil	1,105,452
10—15 "	77,268	19,912	87,489	33,405	141,570	232,815	nil	592,459
15—20 "	57,639	12,626	112,738	14,190	62,920	89,922	937	350,972
20—30 "	77,202	29,317	213,779	13,827	93,470	95,404	7,559	530,558
30—40 "	30,700	14,029	69,880	984	40,690	40,750	4,588	201,621
Over 40 "	22,566	12,000	95,602	64	46,780	3,376	10,101	190,489
Total area ..	310,372	87,884	670,500	380,070	523,620	975,920	26,215	2,974,581

(a) Including Federal Capital Territory. (b) Over an area of 3,030 square miles no records are available.

Referring first to the capital cities, the complete records of which are given in the next table, it will be seen that Sydney, with a normal rainfall of 48.03 inches, occupies the chief place; Brisbane, Perth, Melbourne, Hobart and Adelaide following in that order, Adelaide with 21.18 inches being the driest. The extreme range from the wettest to the driest year is greatest at Brisbane (72.09 inches) and least at Adelaide (19.48 inches).

In order to show how the rainfall is distributed throughout the year in various parts of the continent, the figures of representative towns have been selected. (See map.)

The figures for Darwin, typical of the Northern Territory, show that nearly the whole of the rainfall occurs there in the summer months, while little or none falls in the middle of the year. The figures for Perth, as representing the south-western part of the continent, are the reverse, for while the summer months are dry, the winter ones are very wet. In Melbourne and Hobart the rain is fairly well distributed throughout the twelve months, with a maximum in October for the former, and in November for the latter. The records at Alice Springs and Daly Waters indicate that in the central parts of Australia the wettest months are in the summer and autumn. In Queensland, as in the Northern Territory, the heaviest rains fall in the summer months, but good averages are also maintained during the other seasons.

On the coast of New South Wales, the first six months of the year are the wettest, with a maximum in the autumn; the averages during the last six months are fair, and moderately uniform. Generally it may be said that approximately one-third of the area of the continent, principally in the eastern and northern parts, enjoys an annual average rainfall of from 20 to 50 or more inches, the remaining two-thirds averaging from about 10 to 20 inches.

(vi) *Curves of Rainfall and Evaporation.* The relative amounts of rainfall and evaporation at different times through the year are clearly indicated in the graphs herein. Inspection thereof will show how large is the evaporation when water is fully exposed to the direct rays of the sun and to wind.

(vii) *Tables of Rainfall.* The table of rainfall for a long period of years for each of the various Australian capitals affords information as to the variability of the fall in successive years, and the list of the more remarkable falls furnishes information as to what may be expected on particular occasions. As pointed out in 4 *ante*, the capitals are dealt with in the order in which they occur in the adopted meteorological divisions.

RAINFALL—AUSTRALIAN CAPITAL CITIES, 1901 TO 1923.

Year.	PERTH.			ADELAIDE.			BRISBANE.			SYDNEY.			MELBOURNE.			HOBART.		
	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.	Amount.	No. of Days.	10 Years' Means.
1901	36.75	122	..	18.01	124	..	38.48	110	..	40.10	149	..	27.45	113	..	25.11	149	..
2	27.06	93	..	16.02	123	..	16.17	87	..	43.07	180	..	23.08	102	..	21.85	150	..
3	35.69	140	..	25.47	134	..	49.27	136	..	38.62	173	..	28.43	130	..	25.86	139	..
4	34.35	125	..	20.31	117	..	33.23	124	..	45.93	158	..	29.72	128	..	22.41	139	..
5	34.61	116	..	22.28	131	..	36.76	108	..	35.03	145	..	25.64	129	..	32.09	168	..
6	32.37	121	..	26.51	127	..	42.85	125	..	31.89	160	..	22.29	114	..	23.31	155	..
7	40.12	132	..	17.78	125	..	31.46	119	..	31.32	132	..	22.26	102	..	25.92	166	..
8	30.52	106	34.05	24.56	125	21.15	44.01	125	36.55	45.65	167	43.41	17.72	130	25.36	16.50	148	23.29
9	39.11	107	..	27.69	138	..	34.06	111	..	32.45	177	..	25.86	171	..	27.29	170	..
1910	37.02	135	..	24.62	116	..	49.00	133	..	46.91	160	..	24.61	167	..	25.22	205	..
11	23.38	108	..	15.99	127	..	35.21	128	..	50.24	155	..	36.61	168	..	26.78	193	..
12	27.85	123	..	19.57	116	..	41.30	114	..	47.51	172	..	20.37	157	..	23.14	181	..
13	38.28	141	..	18.16	102	..	40.81	115	..	57.70	141	..	21.17	157	..	19.36	165	..
14	20.21	128	..	11.39	91	..	33.99	141	..	58.42	149	..	18.57	129	..	15.42	154	..
15	43.61	164	..	19.38	117	..	25.66	93	..	34.83	117	..	20.95	167	..	20.91	196	..
16	35.16	128	..	28.16	142	..	52.80	136	..	44.91	161	..	38.04	170	..	43.39	203	..
17	45.64	146	..	23.90	153	..	40.92	127	..	52.40	151	..	30.57	171	..	30.62	214	..
18	39.58	138	34.98	17.41	107	21.13	24.95	121	37.87	42.99	149	46.64	27.13	160	26.39	26.04	179	25.82
19	30.66	120	..	17.21	108	..	19.36	96	..	58.71	152	..	24.89	141	..	22.48	153	..
20	40.35	124	..	26.70	119	..	39.72	122	..	43.42	159	..	23.27	162	..	18.00	182	..
21	41.09	135	..	22.64	100	..	54.31	167	..	43.34	140	..	29.76	154	..	18.04	159	..
22	31.86	135	..	23.20	117	..	35.82	109	..	39.35	136	..	25.02	151	..	28.27	189	..
23	44.47	134	..	29.79	139	..	23.27	93	..	37.01	123	..	22.64	158	..	32.93	198	..
Aver.	34.10	119	..	21.18	123	..	45.03	128	..	48.03	154	..	26.18	137	..	23.77	148	..
No. of Yrs.	48	48	..	85	85	..	74	64	..	84	84	..	80	68	..	81	81	..

NOTE.—The above average rainfall figures for Brisbane, Sydney, and Melbourne differ slightly from the mean annual falls given in the Climatological Tables, which are for a less number of years. Annual totals from 1860 to 1900 inclusive will be found in Official Year Book No. 15, page 53.

9. Remarkable Falls of Rain.—The following are the more remarkable falls of rain in the various States and in the Northern Territory, which have occurred within a period of twenty-four hours. In New South Wales and Queensland falls of less than 15 inches in the twenty-four hours are not included. Reference, however, to them may be found in preceding Official Year Books (see No. 14, pp. 60-63) :—

HEAVY RAINFALLS—NEW SOUTH WALES, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Anthony ..	28 Mar., 1887	17.14	Madden's Creek ..	13 Jan., 1911	18.68
Bega ..	27 Feb., 1919	17.88	Morpeth ..	9 Mar., 1893	21.52
Broger's Creek ..	14 ,, 1898	20.05	Mount Kembla ..	13 Jan., 1911	18.25
" ..	13 Jan. 1911	20.83	Numbugga ..	27 Feb., 1919	17.87
Bulli Mountain ..	13 Dec., 1898	17.14	Tongarra Farm ..	14 ,, 1898	15.12
Burragate ..	27 ,, 1919	16.38	Towamba ..	5 Mar., 1893	20.00
Candelo ..	27 Feb., ..	18.58	South Head (near Sydney) ..	29 Apr., 1841	20.12
Condong ..	27 Mar. 1887	18.66	" ..	16 Oct., 1844	20.41
Cordeaux River ..	14 Feb., 1898	22.58			
Kembla Heights ..	13 Jan., 1911	17.46			

HEAVY RAINFALLS—QUEENSLAND, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Anglesey ..	26 Dec., 1909	18.20	Flying Fish Point	31 Jan., 1913	16.10
Atherton (Cairns) ..	31 Jan., 1913	16.69	Gladstone ..	4 Feb., 1911	18.83
Babinda (Cairns) ..	1 Feb., ..	20.51	Glen Boughton ..	5 Apr., 1894	18.50
" ..	24 Jan., 1916	22.30	Goldsborough		
" ..	21 Apr., 1920	16.05	(Cairns) ..	31 Jan., 1913	19.92
Babinda ..	25 Mar., 1921	15.76	Goondi Mill (Innisfail) ..	6 Apr., 1894	15.69
Bloomsbury ..	14 Feb., 1893	17.40	" ..	29 Dec., 1903	17.83
" ..	10 Jan., 1901	16.62	" ..	10 Feb., 1911	17.68
Brisbane ..	21 ,, 1887	18.31	" ..	6 Apr., 1912	15.55
Buderim Mountains	11 ,, 1898	26.20	Goondi ..	30 Jan., 1913	24.10
Bundaberg ..	16 ,, 1913	16.94	Goorganga ..	23 ,, 1918	18.17
Burnett Head			Halifax ..	5 Feb., 1899	15.37
(Bundaberg) ..	16 ,, 1913	15.22	" ..	6 Jan., 1901	15.68
Cairns ..	11 Feb., 1911	15.17	" ..	2 ,, 1911	18.61
" ..	2 Apr., ..	20.16	Hambleton Mill ..	2 ,, 1911	18.61
Carbrook ..	23 Jan., 1918	22.66	" ..	1 Apr., ..	19.62
" ..	24 ,, ..	15.77	" ..	30 Jan., 1913	17.32
Cardwell ..	18 Mar., 1904	18.24	Hampden ..	23 Apr., 1918	17.30
Carmilla ..	23 Jan., 1918	15.92	" ..	24 ,, ..	17.19
Clare ..	26 ,, 1896	15.30	Harvey Creek ..	8 Mar., 1899	17.72
Collaroy ..	23 ,, 1918	18.06	" ..	11 Jan., 1905	16.96
Crohamburst ..			" ..	3 ,, 1911	27.75
(Blackall Range)	2 Feb., 1893	35.71	" ..	2 Apr., ..	16.46
" ..	9 Jan., 1898	19.55	" ..	31 Jan., 1913	24.72
" ..	6 Mar., ..	16.01	" ..	25 Mar., 1921	15.80
Croydon ..	29 Jan., 1908	15.00	Haughton Valley ..	26 Jan., 1896	18.10
Dungeness ..	16 Mar., 1893	22.17	Holmwood (Woodford) ..	2 Feb., 1893	16.19
Dunira ..	9 Jan., 1898	18.45	Howard ..	15 Jan., 1905	19.55
" ..	6 Mar., ..	15.95	Huntley ..	27 Dec., 1916	18.94
Fairymead Plantation (Bundaberg)	16 Jan., 1913	15.32	Innisfail (formerly Geraldton) ..	11 Feb., 1889	17.13
Flying Fish Point	7 Apr., 1912	16.06			

HEAVY RAINFALLS—QUEENSLAND—*continued.*

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Innisfail (formerly Geraldton) ..	6 Apr., 1894	16.02	Mourilyan ..	7 Apr., 1912	18.97
" " ..	24 Jan., 1900	15.22	" " ..	31 Jan., 1913	15.05
" " ..	29 Dec., 1903	21.22	Mundoolun ..	21 " 1887	17.95
" " ..	2 Apr., 1911	15.00	Nambour ..	9 " 1898	21.00
" " ..	7 " 1912	20.50	" " ..	27 Dec., 1909	16.80
" " ..	31 Jan., 1913	20.91	Netherdale ..	22 Jan., 1918	19.50
Kamerunga (Cairns) ..	2 Apr., 1911	21.00	Oxenford ..	14 Mar., 1908	15.65
" " ..	31 Jan., 1913	16.00	Palmwoods ..	10 Jan., 1898	15.85
Koumala ..	23 " 1918	22.31	" " ..	25 Dec., 1909	17.75
" " ..	24 " "	20.65	Pialba (Marybor'gh) ..	16 Jan., 1913	17.22
" " ..	11 Feb., 1911	16.30	Plane Creek ..		
Kuranda (Cairns) ..	17 Mar., "	15.10	(Mackay) ..	26 Feb., "	27.73
" " ..	31 " "	18.60	Port Douglas ..	10 Mar., 1904	16.34
" " ..	1 Apr., "	24.30	" " ..	17 " 1911	16.10
" " ..	2 " "	28.80	" " ..	1 Apr., "	31.53
" " ..	31 Jan., 1913	16.34	Proserpine ..	23 Jan., 1918	18.17
Landsborough ..	2 Feb., 1893	15.15	Ravenwood ..	24 Mar., 1890	17.00
Low Island ..	10 Mar., 1904	15.07	Redcliffe ..	16 Feb., 1893	17.35
" " ..	1 Apr., 1911	15.30	Rosedale ..	16 Jan., 1913	18.90
Lyndon (<i>via</i> Brixton) ..	3 " 1917	17.00*	Sarina ..	23 " 1918	22.60
Mackay ..	21 Jan., 1918	24.70†	St. Lawrence ..	30 " 1896	15.00
" " ..	22 " "	17.25‡	The Hollow (Mackay) ..		
Sugar Experimental Farm, Mackay ..	21 " "	16.80	Thornborough ..	23 Feb., 1888	15.12
" " ..	22 " "	17.20	20 Apr., 1903	20 Apr., 1903	18.07
Macnade Mill ..	5 Feb., 1899	15.20	Townsville ..	24 Jan., 1892	19.20
" " ..	6 Jan., 1901	23.33	" " ..	28 Dec., 1903	15.00
" " ..	4 Mar., 1915	22.00	Victoria Mill ..	6 Jan., 1901	16.67
Mapleton ..	26 Dec., 1909	15.72	Woodlands (Yepp'n) ..	31 " 1893	23.07
Mirani ..	12 Jan., 1901	16.59	Wootha ..	10 Feb., 1915	15.93
Miriam Vale (B'berg) ..	17 " 1913	15.80	Yandina ..	1 " 1893	20.08
Mooloolah ..	13 Mar., 1892	21.53	" " ..	9 Jan., 1898	19.25
" " ..	2 Feb., 1893	19.11	" " ..	28 Dec., 1909	15.80
Mount Cuthbert ..	8 Jan., 1911	18.00	Yarrabah ..	2 Apr., 1911	30.65
Mount Molloy ..	31 Mar., "	20.00	" " ..	24 Jan., 1916	27.20
" " ..	1 Apr., "	20.00	" " ..	25 " "	18.60
" " ..	2 " "	20.00	Yeppoon ..	31 " 1893	20.05
Mourilyan ..	11 Feb., "	17.40	" " ..	8 " 1898	18.05
			" " ..	8 Oct., 1914	21.70

HEAVY RAINFALLS—WESTERN AUSTRALIA, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Alice Downs ..	15 Mar., 1922	10.58	Exmouth Gulf ..	2 Feb., 1918	12.50
Balla Balla ..	21 " 1899	14.40	Fortescue ..	3 May, 1890	23.36
Bamboo Creek ..	22 " "	10.10	Frazier Downs ..	3 Mar., 1916	11.25
Boodarie ..	21 " "	14.53	Gnaraloo ..	20 " 1923	11.00
" " ..	3 Jan., 1896	10.03	Kerdiadary ..	7 Feb., 1901	12.00
Booloogoaroo ..	16 " 1923	10.76	Meda ..	2 Mar., 1916	10.55
Broome ..	6 Jan., 1917	14.00	Millstream ..	5 " 1900	10.00
Carlton ..	11 " 1903	10.64	Minilya ..	15 Jan., 1923	11.50
Cossack ..	3 Apr., 1898	12.82	Obagama ..	28 Feb., 1910	12.00
" " ..	16 " 1900	13.23	" " ..	24 Dec., 1920	13.02
Croydon ..	3 Mar., 1903	12.00	Pilbara ..	2 Apr., 1898	14.04
Derby ..	29 Dec., 1898	13.09	Point Cloates ..	20 Jan., 1909	10.87
" " ..	7 Jan., 1917	16.47			

* Mr. Jas. Laidlaw, of Lyndon, states that this fell in 4 hours. † 37½ hours. ‡ 22½ hours.

HEAVY RAINFALLS, WESTERN AUSTRALIA—*continued.*

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Point Torment ..	17 Dec., 1906	11.86	Whim Creek ..	21 Mar., 1899	18.17
Port George IV. ..	17 Jan., 1915	11.24	" ..	6 " 1900	10.03
Roebourne ..	3 Apr., 1898	11.44	" ..	3 " 1903	10.44
" ..	6 Mar., 1900	10.32	Winderrrie ..	17 Jan., 1923	14.23
Roebuck Plains ..	5 Jan., 1917	14.01	Woodstock ..	21 " 1912	13.00
" ..	6 " "	22.36	Wyndham ..	27 Jan., 1890	11.60
Springvale ..	14 Mar., 1922	12.25	" ..	4 Mar., 1919	12.50
Tambray ..	6 " 1900	11.00	Yardie Creek ..	3 Feb., 1918	10.00
" ..	3 " 1903	10.47	Yeeda ..	2 Mar., 1916	10.70
Thangoc ..	17-19 Feb. '96	24.18	" ..	6 Jan., 1917	10.20
" ..	28 Dec., 1898	11.15	" ..	7 " "	11.75
Whim Creek ..	3 Apr., 1898	29.41			

HEAVY RAINFALLS—NORTHERN TERRITORY, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Bonrook ..	24 Dec., 1915	10.60	Darwin ..	7 Dec., 1915	11.67
Borrooloola ..	14 Mar., 1899	14.00	Groote Eylandt ..	30-31 Mar., '22	12.00 ^a
Brock's Creek ..	4 Jan., 1914	10.68	Lake Nash ..	21 Mar., 1901	10.25
" ..	24 Dec., 1915	14.33	Pine Creek ..	8 Jan., 1897	10.35
Burrundie ..	4 Jan., 1914	11.61			
Cosmopolitan Gold Mine ..	24 Dec., 1915	10.60			

(a) Approximate only, as gauge was washed away.

HEAVY RAINFALLS—SOUTH AUSTRALIA, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Wilmington ..	28 Feb., 1921	3.97	Wilmington ..	1 Mar., 1921	7.12

HEAVY RAINFALLS—VICTORIA, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Balook ..	26 Sept., 1917	5.32	Mt. Buffalo ..	6 June, 1917	8.53
" ..	27 " "	7.23	" ..	7 " "	6.56
" ..	28 " "	2.08			

HEAVY RAINFALLS—TASMANIA, UP TO 1923, INCLUSIVE.

Name of Town or Locality.	Date.	Amnt.	Name of Town or Locality.	Date.	Amnt.
		ins.			ins.
Cullenswood ..	5 June, 1923	10.50	Mathinna ..	8-10 Mar., '11	15.79
Gould's Country ..	8-10 Mar., '11	15.33	The Springs ..	30-31 Jan., '16	10.75
Lottah ..	8-10 " "	18.10	Triabunna ..	5 June, 1923	10.20

10. **Snowfall.**—Light snow has been known to fall occasionally so far north as latitude 31° S., and from the western to the eastern shores of the continent. During exceptional seasons, it has fallen simultaneously over two-thirds of the State of New South Wales, and has extended at times along the whole of the Great Dividing Range, from its southern extremity in Victoria so far north as Toowoomba in Queensland. During the winter, for several months, snow covers the ground to a great extent on the Australian Alps, where also the temperature falls below zero Fahrenheit during the night. In the ravines around Kosciusko and similar localities the snow never entirely disappears.

The antarctic "V"-shaped disturbances are always associated with the most pronounced and extensive snowfalls. The barometric gradients are very steep where the "trough line" extends northward, and the apexes are unusually sharp-pointed, and protrude into very low latitudes, sometimes even to the tropics.

11. **Hail.**—Hail falls most frequently along the southern shores of the continent in the winter, and over south-eastern Australia during the summer months. The size of the hailstones generally increases with distance from the coast, a fact which lends strong support to the theory that hail is brought about by ascending currents. A summer rarely passes without some station experiencing a fall of stones exceeding in size an ordinary hen-egg, and many riddled sheets of light-gauge galvanized iron bear evidence of the weight and penetrating power of the stones.

The hailstorms occur most frequently when the barometric readings indicate a flat and unstable condition of pressure. They are almost invariably associated with tornadoes or tornadic tendencies, and on the east coast the clouds from which the stones fall are generally of a remarkable sepia-coloured tint.

12. **Barometric Pressures.**—The mean annual barometric pressure (corrected to sea-level and standard gravity) in Australia varies from 29.80 inches on the north coast to 29.92 inches over the central and 30.03 inches in the southern parts of the continent. In January, the mean pressure ranges from 29.70 inches in the northern and central areas to 29.95 inches in the southern. The July mean pressure ranges from 29.90 inches at Darwin to 30.12 inches at Alice Springs. Barometer readings corrected to mean sea level and standard gravity have, under anticyclonic conditions in the interior of the continent, ranged as high as 30.77 inches (at Kalgoorlie on the 28th July, 1901) and have fallen as low as 27.55 inches. This lowest record was registered at Mackay during a tropical hurricane on the 21st January, 1918. An almost equally abnormal reading of 27.88 inches was recorded at Innisfail during a similar storm on the 10th March, 1918. The mean annual fluctuations of barometric pressure for the capitals of Australia are shown on the graph herein.

13. **Wind.**—Notes on the distinctive wind currents in Australia were given in preceding Year Books (see No. 6, page 83), but, owing to limitations of space, have not been included herein.

14. **Cyclones and Storms.**—The "elements" in Australia are ordinarily peaceful, and while destructive cyclones have visited various parts, more especially coastal areas, such visitations are rare, and may be properly described as erratic.

During the winter months, the southern shores of the continent are subject to cyclonic storms, evolved from the V-shaped depressions of the southern low-pressure belt. They are felt most severely over the south-western parts of Western Australia, to the south-east of South Australia, in Bass Straits, including the coast line of Victoria, and on the west coast of Tasmania. Apparently the more violent wind pressures from these cyclones are experienced in their northern half, or in that part of them which has a north-westerly to a south-westerly circulation.

The north-east coast of Queensland is occasionally visited by hurricanes from the north-east tropics. During the first four months of the year, these hurricanes appear to have their origin in the neighbourhood of the South Pacific Islands, their path being a parabolic curve first to the S.W. and finally towards the S.E. Only a small percentage, however, reach Australia, the majority recurring in their path to the east of New Caledonia.

Very severe cyclones, locally known as "willy willies," are peculiar to the north-west coast of Western Australia from the months of November to April inclusive. They apparently originate in the ocean in the vicinity of Cambridge Gulf, and travel in a south-westerly direction with continually increasing force, displaying their greatest energy near Cossack and Onslow, between latitudes 20° and 22° South. The winds in these

storms, like those from the north-east tropics, are very violent and destructive, and cause great havoc amongst the pearl-fishers. The greatest velocities are usually to be found in the south-eastern quadrant of the cyclones, with north-east to east winds. After leaving the north-west coast, these storms either travel southwards, following the coastline, or cross the continent to the Great Australian Bight. When they take the latter course, their track is marked by torrential rains, as much as 29.41 inches, for example, being recorded in 24 hours at Whim Creek from one such occurrence. Falls of 10 inches and over have frequently been recorded in the northern interior of Western Australia from similar storms.

Some further notes on severe cyclones and on "southerly bursters," a characteristic feature of the eastern part of Australia, will be found in previous issues of the Official Year Book (see No. 6, pp. 84, 85, 86).

A special article dealing with "Australian Hurricanes and Related Storms" appeared in Official Year Book No 16, pp. 80-84.

15. Influences affecting Australian Climate.—(i) *General.* Australian history does not cover a sufficient period, nor is the country sufficiently occupied, to ascertain whether or not the advance of settlement has materially affected the climate as a whole. Local changes have, however, taken place, a fact which suggests that settlement and the treatment of the land have a distinct effect on local conditions. For example, the mean temperature of Sydney shows a rise of two-tenths of a degree during the last twenty years, a change probably brought about by the great increase of residential and manufacturing buildings within the city and in the surrounding suburbs. Again, low-lying lands on the north coast of New South Wales, which originally were seldom subject to frosts, have, with the denudation of the surrounding hills from forests, experienced annual visitations, the probable explanation being that through the absence of trees the cold air of the high lands now flows unchecked and untempered down the sides of the hills to the valleys and lower lands.

(ii) *Influence of Forests on Climate.* As already indicated, forests doubtless exercise a great influence on local climate, and hence, to the extent that forestal undertakings will allow, the weather can be controlled by human agency. The direct action of forests is an equalizing one; thus, especially in equatorial regions, and during the warmest portion of the year, they considerably reduce the mean temperature of the air. They also reduce the diurnal extremes of shade temperatures by altering the extent of radiating surface, by evaporation and by checking the movement of air, and while decreasing evaporation from the ground, they increase the relative humidity. Vegetation greatly diminishes the rate of flow-off of rain and the washing away of surface soil, and when a region is protected by trees, a steadier water supply is ensured, and the rainfall is better conserved. In regions of snowfall, the supply of water to rivers is similarly regulated, and without this and the sheltering influence of ravines and "gullies," watercourses supplied mainly by melting snow would be subject to alternate periods of flooding and dryness. This is borne out in the case of the inland rivers; the River Murray, for example, which has never been known to run dry, deriving its steadiness of flow mainly through the causes indicated.

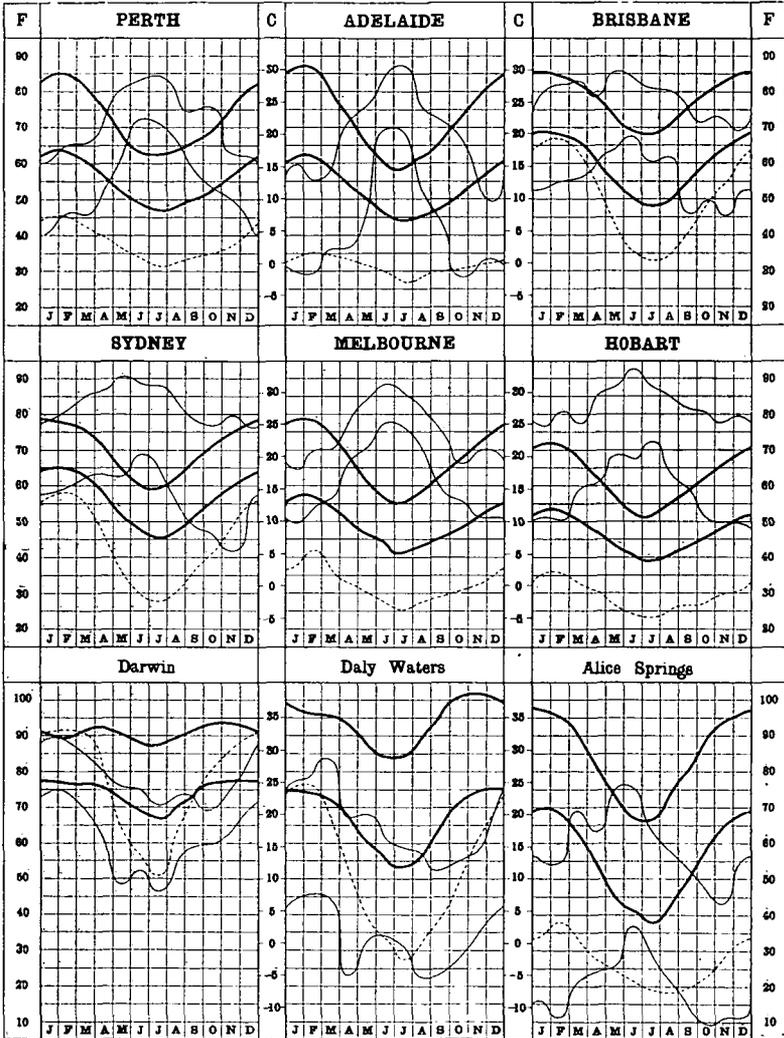
(iii) *Direct Influence of Forests on Rainfall.* Whether forests have a direct influence on rainfall is a debatable question, some authorities alleging that precipitation is undoubtedly induced by forests, while others take the opposite view.

Sufficient evidence exists, however, to prove that, even if the rainfall has not increased, the beneficial climatic effect of forest lands more than warrants their protection and extension. Rapid rate of evaporation, induced by both hot and cold winds, injures crops and makes life uncomfortable on the plains, and, while it may be doubted that the forest aids in increasing precipitation, it must be admitted that it does check winds and the rapid evaporation due to them. Trees as wind-breaks have been successfully planted in central parts of the United States, and there is no reason why similar experiments should not be successful in many parts of the treeless interior of Australia. The belts should be planted at right angles to the direction of the prevailing parching winds, and if not more than half a mile apart will afford shelter to the enclosed areas.

In previous issues some notes on observations made in other countries were added (see Official Year Book No. 6, pp. 86 and 95).

16. Rainfall and Temperature, Various Cities.—The following table shows rainfall and temperature for various important cities throughout the world, for the site of the Federal capital, and for the capitals of the Australian States.

ANNUAL FLUCTUATIONS OF NORMAL MAXIMUM AND MINIMUM TEMPERATURE AND HUMIDITY.



EXPLANATION.—The upper and lower heavy lines in each graph represent the maximum and minimum temperatures respectively. The Fahrenheit temperature scales are shown on the outer edge of the sheet under "F," and the centigrade scales in the two inner columns under "C."

The broken line shows the normal absolute humidity in the form of 9 a.m. vapour pressures for which the figures in the outer "F" columns represent hundredths of an inch of barometric pressure.

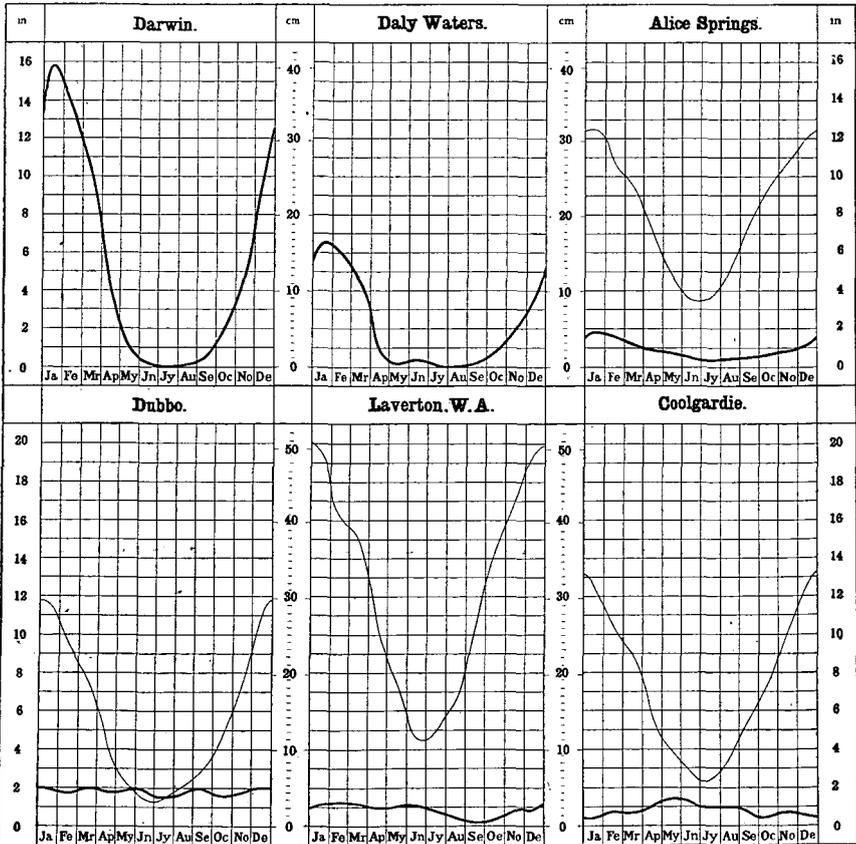
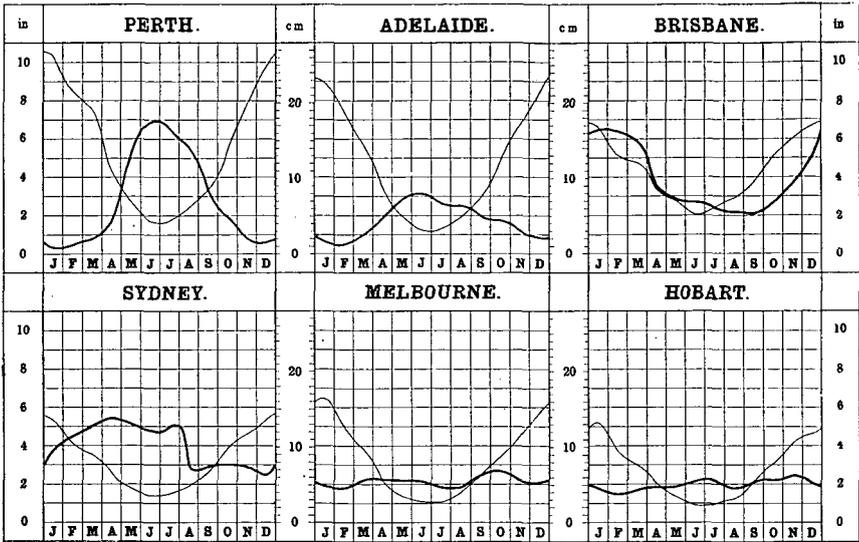
The upper and lower fine lines join the greatest and the least monthly means of relative humidity respectively, the figures under the outer columns "F" indicating percentage values.

The curves for temperature and vapour pressure joining the mean monthly values serve to show the annual fluctuation of these elements, but the relative humidity graphs joining the extreme values for each month do not indicate any normal annual variation.

Comparison of the maximum and minimum temperature curves affords a measure of the mean diurnal range of temperature. At Perth in the middle of January, for instance, there is normally a range of 21° from 63° F. to 84° F., but in June it is only 15° from 48° F. to 63° F.

The relative humidity curves illustrate the extreme range of the mean monthly humidity over a number of years.

MEAN MONTHLY RAINFALL AND EVAPORATION.



EXPLANATION.—On the preceding graphs thick lines denote rainfall, and thin lines evaporation, and show the fluctuation of the mean rate of fall *per month* throughout the year. The results, plotted from the Climatological Tables herein are shown in inches (see the outer columns), and the corresponding metric scale (centimetres) is shown in the two inner columns. The evaporation is not given for Darwin and Daly Waters.

At Perth, Adelaide, Brisbane, Melbourne, Hobart, Alice Springs, and Coolgardie the results have been obtained from jacketed tanks sunk in the ground. At Sydney and Dubbo sunken tanks without water jackets are used, whilst at Laverton (W.A.) the records are taken from a small portable jacketed evaporation dish of 8 inches in diameter.

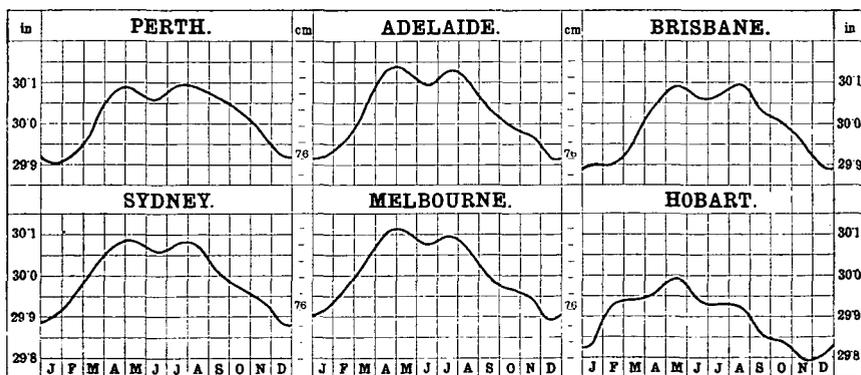
The distance for any date from the zero line to the curve represents the average number of inches, reckoned as per month, of rainfall at that date. Thus, taking the curves for Adelaide, in the middle of January the rain falls on the average at the rate of about three-fourths of an inch per month, or, say, at the rate of about 9 inches per year. In the middle of June it falls at the rate of a little over 3 inches per month, or, say, at the rate of about 37 inches per year. At Dubbo the evaporation is at the rate of nearly $1\frac{1}{4}$ inches per month about the middle of January, and only about $1\frac{1}{8}$ inches at the middle of June.

The mean annual rainfall and evaporation at the places indicated are given in the appended table.

MEAN ANNUAL RAINFALL AND EVAPORATION.

Place.	Rainfall.	Evapora- tion.	Place.	Rainfall.	Evapora- tion.
	In.	In.		In.	In.
Perth ..	34.10	65.80	Darwin ..	62.07	—
Adelaide ..	21.18	54.55	Daly Waters ..	26.58	—
Brisbane ..	45.20	53.37	Alice Springs ..	11.24	93.99
Sydney ..	47.74	38.43	Dubbo ..	21.82	66.37
Melbourne ..	25.61	38.90	Laverton, W.A.	9.76	141.45
Hobart ..	23.77	32.10	Coolgardie ..	10.07	87.69

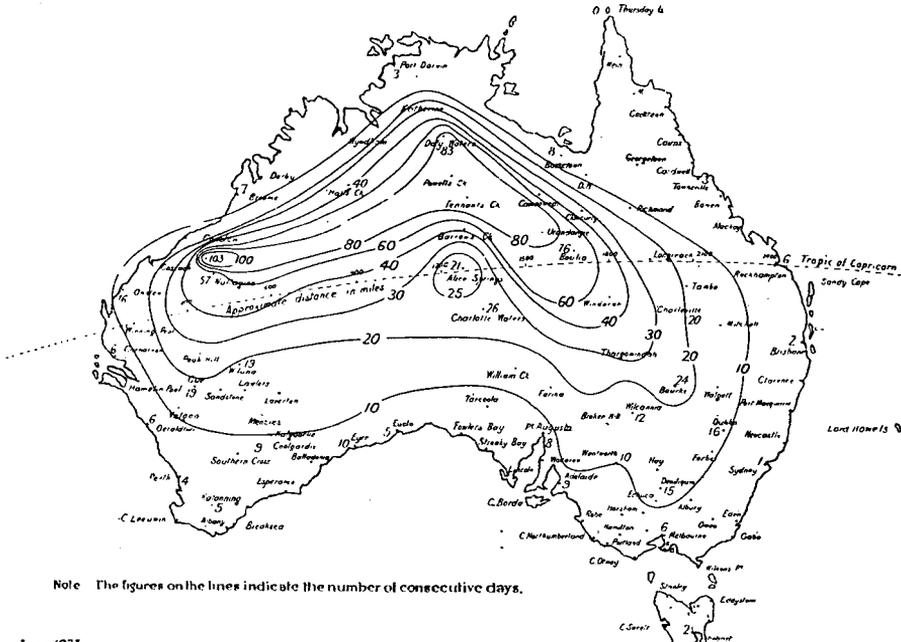
MEAN BAROMETRIC PRESSURE—CAPITAL CITIES.



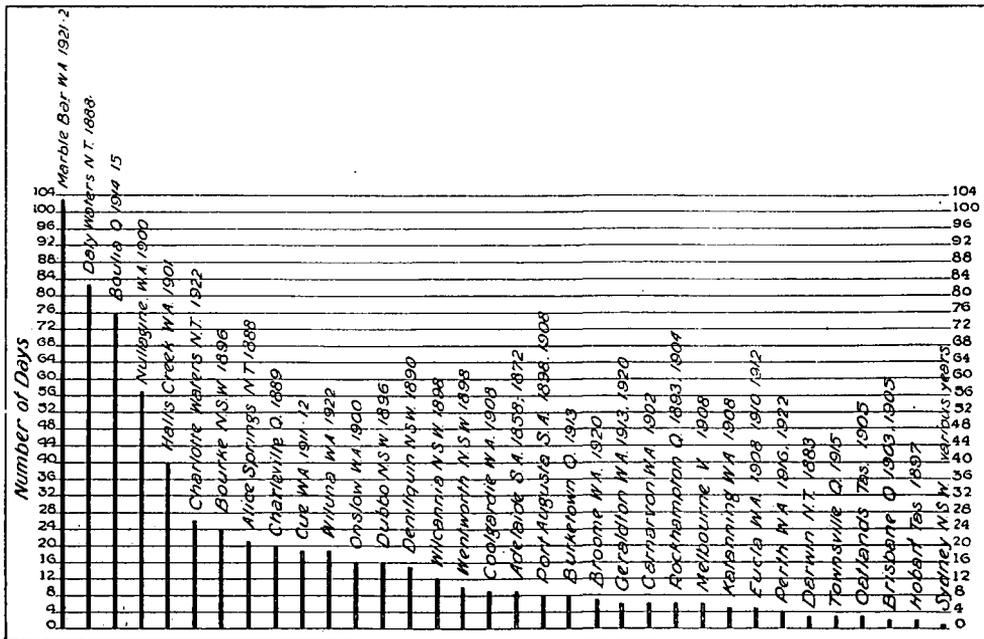
EXPLANATION.—The lines representing the yearly fluctuations of barometric pressure at the State capital cities are means for long periods, and are plotted from the Climatological Tables herein. The pressures are shown in inches on about $2\frac{1}{4}$ times the natural scale, and the corresponding pressures in centimetres are also shown in the two inner columns, in which each division represents one millimetre.

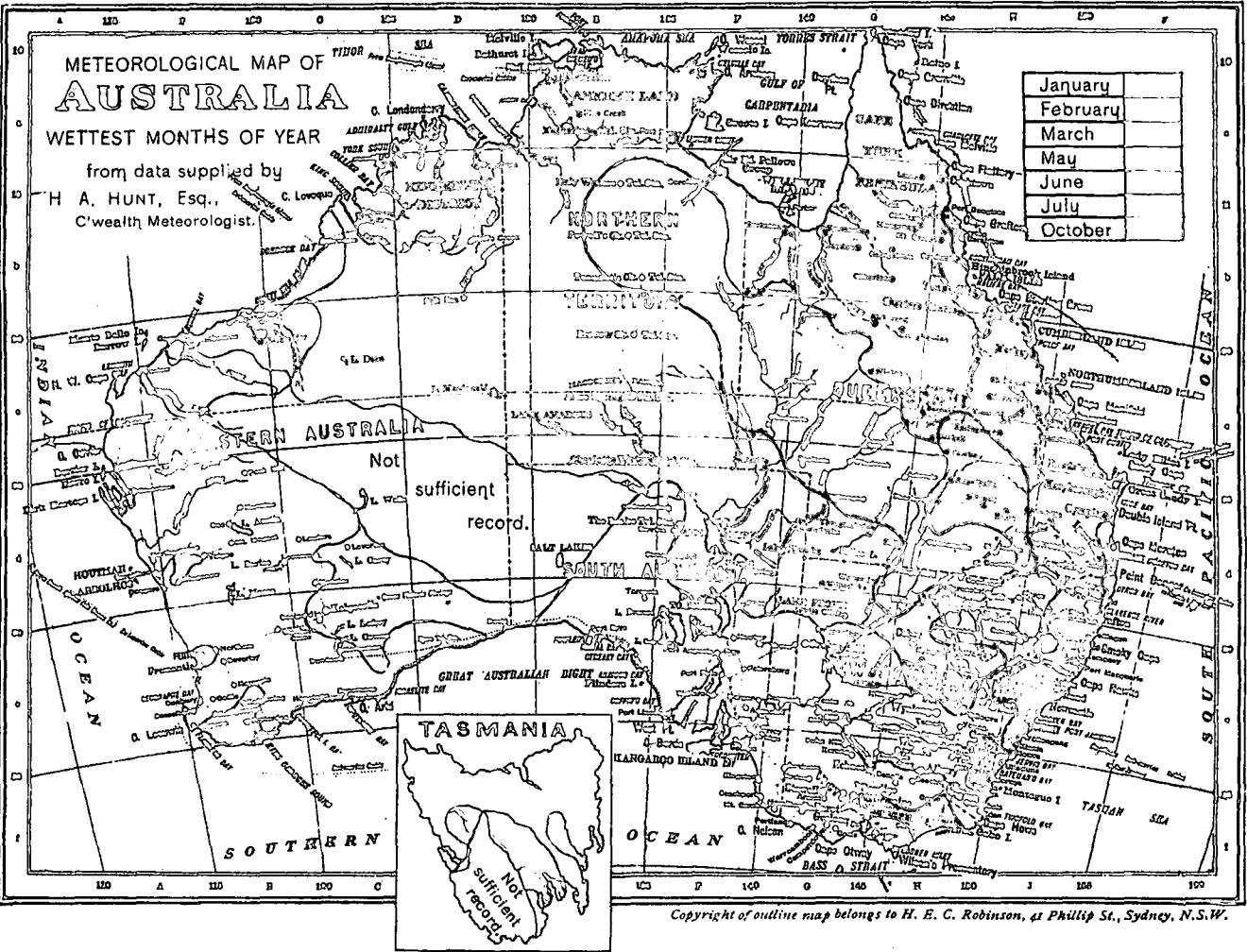
INTERPRETATION.—Taking the Brisbane graph for purposes of illustration, it will be seen that the mean pressure in the middle of January is about 29.87 inches, and there are maxima in the middle of May and August of about 30.09 inches.

Area affected and period of duration of the Longest Heat Waves when the Maximum Temperature for consecutive 24 hours reached or exceeded 100° Fah.



Greatest number of consecutive days on which the Shade Temperature was over 100° Fah. at the places indicated.



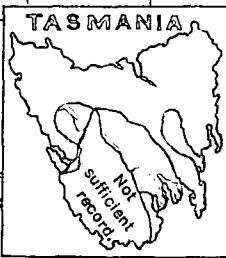


January	
February	
March	
May	
June	
July	
October	

METEOROLOGICAL MAP OF AUSTRALIA

WETTEST MONTHS OF YEAR

from data supplied by
H. A. HUNT, Esq.,
 C'wealth Meteorologist.



METEOROLOGICAL SUB-DIVISIONS.

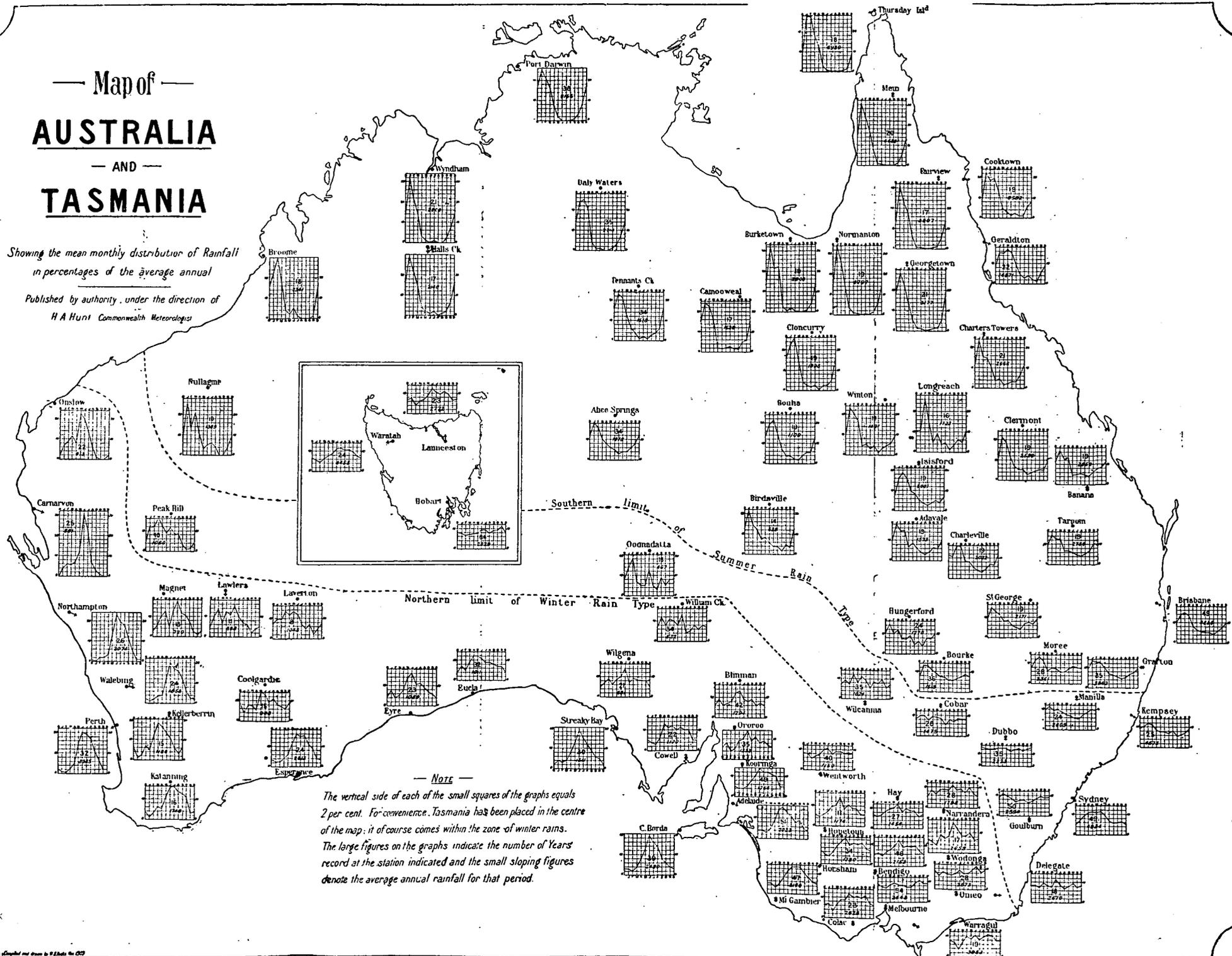
- | | |
|--|---|
| <p>WEST AUSTRALIA.</p> <p>No. 1. East Kimberley.
 2. West Kimberley.
 3. North-West.
 4. Gascoyne.
 5. South-West.
 6. Eucla.
 7. Eastern.</p> <p>SOUTH AUSTRALIA.</p> <p>8. Northern Territory.
 9. Far North and N.W. West.
 10. West.
 11. Upper North.
 12. North-East.
 13. Lower North.
 14. Central.
 15. Murray Valley.
 16. South-East.</p> <p>QUEENSLAND.</p> <p>17. Peninsular.
 18. Gulf.
 19. Far West.
 20. Central.
 21. Nth-East Coast.
 22. Central Coast.
 23. South-East Coast.
 24. Darling Downs.
 25. Maranoon.
 26. South-West.
 27. Western.
 28. North-West Plain.
 29. North-West Slope.
 30. Northern Tableland.
 31. North Coast.
 32. Hunter & Manning.
 33. Hunter & Manning.</p> <p>NEW SOUTH WALES.</p> <p>34. Central Tableland.
 35. Metropolitann.
 36. Cent. Westn. Slope.
 37. Cent. Westn. Slope.
 38. Riverina.
 39. South-West Slope.
 40. Southern Tableland.
 41. Southern Tableland.</p> <p>VICTORIA.</p> <p>42. Gippsland.
 43. North-East.
 44. Central.
 45. North Central.
 46. Northern Country.
 47. Mallee.
 48. Wimmera.
 49. Western.
 50. Northern.
 51. W. Cor. & Mc. Region.
 52. Cent. I. Theban.
 53. Mid. I. Theban.
 54. East Cor. I. Theban.
 55. Derwent.
 56. South-Eastern.</p> <p>TASMANIA.</p> <p>57. Northern.
 58. W. Cor. & Mc. Region.
 59. Cent. I. Theban.
 60. Mid. I. Theban.
 61. East Cor. I. Theban.
 62. Derwent.
 63. South-Eastern.</p> | <p>Not sufficient record.</p> <p>Not sufficient record.</p> <p>Not sufficient record.</p> |
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Map of AUSTRALIA AND TASMANIA

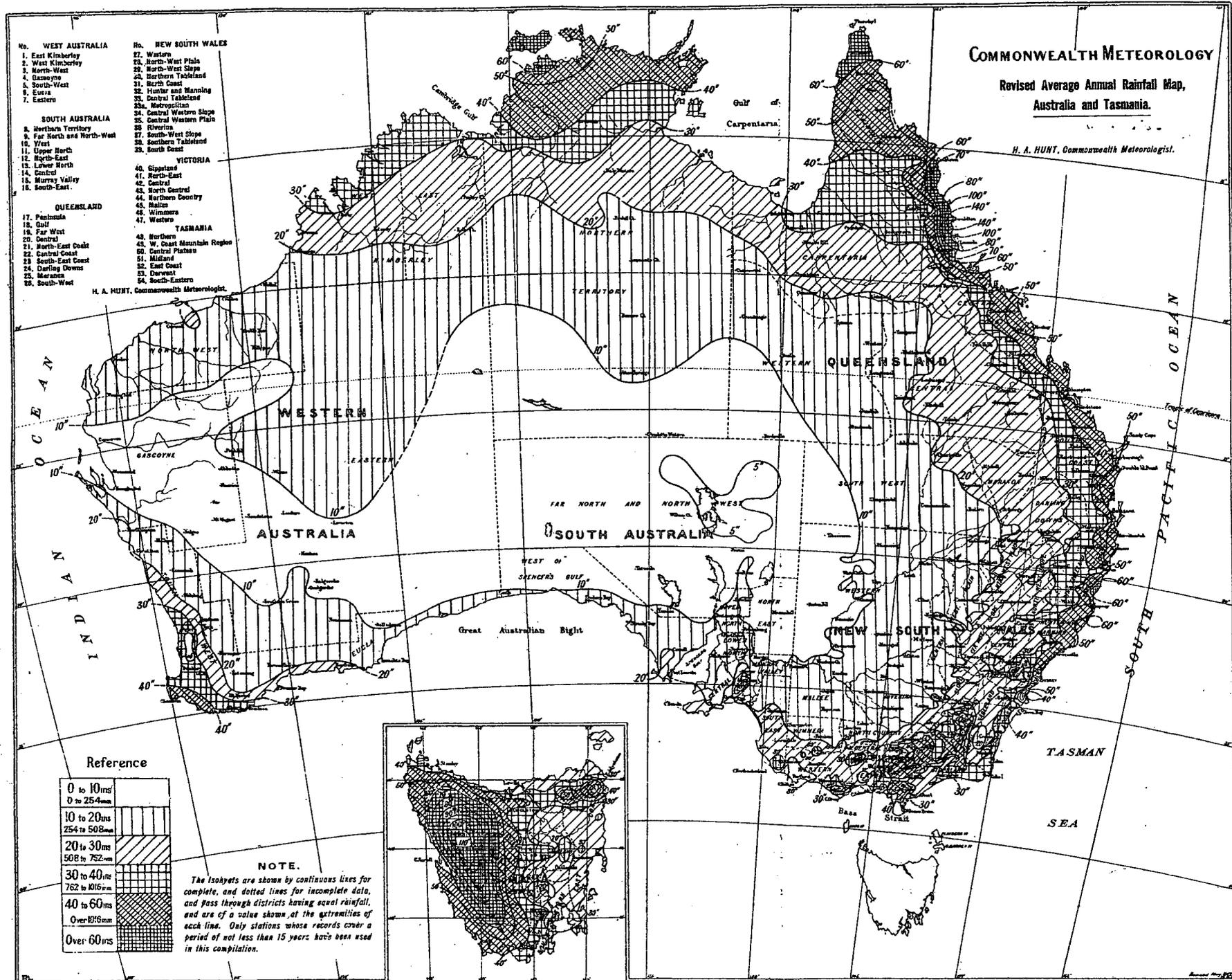
Showing the mean monthly distribution of Rainfall in percentages of the average annual

Published by authority, under the direction of H A Hunt Commonwealth Meteorologist



NOTE

The vertical side of each of the small squares of the graphs equals 2 per cent. For convenience, Tasmania has been placed in the centre of the map; it of course comes within the zone of winter rains. The large figures on the graphs indicate the number of Years record at the station indicated and the small sloping figures denote the average annual rainfall for that period.



RAINFALL AND TEMPERATURE—VARIOUS CITIES.

Place.	Height above M.S.L.	Annual Rainfall.			Temperature.					
		Average.	Highest.	Lowest.	(a) Mean Summer.	(b) Mean Winter.	Highest on Record.	Lowest on Record.	Average Hottest Month.	Average Coldest Month.
		Ft.	Ins.	Ins.	Ins.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.
Amsterdam ..	6	27.29	40.59	17.60	63.2	36.8	90.0	4.1	64.4	35.4
Auckland ..	125	43.88	74.15	26.32	66.2	52.5	91.0	31.9	67.1	51.8
Athens ..	351	15.48	33.33	4.56	70.2	49.1	109.4	19.6	81.0	47.4
Bergen ..	72	77.09	111.58	44.49	56.8	34.2	88.5	4.8	57.9	33.6
Berlin ..	161	22.72	30.04	14.25	64.8	33.0	98.6	-13.0	66.0	31.8
Berne ..	1,877	36.30	58.23	24.69	62.2	30.1	91.4	-3.6	64.4	28.0
Bombay ..	37	71.15	114.89	33.41	83.5	75.1	100.0	55.9	84.8	74.2
Breslau ..	482	22.52	32.56	16.50	64.1	33.5	100.0	-23.4	65.5	29.3
Brussels ..	328	28.35	41.18	17.73	62.6	36.0	95.5	-4.4	63.7	34.5
Budapest ..	500	25.20	35.28	16.79	68.6	30.2	98.6	-5.1	70.4	28.2
Buenos Ayres ..	82	38.78	79.72	20.04	72.7	50.9	103.1	22.3	73.8	50.0
Calcutta ..	21	61.82	98.48	38.43	85.6	68.0	108.2	44.2	86.0	66.4
Capetown ..	40	25.50	36.72	17.71	68.1	54.7	102.0	34.0	68.8	53.9
Caracas ..	3,420	30.03	47.36	23.70	68.3	65.3	87.8	48.2	69.2	63.7
Chicago ..	823	33.28	45.86	24.52	70.0	26.1	103.0	-23.0	72.4	23.7
Christchurch ..	25	25.16	35.30	13.54	61.3	43.3	95.7	21.3	61.6	42.4
Christiana ..	75	23.23	32.21	16.26	61.0	24.5	95.0	-21.1	62.6	23.9
Colombo ..	40	83.83	139.70	51.60	81.5	79.9	95.8	65.0	82.6	79.1
Constantinople ..	245	28.75	42.74	14.78	74.0	43.5	103.6	13.0	75.7	42.0
Copenhagen ..	10	20.79	25.83	15.47	60.4	33.3	85.5	-3.3	61.9	32.4
Dresden ..	115	26.80	34.49	17.72	62.9	32.4	93.4	-15.3	64.4	31.6
Dublin ..	47	27.66	35.56	16.60	59.4	42.0	87.2	13.3	60.5	41.7
Dunedin ..	300	36.96	54.51	22.15	56.3	42.0	94.0	23.0	57.0	41.5
Durban ..	260	40.79	71.27	27.24	75.6	64.4	110.6	41.1	76.7	63.8
Edinburgh ..	441	25.21	32.05	16.44	55.8	38.8	87.7	5.0	57.2	33.3
Geneva ..	1,328	33.48	46.89	21.14	64.4	33.7	..	..	66.2	32.2
Genoa ..	157	51.29	108.22	28.21	73.8	46.8	94.5	16.7	75.4	45.5
Glasgow ..	184	38.49	56.18	29.05	52.7	41.0	84.9	6.6	58.0	38.4
Greenwich ..	149	23.50	35.54	16.38	62.0	39.5	100.0	6.9	63.5	38.5
Hong Kong ..	109	84.28	119.72	45.84	86.2	64.8	97.0	32.0	86.7	62.9
Johannesburg ..	5,750	31.63	50.00	21.66	65.4	54.4	94.0	23.3	68.2	48.9
Leipzig ..	384	24.69	31.37	17.10	63.1	31.5	97.3	-14.8	64.8	30.6
Lisbon ..	312	29.18	52.79	17.32	69.6	51.3	94.1	32.5	70.2	49.3
London (Kew) ..	18	23.80	38.20	16.64	61.2	39.8	94.0	9.4	62.7	38.9
Madras ..	22	49.85	88.41	18.45	89.0	76.8	113.0	57.5	89.9	76.1
Madrid ..	2,149	16.23	27.48	9.13	73.0	41.2	107.1	10.5	75.7	39.7
Marseilles ..	246	22.24	43.03	12.28	70.5	45.3	100.4	11.7	72.3	44.6
Moscow ..	526	18.94	29.28	12.07	63.4	14.7	99.5	-44.5	66.1	11.9
Naples ..	489	34.00	56.58	21.75	73.6	48.0	99.1	23.9	75.4	46.8
New York ..	314	44.63	58.68	33.17	71.4	31.8	102.0	-13.0	73.5	30.2
Ottawa ..	236	33.40	53.79	25.63	67.2	14.1	98.0	-33.0	69.7	12.0
Paris ..	164	22.64	29.57	16.46	63.5	37.2	101.1	-14.1	64.9	36.1
Pekin ..	143	24.40	36.00	18.00	77.7	26.6	114.0	-5.0	79.2	23.6
Petrograd ..	16	21.30	29.52	13.75	61.1	17.4	97.0	-38.2	63.7	15.2
Quebec ..	296	40.50	53.79	32.12	63.5	12.4	96.0	-34.0	66.3	10.1
Rome ..	166	32.57	57.89	12.72	74.3	46.0	104.2	17.2	78.1	44.6
San Francisco ..	155	22.27	38.82	9.00	58.8	50.5	101.0	29.0	59.3	49.5
Shanghai ..	21	45.00	62.52	27.92	78.0	41.1	102.9	10.2	80.4	37.8
Singapore ..	8	91.99	158.68	32.71	81.2	78.6	94.2	63.4	81.5	78.3
Stockholm ..	144	19.09	28.27	11.81	59.5	27.3	96.8	-25.6	61.9	26.4
Tokio ..	65	61.45	86.37	45.72	74.8	39.2	97.9	17.2	77.7	37.5
Trieste ..	85	42.94	63.14	26.57	73.9	41.3	99.5	14.0	78.3	39.9
Vienna ..	663	24.50	33.90	16.50	65.7	30.4	97.7	-8.0	67.1	23.0
Vladivostok ..	55	19.54	33.60	9.39	63.9	11.0	95.7	-21.8	69.4	6.1
Washington ..	112	43.50	61.33	30.85	74.7	34.5	106.0	-15.0	76.8	32.9
Wellington (N.Z.) ..	10	48.65	67.68	27.83	61.8	48.6	88.0	23.6	62.5	47.7
Zürich ..	1,542	45.15	78.27	29.02	63.3	31.3	94.1	-0.8	65.1	29.5

FEDERAL CAPITAL SITE.

Canberra (Dist.)	{ 2,000 to 2,900 }	22.48	41.29	10.45	(a)	(b)	102.6	18.0	68.0	43.1
Queanbeyan					68.4	44.2				

STATE CAPITALS.

				(a)	(b)					
Perth ..	197	34.10	46.73	20.21	73.1	56.0	108.4	34.2	74.2	55.2
Adelaide ..	140	21.18	30.87	11.39	73.1	53.0	116.3	32.0	74.2	51.7
Brisbane ..	137	45.20	88.26	16.17	76.7	59.7	108.9	36.1	77.2	58.4
Sydney ..	138	47.74	82.76	21.49	71.0	54.1	108.5	35.9	71.6	52.6
Melbourne ..	115	25.61	44.25	15.61	66.6	50.0	111.2	27.0	67.6	48.6
Hobart ..	177	23.77	43.39	13.43	61.6	46.8	105.2	27.0	62.4	45.6

(a) Mean of the three hottest months. (b) Mean of the three coldest months.

17. Climatological Tables.—The means, averages, extremes, totals, etc., for a number of climatological elements have been determined from long series of observations at the Australian capitals up to and including the year 1923. These are given in the following tables:—

CLIMATOLOGICAL DATA—PERTH, WESTERN AUSTRALIA.

LAT. 31° 57' S., LONG. 115° 50' E. HEIGHT ABOVE M.S.L. 197 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. M. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (Inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m. & 9 p.m.	No. of Clear Days.	
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing-Direction.					
No. of yrs. over which observation extends	39	26	26	26	26	25	26	27	27	
January	29.906	797	27/98	0.63	11,206	S S E	10.37	1.7	2.8	13.9
February	29.924	650	6/08	0.64	9,812	S S E	8.58	1.6	3.0	11.5
March	29.986	651	6/13	0.54	9,948	S S E	7.65	1.4	3.2	12.0
April	30.074	955	25/00	0.41	8,383	S E	4.74	1.3	4.2	7.9
May	30.074	768	5/12	0.35	8,038	E N E	2.71	2.3	5.3	5.1
June	30.058	861	27/10	0.37	7,964	N	1.75	2.3	5.9	3.2
July	30.092	949	11/99	0.39	8,460	N	1.73	2.4	5.4	4.9
August	30.087	966	15/03	0.42	8,830	W	2.36	1.6	5.3	4.9
September	30.060	864	11/05	0.43	8,656	S W	3.30	1.3	5.0	5.7
October	30.032	809	6/16	0.52	9,851	S S W	5.23	1.0	4.9	6.0
November	29.989	777	18/97	0.59	10,142	S	7.63	1.3	3.8	8.1
December	29.926	776	6/22	0.65	10,935	S	9.75	1.8	3.0	12.1
Year { Totals	—	—	—	—	—	—	65.80	20.0	—	95.3
Year { Averages	30.017	—	—	0.50	9,352	S	—	—	4.3	—
Year { Extremes	—	966	15/8/03	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).			Extreme Temperature (Fahr.).		Mean Hours of Sunshine.
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.	Extreme Range.	Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	27	27	27	27	27	27	25	25	26
January	84.4	63.2	73.8	108.4 28/21	49.9 1/21	58.5	177.3 22/14	40.4 1/21	318.6
February	84.9	63.5	74.2	107.4 4/23	47.7 1/02	59.7	169.0 4/99	39.8 1/13	270.6
March	81.5	61.0	71.2	106.4 14/22	45.8 8/03	60.6	167.0 19/18	36.7 8/03	270.4
April	78.0	57.1	66.5	99.7 9/10	39.3 20/14	60.4	157.0 8/16	31.0 20/14	219.6
May	68.6	52.5	60.6	90.4 2/07	34.3 11/14	56.1	141.0 2/21	25.3 11/14	177.0
June	63.8	49.5	56.7	81.7 2/14	35.0 30/20	46.7	135.5 9/14	26.5 30/20	143.8
July	62.6	47.7	55.2	78.4 21/21	34.2 7/16	42.2	133.2 13/15	25.1 30/20	166.5
August	63.8	48.2	56.0	81.0 12/14	35.3 31/08	45.7	145.1 29/21	27.9 10/11	185.5
September	66.0	50.1	58.0	90.9 30/18	38.9 17/13	52.0	153.6 29/16	29.2 21/16	202.6
October	69.3	52.6	61.0	95.3 30/22	40.9 4/17	54.4	154.0 29/14	30.5 4/17	236.5
November	75.5	56.5	66.0	104.6 24/13	42.0 1/04	62.6	166.6 23/15	35.5 (a)	287.4
December	80.6	60.5	70.6	107.9 20/04	48.0 2/10	59.9	168.7 25/15	39.0 12/20	323.7
Year { Averages	73.1	55.2	64.2	—	—	—	—	—	2802.2b
Year { Extremes	—	—	—	108.4 28/1/21	34.2 7/7/16	74.2	177.3 22/1/14	25.1 30/7/20	—

(a) 6/10 and 14/12. (b) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (Inches).	Rel. Hum. (%)				Rainfall (Inches).				Dew. Mean No. Days Dew.	
		Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.		
No. of yrs. over which observation extends	27	27	27	27	48	48	48	48	48	27	
January .. . . .	.452	52	61	42	0.34	3	2.17	1879	nil (a)	1.74 28/79	2.6
February .. . . .	.451	54	65	46	0.46	2	2.98	1915	nil (a)	1.63 26/15	3.2
March .. . . .	.425	56	66	46	0.76	4	4.50	1896	nil (a)	2.06 26/23	5.7
April .. . . .	.400	64	72	53	1.62	7	4.97	1882	nil 1920	2.62 30/04	9.0
May .. . . .	.361	73	81	61	4.94	14	12.13	1879	0.98 1903	3.80 20/79	12.3
June .. . . .	.340	78	83	72	6.93	17	12.80	1922	2.16 1877	2.90 10/20	12.0
July .. . . .	.317	77	84	71	6.50	17	11.29	1917	2.42 1876	3.00 4/91	13.3
August .. . . .	.325	74	79	67	5.64	18	10.33	1882	0.46 1902	2.79 7/03	11.3
September .. . .	.340	68	75	58	3.43	15	7.81	1922	0.34 1916	1.73 23/09	9.3
October .. . . .	.352	62	75	54	2.11	12	7.87	1890	0.49 1892	1.38 15/10	5.3
November .. . . .	.373	54	63	50	0.77	6	2.78	1916	nil 1891	1.11 30/03	3.8
December .. . . .	.412	52	62	44	0.59	4	3.05	1888	nil 1886	1.72 1/88	3.0
Year { Totals	—	—	—	—	34.09	119	—	—	—	—	90.8
Year { Averages .. . . .	.375	62	—	—	—	—	—	—	—	—	—
Year { Extremes	—	—	84	42	—	—	12.80	6/22	nil (b)	3.90 10/6/20	—

(a) Various years. (b) January, February, March, November, and December, various years.

CLIMATOLOGICAL DATA—ADELAIDE, SOUTH AUSTRALIA.

LAT. 34° 56' S., LONG. 138° 35' E. HEIGHT ABOVE M.S.L. 140 FT.
 BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. M.S. Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m. & 9 p.m.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	67	46	46	46	46	54	52	56	42
January	29.915	758	19/99	0.34	7,906	S	8.97	2.3	3.5
February	29.953	691	22/96	0.29	6,729	S	7.36	1.9	3.4
March	30.038	628	9/12	0.24	6,686	S	5.83	2.1	3.9
April	30.121	773	10/96	0.22	6,111	S x W	3.45	1.6	5.0
May	30.121	760	9/80	0.21	6,254	N x E	2.02	1.8	5.3
June	30.092	750	12/78	0.25	6,605	N	1.23	2.1	6.2
July	30.127	674	25/82	0.25	6,747	N	1.28	1.6	5.3
August	30.099	773	31/97	0.28	7,169	N N W	1.87	2.1	5.6
September	30.038	720	2/87	0.31	7,320	W	2.85	2.5	5.3
October	29.999	768	28/98	0.34	7,884	S W x W	4.75	3.4	4.9
November	29.975	677	2/04	0.33	7,569	S S W	6.55	3.5	4.6
December	29.918	675	12/91	0.34	7,895	S S W	8.39	2.7	3.3
Year { Totals	—	—	—	—	—	—	—	—	—
Year { Averages	30.033	—	—	0.28	7,073	S W x S	54.55	27.6	—
Year { Extremes	—	773	(a)	—	—	—	—	—	—

(a) 10/4/96 and 31/8/97.

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.				
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.					
No. of yrs. over which observation extends	67	67	67	67	67	67	46	63	42				
January	86.4	61.6	74.0	116.3	26/58	45.1	21/84	71.2	180.0	18/82	36.5	14/79	310.0
February	86.3	62.1	74.2	113.6	12/99	45.5	23/18	63.1	170.5	10/00	36.7	(c)	264.9
March	80.8	58.8	69.8	108.0	12/61	44.8	15/57	63.2	174.0	17/83	33.8	27/80	240.5
April	73.4	54.6	64.0	98.0	10/66	39.6	15/59	58.4	155.0	1/83	30.2	16/17	178.8
May	65.6	50.3	57.9	89.5	4/21	36.9	(a)	52.6	148.2	12/79	25.9	10/91	147.6
June	60.3	46.7	53.5	76.0	23/65	32.5	27/76	43.5	138.8	18/79	22.9	12/13	120.7
July	58.8	44.6	51.7	74.0	11/06	32.0	24/08	42.0	134.5	26/90	23.3	25/11	137.1
August	62.0	45.9	53.9	85.0	31/11	32.3	17/59	52.7	140.0	31/92	23.5	7/88	163.6
September	68.3	47.9	57.1	90.7	23/82	32.7	4/58	58.0	160.5	23/82	26.2	15/08	184.2
October	72.4	51.4	61.9	102.9	21/22	36.0	-/57	66.9	162.0	30/21	27.8	2/18	227.6
November	78.6	55.3	67.0	113.5	21/65	40.8	2/09	72.7	166.9	20/78	31.5	2/09	262.8
December	83.4	59.0	71.2	114.2	14/76	43.0	(b)	71.2	175.7	7/99	32.5	4/84	302.1
Year { Averages	72.9	53.2	63.0	—	—	—	—	—	—	—	—	—	2539.9d
Year { Extremes	—	—	—	116.3	26/1/58	32.0	24/7/08	84.3	180.0	18/1/82	22.9	12/6/13	—

(a) 26/1895 and 24/1904. (b) 16/1861 and 4/1906. (c) 24/78 and 23/18. (d) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure. (inches.)	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.			
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest in One Day.		
No. of yrs. over which observation extends	56	56	56	56	85	85	85	85	85	52			
January	.336	38	59	30	0.73	4	4.00	1850	nil (a)	2.30	2/89	4.2	
February	.349	40	56	30	0.63	4	2.89	1919	nil (b)	2.24	14/13	5.7	
March	.343	47	58	36	1.04	6	4.60	1878	nil (c)	3.50	5/78	11.1	
April	.334	55	72	37	1.76	9	6.78	1853	0.03	1923	3.15	5/60	13.8
May	.316	67	76	49	2.77	14	7.75	1875	0.20	1891	2.75	1/53	15.7
June	.299	77	84	69	3.14	16	8.58	1916	0.42	1886	2.11	1/20	15.7
July	.275	76	87	63	2.67	16	5.38	1865	0.37	1899	1.75	10/65	17.2
August	.283	69	77	54	2.51	16	6.24	1852	0.35	1914	2.23	19/51	16.5
September	.300	61	72	44	2.03	14	5.83	1923	0.45	1896	1.59	20/23	15.7
October	.305	51	67	29	1.74	11	3.83	1870	0.17	1914	2.24	16/08	12.7
November	.315	43	57	31	1.15	7	3.55	1851	0.04	1885	1.88	28/58	7.0
December	.325	39	50	33	1.01	6	3.08	1861	nil	1904	2.42	23/13	4.8
Year { Totals	—	—	—	—	21.18	123	—	—	—	—	—	—	140.1
Year { Averages	.325	53	—	—	—	—	8.58	6/16	nil	—	—	—	—
Year { Extremes	—	—	87	29	—	—	—	—	—	—	3.50	5/3/78	—

(a) 1848, &c. (b) 1848, &c. (c) 1859, &c. (d) January, February, March and December, various years.

CLIMATOLOGICAL DATA—BRISBANE, QUEENSLAND.

LAT. 27° 28' S., LONG. 153° 2' E. HEIGHT ABOVE M.S.L. 137 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mm. Sea level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. 3 p.m. & 9 p.m.	No. of Clear Days.
		Greatest Number of Miles in one day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends.	37	13	13	13	37	15	37	32	15
January	29.869	361 1/22	0.12	4,599	E & S E	6.708	5.7	5.7	3.2
February .. .	29.903	347 5/22	0.14	4,618	S E	5.381	5.2	5.7	2.1
March .. .	29.958	305 29/16	0.10	4,246	S E & S	4.888	4.5	5.2	5.1
April .. .	30.050	370 27/23	0.09	3,936	S	3.719	3.2	4.6	7.7
May .. .	30.086	307 20/22	0.07	3,667	S	2.860	3.3	4.3	8.7
June .. .	30.063	347 27/23	0.08	3,583	S	2.208	2.2	4.2	8.7
July .. .	30.070	359 2/23	0.08	3,756	S to W	2.453	2.4	3.7	11.9
August .. .	30.095	331 6/23	0.09	3,998	S	3.013	3.6	3.5	11.9
September .. .	30.035	322 14/23	0.08	3,689	S	3.858	5.7	3.5	12.1
October .. .	30.005	325 25/18	0.09	4,083	N E	5.362	6.9	4.0	8.3
November .. .	29.956	274 18/23	0.12	4,469	N E	6.158	8.3	4.7	6.5
December .. .	29.885	295 21/13	0.12	4,761	N E	6.760	8.7	5.2	3.5
Year { Totals .. .	—	—	—	—	S to E and N E	53.368	59.7	—	89.7
{ Averages .. .	29.998	—	0.10	4,117	—	—	—	4.5	—
{ Extremes .. .	—	370 27/4/23	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.)			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends.	37	37	37	37	37	37	37	37	15
January .. .	85.4	68.9	77.2	108.9 14/02	58.8 4/93	50.1	166.4 10/17	49.9 4/93	223.5
February .. .	84.5	68.2	76.4	101.9 11/04	58.7 (a)	43.2	165.2 6/10	49.3 9/89	203.7
March .. .	82.4	66.3	74.4	99.4 5/19	52.4 29/13	47.0	160.0 1/87	45.4 29/13	207.6
April .. .	79.0	61.6	70.3	95.2 (b)	48.6 17/00	46.6	153.8 11/16	37.0 17/00	203.4
May .. .	73.7	55.4	64.6	90.3 21/23	41.3 24/99	47.5	147.0 1/10	29.8 8/97	196.4
June .. .	69.4	51.0	60.2	88.9 19/18	36.3 29/08	52.6	136.0 3/18	25.4 23/88	168.0
July .. .	68.4	48.5	58.4	83.4 28/98	36.1 (c)	47.3	146.1 20/15	23.9 11/90	196.7
August .. .	71.0	49.7	60.4	87.5 28/07	37.4 6/87	50.1	141.9 20/17	27.1 9/99	231.8
September .. .	75.8	54.8	65.3	95.2 16/12	40.7 1/96	54.5	155.5 26/03	30.4 1/89	232.7
October .. .	79.8	59.9	69.8	101.4 18/93	43.3 3/99	58.1	157.4 31/18	34.9 8/89	250.8
November .. .	83.0	64.2	73.6	106.1 18/13	48.5 2/05	57.6	162.3 7/89	38.8 1/05	244.4
December .. .	85.3	67.6	76.4	105.9 26/93	56.4 13/12	49.5	160.4 7/14	49.1 3/94	241.8
Year { Averages .. .	78.1	59.7	68.9	—	—	—	—	—	2600.8d
{ Extremes .. .	—	—	—	108.9 14/1/02	36.1 (c)	72.8	166.4 10/1/17	23.9 11/7/90	—

(a) 10 and 11/04. (b) 9/96 and 5/03. (c) 12/94 and 2/96. (d) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches).	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.
		Mean 9 a.m.	Mean 3 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest in One Day.
No. of yrs. over which observation extends.	37	37	37	37	72	64	72	72	72	37
January .. .	.655	67	79	53	6.37	14	27.72 1895	0.32 1919	18.31 21/87	5.9
February .. .	.666	80	82	55	6.27	14	40.39 1893	0.58 1849	8.36 16/93	6.1
March .. .	.630	73	85	56	5.79	15	34.04 1870	nil 1849	11.18 14/08	9.5
April .. .	.515	73	79	60	3.62	12	15.28 1867	0.04 1897	4.47 13/16	11.9
May .. .	.433	74	85	64	2.85	10	13.85 1876	nil 1846	5.62 9/79	13.1
June .. .	.361	74	84	67	2.64	8	14.03 1873	nil 1847	6.01 9/93	11.1
July .. .	.333	75	81	61	2.31	8	8.46 1889	nil 1841	3.54 (a)	12.5
August .. .	.350	71	80	61	2.12	7	14.67 1879	nil (b)	4.89 12/87	10.4
September .. .	.410	65	76	47	2.08	9	5.43 1886	0.10 1907	2.46 2/94	10.2
October .. .	.484	61	72	49	2.59	9	9.99 1882	0.14 1900	1.95 20/89	8.4
November .. .	.510	60	72	46	3.63	10	12.40 1917	nil 1842	4.46 16/86	5.4
December .. .	.615	63	70	52	4.93	12	13.99 1910	0.35 1865	6.60 28/71	4.8
Year { Totals .. .	—	—	—	—	45.20	128	—	—	—	109.3
{ Averages .. .	.502	69	—	—	—	—	—	—	—	—
{ Extremes .. .	—	—	85	46	—	—	40.39 2/1893	nil (c)	18.31 21/1/87	—

(a) 15/76, 16/89. (b) 1862, 1869, 1880. (c) March, May, June, July, Aug., Nov., various years.

CLIMATOLOGICAL DATA—SYDNEY, NEW SOUTH WALES.

LAT. 33° 52' S, LONG. 151° 12' E. HEIGHT ABOVE M.S.L., 138 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Min. Sea Level and Standard Gravity from 24 hourly readings.	Wind.				Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m. to 9 p.m.	No. of Clear Days.
		Greatest Number of Miles in One Day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction.				
No. of yrs. over which observation extends	65	57	57	57	57	44	64	62	60
January	29.899	721	1/71	0.36	8,082	N E	4.8	5.8	2.2
February .. .	29.946	871	12/69	0.31	6,945	N E	4.2	6.0	1.5
March .. .	30.011	943	20/70	0.24	6,737	N E	4.1	5.5	2.3
April .. .	30.076	803	6/82	0.21	6,072	N E	2.548	5.0	3.1
May .. .	30.079	758	6/98	0.22	6,310	W	1.770	4.8	3.7
June .. .	30.055	712	7/90	0.27	6,858	W	1.422	4.8	4.0
July .. .	30.073	930	17/79	0.27	7,076	W	1.514	4.4	4.8
August .. .	30.070	756	22/72	0.25	6,818	W	1.872	4.1	5.3
September .. .	30.006	964	6/74	0.29	7,066	W	2.654	4.1	4.4
October .. .	29.971	926	4/72	0.32	7,708	N E	3.816	4.9	5.0
November .. .	29.938	720	13/68	0.33	7,540	N E	4.567	5.5	5.6
December .. .	29.881	938	3/84	0.34	7,958	N E	5.320	5.7	5.6
Year { Totals .. .	—	—	—	—	—	—	—	—	—
Averages .. .	30.000	—	—	0.28	7,098	N E	—	—	5.1
Extremes .. .	—	964	6/9/74	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.				
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.					
No. of yrs. over which observation extends	65	65	65	65	65	65	62	65	13				
January .. .	78.4	64.9	71.6	108.5	13/96	51.2	14/65	57.3	164.3	26/15	44.2	18/97	204.3
February .. .	77.5	64.9	71.2	101.9	18/23	49.3	25/63	52.6	156.5	7/64	43.4	25/91	180.4
March .. .	75.7	62.9	69.3	102.6	3/69	48.8	14/86	53.8	158.0	19/11	39.9	17/13	193.0
April .. .	71.2	58.1	64.6	91.0	20/22	44.6	27/64	46.4	144.1	10/77	33.3	24/09	148.7
May .. .	65.3	52.2	58.8	86.0	1/19	40.2	22/59	45.8	129.7	1/96	29.3	25/17	134.3
June .. .	60.9	48.3	54.6	79.8	2/23	38.0	5/20	41.8	125.5	2/23	28.1	24/11	123.4
July .. .	59.3	45.9	52.6	74.9	17/71	35.9	12/90	39.0	124.7	19/77	24.0	4/93	135.6
August .. .	62.5	47.5	55.0	82.0	31/84	36.8	3/72	45.2	149.0	30/78	26.1	4/09	184.6
September .. .	66.9	51.1	59.2	92.3	27/19	40.8	18/64	51.5	142.2	12/78	30.1	17/05	187.6
October .. .	71.2	55.8	63.5	99.7	19/98	42.3	3/18	57.4	151.9	(a)	32.7	9/05	206.9
November .. .	74.5	59.6	67.1	102.7	21/78	45.8	1/05	56.9	158.5	28/99	36.0	6/06	200.1
December .. .	77.3	63.0	70.2	107.5	31/04	49.3	2/59	58.2	164.5	27/89	41.5	6/09	202.4
Year { Averages .. .	70.1	56.2	63.2	—	—	—	—	—	—	—	—	—	2101.36
Extremes .. .	—	—	—	108.5	13/1/96	35.9	12/7/90	72.6	164.5	27/12/89	24.0	4/7/93	—

(a) 30 and 31/14. (b) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches.)	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.			
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.		Greatest in One Day.		
No. of yrs. over which observation extends	65	65	65	65	65	65	65	65	65	64			
January .. .	.569	69	78	58	3.64	14.1	15.26	1911	0.42	1888	7.08	13/11	1.2
February .. .	.579	72	81	59	4.36	13.8	18.56	1873	0.34	1902	8.90	25/73	2.0
March .. .	.547	74	85	62	4.93	14.8	18.70	1870	0.42	1876	6.52	9/13	3.3
April .. .	.461	77	87	63	5.39	13.4	24.49	1861	0.06	1868	7.52	29/60	5.5
May .. .	.365	76	90	63	5.08	14.9	23.03	1919	0.18	1860	8.36	28/89	6.2
June .. .	.306	78	89	68	4.82	12.4	16.30	1885	0.19	1904	5.17	16/84	5.3
July .. .	.280	77	88	65	5.02	12.6	13.21	1900	0.12	1862	5.72	28/08	5.3
August .. .	.307	73	84	56	3.03	11.4	14.89	1899	0.04	1885	5.33	2/60	4.9
September .. .	.362	69	79	49	2.90	12.0	14.05	1879	0.08	1882	5.69	10/79	3.4
October .. .	.415	66	77	46	2.93	12.5	11.14	1916	0.21	1867	6.37	13/02	3.0
November .. .	.482	66	79	42	2.81	12.3	9.89	1865	0.07	1915	4.23	19/00	2.1
December .. .	.544	67	77	52	2.83	12.9	15.82	1920	0.23	1913	4.75	13/10	1.4
Year { Totals .. .	.432	—	—	—	47.74	157.1	—	—	—	—	—	—	43.6
Averages .. .	—	72	—	—	—	—	—	—	—	—	—	—	—
Extremes .. .	—	—	90	42	—	—	24.49	—	0.04	—	8.90	25/2/73	—

April/61 Aug./85

CLIMATOLOGICAL DATA—MELBOURNE, VICTORIA.

LAT. 37° 49' S., LONG. 144° 58' E. HEIGHT ABOVE M.S.L., 115 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mm. Sea-Level and Standard Gravity from 9 a.m. 3 & 9 p.m. readings.	Wind.				Total Miles.	Prevailing Direction.	Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Clouds, 9 a.m., 3 p.m., & 9 p.m.	No. of Clear Days.
		Greatest Number of Miles in One Day.	Mean Hourly Pressure. (lbs.)								
No. of yrs. over which observation extends	66	50	50	50	50	51	16	66	16		
January	29.911	583	10/97	0.29	7,301	S W, S E	6.432	1.9	5.0	7.5	
February	29.961	566	8/68	0.27	6,347	S W, S E	5.065	2.4	5.0	7.2	
March	30.033	677	9/81	0.22	6,313	S W, S E	3.975	1.5	5.5	5.2	
April	30.105	597	7/68	0.19	5,697	S W, N W	2.367	0.8	5.3	4.4	
May	30.101	693	12/65	0.19	5,894	N W, N E	1.474	0.7	6.5	3.3	
June	30.070	761	13/76	0.24	6,387	N W, N E	1.097	0.8	6.7	3.2	
July	30.092	755	8/74	0.22	6,350	N W, N E	1.051	0.6	6.3	3.3	
August	30.065	637	14/75	0.25	6,813	N W, N E	1.473	1.1	6.3	3.0	
September	29.996	617	11/72	0.28	6,993	N W, S W	2.307	1.7	6.1	3.3	
October	29.967	899	5/66	0.29	7,277	S W, S W	3.345	2.0	6.0	4.2	
November	29.949	734	13/66	0.28	7,000	S W, S E	4.555	2.5	5.9	3.7	
December	29.898	655	1/75	0.30	7,439	S W, S E	5.756	1.8	5.5	4.1	
Year { Totals	—	—	—	—	—	—	—	—	—	—	
Year { Averages	30.012	—	—	0.25	6,651	S W, N W	38.897	17.8	—	52.2	
Year { Extremes	—	899	5/10/66	—	—	—	—	—	5.9	—	

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).			Extreme Temperature (Fahr.).		Mean Hours of Sunshine.				
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.	Extreme Range.	Highest in Sun.	Lowest on Grass.					
							64	64					
No. of yrs. over which observation extends	68	68	68	68	68	68	64	64	42				
January	78.2	56.8	67.5	111.2	14/62	42.0	28/85	69.2	178.5	14/62	30.2	28/85	268.1
February	78.0	57.1	67.8	109.5	7/01	40.3	9/65	69.2	167.5	15/70	30.9	6/01	245.7
March	74.3	54.6	64.5	105.5	2/93	37.1	17/84	68.4	164.5	1/68	28.9	(b)	208.2
April	68.4	50.7	59.6	94.0	(a)	34.8	24/88	59.2	152.0	8/01	25.0	23/97	164.0
May	61.5	46.7	54.1	83.7	7/05	29.9	29/116	53.8	142.6	2/59	21.1	26/16	141.7
June	56.8	44.1	50.5	72.2	1/07	28.0	11/66	44.2	129.0	11/61	20.4	17/95	112.1
July	55.6	41.7	48.6	68.4	24/78	27.0	21/69	41.4	125.8	27/80	20.5	12/03	106.3
August	58.7	43.4	51.0	77.0	20/85	28.3	11/63	48.7	137.4	29/69	21.3	14/02	156.1
September	62.6	45.6	54.1	85.0	19/19	31.1	16/08	53.9	142.1	20/67	22.8	8/18	173.4
October	67.0	48.2	57.6	98.4	24/14	32.1	3/71	66.3	154.3	28/68	24.8	22/18	207.6
November	71.4	51.2	61.3	105.7	27/94	36.5	2/96	69.2	159.6	29/65	24.6	2/96	245.9
December	75.4	54.3	64.8	110.7	15/76	40.0	4/70	70.7	170.3	20/69	33.2	1/04	256.8
Year { Averages	67.3	49.5	58.4	—	—	—	—	—	—	—	—	—	2285.9c
Year { Extremes	—	—	—	111.2	14/1/62	27.0	21/7/69	84.2	178.5	14/1/62	20.4	17/6/95	—

(a) 6/1865 and 17/1922.

(b) 17/1884 and 20/1897.

(c) Total for year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches).	Rel. Hum. (%)				Rainfall (inches).					Dew. Mean No. Days Dew.		
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	Greatest in One Day.			
												68	68
No. of yrs. over which observation extends	16	16	16	16	68	68	68	68	68	65	16		
January	.378	58	65	50	1.85	8	5.68	1904	0.04	1878	2.97	9/97	2.2
February	.413	61	69	53	1.71	7	6.24	1904	0.03	1870	3.37	18/19	2.0
March	.372	64	71	57	2.17	9	7.50	1911	0.18	1859	3.55	5/19	7.1
April	.333	71	78	66	2.19	11	6.71	1901	Nil	1923	2.28	22/01	8.3
May	.303	78	84	71	2.20	13	4.31	1882	0.45	1901	1.85	7/91	8.4
June	.276	83	88	77	2.09	14	4.51	1859	0.73	1877	1.74	21/04	8.4
July	.257	82	88	76	1.88	14	7.02	1891	0.57	1902	2.71	12/91	10.0
August	.276	76	82	70	1.85	14	3.59	1909	0.48	1903	1.87	17/81	8.1
September	.291	69	76	60	2.47	14	7.93	1916	0.52	1907	2.62	12/80	6.5
October	.305	62	67	56	2.65	13	7.61	1869	0.29	1914	3.00	17/69	6.0
November	.325	59	69	52	2.23	11	6.71	1916	0.25	1895	2.57	16/76	1.6
December	.358	58	69	51	2.33	9	7.18	1863	0.11	1904	2.62	28/07	1.4
Year { Totals	—	—	—	—	25.61	137	—	—	—	—	—	—	70.9
Year { Averages	.322	68	—	—	—	—	—	—	—	—	—	—	—
Year { Extremes	—	—	88	50	—	—	7.93	9/16	Nil	4/23	3.55	5/3/19	—

CLIMATOLOGICAL DATA—HOBART, TASMANIA.

LAT. 42° 53' S., LONG. 147° 20' E. HEIGHT ABOVE M.S.L., 177 FT.

BAROMETER, WIND, EVAPORATION, LIGHTNING, CLOUDS, AND CLEAR DAYS.

Month.	Bar. corrected to 32° F. Mm. Sea Level and Standard Gravily from 9 a.m. and 3 p.m. readings.	Wind.				Mean Amount of Evaporation (inches).	No. of Days Lightning.	Mean Amount of Cloud, 9 a.m. 3 p.m. & 9 p.m.	No. of Clear Days.
		Greatest Number of Miles in One Day.	Mean Hourly Pressure. (lbs.)	Total Miles.	Prevailing Direction. 9 a.m. 3 p.m.				
No. of yrs. over which observation extends	39	13	13	13	18	13	16	61	17
January	29.830	500 30/16	0.19	5,958	NNW SE	5.120	0.9	5.9	2.6
February	29.928	393 19/13	0.13	4,505	NNW SE	3.784	1.3	5.9	2.5
March	29.936	407 16/21	0.13	4,975	NNW SE	3.011	1.2	5.9	2.1
April	29.966	475 12/22	0.14	4,849	NNW NW	2.021	0.8	6.0	1.7
May	29.981	411 3/16	0.12	4,742	NNW NNW	1.386	0.6	6.0	2.1
June	29.938	569 27/20	0.13	4,691	NNW NNW	0.885	0.7	6.1	1.7
July	29.930	425 16/21	0.12	4,732	NNW NNW	0.895	0.6	5.8	2.6
August	29.927	459 30/11	0.13	4,918	NNW NNW	1.289	0.6	5.9	2.1
September	29.846	516 26/15	0.18	5,577	NNW NW	2.024	0.9	6.1	1.3
October	29.839	461 8/12	0.18	5,811	NNW SE	3.099	0.8	6.3	1.7
November	29.799	508 18/15	0.20	5,878	NNW SE	4.054	0.9	6.3	1.5
December	29.806	486 30/20	0.18	5,727	NNW SE	4.566	1.2	6.2	1.1
Year { Totals	—	—	—	—	—	32.104	10.5	—	23.5
Year { Averages	29.894	569	0.15	5,197	NNW SE & NNW	—	—	6.0	—
Year { Extremes	—	27/6/20	—	—	—	—	—	—	—

TEMPERATURE AND SUNSHINE.

Month.	Mean Temperature (Fahr.).			Extreme Shade Temperature (Fahr.).		Extreme Range.	Extreme Temperature (Fahr.).		Mean Hours of Sunshine.
	Mean Max.	Mean Min.	Mean.	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of yrs. over which observation extends	53	53	53	77	77	77	36	56	29
January	71.4	53.0	62.2	105.0 1/00	40.3 (a)	64.7	160.0 (b)	30.6 19/97	209.8
February	71.4	53.3	62.4	104.4 12/99	39.0 20/87	65.4	165.0 24/98	28.3 -/87	177.8
March	68.0	50.8	59.4	98.8 5/46	36.0 31/05	62.8	150.0 3/05	27.5 30/02	172.5
April	62.8	47.6	55.2	90.0 2/56	30.0 25/56	60.0	142.0 18/93	25.0 -/86	139.6
May	57.3	45.6	50.4	77.5 1/41	29.2 20/02	48.3	128.0 (c)	20.0 19/02	131.4
June	52.8	41.0	46.9	75.0 7/74	28.0 22/79	47.0	122.0 12/94	21.0 6/87	102.3
July	51.9	39.3	45.6	72.0 22/77	27.0 18/66	45.0	118.7 19/96	18.7 16/86	124.1
August	55.0	41.0	48.0	77.0 3/76	30.0 10/73	47.0	129.0 -/87	20.1 7/09	141.6
September	58.8	43.1	51.0	80.0 9/72	30.0 12/41	50.0	138.0 23/93	22.7 -/86	145.5
October	62.7	45.4	54.0	92.0 24/14	32.0 12/89	60.0	156.0 9/93	23.3 (d)	169.0
November	66.1	48.3	57.2	98.0 20/88	35.2 5/13	62.8	158.0 18/21	26.0 1/08	197.6
December	69.4	51.2	60.3	105.2 30/97	38.0 13/06	67.2	161.0 24/20	27.2 -/86	192.3
Year { Averages	62.3	46.5	54.4	105.2	27.0	78.2	165.0	18.7	1903.4e
Year { Extremes	—	—	—	30/12/97	18/7/66	—	24/2/98	16/7/86	—

(a) 3/72 and 2/06. (b) 5/86 and 13/05. (c) -/88 and -/92. (d) 1/86 and -/99. (e) Total for Year.

HUMIDITY, RAINFALL, AND DEW.

Month.	Vapour Pressure (inches).	Rel. Hum. (%)				Rainfall (inches).				Dew. Mean No. Days Dew.
		Mean 9 a.m.	Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days Rain.	Greatest Monthly.	Least Monthly.	
No. of yrs. over which observation extends	40	40	40	40	81	80	81	81	57	14
January	348	63	77	51	1.80	10	5.91 1899	0.03 1841	2.06 30/16	0.8
February	356	65	80	51	1.44	8	9.15 1854	0.07 1847	4.50 25/54d	1.9
March	328	68	78	58	1.69	10	7.60 1854	0.02 1843	2.79 5/19	3.9
April	307	73	84	61	1.56	11	6.50 1909	0.07 1904	5.02 20/09	10.4
May	267	78	88	68	1.88	13	6.37 1905	0.10 1843	3.22 14/58	12.9
June	245	82	92	68	2.21	14	8.15 1889	0.22 1852	4.11 18/22	8.2
July	234	80	88	72	2.10	14	6.02 1922	0.30 1850	2.51 18/22	8.1
August	249	77	85	64	1.84	14	10.16 1858	0.23 1854	3.35 12/58	8.3
September	266	71	82	60	2.11	14	7.14 1844	0.39 1847	3.50 29/44	4.2
October	273	68	80	51	2.24	15	6.67 1906	0.26 1850	2.58 4/06	3.0
November	296	63	78	50	2.51	14	8.92 1849	0.16 1868	3.97 6/49	1.3
December	312	61	79	49	2.00	11	9.00 1875	0.11 1842	2.48 13/16	0.9
Year { Totals	—	—	—	—	23.77	148	—	—	—	63.9
Year { Averages	282	70	—	—	—	—	—	—	—	—
Year { Extremes	—	—	92	49	—	—	10.16 8/1858	0.02 3/1843	5.02 20/4/09	—

(a) 4.18 on 26/54 also.

CHAPTER III.

GENERAL GOVERNMENT.

§ 1. Scheme of Parliamentary Government.

1. **General.**—The legislative power of the Commonwealth is vested in the Parliament of the Commonwealth, which consists of the Sovereign, the Senate, and the House of Representatives. The Sovereign is represented throughout the Commonwealth by the Governor-General who, subject to the Constitution of the Commonwealth, has such powers and functions as the Sovereign is pleased to assign to him. In each State there is a State Governor, who is the representative of the Sovereign for the State, and who exercises such powers within the State as are conferred upon him by the Letters Patent which constitute his office, and by the instructions, which inform him in detail of the manner in which his duties are to be fulfilled. The Legislature in each State was bi-cameral till 1922, in which year the Queensland Parliament became uni-cameral. In the bi-cameral States it consists of (a) a Legislative Council and (b) a Legislative Assembly, or House of Assembly. In Queensland the Legislative Assembly constitutes the Parliament. In the Commonwealth Parliament the Upper House is known as the Senate, and in the State Parliaments as the Legislative Council. The Lower House in the bi-cameral States is known as follows :—In the Commonwealth Parliament as the House of Representatives, in the State Parliaments of New South Wales, Victoria, and Western Australia as the Legislative Assembly, and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The legislative powers of these Parliaments are delimited by the Commonwealth and the State Constitutions. The Assembly (Queensland as pointed out above is now uni-cameral), which is the larger, is always elective, the qualifications for the franchise varying in character. The Council is, in the case of New South Wales, nominated by the Governor-in-Council; in other States it is elective, the constituencies being differently arranged and some property or special qualification for the electorate being required. In the Federal Parliament, however, the qualifications for the franchise are identical for both Houses. A brief account of the constitutional history of each of the States is given in Chapter I., and a conspectus of the Constitutions of the Commonwealth and States in Year Book No. 13, pp. 927 to 951. The information given therein respecting Queensland must of course be considerably modified in view of the abolition of the Upper House in 1922.

2. **Powers and Functions of the Governor-General and of the Governors.**—The Governor-General and the State Governors act under the authority of the Commissions by which they are appointed and the Letters Patent under the Great Seal of the United Kingdom, and according to instructions issued by the Colonial Office and passed under the Royal Sign Manual and Signet.

The office of Governor-General and Commander-in-Chief of the Commonwealth was constituted by Letters Patent issued on the 29th October, 1900, in pursuance of the provisions of the Commonwealth Constitution Act (see page 21 hereinbefore). The powers and duties of the Governor-General were further defined by Royal instructions issued on the same date. The principal and most important of his functions, legislative as well as executive, are expressly conferred upon him by the terms of the Constitution itself. He is the custodian of the Great Seal of the Commonwealth, and has the appointment of political officers to administer Departments of State of the Commonwealth.

His legislative functions are exercised with respect to proposed laws as finally passed by the Federal Houses of Parliament. Such Bills are presented to the Governor-General for his assent in the King's name, on receiving which they become law throughout the Commonwealth. The Governor-General may, however, withhold his assent, or may reserve any Bill for the King's pleasure. He may return to the House in which it originated any proposed law with suggested amendments. The King may disallow any law within one year from the date on which it was assented to by the Governor-General.

The Governor-General's executive functions are, under ordinary circumstances, exercised on the advice of his responsible Ministers. Various specific powers are vested in him by the Constitution; he may summon or prorogue Parliament and may dissolve the House of Representatives. He is the Commander-in-Chief of the military and naval forces of the Commonwealth, and is invested by the Crown with the prerogative of mercy in cases of offences committed against the laws of the Commonwealth.

The Governor-General is also invested with authority in certain matters of Imperial interest, such as the control of the naval and military forces of the Commonwealth; the observance of the relations of foreign States to Great Britain, so far as they may be affected by the indirect relations of such States to the Commonwealth; and the treatment of neutral and belligerent ships in Commonwealth waters in time of war.

The Governor-General may not leave the Commonwealth without having first obtained leave from the Imperial Government, to whom alone he is responsible for his official acts.

The powers and functions of the State Governors are, within their respective States, very similar to those exercised by the Governor-General for the Commonwealth, and are defined by the terms of their Commissions and by the Royal instructions accompanying the same. A State Governor is the official head of the State Legislature, and assents in the name of the Crown to all Bills passed by the Parliament, except those reserved for the Royal Assent. The latter include certain classes of Bills, which are regulated by the Constitution Acts and by the instructions issued by the Imperial Government. The Governors are, under ordinary circumstances, guided by their Executive Councils, the chief matters in which the exercise of discretion is required being the granting or withholding of a dissolution of Parliament when requested by a Premier; the appointment of a new Ministry; or the assenting to, vetoing, or reserving of Bills passed by the legislative chambers. The Governors are authorized, under certain restrictions, to administer the prerogative of mercy by the reprieve or pardon of criminal offenders within their jurisdiction, and to remit fines and penalties due to the Crown. All moneys to be expended for the public service are issued from the Treasury under the Governor's warrant.

In a publication* in which the above matters are exhaustively discussed, it is indicated that there are important functions in the hands of a Governor, and that his influence may extend beyond what is anticipated by those who are unfamiliar with the activities of actual government. This is, however, essentially a matter of individual character. A Governor is entitled to the fullest confidence of his Ministers, to be informed at once of any important decisions taken by his Cabinet, and to discuss them with the utmost freedom. He can point out objections, give advice, deprecate measures, and urge alterations, subject, however, to his remaining always behind the scenes. It should be remembered, moreover, that the State Executive Councils owe their existence to the Royal Letters Patent constituting the office of Governor and that, in law, the Governor is never bound to accept the advice of his Ministers. He cannot indeed do many things without their advice, for it is provided by law (either in the Constitution or Interpretation Acts, or by authoritative usage) that a Governor-in-Council must act on the advice of the Council. He cannot therefore perform any act in Council without a majority, though he can always refuse to act, and thus force his Ministers either to give way on the point at issue or to resign their posts. Even in the case of a ministerial act,

* "Responsible Government in the Dominions," A. B. Keith, Oxford, Clarendon Press, 1912, Vol. I.

he can forbid a Minister to take any action on pain of dismissal. Nominally a Governor will, of course, be justified in accepting the advice of his Ministers as being a correct statement of the facts and law, but he is not bound to be so satisfied, and in matters of law he must exercise his own judgment if he be in doubt. A Governor is not, however, entitled to refuse to act on the advice of his Ministers because he personally does not approve of their action or policy; his duty is not to his own conscience, but to the people of the State which he governs, and he should execute that duty independently of every other consideration.

Although the above furnishes a brief résumé of the powers of a Governor from a legal point of view, in practice the exercise of his powers is generally limited by his ability to persuade his Ministers as to the desirability of any particular course of action. Disagreement with Ministers is only justifiable in extreme cases, and even then it involves the responsibility of finding other Ministers, who must either show that they have as much support as any other party, or be prepared to administer during a dissolution, pending an appeal to the people. It may be remarked that a Governor who cannot work with Ministers possessing the support of the people must be recalled, unless he has acted on Imperial grounds, and the dispute is not one between him and Ministers, but between the Imperial and State Governments.

It may also be pointed out that a Governor, besides acting according to law, has, within the range of what is lawful, to act according to the instructions of the Secretary of State. He is called upon to do so by the instruments which create his office and appoint him Governor, and he obeys the Secretary of State as the mouthpiece of the Crown. Historically, there have been many cases in which these instructions have placed Governors in opposition to their Ministers.

3. Governor-General and State Governors.—The present Governor-General is the Right Honourable HENRY WILLIAM BARON FORSTER OF LEFE, P.C., G.C.M.G. He assumed office on the 6th October, 1920.

The following is a list of the Governors of the various States of the Commonwealth :—

New South Wales ..	Admiral SIR DUDLEY RAWSON STRATFORD DE CHAIR, K.C.B., M.V.O.
Victoria	Colonel the Rt. Hon. GEORGE EDWARD JOHN MOWBRAY, EARL OF STRADBROKE, K.C.M.G., C.B., C.V.O., C.B.E., A.D.C. to H.M. the King.
Queensland	Lieutenant-Colonel the Rt. Hon. SIR MATTHEW NATHAN, P.C., G.C.M.G.
South Australia ..	Lieut.-General SIR GEORGE TOM MOLESWORTH BRIDGES, K.C.M.G., C.B., D.S.O.
Western Australia ..	SIR FRANCIS ALEXANDER NEWDIGATE-NEWDEGATE, K.C.M.G.
Tasmania	Vacant. Administrator of the Government—The Hon. SIR HERBERT NICHOLLS, Kt. (Hon. N. K. Ewing administering during temporary absence of Hon. Sir Herbert Nicholls).

4. The Cabinet and Executive Government.—(i) *General.* The sections of the Commonwealth Constitution Act dealing with the Executive Government will be found on page 29 hereinbefore. In both the Commonwealth and the State Legislatures the forms of government have been founded on their prototypes in the Imperial Government, and the relations established between the Ministry and the representatives of the people are in accordance with those prevailing in Great Britain. The executive powers in the Commonwealth and in the State Governments are vested in the Governor-in-Council. The Executive Council in the Commonwealth and in the majority of the States is practically co-extensive with a group of departmental chiefs, who are usually spoken of as the Cabinet, and who change with the rise and fall of party majorities. In the Commonwealth

Government, however, as well as in the States of Victoria and Tasmania, the Cabinet on leaving office remain members of the Executive Council, though they no longer attend its meetings, and it is in fact an essential feature of the Cabinet system of Government that they should not do so, except to assist the Governor in transacting purely formal business, or to advise on non-political questions.

(ii) *The Executive Council.* This body is composed of the Governor and the Ministers of State holding office for the time being. The latter are sworn both as Executive Councillors and as Ministers controlling the different administrative departments. It should be observed that all persons living who have held Ministerial office under former Governments are also technically members of the Executive Council, and are thus liable to be specially summoned for attendance at meetings of that body. The meetings are official in character; they are presided over by the Governor-General (or Governor) and are attended by the clerk, who keeps a formal record of the proceedings. At these meetings the decisions of the Cabinet are put into official form and made effective, appointments are confirmed, resignations accepted, proceedings ordered, and notices and regulations published.

(iii) *The Appointment of Ministers and of Executive Councillors.* Although it is technically possible for the Governor to make and unmake cabinets at his pleasure, under all ordinary circumstances his apparent liberty in choosing his Executive Council is virtually restricted by the operation of constitutional machinery. When a Ministry is defeated in Parliament or at the polls, the procedure both in the Commonwealth and the State Parliaments generally, though not invariably, follows that prevailing in the Imperial Parliament. The customary procedure in connexion with the resignation or acceptance of office by a Ministry is described fully in previous issues of the Year Book. (See No. 6, page 942.)

(iv) *Ministers in Upper or Lower Houses.* The subjoined table shows the number of Ministers with seats in the Upper or Lower Houses of each Parliament in March, 1924 :—

**AUSTRALIAN PARLIAMENTS—MINISTERS IN UPPER OR LOWER HOUSES,
1924.**

Ministers with Seats in—	C'wealth.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
The Upper House ..	3	2	4	..	2	1	1	13
The Lower House ..	8	10	8	10	4	5	4	49
Total	11	12	12	10	6	6	5	62

(v) *The Cabinet.* (a) *General.* The meetings of this body are private and deliberative. The actual Ministers of the day are alone present, no records of the meetings transpire, and no official notice is taken of the proceedings. The members of the Cabinet, being the leaders of the party in power in Parliament, control the bent of legislation, and must retain the confidence of the people and also of the Governor-General (or Governor), to whom they act as an advising body. They also in effect wield, by virtue of their seats on the Executive Council, the whole executive force of the community. In summoning, proroguing, or dissolving Parliament, the Governor-General (or Governor) is usually guided by the advice tendered him by the Cabinet, though legally in no way bound to accept such advice.

(b) *Commonwealth Ministers of State.* The following statement gives the names of the Ministers of State for the Commonwealth who have held office since the inauguration of the Commonwealth Government :—

COMMONWEALTH MINISTERS OF STATE, 1st JANUARY, 1901, to MARCH, 1924.

HOME AND TERRITORIES. (Prior to 14/11/16 known as External Affairs.)			TRADE AND CUSTOMS.		
Name.	From—	To—	Name.	From—	To—
Rt. Hon. E. BARTON, P.C., K.C. (a) (b) ..	1/1/01	23/9/03	Rt. Hon. C. C. KINGSTON, P.C., K.C. ..	1/1/01	24/7/03
Hon. A. DEAKIN (a) ..	23/9/03	26/4/04	Hon. Sir W. J. LYNE, K.C.M.G. ..	7/8/03	26/4/04
Hon. W. M. HUGHES (k) ..	26/4/04	17/8/04	Hon. A. FISHER (h) ..	26/4/04	17/8/04
Rt. Hon. G. H. REID, P.C., K.C. (a) (g) ..	17/8/04	4/7/05	Hon. A. MCLEAN ..	17/8/04	4/7/05
Hon. A. DEAKIN (a) ..	4/7/05	12/11/08	Hon. Sir W. J. LYNE, K.C.M.G. ..	4/7/05	29/7/07
Hon. E. L. BATCHELOR ..	12/11/08	2/6/09	Hon. A. CHAPMAN ..	29/7/07	12/11/08
Hon. L. E. GROOM (g) ..	2/6/09	29/4/10	Hon. F. G. TUDOR ..	12/11/08	2/6/09
Hon. E. L. BATCHELOR ..	29/4/10	f 8/10/11	Hon. Sir R. W. BEST, K.C.M.G. ..	2/6/09	29/4/10
Hon. J. THOMAS ..	14/10/11	24/6/13	Hon. F. G. TUDOR ..	29/4/10	24/6/13
Hon. P. MCM. GLYNN, K.C. Hon. J. A. ARTHUR ..	24/6/13	17/9/14	Hon. L. E. GROOM (g) ..	24/6/13	17/9/14
Hon. J. A. ARTHUR ..	17/9/14	f 9/12/14	Hon. F. G. TUDOR ..	17/9/14	14/9/16
Hon. HUGH MAHON ..	14/12/14	14/11/16	Rt. Hon. W. M. HUGHES, P.C. (k) ..	29/9/16	14/11/16
Hon. F. W. BAMFORD ..	14/11/16	17/2/17	Hon. W. O. ARCHIBALD ..	14/11/16	17/2/17
Hon. P. MCM. GLYNN, K.C. Hon. A. POYNTON ..	17/2/17	3/2/20	Hon. J. A. JENSEN ..	17/2/17	13/12/18
Rt. Hon. G. F. PEARCE, P.C. ..	4/2/20	21/12/21	Hon. W. A. WATT (n) ..	13/12/18	17/1/19
	21/12/21	(e)	Hon. W. M. GREENE ..	17/1/19	21/12/21
			Hon. A. S. RODGERS ..	21/12/21	9/2/23
			Hon. AUSTIN CHAPMAN ..	9/2/23	(e)
ATTORNEY-GENERAL.			TREASURER.		
Name.	From—	To—	Name.	From—	To—
Hon. A. DEAKIN ..	1/1/01	23/9/03	Rt. Hon. Sir G. TURNER, P.C., K.C.M.G. ..	1/1/01	26/4/04
Hon. J. G. DRAKE ..	23/9/03	26/4/04	Hon. J. C. WATSON (a) ..	26/4/04	17/8/04
Hon. H. B. HIGGINS, K.C. Hon. Sir J. H. SYMON, K.C.M.G., K.C. ..	26/4/04	17/8/04	Rt. Hon. Sir G. TURNER, P.C., K.C.M.G. ..	17/8/04	4/7/05
Hon. I. A. ISAACS ..	17/8/04	4/7/05	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G. (l) ..	4/7/05	29/7/07
Hon. L. E. GROOM (g) ..	4/7/05	11/10/06	Hon. Sir W. J. LYNE, K.C.M.G. ..	29/7/07	12/11/08
Hon. W. M. HUGHES (k) ..	11/10/06	12/11/08	Hon. A. FISHER (a) (h) ..	12/11/08	2/6/09
Hon. P. MCM. GLYNN ..	12/11/08	2/6/09	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G. (l) ..	2/6/09	29/4/10
Hon. W. M. HUGHES (k) ..	2/6/09	29/4/10	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G. (l) ..	29/4/10	24/6/13
Hon. W. H. IRVINE, K.C. (j) Hon. W. M. HUGHES (a) (k) Hon. L. E. GROOM (g) ..	29/4/10	24/6/13	Rt. Hon. A. FISHER, P.C. (a) Hon. W. G. HIGGS ..	24/6/13	17/9/14
	24/6/13	17/9/14	Hon. A. POYNTON ..	24/11/16	27/10/16
	17/9/14	21/12/21	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G. (l) ..	27/10/16	27/12/17
	21/12/21	(e)	Hon. W. A. WATT (n) ..	17/2/17	27/3/18
			Hon. W. A. WATT (n) ..	27/3/18	15/6/20
			Rt. Hon. Sir JOSEPH COOK, P.C., G.C.M.G. ..	28/7/20	21/12/21
			Hon. S. M. BRUCE, M.C. (p) Hon. E. C. G. PAGE ..	21/12/21	9/2/23
				9/2/23	(e)
WORKS AND RAILWAYS. (Prior to 14/11/16 known as Home Affairs.)			DEFENCE.		
Name.	From—	To—	Name.	From—	To—
Hon. Sir W. J. LYNE, K.C.M.G. ..	1/1/01	7/8/03	Hon. Sir J. R. DICKSON, K.C.M.G. ..	1/1/01	f 10/1/01
Rt. Hon. Sir J. FORREST, P.C., G.C.M.G. (l) ..	7/8/03	26/4/04	Rt. Hon. Sir J. FORREST, P.C., G.C.M.G. (l) ..	17/1/01	7/8/03
Hon. E. L. BATCHELOR ..	26/4/04	17/8/04	Hon. J. G. DRAKE ..	7/8/03	23/9/03
Hon. D. THOMSON ..	17/8/04	4/7/05	Hon. A. CHAPMAN ..	23/9/03	26/4/04
Hon. L. E. GROOM (g) ..	4/7/05	11/10/06	Hon. A. DAWSON ..	26/4/04	17/8/04
Hon. T. T. EWING (c) ..	11/10/06	23/1/07	Hon. J. W. MCCAY (m) Hon. T. PLAYFORD ..	17/8/04	4/7/05
Hon. J. H. KEATING ..	23/1/07	12/11/08	Hon. Sir T. T. EWING, K.C.M.G. ..	4/7/05	23/1/07
Hon. H. MAHON ..	12/11/08	2/6/09	Hon. G. F. PEARCE (o) ..	23/1/07	12/11/08
Hon. G. W. FULLER ..	2/6/09	29/4/10	Hon. J. COOK (i) ..	12/11/08	2/6/09
Hon. K. O'MALLEY ..	29/4/10	24/6/13	Hon. G. F. PEARCE (o) ..	2/6/09	29/4/10
Hon. JOSEPH COOK (a) (i) ..	24/6/13	17/9/14	Hon. E. D. MILLEN ..	29/4/10	24/6/13
Hon. W. O. ARCHIBALD ..	17/9/14	27/10/15	Hon. G. F. PEARCE (o) ..	24/6/13	17/9/14
Hon. K. O'MALLEY ..	27/10/15	14/11/16	Hon. G. F. PEARCE (o) ..	17/9/14	21/12/21
Hon. P. J. LYNCH ..	14/11/16	17/2/17	Hon. W. M. GREENE ..	21/12/21	9/2/23
Hon. W. A. WATT (n) ..	17/2/17	27/3/18	Hon. E. K. BOWDEN ..	9/2/23	(e)
Hon. L. E. GROOM (g) ..	27/3/18	21/12/21			
Hon. R. W. FOSTER ..	21/12/21	9/2/23			
Hon. P. G. STEWART ..	9/2/23	(e)			

(a) Prime Minister. (b) Afterwards the Rt. Hon. Sir E. Barton, P.C., G.C.M.G., etc. (c) Afterwards the Hon. Sir T. Ewing, K.C.M.G. (d) Afterwards the Hon. Sir N. E. Lewis, K.C.M.G. (e) Still in office. (f) Died while holding office. (g) Afterwards the Rt. Hon. Sir G. H. Reid, P.C., G.C.M.G. (h) Afterwards the Rt. Hon. A. Fisher, P.C. (i) Afterwards the Rt. Hon. Sir J. Cook, P.C., G.C.M.G. (j) Afterwards the Hon. Sir W. H. Irvine, K.C.M.G., K.C. (k) Afterwards the Rt. Hon. W. M. Hughes, P.C., K.C. (l) Afterwards Lord Forrest of Bunbury. (m) Afterwards the Hon. Sir J. W. McCay, K.C.M.G. (n) Afterwards the Rt. Hon. W. A. Watt, P.C. (o) Afterwards the Rt. Hon. G. F. Pearce, P.C. (p) Afterwards the Rt. Hon. S. M. Bruce, P.C., M.C. (q) Afterwards the Hon. Sir Littleton E. Groom, K.C.M.G., K.C.

COMMONWEALTH MINISTERS OF STATE, 1st JANUARY, 1901, TO
MARCH, 1924—continued.

POSTMASTER-GENERAL.			VICE-PRESIDENT OF THE EXECUTIVE COUNCIL.		
Name.	From—	To—	Name.	From—	To—
Rt. Hon. Sir JOHN FORREST, P.C., G.C.M.G. (f)	1/1/01	17/1/01	Hon. R. E. O'CONNOR, K.C.	1/1/01	23/9/03
Hon. J. G. DRAKE	5/2/01	7/8/03	Hon. T. PLAYFORD	23/9/03	26/4/04
Hon. Sir P. O. Fysh, K.C.M.G.	7/8/03	26/4/04	Hon. G. MCGREGOR	26/4/04	17/8/04
Hon. H. MAHON	26/4/04	17/8/04	Hon. J. G. DRAKE	17/8/04	4/7/05
Hon. S. SMITH	17/8/04	4/7/05	Hon. T. T. EWING (c)	4/7/05	11/10/06
Hon. A. CHAPMAN	4/7/05	29/7/07	Hon. J. H. KEATING	11/10/06	19/2/07
Hon. S. MAUGER	29/7/07	12/11/08	Hon. Sir R. W. BEST, K.C.M.G.	19/2/07	12/11/08
Hon. J. THOMAS	12/11/08	2/6/09	Hon. G. MCGREGOR	12/11/08	2/6/09
Hon. Sir J. QUICK	2/6/09	29/4/10	Hon. E. D. MILLEN	2/6/09	29/4/10
Hon. J. THOMAS	29/4/10	14/10/11	Hon. G. MCGREGOR	29/4/10	24/6/13
Hon. C. E. FRAZER	14/10/11	24/6/13	Hon. J. H. MCCOLL	24/6/13	17/9/14
Hon. AGAR WYNNE	24/6/13	17/9/14	Hon. A. GARDINER	17/9/14	27/11/16
Hon. W. G. SPENCE	17/9/14	27/10/15	Hon. W. G. SPENCE	27/11/16	17/2/17
Hon. W. WEBSTER	27/10/15	3/2/20	Hon. E. D. MILLEN	17/2/17	16/11/17
Hon. G. H. WISE	4/2/20	21/12/21	Hon. L. E. GROOM (g)	16/11/17	27/3/18
Hon. A. POYNTON, O.B.E.	21/12/21	9/2/23	Hon. E. J. RUSSELL	27/3/18	21/12/21
Hon. W. G. GIBSON	9/2/23	(e)	Hon. JOHN EARLE	21/12/21	9/2/23
			Hon. L. ATKINSON	9/2/23	(e)
THE NAVY.			REPATRIATION.		
(Amalgamated with Defence before 1915, and after 21st December, 1921.)					
Name.	From—	To—	Name.	From—	To—
Hon. J. A. JENSEN	12/7/15	17/2/17	Hon. E. D. MILLEN	28/9/17	9/2/23
Rt. Hon. J. COOK, P.C. (i)	17/2/17	28/7/20			
Hon. W. H. LAIRD SMITH	28/7/20	21/12/21			
EXTERNAL AFFAIRS (revived December, 1921).			HEALTH.		
Name.	From—	To—	Name.	From—	To—
Rt. Hon. W. M. HUGHES, P.C., K.C.	21/12/21	9/2/23	Hon. W. M. GREENE	10/3/21	9/2/23
Hon. S. M. BRUCE, M.C. (a)	9/2/23	(e)	Hon. A. CHAPMAN	9/2/23	(e)
WITHOUT PORTFOLIO.					
Name.	From—	To—	Name.	From—	To—
Hon. N. E. LEWIS (d)	1/1/01	23/4/01	Hon. J. A. JENSEN	17/9/14	12/7/15
Hon. Sir P. O. Fysh, K.C.M.G.	23/4/01	7/8/03	Hon. E. J. RUSSELL	17/9/14	27/3/18
Hon. J. H. KEATING	5/7/05	11/10/06	Hon. W. H. LAIRD SMITH	14/11/16	17/2/17
Hon. S. MAUGER	11/10/06	29/7/07	Hon. L. E. GROOM (g)	17/2/17	16/11/17
Hon. J. H. COOK	28/1/09	12/11/08	Hon. A. POYNTON	26/3/18	4/2/20
Hon. J. HUTCHISON	12/11/08	2/6/09	Hon. G. H. WISE	26/3/18	4/2/20
Hon. A. DEAKIN (a)	2/6/09	29/4/10	Hon. W. M. GREENE	26/3/18	17/1/19
Col. Hon. J. F. G. FOXTON, C.M.G.	2/6/09	29/4/10	Hon. R. B. ORCHARD	26/3/18	31/1/19
Hon. E. FINDLEY	29/4/10	24/6/13	Hon. Sir G. de L. RYRIE, K.C.M.G., C.R., V.D.	4/2/20	9/2/23
Hon. C. E. FRAZER	29/4/10	14/10/11	Hon. W. H. LAIRD SMITH	4/2/20	28/7/20
Hon. E. A. ROBERTS	23/10/11	24/6/13	Hon. A. S. RODGERS	28/7/20	21/12/21
Hon. J. S. CLEMONS	24/6/13	17/9/14	Hon. H. LAMOND	21/12/21	9/2/23
Hon. W. H. KELLY	24/6/13	17/9/14	Hon. R. V. WILSON	9/2/23	(e)
Hon. H. MAHON	17/9/14	14/12/14	Hon. T. W. CRAWFORD	9/2/23	(e)

See notes on previous page.

(c) *State Ministries.* The names of the members of the Ministries in each State in March, 1924, are shown in the following statement :—

STATE MINISTRIES, 1924.

NEW SOUTH WALES.

Premier—

HON. SIR G. W. FULLER, K.C.M.G.

*Vice-President of the Executive Council—*HON. SIR J. H. CARRUTHERS, K.C.M.G.,
LL.D., M.L.C.*Secretary for Lands and Minister for Forests—*

HON. W. E. WEARNE.

Colonial Secretary and Minister for Public Health—

HON. C. W. OAKES, C.M.G.

Attorney-General—

HON. T. R. BAVIN.

Colonial Treasurer—

HON. SIR A. A. C. COCKS, K.B.E.

Secretary for Public Works and Minister for Railways and State Industrial Enterprises—

HON. R. T. BALL.

Minister for Agriculture—

CAPTAIN THE HON. F. A. CHAFFEY.

Minister of Public Instruction—

HON. A. BRUNTNELL.

Secretary for Mines and Minister for Local Government—

HON. J. C. L. FITZPATRICK.

Minister of Justice—

HON. T. J. LEY.

Minister for Labour and Industry—

HON. E. H. FARRAR, M.L.C.

VICTORIA.

Premier and Treasurer—

HON. H. S. W. LAWSON.

Commissioner of Crown Lands and Survey and Minister of Immigration—

HON. D. S. OMAN.

*Attorney-General and Solicitor-General—*HON. SIR A. ROBINSON, K.C.M.G.,
M.L.C.*Minister of Public Instruction and of Labour and of Forests—*

HON. SIR A. J. PEACOCK, K.C.M.G.

Commissioner of Public Works and Minister of Mines—

HON. H. I. COHEN, K.C., M.L.C.

Minister of Railways—

HON. F. W. EGGLESTON.

Chief Secretary and Minister of Public Health—

HON. S. S. ARGYLE.

Minister of Agriculture and Minister of Water Supply—

HON. JOHN GORDON.

Ministers without Portfolio—

HON. M. MCGREGOR, M.L.C.

HON. F. W. BRAWN, M.L.C.

HON. H. BEARDMORE.

HON. F. GROVES.

QUEENSLAND.

Premier, Vice-President of the Executive Council, Chief Secretary, and Treasurer—

HON. E. G. THEODORE.

Secretary for Agriculture and Stock—

HON. W. N. GILLIES.

Secretary for Mines—

HON. A. J. JONES.

Secretary for Railways—

HON. J. LARCOMBE.

Attorney-General—

HON. J. MULLAN.

Secretary for Public Instruction—

HON. J. HUXHAM

Home Secretary—

HON. J. STOPFORD.

Secretary for Public Lands—

HON. W. MCCORMACK.

Secretary for Public Works—

HON. W. F. SMITH.

Assistant Minister—

HON. F. T. BRENNAN.

SOUTH AUSTRALIA.

Premier and Attorney-General—
HON. SIR H. N. BARWELL, K.C.M.G.

Treasurer and Minister of Railways and of Industry—
HON. W. HAGUE.

Commissioner of Crown Lands and Immigration and Minister of Irrigation and of Repatriation—
HON. G. R. LAFFER.

Chief Secretary and Minister of Mines and of Education—
HON. T. PASCOE, M.L.C.

Commissioner of Public Works, Minister of Local Government, and Minister of Marine—
HON. G. F. JENKINS.

Minister of Agriculture, Assistant Minister of Repatriation, and Minister for Town Planning—
HON. J. COWAN, M.L.C.

WESTERN AUSTRALIA.

Premier, Colonial Treasurer, and Minister for Lands and Repatriation—
HON. SIR JAMES MITCHELL, K.C.M.G.

Minister for Education, North-West, and Justice—
HON. JOHN EWING, M.L.C.

Minister for Public Works, Water Supply, Sewerage and Drainage, and Trading Concerns—
HON. W. J. GEORGE, C.M.G.

Minister for Mines, Railways, Police, Industries, and Forests—
HON. J. SCADDAN.

Colonial Secretary and Minister for Public Health—
HON. R. S. SAMPSON.

Minister for Agriculture—
HON. H. K. MALEY.

TASMANIA.

Premier and Treasurer and Minister for Railways—
HON. J. A. LYONS.

Attorney-General and Minister for Education—
HON. A. E. OGILVIE.

Chief Secretary and Minister for Mines—
HON. J. A. GUY.

Minister for Lands, Works, Agriculture, and Forestry—
HON. J. A. BELTON.

Minister without Portfolio—
HON. A. LAWSON, M.L.C.

5. Number and Salary of Members of the Legislatures.—The following table shows the number of members in each of the legislative chambers in March, 1924 :—

MEMBERS OF COMMONWEALTH AND STATE PARLIAMENTS, AND ANNUAL SALARIES, 1924.

Members in—	C'wealth.	N.S.W.	Vict.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
MEMBERS.								
Upper House ..	36	82	34	(a)	20	30	18	220
Lower House ..	76	90	65	72	46	50	30	429
Total ..	112	172	99	72	66	80	48	649
ANNUAL SALARY.								
Upper House ..	£ 1,000	£ ..	£ 200	£ (a)	£ 400	£ 400	£ 300	..
Lower House ..	1,000	600	500	500	400	400	300	..

(a) Council abolished, 1922.

The use of the expressions "Upper House" and "Lower House" in the above statement, though not justified constitutionally, is convenient, inasmuch as the legislative chambers are known by different names in the Commonwealth and in some of the States.

6. **Enactments of the Parliament.**—In the Commonwealth, all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Constitution Act (see Chapter I.). In the States, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council and Legislative Assembly or House of Assembly. The Governor-General or the State Governor acts as Viceroy as regards giving the Royal assent to or vetoing Bills passed by the Legislatures, or reserving them for the special consideration of the Sovereign. In the States, the Councils and Assemblies are empowered generally, subject to the Commonwealth Constitution, to make laws in and for their respective States, in all cases whatsoever. Subject to certain limitations, they may alter, repeal, or vary their Constitution. Where a law of a State is inconsistent with a law of the Commonwealth the latter prevails, and the former is, to the extent of the inconsistency, invalid.

§ 2. Parliaments and Elections.

1. **Qualifications for Membership and for Franchise.**—The conspectus in § 4 of "General Government" in Year Book No. 13 contains particulars, as in 1920, relating to the legislative chambers in the Commonwealth and State Parliaments, and shows concisely the qualifications necessary for membership and for the franchise in each House. (These are, in the main, applicable in 1924, but it must be remembered that Queensland abolished the Upper House in 1922.) Disqualification of persons otherwise eligible, either as members or voters, is generally on the usual grounds of being of unsound mind or attainted of treason, being convicted of certain offences, and, as regards membership, on the grounds of holding a place of profit under the Crown, being pecuniarily interested in a Government contract, or being an undischarged bankrupt.

2. **The Federal Parliament.**—The Senate consists of 36 members, six being returned by each of the original federating States. Members of this Chamber are elected for a term of six years, but by a provision in the Constitution half the members retire at the end of every third year, although they are eligible for re-election. In accordance with the Constitution, the total number of members of the House of Representatives must be as nearly as possible double that of the Senate. In the House of Representatives the States are represented on a population basis, and the numbers stand at present as follows:—New South Wales, 28; Victoria, 20; Queensland, 10; South Australia, 7; Western Australia, 5; Tasmania, 5; Northern Territory, 1—total, 76. The Constitution provides for a minimum of five members for each original State. Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. In elections for Senators, each State is counted as a single electorate, but an elaborate scheme of subdivision had to be undertaken in order to provide workable electorates in each State for members of the House of Representatives. Members of both Houses are paid at the rate of £1,000 per annum. Further information regarding the Senate and the House of Representatives is given in Chapter I.

3. **Federal Elections.**—There have been eight complete Parliaments since the inauguration of Federation. The fifth Parliament, which was opened on the 9th July, 1913, was dissolved on the 30th July, 1914, in somewhat unusual circumstances. Under Section 27 of the Constitution, it is provided that, should the Senate fail to pass, or pass with amendments, any proposed law previously passed by the House of Representatives, and should the latter House, after a specified interval, again pass the proposed law, with or without the amendments of the Senate, and the Senate for a second time reject it or pass it with amendments to which the lower House will not agree, then the Governor-General may dissolve the two Houses simultaneously. For the first time in the history of the Commonwealth this deadlock between the Senate and the House of Representatives occurred in the second session of the fifth Parliament, and, in accordance with the section

of the Constitution referred to above, both Houses were dissolved by the Governor-General. The first session of the ninth Parliament opened on the 28th February, 1923. Particulars regarding the last five Commonwealth elections may be found in the table given hereunder :—

FEDERAL ELECTIONS, 1913 to 1922.

Date.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted.		
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
THE SENATE.									
31st May, 1913	1,453,949	1,308,267	2,760,216	1,122,677	910,574	2,033,251	77.22	69.71	73.66
5th September, 1914	1,473,468	1,333,047	2,811,515	1,139,933	902,403	2,042,336	77.10	67.69	72.84
5th May, 1917	1,444,133	1,391,194	2,835,327	1,184,663	1,018,138	2,202,801	82.03	73.18	77.69
13th December, 1919	1,439,818	1,410,044	2,849,862	1,094,534	938,403	2,032,937	76.02	65.55	71.33
16th December, 1922	1,494,508	1,487,916	2,982,424	966,551	761,695	1,728,246	64.67	51.19	57.95

THE HOUSE OF REPRESENTATIVES.

31st May, 1913	1,401,042	1,260,335	2,661,377	1,073,997	876,722	1,955,723	77.01	69.53	73.49
5th September, 1914	1,225,990	1,122,451	2,348,441	954,768	772,138	1,726,906	77.88	68.79	73.53
5th May, 1917	1,262,527	1,207,938	2,470,465	1,041,552	892,926	1,934,478	82.50	73.92	78.30
13th December, 1919	1,395,165	1,367,468	2,762,633	1,063,029	914,816	1,977,845	76.19	66.90	71.59
16th December, 1922	1,396,020	1,378,254	2,774,274	920,177	726,686	1,646,863	65.91	52.72	59.36

The percentage of electors who exercised the franchise at each election rose from 53.04 for the Senate and 55.69 for the House of Representatives in 1901 to the maximum of 77.69 and 78.30 respectively in 1917. The next election in 1919 showed a considerable falling off, and in 1922 the decrease was still more marked, the respective percentages for that year being 57.95 and 59.36, or very little more than those for 1901.

4. Federal Referenda.—(i) *Introductory.* According to section 128 of the Act, any proposed law for the alteration of the Constitution must, in addition to being passed by an absolute majority of each House of Parliament, be submitted to a referendum of the electors in each State, and must further be approved by a majority of the States and of the electors who voted. Several referenda have been held from time to time, but in two cases only has any proposed law been assented to by the required majority of the electors.

(ii) *Senate Elections Referendum, 1906.* A referendum was held on the 12th December, 1906, at which the question of altering from January to July the date at which the term of service of a senator begins, and other details connected with the election of senators, were submitted for decision by the electors. The number who voted in favour of the amendment was 774,011 and of those not in favour 162,470; the amendment was therefore carried. Only 50.17 per cent. of the electors voted.

(iii) *Finance and State Debts Referendum.* Simultaneously with the general election of the 13th April, 1910, the electors were asked to decide regarding the alteration of the Constitution on two points, viz:—(a) an alteration of the financial arrangements between the Commonwealth and the States, and (b) giving the Commonwealth power to take over the debts of the States, whenever incurred. The former proposal was rejected, 645,514 electors having voted in favour, and 670,838 not in favour, while the latter proposal was accepted by 715,053 votes to 586,271 votes. Of the voters on the roll, 62.16 per cent. voted.

(iv) *Legislative Powers Referendum, 1910.* The object of the proposed law submitted to this referendum was to give the Commonwealth Parliament power to deal with the following matters:—(a) Trade and Commerce, without any limitations, instead of "Trade

and Commerce with other countries, and among the States" only. (b) The control and regulation of corporations of all kinds (except those formed not for the acquisition of gain). At present only "Foreign corporations and trading and financial corporations formed within the limits of the Commonwealth" come under the jurisdiction of the Federal Parliament. (c) Labour and employment, including wages and conditions of labour and the settlement of industrial disputes generally, including disputes in relation to employment on State railways. (Conciliation and arbitration by the Commonwealth operate only in the case of any industrial dispute extending beyond the limits of any one State), and (d) Combinations and monopolies in relation to the production, manufacture, or supply of goods or services.

The referendum was held on the 26th April, 1911, and the number of votes cast in favour of the proposed law was 483,356, and against it 742,704, the majority against being 259,348. The percentage of electors who cast effective votes was 52.36, and the proposal was rejected in every State except Western Australia.

(v) *Monopolies Referendum, 1910.* It was proposed to insert in the Constitution the following sub-section:—"When each House of Parliament, in the same session, has by resolution declared that the industry or business of producing, manufacturing, or supplying goods, or of supplying any specified services, is the subject of any monopoly, the Parliament shall have power to make laws for carrying on the industry or business by or under the control of the Commonwealth, and acquiring for that purpose on just terms any property used in connexion with the industry or business." The voting on this question was held simultaneously with that on the preceding proposal, and the proposed law was rejected, 488,668 voters casting their votes in favour, and 736,932 against, the majority against being 248,264. Of the electors on the roll, 52.34 per cent. voted effectively, and the only State which voted in favour of the law was Western Australia.

(vi) *Legislative Powers and Monopolies Referendum, 1913.* On the 31st May, 1913, the same proposed alterations were again submitted to the people as five distinct laws, with an additional one whereby the conditions of employment and the settlement of disputes relating thereto in the several State railway services might be brought within the jurisdiction of the Commonwealth. All six proposed laws were rejected. The following table shows the numbers of votes cast for and against each proposed law:—

COMMONWEALTH REFERENDA, 1913.—RESULTS OF VOTING.

Nature of Proposal.	Votes in Favour.	Votes Not in Favour
Trade and Commerce	958,419	982,615
Corporations	960,711	986,824
Industrial Matters	961,601	987,611
Railway Disputes	956,358	990,046
Trusts	967,331	975,943
Nationalization of Monopolies	917,165	941,947

The percentage of electors who voted was nearly 74, and the States of Queensland, South Australia and Western Australia were in favour of the proposals, while the other three States were not in favour.

(vii) *Military Service Referendum, 1916.* A referendum was held on the 28th October, 1916, when the following question with regard to military service was submitted to the people:—"Are you in favour of the Government having, in this grave emergency, the same compulsory powers over citizens in regard to requiring their military service, for the term of this War, outside the Commonwealth, as it now has in regard to military service within the Commonwealth?" In New South Wales, Queensland and South Australia the majority of the voters was not in favour, while in the other States the proposal was carried. The number of votes cast in favour was 1,087,557, and those cast not in favour was 1,160,033, the net result being a majority of 72,476 votes not in favour. Of the electors on the roll, 82.75 per cent. voted.

(viii) *Military Service Referendum, 1917.* A further referendum was held on the 20th December, 1917, the question being, "Are you in favour of the proposal of the Commonwealth Government for reinforcing the Australian Imperial Force oversea?" The proposal was that, while voluntary enlistment was to continue, compulsory reinforcements should be called up by ballot to make the total reinforcements up to 7,000 per month. In New South Wales, Victoria, Queensland and South Australia the majority of voters was not in favour of the prescribed question. The number of votes cast in favour was 1,015,159 and of those not in favour 1,181,747, the net result being a majority of 166,588 votes not in favour. The percentage of electors who voted was 81.34.

(ix) *Legislative Powers and Nationalization of Monopolies Referendum, 1919.* On the 19th December, 1919, proposals were submitted to a referendum of the electors for the alteration of the Constitution in relation to the extension of the legislative powers of the Commonwealth in regard to industrial disputes and to the nationalization of monopolies. In each case the majority of votes was not in favour of the proposed alteration. For the increase of legislative powers, 911,357 votes were cast in favour, and 924,160 against, and for the nationalization of monopolies, the number of votes in favour was 813,880 and not in favour 859,451, consequently both proposals were rejected, the former by 12,803 votes and the latter by 45,571 votes. The percentage of electors who voted on the former question was 64.41 and on the latter 58.72, although ballot-papers were issued to 71.33 of the voters enrolled. The States voting in favour of both proposals were Victoria, Queensland and Western Australia.

5. **The Parliament of New South Wales.**—(i) *Constitution.* The Legislative Council in this State is a nominee chamber, the Legislative Assembly being an elective body. Theoretically the Legislative Council may contain an unlimited number of members, and the number of members at the latest available date was eighty-two. The tenure of the seat is for life; four-fifths of the members must be persons not holding any paid office under the Crown, but this is held not to include officers of His Majesty's sea or land forces on full or half-pay, or retired officers on pensions. The Legislative Assembly consists of ninety members, who hold their seats during the existence of the Parliament to which they are elected. Nine electorates return five members each, and fifteen return three members each. The duration of Parliament is limited to three years.

(ii) *Particulars of Elections.* Since the introduction of responsible government in New South Wales there have been twenty-five complete Parliaments, the first of which opened on the 22nd May, 1856, and was dissolved on the 19th December, 1857, while the twenty-sixth opened on the 26th April, 1922. The last mentioned Parliament was elected on the 25th March, 1922, under the proportional representation system. Particulars of voting at elections from 1910 to 1922 are given below:—

LEGISLATIVE ASSEMBLY ELECTIONS, NEW SOUTH WALES, 1910 to 1922.

Year.	Electors Qualified to Vote.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1910	458,626	409,069	867,695	322,199	262,154	584,353	72.53	65.52	69.20
1913	553,633	484,366	1,037,999	385,838	302,389	688,227	72.20	64.55	68.63
1917	574,308	535,522	1,109,830	328,030	295,354	623,384	62.40	60.57	61.52
1920	593,244	561,193	1,154,437	363,115	285,594	648,709	61.21	50.89	56.19
1922	636,662	614,361	1,251,023	466,949	408,515	875,464	73.34	66.49	69.98

The franchise was extended to women (Women's Franchise Act) in 1902, and was exercised for the first time at a State election in 1904.

6. **The Parliament of Victoria.**—(i) *Constitution.* Both of the Victorian legislative chambers are elective bodies, but there is a considerable difference in the number of members of each House, as well as in the qualifications necessary for members and electors. The number of members in the Upper House in February, 1924, was 34, and in the Lower House, 65. In the Legislative Council the tenure of the seat is for six years, but one member for each province retires every third year, except in the case of a dissolution, when one-half of the newly elected members hold their seats for three years only. Members of the Legislative Assembly are elected for the duration of Parliament, which is limited to three years. An elector for the Legislative Assembly may vote only once, plurality of voting having been abolished in 1899; an elector, however, qualified in more than one district, may select that for which he desires to record his vote. A preferential system of voting (see Year Book No. 6, page 1182) was for the first time adopted in Victoria at the election held in November, 1911.

(ii) *Particulars of Elections.* Since the introduction of responsible government in Victoria there have been twenty-six complete Parliaments, the first of which opened on the 21st November, 1856, and closed on the 9th August, 1859, while the twenty-sixth closed on the 6th August, 1921. The first session of the twenty-seventh Parliament opened on the 6th September, 1921, and closed on the 5th January, 1922. The second session opened on the 4th July, 1922, and closed on the 5th January, 1923. The third session opened on the 11th July, 1923, and closed on the 13th December, 1923. Particulars of voting at the last five elections are given in the subjoined table:—

VICTORIAN ELECTIONS, 1910 TO 1922.

LEGISLATIVE COUNCIL.

Year.	Electors Enrolled.	Electors Enrolled in Contested Electorates.	Electors who Voted.	Percentage of Electors who Voted in Contested Electorates.
1910	240,520	136,479	48,053	35.21
1913	270,175	99,646	47,666	47.89
1916	300,321	92,421	34,853	37.71
1919	317,593	133,058	40,393	30.35
1922	353,440	161,731	47,008	29.07

LEGISLATIVE ASSEMBLY.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1911	341,027	360,424	701,451	203,661	190,528	394,189	68.43	59.12	63.61
1914	398,234	411,792	810,026	166,502	153,448	319,950	57.55	50.46	53.92
1917	397,585	430,645	828,230	172,317	184,682	356,999	54.30	54.12	54.21
1920	418,085	450,763	868,848	232,604	235,621	468,225	66.23	61.38	63.70
1921	414,818	456,638	871,456	167,812	158,415	326,227	61.29	53.53	57.26

The franchise was extended to women by the Adult Suffrage Act 1908.

7. **The Parliament of Queensland.**—(i) *Constitution.* As pointed out previously, the Legislative Council in Queensland was abolished in 1922, the date of Royal assent to the Act being the 23rd March. The Legislative Assembly is composed of seventy-two members, and the State is divided into that number of electoral districts. A modified system of optional preferential voting is in operation in Queensland. (See Year Book No. 6, page 1183.)

(ii) *Particulars of Elections.* Since the establishment of responsible government in Queensland there have been twenty-two complete Parliaments, the first of which opened on the 29th May, 1860, and dissolved on the 20th May, 1863, while the twenty-second

Parliament opened on the 15th November, 1920, and closed on the 13th April, 1923. At the elections held in May, 1915, the principle of compulsory voting was introduced for the first time in Australia. Of the total number of electors enrolled at the 1923 elections, 82.23 per cent. went to the polls. Statistics regarding the last five elections for which details are available are given below.

QUEENSLAND LEGISLATIVE ASSEMBLY ELECTIONS, 1912 TO 1923.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1912	173,801	135,789	309,590	122,844	95,795	218,639	75.92	75.02	75.52
1915	184,627	150,568	335,195	140,396	125,844	266,240	86.46	90.09	88.14
1918	233,342	191,074	424,416	176,768	163,901	340,669	75.75	85.78	80.27
1920	238,750	206,931	445,681	187,575	168,651	356,226	78.57	81.50	79.93
1923	257,001	219,476	476,477	194,287	174,980	369,267	80.72	83.96	82.23

The election of 1907 was the first State election in Queensland at which women voted, the privilege being conferred under the Elections Acts Amendment Act 1905.

8. The Parliament of South Australia.—(i) *Constitution.* In this State there is a Legislative Council composed of twenty members and a House of Assembly with forty-six members, both chambers being elective. The State is divided into five districts, which return four members each to the Legislative Council. For the House of Assembly, eight districts return three members each, and eleven districts two members each.

(ii) *Particulars of Elections.* Since the inauguration of responsible government in South Australia there have been twenty-three complete Parliaments, the first of which was opened on the 22nd April, 1857. The first session of the twenty-fourth Parliament began on the 21st July, 1921. Particulars of voting at the last five elections are given below :—

SOUTH AUSTRALIAN ELECTIONS, 1910 to 1921.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.

LEGISLATIVE COUNCIL.

1910..	48,145	16,157	64,302	32,540	9,356	41,896	81.84	65.89	77.64
1912..	59,228	19,985	79,213	40,709	13,016	53,725	80.91	72.56	78.71
1915..	66,614	21,635	88,249	11,436	4,808	16,244	75.69	71.25	74.32
1918..	71,510	23,461	94,971	42,987	11,800	54,787	60.11	50.30	57.69
1921..	69,986	23,062	93,048	38,597	11,309	49,906	64.23	53.96	61.57

HOUSE OF ASSEMBLY.

1910..	94,656	88,762	183,418	73,464	56,830	130,294	77.61	64.03	71.04
1912..	117,440	106,971	224,411	87,530	73,732	161,262	74.53	68.93	71.86
1915..	128,594	124,797	253,391	70,898	65,157	136,055	77.22	72.64	74.95
1918..	126,669	132,043	258,712	71,501	62,742	134,243	56.45	47.52	51.89
1921..	134,091	137,931	272,022	91,451	77,600	169,051	70.10	57.64	63.77

It is interesting to note that South Australia was the first of the States to grant women's suffrage (under the Constitution Amendment Act 1894), the franchise being exercised for the first time at the Legislative Assembly election on the 25th April, 1896.

Particulars of 1924 elections will be found in the Appendix.

9. **The Parliament of Western Australia.**—(i) *Constitution.* In this State both Chambers are elective. For the Legislative Council there are thirty members, each of the ten Provinces returning three members, while the Legislative Assembly is composed of fifty members, one member being returned by each of the fifty electoral districts. At the expiration of two years from the date of election to a seat in the Legislative Council, and every two years thereafter, the junior member for the time being for each province retires. Seniority is determined (a) by date of election, (b) if two or more members are elected on the same day, then the junior is the one who polled the least number of votes, (c) if the election be uncontested, or in case of an equality of votes, then the seniority is determined by the alphabetical precedence of surnames and, if necessary, Christian names. Members of the Legislative Assembly are elected for three years.

(ii) *Particulars of Elections.* Since the establishment of responsible government in Western Australia there have been ten complete Parliaments, the first of which was opened on the 30th December, 1890, while the eleventh Parliament was elected on 12th March, 1921. The preferential system of voting in use in Western Australia is described in Year Book No. 6, page 1184. Particulars relating to the latest five Assembly and Council elections respectively are given in the tables below:—

WESTERN AUSTRALIAN ELECTIONS, 1908 to 1922.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.

LEGISLATIVE COUNCIL.

1914	43,299	12,423	55,722	22,963	5,556	28,519	62.41	56.57	61.18
1916	45,325	13,683	59,008	10,672	2,464	13,136	53.49	50.52	52.91
1918	46,272	14,700	60,972	14,043	3,930	17,973	39.04	31.83	37.20
1920	37,137	14,900	52,037	12,450	3,406	15,856	45.07	28.28	40.27
1922	40,360	14,838	55,198	17,524	4,763	22,287	46.16	33.81	42.82

LEGISLATIVE ASSEMBLY.

1908	83,060	52,919	135,979	46,411	29,412	75,823	66.99	65.65	66.46
1911	91,814	60,831	152,645	53,355	38,231	91,636	74.44	75.50	74.88
1914	126,598	88,143	214,741	54,612	41,993	96,605	56.59	58.29	57.32
1917	93,106	73,845	166,951	45,453	40,167	85,620	59.46	65.51	62.15
1921	89,523	75,165	164,688	54,747	44,211	98,958	69.16	65.22	67.34

Women's suffrage was granted by the Electoral Act of 1899. At the 1921 elections the first woman member elected to an Australian Parliament was returned.

Particulars of 1924 elections will be found in the Appendix.

10. **The Parliament of Tasmania.**—(i) *Constitution.* In Tasmania there are two legislative chambers—the Legislative Council and the House of Assembly, both bodies being elective. The Council consists of eighteen members, returned from fifteen districts, Hobart returning three, Launceston two, and the remaining thirteen districts sending one member each. There are five House of Assembly districts corresponding to the Commonwealth electoral districts, each returning six members, who are elected under a system of proportional representation which first came into force at the 1909 elections. (See Year Book No. 6, page 1185.)

(ii) *Particulars of Elections.* The first Tasmanian Parliament opened on 2nd December, 1856, and closed on 8th May, 1861. There have been twenty complete Parliaments since the inauguration of responsible government. Particulars of the voting at the last five elections for the House of Assembly are given hereunder :—

TASMANIAN ELECTIONS, HOUSE OF ASSEMBLY, 1912 to 1922.

Year.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted in Contested Electorates.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1912	52,853	50,660	103,513	40,713	35,337	76,050	77.03	69.73	73.47
1913	53,372	51,920	105,292	38,700	32,102	70,802	72.51	61.83	67.24
1916	54,466	52,855	107,321	41,427	37,557	78,984	76.06	71.05	73.60
1919	53,205	54,336	107,541	37,037	34,027	71,064	69.61	62.62	66.08
1922	54,958	55,591	110,549	38,457	31,295	69,752	69.96	56.30	63.09

The present members of the Legislative Council have been elected at various dates, and the following particulars are given of the last contested election in each case : number of electors on the roll, 36,948 ; number of votes recorded, male 13,744, female 3,607, total 17,351 ; percentage of persons who voted to the number on the roll, 46.10.

The suffrage was granted to women under the Constitution Amendment Act 1903.

§ 3. Cost of Parliamentary Government.

1. **General.**—The following statement shows the cost of parliamentary government in the Commonwealth and in each State, as well as the cost per head of population, for the year ended the 30th June, 1923. In order to avoid any incorrect conclusions as to the cost of the Governor General's or Governor's establishment, it may be pointed out that a very large part of the expenditure (with the exception of the item "Governor's salary") under the head of Governor-General or Governor represents official services entirely outside the Governor's personal interests, and carried out at the request of the Government.

COST OF PARLIAMENTARY GOVERNMENT, 1922-23.

Particulars.	C'with.	N.S.W.	Vic.	Q'lan d.	S.A.	W.A.	Tas.	Total.
	£	£	£	£	£	£	£	£
1. Governor-General or Governor—								
Governor's salary ..	10,000	5,000	5,000	3,000	4,069	3,289	1,474	31,832
Official Secretary's salary ..	650	630	..	300	..	350	..	1,930
Governor's establishment ..	5,450	664	4,974	1,068	..	2,160	521	14,843
Repairs and maintenance of Governor's residences ..	11,047	2,575	2,381	2,426	2,444	596	..	..
Miscellaneous ..	895	1,436	(g) 1,199	(k) 4,614	237	..	..	..
Total ..	28,045	10,305	13,554	11,408	6,750	6,401	2,438	78,901
2. Executive Council—								
Salaries of Officers ..	(a)	458	720	30	..	350	..	1,558
Other expenses ..	(a)	439	56	80	..	..	..	575
Total ..	(a)	897	776	110	..	350	..	2,133
3. Ministry—								
Salaries of Ministers ..	14,598	21,665	10,000	8,585	7,750	6,200	3,669	72,467
Other expenses ..	989	1,290	(h)	..	(l)	7,747	882	10,908
Visits of Commonwealth Ministers to London ..	171	..	..	..	..	..	..	171
Total ..	15,758	22,955	10,000	8,585	7,750	13,947	4, 551	83,546
4. Parliament—								
A. The Upper House:								
Allowances to members ..	34,790	..	3,000	..	6,800	12,123	4,800	61,518
Railway passes ..	b 29,300	14,757	(g)	..	1,260	m 2,978	750	49,045
Other expenses of members ..	..	..	..	..	164	150	5	319
B. The Lower House:								
Allowances to members ..	65,275	47,020	28,453	30,908	15,915	20,041	8,498	216,110
Railway passes ..	(c)	17,055	(g)	(i)	2,898	(m)	1,250	21,203
Other expenses of members ..	..	3,391	..	1,482	588	295	134	5,890
C. Miscellaneous:								
Salaries of officers and staff ..	20,986	22,584	16,745	5,840	6,505	3,598	4,136	80,394
Printing ..	14,661	16,972	2,900	3,306	5,688	..	5,161	..
Hansard (including printing) ..	20,460	9,185	9,315	7,018	6,292	..	2,848	103,806
Library ..	5,741	821	1,210	1,430	1,159	465	..	..
Refreshment rooms ..	2,358	(e)	2,734	2,613	1,864	1,866	..	..
Water, power, light, and heat ..	1,866	830	705	612	963	..	..	..
Postage, stores, and stationery ..	(d) 3,293	1,253	838	341	113	2,751	..	..
Miscellaneous ..	13,802	(f) 9,879	225	489	1,289	..	1,168	62,678
Total ..	212,532	143,747	66,125	54,039	51,498	49,433	23,589	600,963
5. Electoral Office—								
Salaries of officers and staff ..	67,054	1,826	1,140	2,812	2,807	2,180	..	..
Other expenses ..	56,355	16,642	13,495	10,065	158	782	4,560	179,876
Total ..	123,409	18,468	14,635	12,877	2,965	2,962	4,560	179,876
6. Cost of Elections ..	89,808	..	294	18,182	1,239	789	(j)	110,362
7. Royal Commissions and Select Committees ..	10,106	2,365	3,753	3,819	2,165	1,478	1,946	25,632
GRAND TOTAL ..	479,658	198,737	109,137	109,020	72,417	75,360	37,084	1,081,413
<i>Cost per head of population ..</i>	1s. 8d.	1s. 10d.	1s. 5d.	2s. 9d.	2s. 10d.	4s. 5d.	3s. 4d.	3s. 11d.

(a) Included under Governor-General. (b) Including Lower House. (c) Included in Upper House. (d) Stores and stationery included in Miscellaneous. (e) Included in Miscellaneous. (f) Including Parliamentary Works Committee (both Houses), £5,325. (g) £5,000 is paid to the Railway Department to cover issue of passes to State Governor and Staff, members of Parliament of Victoria and other States, and Executive Councillors. (h) See note (g). (i) Ministers are allowed £1 per day when travelling. (j) Not available. Each member has a pass for the whole of the State Railways. (k) Included in Electoral Office. (l) Includes £950 allowance to Lieutenant-Governor. (m) Ministers are allowed 15s. per day when travelling within the State, and £2 2s. per day outside the State. (n) £2,978 was paid for railway passes, etc., for members of both Houses; in addition to which members of each House have a pass over the whole of the State railways.

§ 4. Commonwealth Government Departments.

The following statement shows the various matters dealt with and the Acts administered by the Minister of each of the Commonwealth Departments:—

COMMONWEALTH GOVERNMENT DEPARTMENTS.

Department.	Matters dealt with.	Acts Administered.
Prime Minister and External Affairs	Administrative (Central)—(a) Channel of communication for all Departments with State, British, Dominion and Foreign Governments, also Consuls in Australia, (b) Executive Council matters, (c) Cabinet and Parliamentary arrangements, (d) Arrangement of Commonwealth functions, etc., (e) Royal Commissions, (f) Historic Memorials, (g) Commonwealth Publicity, etc., (h) Commonwealth Gazettes and Statutes: External Affairs—(a) Intelligence work—International Affairs, (b) League of Nations matters, (c) Representation of Australia abroad, including—High Commissioner's Office, Commissioner in U.S.A., Commercial Agency at Paris, Representation at International Conferences, etc., (d) Consular Appointments, (e) Repatriation and relief of distressed Australians abroad, (f) Administration of Nauru, (g) Pacific Island Mail Services: Public Service matters, including administration: Public Service Board and Staff: Auditor-General and Staff: Immigration: Commonwealth Shipbuilding: Commonwealth Government Line of Steamers.	Committee of Public Accounts Act 1913-1920: Commonwealth Public Service Act 1922: Commonwealth Public Works Committee Act 1913-1914: Commonwealth Salaries Act 1907: Commonwealth Shipping Act 1923: High Commissioner Act 1909: Nauru Island Agreement Act 1919: Oil Agreement Act 1920: Petherick Collection Act 1911: Royal Commissions Act 1902-1912: Treaty of Peace (Germany) Act 1919-1920: Treaties of Peace (Austria and Bulgaria) Act 1920: War Precautions Act Repeal Act 1920-1922.
Treasury	Appropriation and Supply: Banking: Commonwealth Supply and Tender Board: Currency, Coinage and Legal Tender: Government Printing: Insurance: Invalid and Old-age Pensions: Loans to States: Maternity Allowances: New Guinea Territory—Control of expropriated properties: Pensions and Retiring Allowances: Public Moneys, including Loans: Stamp, Note and Bond Printing: States Debts: Taxation,	Appropriation Acts: Audit Act 1901-1920: Australian Soldiers' Repatriation Act 1920-21: Bank Notes Tax Act 1910: Bills of Exchange Act 1909-1912: Coinage Act 1909: Commonwealth Bank Act 1911-1920: Commonwealth Inscribed Stock Act 1911-1918: Commonwealth Workmen's Compensation Act 1912: Constitution Alteration (State Debts) Act 1909: Entertainments Tax Act 1916-1919: Entertainments Tax Assessment Act 1916: Estate Duty Act 1914: Estate Duty Assessment Act 1914-1916: Funding Arrangements Act 1921: Income Tax

COMMONWEALTH GOVERNMENT DEPARTMENTS—*continued.*

Department.	Matters dealt with.	Acts Administered.
Treasury—<i>continued.</i>	other than duties of Customs and of Excise: Workmen's Compensation: War Gratuities: Repatriation Section—Advances to the States for soldier land settlement: General repatriation, including employment, grants in aids, vocational training and children's education: Medical Services, including reciprocal medical treatment for soldiers of the United Kingdom and Canada in Australia, hospitals and hostels: Soldier Trust Funds: War Pensions, including Imperial War Pensions.	Act 1922–1923: Income Tax Assessment Act 1922–1923: Income Tax Collection Act 1923: Invalid and Old-age Pensions Act 1908–1923: Land Tax Act 1910–1922: Land Tax Assessment Act 1910–1923: Life Assurance Companies Act 1905: Loan Acts: Loans Redemption and Conversion Act 1921: Loans Securities Act 1921: Loans Sinking Fund Act 1918: Marine Insurance Act 1909: Maternity Allowance Act 1912: National Debt Sinking Fund Act 1923: Officers' Compensation Act 1912–1915: Returned Soldiers' Woollen Company Act 1921: Special Annuity Act 1923: States Loan Acts 1916 and 1917: Supply Acts: Superannuation Act 1922; Surplus Revenue Acts 1908, 1909, 1910: Tasmanian Loan Redemption Act 1910: Tasmania Grant Act 1912–1923: Taxation of Loans Act 1923: Treasury Bills Act 1914–1915: Trust Fund Advances Act 1910: Trust Fund Advances Act 1910 (No. 2): War Gratuity Acts 1920: War Loan Securities Repurchase Act 1918: War Precautions Act Repeal Act 1920 (Sections 7, 14–18 and 20): War Loan (United Kingdom) Acts 1916: Wheat Pool Advances Act 1923.
Attorney-General	Bankruptcy and Insolvency: Bills of Exchange and Promissory Notes: Conciliation and Arbitration: Copyright: Crown Law Offices: Designs: Divorce and Matrimonial Causes: Foreign Corporations: Judiciary and Courts: Marriage: Metals (including Australian Metal Exchange): Parliamentary Drafting: Patents: Recognition throughout the Commonwealth of State Laws, Records, and Judicial Proceedings: Service and Execution throughout the Commonwealth of State Process and Judgments: Trade Marks: Trading and Financial Corporations formed within the limits of the Commonwealth.	Acts Interpretation Act 1901–1916: Acts Interpretation Act 1904–1916: Agreements Validation Act: Amendments Incorporation Act 1905–1918: Arbitration (Public Service) Act 1920: Bills of Exchange Act 1909–1912: Commonwealth Conciliation and Arbitration Act 1904–1921: Copyright Act 1912: Crimes Act 1914–1915: Designs Act 1906–1912: Enemy Contracts Annulment Act 1915: Evidence Act 1905: Extradition Act 1903: High Court Procedure Act 1903–1915: Industrial Peace Acts 1920: Judiciary Act 1903–1920: Jury Exemption Act 1905–1922: Legal Proceedings Control Act 1919: Parliamentary Papers Act 1908: Patents Act 1903–1921: Patents, Trade Marks and Designs Act 1910: Rules Publication Act 1903–1916: Service and Execution of Process Act 1901–1922: Solicitor-General Act 1916: State Law and Records Recognition Act 1901: Statutory Declarations Act 1911–1922: Trade Marks Act 1905–1922.

COMMONWEALTH GOVERNMENT DEPARTMENTS—*continued.*

Department.	Matters dealt with.	Acts Administered.
Home and Territories	<p>Astronomy : Australian War Museum : Census and Statistics : Commonwealth Literary Fund : Elections : Franchise : Immigration Restriction : Indentured Coloured Labour : Lands and Surveys : Meteorology : Naturalization : Norfolk Island : Northern Territory : Oil (Mineral, Reward for Discovery) : Papua : Passports : Pearl Shelling and Trepanng Fisheries in Australian waters beyond Territorial limits : People of races (other than the aboriginal races in any State) for whom it is deemed necessary to make special laws : Seat of Government : Administration of New Guinea Territory.</p>	<p>Census and Statistics Act 1905-1920 : Commonwealth Electoral Act 1918-1922 : Contract Immigrants Act 1905 : Emigration Act 1910 : Governor-General's Residence Act 1906 : Immigration Act 1901-1920 : Lands Acquisition Act 1906-1916 : Jervis Bay Territory Acceptance Act 1915 : Meteorology Act 1906 : Nationality Act 1920-1922 : New Guinea Act 1920 : Norfolk Island Act 1913 : Northern Territory Acceptance Act 1910-1919 : Northern Territory (Administration) Act 1910 : Northern Territory Representation Act 1922 : Papua Act 1905-1920 : Passports Act 1920 : Referendum (Constitution Alteration) Act 1906-1919 : Removal of Prisoners (Territories) Act 1923 : Representation Act 1905-1916 : Seat of Government Act 1908 : Seat of Government Acceptance Act 1909 : Seat of Government (Administration) Act 1910 : Senate Elections Act 1903-22 : War Census Act 1915-1916.</p>
Trade and Customs	<p>Board of Trade : Bounties : British Empire Exhibition 1924 : Commercial and Industrial Bureau of Board of Trade : Clearing Office—Enemy debts : Customs and Excise : Film Censorship : Fisheries—other than pearl shell or trepanng in Australian waters beyond Territorial limits : Flax : Fruit Pool : Institute of Science and Industry : Lighthouses, Lightships, Beacons, Buoys : Meat Export Trade : Navigation and Shipping : Organization of Trade and Industry : Organization of Dairying Industry : Peace Treaty (Economic Clauses) : Public Trustee : Restriction of Imports and Exports : Sugar Control : Tariff Board : Trade and Commerce : Trading with Enemy : Wheat Pool : Wheat Storage (Erection of Silos).</p>	<p>Advances to Settlers Act 1923 : Australian Industries Preservation Act 1906-1910 : Beer Excise Act 1901-1923 : British Empire Exhibition Appropriation Act 1922 : Butter Agreement Act 1920 : Commerce (Trade Descriptions) Act 1905 : Commercial Activities Act 1919 : Customs Act 1901-1922 : Customs Tariff Act 1921-1923 : Customs Tariff (South African Preference) Act 1906 : Customs Tariff (New Zealand Preference) Act 1921-1922 : Customs Tariff (New Zealand Preference) Act 1922 (No. 2) : Customs Tariff (Industries Preservation) Act 1921 : Distillation Act 1901-1923 : Excise Act 1901-1923 : Excise Procedure Act 1907 : Excise Tariff 1921 : Institute of Science and Industry Act 1920 : Iron and Steel Products Bounty Act 1922 : Lighthouses Act 1911-1919 : Meat Export Bounties Act 1922-1923 : Navigation Act 1912-1920 : Sea Carriage of Goods Act 1904 : Seamen's Compensation Act 1911 : Secret Commissions Act 1905 : Shale Oil Bounty Act 1917-1922 : Spirits Act 1906-1923 : Sugar Purchase Act 1915-1920 : Sulphur Bounty Act 1923 : Tariff Board Act 1921-23 : Trading with Enemy Act 1914-1921 : Treaty of Peace Acts : Westralian Farmers' Agreement Act 1920 : Westralian Farmers' Agreement Act 1921 : Wheat Storage Act 1917.</p>

COMMONWEALTH GOVERNMENT DEPARTMENTS—*continued.*

Department.	Matters dealt with.	Acts Administered.
Defence ..	Naval, Military, and Air Defence and cognate questions : Civil Aviation : Expeditionary Forces.	Air Force Act 1923 : Air Navigation Act 1920 : Control of Naval Waters Act 1918 : Defence Act 1903-1918 : Deceased Soldiers Estates Act 1918-1919 : Defence (Civil Employment) Act 1918-1922 : Defence Retirement Act 1922 : Naval Defence Act 1910-1918 : Naval Discipline Act : War Precautions Repeal Act 1920 (Section 3).
Works and Railways	Public Works : Designs, Construction, Addition, Alteration and Maintenance of Public Buildings : Design and Execution of Engineering Works : Railways : Rivers : War Service Homes : Conveyance of Members of Parliament and others.	Commonwealth Railways Act 1917 : Kalgoorlie to Port Augusta Railway Lands Act 1918-1920 : Main Roads Development Act 1923 : Naval Defence Act 1910-1912 in respect of officers and employees employed or to be employed in a civil capacity by the Department of Works and Railways on or in connexion with the construction of works or establishments for Naval Defence : Northern Territory Railway Extension Act 1923 : River Murray Waters Act 1923 : War Service Homes Act 1918-1923.
Postmaster-General	Postal, Telegraphic and Telephonic Services : Wireless Telegraphy and Telephony.	Pacific Cable Act 1911 : Post and Telegraph Act 1901-1923 : Post and Telegraph Rates Act 1902-1923 : Telegraph Act 1909 : Wireless Telegraphy Act 1905-1919.
Health ..	Administration of the Quarantine Act : The investigation of causes of disease and death, the establishment and control of laboratories for this purpose : The Control of the Commonwealth Serum Laboratories and the commercial distribution of the products manufactured in those Laboratories : The collection of sanitary data, and the investigation of all factors affecting health in industries : The education of the public in matters of public health : The administration of any subsidy made by the Commonwealth with the object of assisting any effort made by any State Government or public authority directed towards the eradication, prevention, or control of any disease : The conducting of campaigns of prevention of disease in which more than one State is interested : The administrative control of the Australian Institute of Tropical Medicine.	The Quarantine Act 1908-1920.

§ 5. Strength of the Civil Service.

The following table shows the number of permanent civil servants employed in the Commonwealth and in each of the States for the year 1922-23 :—

CIVIL SERVICE—NUMBER OF PERMANENT OFFICERS 1922-23.

	C'wth.		N.S.W.		Victoria.		Queensland.		South Australia.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
(d) Railways and Tramways (g)	(b)1,089		48,780		28,690		22,050		10,959	
Police (g) .. .. .	.. .. .		2,795	4	1,737	4	1,113	.. .. .	566	10
Teachers (g) .. .. .	.. .. .		4,453	5,834	3,208	5,016	1,894	2,421	906	1,945
Other Departments (g)	(a)21,720	3,468	(a)6,292	(a)1,388	f 3,241	707	3,428	1,201	(a)1,690	(a) 114
Total	26,277		69,546		42,603		32,107		16,190	

	W. Australia.		Tasmania.		N. Territory.		Australia.		
	M.	F.	M.	F.	M.	F.	M.	F.	Total.
(d) Railways and Tramways	7,439		2,058		(c)		(e)	(e)	121,065
Police	483	6	238	2	32	.. .. .	6,964	26	6,990
Teachers	721	1,399	355	877	3	7	11,540	17,499	29,039
Other Departments	(a)1,236	(a) 165	(f)596	136	(e)	(e)	38,203	7,179	45,382
Total	11,449		4,262		42		(e)	(e)	202,476

(a) 30th June, 1923. (b) Trans-Australian and Northern Territory only. Oodnadatta line is worked by S.A. Railways, and Federal Capital Territory lines by N.S.W. Railways, and the officers are included with those States. (c) Included with Commonwealth. (d) Salaried and wages staff; includes temporary employees. (e) Not available. (f) 31st December, 1923. (g) 31st December, 1922.

§ 6. Legislation during 1923.

1. **General.**—The following summary refers to the more important legislative enactments of the Commonwealth and State Parliaments during the year 1923. The necessary Appropriation Acts are also passed each year. Reference is also made to the principal Ordinances promulgated during the same year in the Northern Territory and Federal Capital Territory. For the sake of convenience these have been included after the heading 2, Commonwealth, immediately following.

2. **Commonwealth.**—(i) *Main Roads Development.* A sum of £500,000 is provided for development of main roads.

(ii) *Commonwealth Shipping.* The "Australian Commonwealth Line of Steamers" is established, to be administered by a Board of Directors. Fifty completed vessels and four in course of construction are transferred to the Board; also Cockatoo and Schnapper Islands.

(iii) *Meat Export Bounties.* A bounty is payable of one farthing per pound of fresh or canned beef, and one of ten shillings per head of live cattle for slaughter exported during 1923.

(iv) *National Debt Sinking Fund.* A fund, controlled by a Commission of five members, is established, into which payments are to be made annually and otherwise, for reduction of the national debt.

(v) *Northern Territory Railway Extension.* Construction is authorized of a railway of 3 ft. 6 in. gauge from Katherine to Daly Waters, maximum cost not to exceed £1,545,000.

(vi) *Customs.* Existing powers and functions of Customs officers in regard to ships are extended to include aircraft; and provision is made for clearances in case of wrecks.

(vii) *Tasmanian Grant.* A special grant of £85,000 is made to Tasmania.

(viii) *Removal of Prisoners (Territories).* Where desirable to remove prisoners from a Territory of the Commonwealth, the Governor-General, on recommendation by the Administrator, may, with the concurrence of the State or Territory to which the prisoner is to be removed, arrange his transfer.

(ix) *Invalid and Old-age Pensions.* Disabilities for receipt of pension are reduced, and rates increased.

(x) *Post and Telegraph Rates.* These rates are reduced.

(xi) *War Service Homes.* Persons eligible are restricted to one holding. Houses may be leased or sold, with approval of Commissioner. Minor amendments of former statutes are also made.

(xii) *Advances to Settlers.* Advances may be made to States and Northern Territory for supplying settlers with wire netting.

(xiii) *River Murray Waters.* Agreement for variation of agreement of 1914 is ratified.

(xiv) *Sulphur Bounty.* A bounty is payable of £2 5s. per ton for production of sulphur.

(xv) *Shale Oil Bounty.* Period during which bounty is payable is extended by three years.

(xvi) *Income Tax.* The rate of taxation for 1923-24 is fixed.

(xvii) *Income Tax Assesment.* Application of Act in Northern Territory is restricted. Taxable income is further defined.

(xviii) *Income Tax Collection.* Arrangement with States for collection of Commonwealth Income Tax is authorized; retiring officers are to be compensated.

(xix) *Agreements Validation.* Agreements and documents made and executed by the Commonwealth relating to wool and wool-tops are validated.

(xx) *Wheat Pool Advances.* The Treasurer is authorized to guarantee advances made to finance schemes for the marketing of wheat.

(xxi) *Air Force.* Establishment of the Royal Australian Air Force is authorized; the Defence Act and Regulations are to apply.

3. *Northern Territory.*—(i) *Registration of Firms.* Firms whose members are not all British may not be registered.

(ii) *Venereal Diseases.* Report of existence of venereal disease is to be made to Health authorities. Compulsory treatment is enacted. Medical practitioners alone may treat cases.

(iii) *Crown Lands.* Provides for administration of Crown lands. South Australian Acts are repealed and in part incorporated.

(iv) *Slaughtering Ordinance.* Licences and permits to slaughter are regulated. Outbreak of any stock disease must be reported to an Inspector, and sale of diseased stock is forbidden.

(v) *Dingo Destruction.* Land-holders must take reasonable and proper steps for the destruction of dingoes.

(vi) *Police and Police Offences.* Provision is made for control and management of police force. Special constables may be appointed in emergencies. Police offences are dealt with. South Australian Acts are repealed and in part incorporated.

(vii) *Workmen's Compensation.* Provides for compensation by employer for personal injuries to workmen.

4. **Federal Capital Territory.**—(i) *Timber Protection.* Cutting or removing timber from Commonwealth lands within the Territory, without written permission of the Minister or his delegate is forbidden.

(ii) *Leases.* A Land Board is authorized for the determination of all questions relating to the grant and termination of leases.

(iii) *Seat of Government Railway.* The management of this railway is vested in the Commonwealth Railways Commissioner.

5. **New South Wales.**—(i) *River Murray Waters.* The agreement between the Governments of the Commonwealth and of New South Wales, Victoria, and South Australia is ratified ; it provides for the economical use of the waters of the River Murray and its tributaries for irrigation and navigation, and for reconciling the interests of the Governments named.

(ii) *Maintenance Orders.* The enforcement in New South Wales of maintenance orders made in England and Ireland and certain other parts of the British Empire, and *vice versa*, is facilitated.

(iii) *Public Service (Temporary Officers).* Returned soldiers temporarily employed in the State Public Service, whose worth has been approved, are given permanent appointments.

(iv) *Observatory Park Weather Bureau Site.* The Government of the Commonwealth is authorized to occupy and use a portion of Observatory Park as a Weather Bureau.

(v) *Public Roads.* The Under Secretary for Lands is given power to deal with certain matters on behalf of the Minister.

(vi) *Public Trustee.* Additional powers are conferred on the Public Trustee.

(vii) *Child Welfare.* Consolidates Statutes relating to child welfare.

(viii) *Middle Harbour (The Spit) Bridge.* Construction of the bridge is authorized.

(ix) *Veterinary Surgeons.* The regulation of the practice of veterinary science is provided for.

(x) *Royal Commissions.* Amends and consolidates the law relating to Royal Commissions.

(xi) *Seat of Government Surrender.* Agreement made in 1920 between the Commonwealth and the State of New South Wales is ratified.

(xii) *Police Regulation (Appeals).* A Police Appeals Board is authorized to hear appeals against decisions of the Inspector-General. All records are to be forwarded to the Minister, whose decision is final.

(xiii) *Stock Diseases.* A Board of Control is authorized for the control and eradication of cattle tick. Inspectors may be appointed, diseases proclaimed, and infected stock destroyed.

(xiv) *Prince Alfred Hospital (Isolation Block).* The construction is sanctioned of an isolation block in connexion with the Royal Prince Alfred Hospital, for the treatment of venereal diseases.

(xv) *Sydney Water Supply Amplification.* The construction of additional water supply works for Sydney is sanctioned.

(xvi) *Liquor.* Licensing Courts are to be constituted. The powers and duties of the Licences Reduction Board are to vest in the licensing magistrates. Provision is also made for the submission of the question of prohibition with compensation to the popular vote.

(xvii) *Juvenile Migrants Apprenticeship.* This Act establishes a system of apprenticing juvenile migrants, and provides for their care and control and the protection of their property and earnings.

(xviii) *Registration of Stock Brands.* Appointment of a registrar and deputy-registrars of stock brands is authorized.

(xix) *Monopolies.* The law relating to monopolies and restraint of trade is amended, and certain sections of the Industrial Arbitration Act 1912 are repealed.

(xx) *Income Tax (Commonwealth) Collection.* The State is empowered to collect income tax for the Commonwealth Government.

6. *Victoria.*—(i) *Imperial Acts Application.* Certain Imperial enactments in force in the year 1828 were declared (in 1922 : Royal assent proclaimed 25th May, 1923) not to apply in Victoria.

(ii) *Friendly Societies.* The Friendly Societies Acts are amended.

(iii) *Parliamentary Witnesses.* Oath of affirmation may be administered, and examination of witnesses conducted by the Council or Assembly or by Committees of the Houses.

(iv) *Marriage.* The Marriage Acts are amended.

(v) *Metropolitan Drainage and Rivers.* Better provision is made for drainage within the metropolis.

(vi) *University.* The constitution and government of the University is altered, so that it consists of a council of 31 members representative of the various interests of the community, and a convocation comprising all graduates. The annual endowment is increased to £45,000, and financial provision made for a school of commerce, research work in science, and a university extension department.

(vii) *Supreme Court.* The enforcement in Victoria of judgments and awards of the Superior Courts of England, Scotland, and Ireland is facilitated.

(viii) *River Murray Waters.* Agreement for variation of agreement of 1914 is ratified.

(ix) *Public Safety Preservation.* The Governor in Council is authorized to make regulations for the public safety and good order, and for securing the essentials of life to the community, but such regulations may not impose industrial conscription.

(x) *Land.* The Land Acts are amended. Crown and municipal lands may be sold for the purpose of erecting dwelling-houses.

(xi) *Nurses Registration.* Provision is made regarding the training, qualifications, and registration of nurses.

(xii) *Melbourne and Metropolitan Tramways.* The Tramways Acts are repealed. The Board's administrative and financial (borrowing) powers are increased.

(xiii) *Railways Sinking Fund.* A Railways Sinking Fund is established, into which surplus railways revenue is to be paid annually.

(xiv) *Income Tax.* The rates of income tax for 1923–24 are declared, and the Income Tax Acts are continued.

(xv) *Land Tax.* Rate of land tax for 1923–24 is declared.

(xvi) *Police Pensions.* Police pensions, allowances, and gratuities are provided for.

(xvii) *Income Tax Amendment.* The State is empowered to collect income tax for the Commonwealth Government.

(xviii) *Moorpanyal Lands.* An area is granted to the Commonwealth as a site for a base for seaplanes.

(xix) *Railways Classification Board.* The powers of the Board are extended, and the period of operation of awards defined.

(xx) *Electoral.* The law relating to Parliamentary elections is amended. Arrangements for the preparation and revision of rolls for the Legislative Assembly are authorized.

(xxi) *Closer Settlement.* The Closer Settlement Acts are amended. Appraisers of lands acquired by compulsory process may be appointed to assist judge in determining questions of value.

7. **Queensland.**—(i) *Diseases in Poultry.* Provision is made for the inspection of poultry ; and the prevention and eradication of diseases.

(ii) *Pest Destroyers.* The sale of insecticides, fungicides, vermin and weed destroyers is regulated.

(iii) *Stallions Registration.* Provision is made for improving the breed of horses.

(iv) *Closer Settlement.* Further and better provision for closer settlement is made.

(v) *Jury.* The Jury Acts are amended and amplified.

(vi) *Sugar Workers Perpetual Lease Selections.* Sugar workers are given facilities for group selection of perpetual lease selections.

(vii) *Electrical Workers.* Provision is made for the regulation of the electrical industries and for ensuring competency of workers.

(viii) *Local Authorities.* The Local Authorities Acts are amended. A minimum standard width for roads, classified in five divisions, is prescribed.

(ix) *Petroleum Mining for petroleum and natural gas is encouraged and regulated.*

(x) *Cotton Industry.* Provision is made for marketing cotton. The acquirement of cotton by the State is authorized, and other measures tending to improve the industry are enacted.

(xi) *Insurance.* Assurance business is further regulated.

(xii) *Meat Industry Encouragement.* Provision is made for the encouragement and improvement of the industry.

(xiii) *Land Acts (Review of Cattle Holding Rents) Amendment.* Review and re-consideration of rents paid for Crown leases and occupation licenses are arranged for.

(xiv) *Prickly-pear Land.* Better provision is made for the eradication of prickly pear.

(xv) *Fruit Marketing Organization.* Provision is made for the organization of fruit markets.

(xvi) *Agricultural Bank.* State advances to co-operative companies and associations of farmers are authorized.

(xvii) *Hospitals.* Better provision is made for the maintenance, management, and regulation of hospitals.

(xviii) *Primary Producers' Co-operative Associations.* Provision is made for the formation, registration, and management of primary producers' co-operative associations.

8. **South Australia.**—(i) *Governor's Salary.* The salary of the Governor is increased to £5,000 per annum.

(ii) *Adelaide University Act Amendment.* Annual endowment is raised to £20,000. University is exempted from Land Tax.

(iii) *Drought Relief.* Commodities may be supplied to assist farmers affected by drought ; recipients are to repay cost.

(iv) *Municipal Corporations.* Statutes relating to municipal corporations are consolidated.

(v) *Aborigines (Training of Children).* Aboriginal children may be placed under the control of the State Children's Council, thereby becoming State children.

(vi) *River Murray Waters Amendment.* Agreement for variation of agreement of 1914 is ratified.

(vii) *Stamp Duties.* Stamp Duties Acts are consolidated.

(viii) *Early Closing Act Amendment.* Classes of goods exempted from operation of early closing provisions are more particularly treated; areas of shopping districts altered; and minor amendments made.

(ix) *Succession Duties Act Amendment.* Method of calculating values of property is set out, and duties declared to be chargeable in various special cases.

(x) *Width of Tires.* Width of tires, maximum weights, axle loads, &c., of vehicles used on public roads is more explicitly provided for.

(xi) *Taxation Act Amendment.* The State is empowered to collect income tax for the Commonwealth Government.

(xii) *Industrial and Provident Societies.* Previous Statutes are repealed. Conditions of registration, dissolution, &c., and of carrying on business are indicated.

(xiii) *Immigration.* Earlier Statutes are repealed, and better provision made for encouraging immigration into the State. Extensive powers and functions are vested in the Minister regarding apprenticeship, placing out, care and control of assisted immigrants.

(xiv) *Building.* Earlier Statutes are consolidated and amended. Builders must furnish plans to Councils, and comply with various requirements; dangerous and neglected structures may be removed; unnecessary obstructions are forbidden. In certain areas in Adelaide buildings must not abut on streets. Heights and loads of buildings are delimited, and materials used regulated.

9. *Western Australia.*—(i) *Electric Light and Power Agreement.* The agreement between the Government and the City of Perth for the supply of electric current is ratified.

(ii) *Industries Assistance Act Continuance.* The operation of the Industries Assistance Act 1915 is continued.

(iii) *Reciprocal Enforcement of Maintenance Orders.* Reciprocal arrangements are authorized with all Australian States.

(iv) *Anzac Day.* Race meetings on Anzac Day (25th April) are prohibited.

(v) *Change of Names Regulation.* Use of an assumed name is prohibited, except by deed poll duly executed and registered.

(vi) *Factories and Shops.* Special hygienic and safety precautions are to be taken in factories where lead, arsenic, &c., are used.

(vii) *Friendly Societies Act.* The law relating to Friendly Societies is consolidated and amended.

(viii) *Women's Legal Status.* Disqualification for public functions and offices on grounds of sex is removed.

(ix) *Land Tax and Income Tax.* These taxes are imposed for the year 1923–24.

10. *Tasmania.*—(i) *Ministers of the Crown.* The number, offices, and duties of Ministers are defined.

(ii) *Hobart Building.* The Hobart Council is given power to fix building lines and to regulate flats and size of building allotments.

(iii) *Land and Income Taxation.* Extension of time for payment of taxes is authorized; also payment by instalments. Value of natural increase of live stock, except when disposed of, need not be included in statement of income.

(iv) *Hobart Corporation Loans.* The Hobart Council is empowered to borrow money for municipal works.

(v) *Income Tax Collection.* Agreement between Commonwealth and State for administration of Income Tax Acts and for assessment and collection of taxes is ratified and confirmed.

§ 7. Consular Representatives of Foreign Countries in Australia.

The following tabular statement shows the number of consular representatives of foreign countries in each State for the year 1924 :—

CONSULAR REPRESENTATIVES IN AUSTRALIA, 1924.

Country.	Number of Consular Representatives in—						
	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total Aust.
Argentine Republic	2	2	..	1	..	1	6
Austria .. .. .	..	1	..	..	..	..	1
Belgium	3	1	1	1	1	1	8
Brazil	1	1	..	1	..	1	4
Chile	1	1	1	1	1	..	5
China .. .. .	..	1	..	..	..	..	1
Colombia	2	1	..	..	..	..	3
Czecho-Slovakia	1	..	1	..	..	..	2
Denmark	2	4	3	2	1	1	13
Ecuador	2	..	..	..	..	..	2
Estonia	1	..	..	..	..	..	1
Finland	1	1	1	1	..	..	4
France	2	1	1	1	1	1	7
Germany .. .. .	..	1	..	..	..	..	1
Greece	2	1	1	..	1	..	5
Guatemala .. .. .	..	1	..	..	..	..	1
Honduras .. .. .	..	1	..	..	..	..	1
Italy	1	2	1	1	1	1	7
Japan	1	2	1	1	1	..	6
Liberia	1	..	..	1	..	..	2
Mexico	1	1	..	1	..	..	3
Netherlands	3	1	3	1	1	1	10
Nicaragua .. .. .	..	1	..	..	..	..	1
Norway	3	3	2	3	4	2	17
Panama	3	..	1	..	..	..	4
Paraguay	1	1	..	1	1	..	4
Peru	2	1	..	1	..	..	4
Poland	1	..	..	..	..	..	1
Portugal	1	1	..	..	..	..	2
Russia .. .. .	..	..	..	..	..	..	..
Salvador .. .. .	..	1	..	..	..	..	1
Serb-Croat-Slovene State	1	..	..	..	..	..	1
Spain	2	2	1	1	1	..	7
Sweden	3	1	2	3	2	1	12
Switzerland	1	1	1	..	..	1	4
U.S.A.	4	5	1	1	1	..	12
Uruguay	1	1	..	..	..	..	2
Venezuela	1	..	..	..	..	..	1
Total	51	42	22	23	17	11	166

In addition, Northern Territory has a Consul for Netherlands. Countries having Consuls-General in Sydney are Belgium, Chile, Czecho-Slovakia, Ecuador, Estonia, Greece, Japan, Netherlands, Paraguay, Peru, Poland, and Sweden. Those having Consuls-General in Melbourne are Argentine, China, Colombia, Denmark, Germany, Honduras, Norway, Spain, Switzerland, and U.S.A. Greece has its Consulate-General in Brisbane. The Consul-in-chief for Panama is located at Newcastle, New South Wales.

CHAPTER IV.

LOCAL GOVERNMENT.

§ 1. Introduction.

1. **General.**—The construction and maintenance of roads, bridges and ferries are generally part of the functions of local authorities, but in New South Wales and South Australia, more especially in the large unincorporated areas, these duties are undertaken directly by the Government. In some States, moreover, a certain proportion of the roads and bridges are constructed and maintained by the Government, which, in addition, advances money for main roads to be expended by municipalities under the supervision of special Boards. Although roads, bridges and ferries constructed and maintained directly by Government do not properly come under the heading of "Local Government," they have been included in this chapter for the sake of convenience.

2. **Municipalities, Shires, etc.**—A description of the various systems of municipal government in the different States, and their development from the earliest date, was published in 1919 by the Commonwealth Bureau of Census and Statistics in a separate work entitled "Local Government in Australia." Limits of space preclude the incorporation of the information contained therein in the Official Year Book.

3. **Water Supply and Sewerage.**—In the cities of Sydney, Melbourne and Brisbane, the control of water supply and sewerage is in the hands of special Boards, while in Adelaide and Perth, these services are under the direct supervision of Government Departments. In most of the other cities and towns, the municipal councils, or, in some cases, water trusts, are the controlling bodies, which either construct the works out of their own resources or take them over after they have been constructed by the Government.

4. **Harbours.**—The majority of the harbours in Australia are managed by Boards, the members of which are either elected by persons interested or appointed by the Government. In a few instances, however, they are directly controlled by the Government. Only those which are controlled by Boards are dealt with in the following pages.

5. **Fire Brigades.**—In all the States, the management of fire brigades is undertaken by Boards. The members of these Boards are usually elected by the councils of municipalities and insurance companies within the districts placed under their jurisdiction, together with one or more appointed by the Government. Occasionally volunteer or country fire brigades are represented.

§ 2. Government Roads, Bridges, Etc.

1. **New South Wales.**—(i) *General.* The control of all roads, bridges and ferries, with the exception of those proclaimed as "National" and of those in the unincorporated areas of the Western Division, which still remain under its jurisdiction, was transferred, in 1920, from the Public Works Department to local authorities. The Government has also adopted the policy of assisting municipal and shire councils to recondition certain main roads by doing the work in the first instance, and recovering in instalments from the councils concerned one-half of the cost.

(ii) *Roads, Bridges and Ferries.* At the end of 1922, the "National" works consisted of 58 miles of roads, 283 bridges with a total length of 108,631 feet, and 23 ferries, while in the unincorporated areas of the Western Division there were 6,053 miles of roads (of which 213 miles were metalled or ballasted, 163 formed only, and 3,437 cleared only), 99 bridges of a total length of 13,602 feet, 340 culverts, and 6 ferries under the control of the Public Works Department.

(iii) *Expenditure on Roads, Bridges and Ferries.* The total Government expenditure on roads, bridges and ferries from 1857 to 1922-23 was £25,425,924. The following table shows the expenditure for each year from 1917-18 to 1922-23 :—

**ROADS, ETC.—EXPENDITURE BY GOVERNMENT DEPARTMENTS,
NEW SOUTH WALES, 1918 TO 1923.**

Year ending 30th June.	1918.	1919.	1920.	1921.	1922.	1923.
Expenditure	£ 74,459	£ 88,591	£ 116,034	£ 163,121	£ 542,205	£ 443,541

2. *Victoria.*—(a) *General.* A small sum is expended annually by the State Government on roads and bridges, and a considerable amount of loan money is advanced in each year to the Country Roads Board for the purpose of constructing and maintaining main and developmental roads, the amount so expended during the year ending 30th June, 1922, being £964,163. An annual payment of £50,000 is also made out of Consolidated Revenue to the Board for maintenance works.

(b) *Direct Expenditure by Government.* The following table shows the amounts of money expended directly by the Government on roads and bridges during the years 1917-18 to 1921-22 :—

**ROADS AND BRIDGES—GOVERNMENT EXPENDITURE, VICTORIA,
1917-18 TO 1921-22.**

Year.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
Expenditure	£ 19,782	£ 20,591	£ 7,832	£ 10,842	£ 23,622

(c) *Country Roads Board.* The duties of this Board were given in some detail in Year Book No. 15, p. 526.

The borrowing of a sum of £3,000,000 has been authorized for the purposes of making permanent works under the Country Roads Acts. One half of the amount expended on permanent works and maintenance must be refunded by the municipalities affected, six per cent. of the amount due in respect of permanent works being payable annually, and the cost of maintenance allocated to each municipality must be paid before the first of July in each year. A special rate, not exceeding six pence in the pound may be levied in any ward or riding of a municipality for the purpose of such repayment.

All registration fees, licence fees and fines under the Motor Car Act, all licence fees for unused roads and water frontages, and all registration fees and fines for traction-engines are credited to the Country Roads Board Fund. The total loan expenditure for permanent works to the 30th June, 1922, was £2,466,145. The following table gives the revenue and expenditure on permanent and maintenance works for the five years 1917-18 to 1921-22:—

**COUNTRY ROADS BOARD, VICTORIA—REVENUE AND EXPENDITURE,
1917-18 TO 1921-22.**

Year ended 30th June.	Revenue.				Expenditure.		
	Motor Registration and Licence Fees.	Unused Roads etc., Licence Fees.	Contributions by Municipalities.		Total.	Permanent Works.	Maintenance.
			Permanent Works.	Maintenance.			
	£	£	£	£	£	£	£
1918	58,485	23,736	30,256	..	116,521	226,599	173,757
1919	67,666	22,374	29,841	82,453	261,655	284,734	179,133
1920	85,303	22,072	37,573	89,730	294,498	335,755	192,320
1921	98,135	21,441	50,036	90,335	342,865	271,869	221,395
1922	118,672	21,487	61,024	104,026	429,308	288,937	267,969

(d) *Developmental Roads.* For the purpose of constructing and maintaining subsidiary or developmental roads, the Government may borrow the sum of £5,000,000. The work is carried out under the supervision of the Country Roads Board, and the State provides the whole of the money and makes provision out of State funds for liquidating the liability; the municipalities, however, are required to bear a proportion of the interest on the outlay during the period of the loan and to maintain the roads when constructed. The amount expended during the year ended 30th June, 1922 was £627,093, and the total expenditure to that date was £1,685,208.

3. *Queensland.*—Under the Main Roads Act of 1920, a Main Roads Board was constituted, consisting of three members appointed by the Governor in Council. The duties of this Board are to make the necessary surveys and investigations in order to determine what roads should be main roads, and, under certain circumstances, to undertake the construction and maintenance of such roads. Before any road can be proclaimed a main road, the shire councils through whose areas such road passes have the right to lodge objections thereto, and the Board must consider such objections and may vary its decision. The whole of the money necessary for the construction and maintenance of main roads is provided from the Main Roads Fund at the Treasury, and the councils concerned must repay one-half the cost thereof over a period of 30 years, with interest. This fund is formed from (a) moneys appropriated by Parliament therefor, (b) taxes and fees on motor vehicles, traction engines and wheels of vehicles, (c) fees and rents for unused roads, (d) moneys received for the sale of timber, sand, etc., on any main road, and (e) all other moneys received or recovered by the Board. Wherever possible, the Board arranges with local authorities to undertake the survey and construction of works, but in most cases, owing to the dearth of trained engineers in the employ of councils, the Board has had to undertake most of the survey work and preparation of plans and a considerable portion of the construction. During the year ended 30th June, 1923, the receipts of the Board amounted to £400,526, including £217,500 from the Treasury Loan Fund and £64,965 from motor fees, and the disbursements to £344,932, including £163,115 expenditure on permanent works and £11,069 on maintenance of main roads. At that date, 2,746 miles of roads had been gazetted as main roads, 320 miles had been surveyed, and the estimated cost of works for which plans were in hand or completed, including bridges, was £424,268.

4. **South Australia.**—Under the Main Roads Act of 1922, the Government is authorized to borrow up to £300,000 for the purpose of reconstructing main roads and for acquiring quarries and working the same. In the sparsely settled districts outside the incorporated areas, the roads and bridges are constructed and maintained by the Public Works Department, which expended thereon during the year ended 30th June, 1922, the sum of £27,802. During the same year, the Government expended £109,120 from loan funds on certain main roads. In addition, a large amount of money is allocated annually to the municipal corporations and district councils solely for the construction and maintenance of main roads within their boundaries.

The Roads Improvement Act 1921 provides for the constitution of a Roads Advisory Board, consisting of three members of the Public Service appointed by the Governor. Main roads may be proclaimed. The duties of the Board are to advise the Minister as to the moneys which should be expended by each council on the construction, maintenance and keeping in repair of the main roads within its district, and the amount of money voted for main roads which should be allocated to each council. The Minister determines (a) the total amount of money to be expended by each council for such purposes during each financial year, (b) the amount to be allocated to each council, and (c) the amount to be spent by each council out of revenue, for which a council may declare a special rate not exceeding fourpence in the pound, but the amount under (c) must not exceed one-half the amount under (b). Should a council make default in carrying out the work prescribed, the Engineer for Roads and Bridges may undertake it, and half the amount of the cost thereof becomes a debt due by such council to the Minister.

5. **Western Australia.**—In Western Australia the construction, maintenance, and management of roads and bridges throughout the State are under the control of municipalities and district road boards which are subsidized by the Government.

6. **Tasmania.**—(i) *Construction.* In Tasmania the cost of construction of roads and bridges is borne almost entirely by the central Government.

Up to the 30th June, 1923, the loan expenditure on these works was £3,847,083. In addition, half the proceeds of the sale of land has formed a Crown Lands Fund for the construction of roads to new holdings. Under this provision £658,616 has been expended. This fund has in recent years more than met the demands on it, and expenditure therefrom since 1918 has been limited to £10,000 annually, the balance being used for redemption of debt. The following table gives the total expenditure up to the 30th June, 1919, and the annual expenditure during the years 1919–20 to 1922–23 by the State on the construction of roads and bridges, together with the mileage of new roads and the number of new bridges built during those four years:—

ROADS AND BRIDGES, TASMANIA—GOVERNMENT EXPENDITURE ON CONSTRUCTION TO 30th JUNE, 1923.

Period.	Expenditure.		New-road Mileage.		New Bridges.
	Loans.	Crown Lands Fund.	Cleared.	Metalled.	
	£	£	Miles.	Miles.	No.
Total to 30th June, 1919	3,493,745	639,111	..	..	..
1919–20	81,940	6,563	67	68	17
1920–21	100,621	4,744	62	80	8
1921–22	99,760	8,198	69	73	27
1922–23	71,017	6,412	47	57	13

(ii) *Maintenance.* The maintenance of roads and bridges is undertaken by the municipalities with some assistance from the central Government, chiefly by way of subsidy. Under the Aid to Road Rates Act, a sum of £11,000 is distributed annually among the municipalities, in proportion as the cost of maintenance falls on their resources. Under the Main Roads Maintenance Act 1918 a further sum of £5,000 was provided out of Consolidated Revenue, which, with the addition of the motor tax, less 5 per cent., and a contribution from municipalities, is expended on the upkeep of main roads. In 1921-22 the amount available for 1,049 miles of main road was £27,000. The work is carried out in most cases by municipalities, under the general direction of an Advisory Board, on which the Government, the municipalities, and the motorists are all represented. Further, the Repairs to Roads Act 1920 provides for loans for 15 years to municipalities for the purpose of re-making roads—half the loan is repaid in instalments by the local body and the remainder by the State Government. The Government also provides for the repair of the more important bridges, and for emergency work.

7. *Summary of Loan Expenditure on Roads and Bridges.*—Figures showing the total expenditure on roads and bridges in the States are not available. The subjoined statement, however, gives the amounts of loan expenditure by the State Governments up to the 30th June, 1922 :—

**ROADS AND BRIDGES.—GOVERNMENT LOAN EXPENDITURE TO THE
30th JUNE, 1922.**

Expenditure.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
Total ..	2,416,777	4,495,841	931,775	2,039,085	425,137	5,328,254	15,636,860

The following table shows the annual expenditure from loans on roads and bridges by the central Governments in each State during the years 1917-18 to 1921-22 :—

ROADS AND BRIDGES.—LOAN EXPENDITURE BY STATES, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	..	£
1917-18 ..	22,374	241,892	..	43,693	2,600	..	310,559
1918-19 ..	13,089	360,524	..	22,008	4,310	90,101	490,032
1919-20 ..	6,674	623,570	..	66,393	14,538	81,940	793,115
1920-21 ..	13,555	965,646	..	120,223	32,121	100,621	1,232,166
1921-22 ..	320,271	964,163	..	109,120	12,585	132,879	1,539,018

The two tables given above show only a small proportion of the actual expenditure upon roads and bridges in the different States, for the reason that (a) there have been large expenditures from revenue, both by the central Governments and by local authorities, and (b) the State Governments have in many cases voted grants and subsidies on the amount of rates collected, and have issued loans to local authorities either for the express purpose of the construction of roads and bridges or for the general purpose of public works construction.

§ 3. Municipalities, Shires, Etc.

1. **New South Wales.**—(i) *General.* Practically the whole of the State, with the exception of the Western Division, has been divided into municipalities and shires, the total area incorporated at the end of 1922 being 183,985 square miles, of which 2,845 square miles are included in the former and 181,140 in the latter. The areas incorporated comprise the whole of the eastern and central divisions of the State, with the exception of Lord Howe Island, the islands in Port Jackson, and the quarantine station at Port Jackson.

(ii) *Municipalities.*—(a) *Summary.* The following table gives the number, area and population of municipalities, together with the length of roads and the number of bridges and ferries therein for the years 1918 to 1922 :—

MUNICIPALITIES, NEW SOUTH WALES—SUMMARY, 1918 TO 1922.

Year.	No. of Municipalities.	Sydney and Suburbs.		Country.		Length of Roads.	Bridges.	Ferries.
		Area.	Population.	Area.	Population.			
1918	184	95,259	777,140	1,710,675	463,500	10,214	929	12
1919	183	95,259	811,910	1,710,475	482,860	(a)	(a)	(a)
1920	185	95,259	881,594	1,725,875	525,264	(a)	(a)	(a)
1921	185	95,259	906,320	1,725,875	531,090	10,187	745	26
1922	185	95,259	934,970	1,725,875	536,050	(a)	(a)	(a)

(a) Not available.—collected triennially.

Of the 10,187 miles of roads, 4,474 were metalled, ballasted or gravelled, 1,912 formed only, and 2,162 cleared only, while 1,639 miles were natural surface.

(b) *Unimproved and Improved Values.* The following table gives a comparison of the unimproved and improved values for the years 1918 to 1922 inclusive :—

MUNICIPALITIES, NEW SOUTH WALES.—CAPITAL VALUES, 1918 TO 1922.

Year.	Sydney.	Suburbs.	Total Metropolitan.	Country.	Grand Total.
UNIMPROVED VALUE.					
1918	£ 31,880,295	£ 38,176,261	£ 70,056,556	£ 24,629,668	£ 94,686,224
1919	31,831,054	39,672,190	71,503,244	25,289,371	96,792,615
1920	33,077,620	46,847,825	79,925,445	29,060,263	108,985,708
1921	35,887,412	51,027,987	86,915,399	30,706,273	117,621,672
1922	36,838,607	54,642,223	91,480,830	32,343,067	123,823,897
IMPROVED VALUE.					
1918	82,027,200	106,647,308	188,674,508	63,368,253	252,042,761
1919	82,808,760	111,686,717	194,495,477	66,059,272	260,554,749
1920	84,580,400	127,414,223	211,994,623	77,900,508	289,895,131
1921	99,647,060	141,632,450	241,279,510	88,922,248	330,201,758
1922	103,667,740	155,607,105	259,274,845	90,627,326	349,902,171

(c) *Revenue and Expenditure.* The following table gives particulars of the revenue and expenditure of municipalities for the year ending 31st December, 1922, under various headings :—

MUNICIPALITIES, NEW SOUTH WALES.—REVENUE AND EXPENDITURE, 1922.

Particulars.	Sydney.	Suburbs.	Country.	Total.
REVENUE.				
	£	£	£	£
General fund	} 2,348,854 (a)	} 1,523,026	1,004,667	2,527,693 (b)
Trading accounts		} 19,458	428,837	448,295 (b)
Special and local funds		} 19,276	267,784	287,060 (b)
Gross revenue	2,348,854	1,561,760	1,701,288	5,611,902
EXPENDITURE.				
	£	£	£	£
General fund	} 2,187,856 (a)	} 1,587,175	1,015,613	2,602,788 (b)
Trading accounts		} 12,767	374,699	387,466 (b)
Special and local funds		} 18,471	246,828	265,299 (b)
Gross expenditure	2,187,856	1,618,413	1,637,140	5,443,409

(a) Items of revenue and expenditure for the city of Sydney cannot be allocated to the different headings shown for municipalities.

(b) Exclusive of Sydney.

The subjoined table shows the gross revenue and expenditure of all municipalities for the five years 1918 to 1922 :—

MUNICIPALITIES, NEW SOUTH WALES.—REVENUE AND EXPENDITURE, 1918 TO 1922.

Municipalities.	1918.	1919.	1920.	1921.	1922.
GROSS REVENUE.					
	£	£	£	£	£
Sydney	1,263,170	1,483,810	1,724,858	2,068,153	2,348,854
Suburban	935,108	1,012,024	1,200,139	1,413,469	1,561,760
Country	1,141,795	1,271,005	1,357,065	1,582,055	1,701,288
Total	3,340,073	3,766,839	4,282,062	5,063,677	5,611,902
GROSS EXPENDITURE.					
	£	£	£	£	£
Sydney	1,246,130	1,454,277	1,747,972	2,060,635	2,187,856
Suburban	912,266	987,885	1,145,765	1,511,543	1,618,413
Country	1,043,633	1,228,553	1,293,564	1,507,423	1,637,140
Total	3,202,029	3,670,715	4,187,301	5,079,601	5,443,409

(d) *Assets and Liabilities.* The financial position of the municipalities as at the 31st December, 1922, is shown by the following statement of assets and liabilities.

MUNICIPALITIES, NEW SOUTH WALES.—ASSETS AND LIABILITIES, 1922.

Particulars.	Sydney.	Suburbs.	Country.	Total.
ASSETS.				
	£	£	£	£
Bank balance and cash ..	} 15,496,718 (a)	233,575	314,576	548,151 (b)
Outstanding rates		89,484	155,438	244,922 (b)
Sundry debtors		75,509	180,167	255,676 (b)
Stores and materials ..		25,377	75,212	100,589 (b)
Land, buildings, furniture etc.		722,326	3,717,949	4,440,275 (b)
Other		38,708	22,647	61,355 (b)
Total	15,496,718	1,184,979	4,465,989	21,147,686
LIABILITIES.				
Loans, outstanding interest and sundry creditors ..	} 15,037,651 (a)	1,431,802	1,167,538	2,599,340 (b)
Debts due to Government and interest thereon		95,529	1,964,236	2,059,765 (b)
Bank overdrafts		138,198	120,688	258,886 (b)
Other		22,896	96,280	119,176 (b)
		15,037,651	1,688,425	3,348,742	20,074,818

(a) Particulars for the city of Sydney cannot be allocated to the different headings shown for municipalities.
(b) Exclusive of Sydney.

(iii) *Shires.*—(a) *Summary.* The following table gives the number, area, population, and unimproved capital value of shires, together with the length of the roads, and the number of bridges and ferries therein. It is not possible to give the improved capital value or the assessed annual value, as shires are not compelled to make these valuations.

SHIRES, NEW SOUTH WALES.—SUMMARY, 1918 TO 1922.

Year.	No. of Shires.	Area.	Population.	Unimproved Capital Value.	Length of Roads.	Bridges.	Ferries.
		sq. miles.	No.	£	miles.	No.	No.
1918	136	180,658	673,860	109,133,215	83,309	3,567	98
1919	136	180,708	692,230	110,881,306	(a)	(a)	(a)
1920	136	181,140	670,123	120,872,326	(a)	(a)	(a)
1921	136	181,140	676,130	130,834,456	85,458	3,627	175
1922	136	181,140	688,560	135,380,748	(a)	(a)	(a)

(a) Not available—collected triennially.

Of the 85,458 miles of roads, 17,216 were metalled or ballasted, 12,200 formed only, and 26,538 cleared only, the balance being natural surface.

(b) *Revenue and Expenditure.* The revenue and expenditure of shires for the years 1918 to 1922 are shown in the following table. Included in the receipts for 1922 are Government grants amounting to £184,086:—

SHIRES, NEW SOUTH WALES,—REVENUE AND EXPENDITURE, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
REVENUE.					
<i>General Fund—</i>	£	£	£	£	£
General rates (including interest)	710,983	742,026	825,781	968,886	1,033,921
Government endowment	162,188	153,234	156,429	178,420	156,861
Public works	157,737	230,673	196,045	188,533	218,952
Health administration	3,865	13,731	79,410	84,014	88,165
Public services	11,487	12,481	14,630	15,540	16,052
Shire property	14,258	15,539	13,456	16,145	20,344
Miscellaneous	7,427	7,192	12,125	8,939	13,852
<i>Special and Local Funds</i>	93,101	114,885	57,540	87,124	99,960
Total revenue	1,161,046	1,289,761	1,355,416	1,547,601	1,648,107
EXPENDITURE.					
<i>General Fund—</i>					
Administrative expenses	99,391	115,657	146,762	140,300	168,802
Public works	916,351	1,013,337	994,731	1,187,349	1,245,857
Health administration	9,292	26,237	84,282	89,344	95,578
Public services	19,370	21,293	26,239	33,782	32,205
Shire property	16,884	17,037	14,935	18,721	18,518
Miscellaneous	15,526	16,034	8,589	9,418	11,626*
<i>Special, Local, and Loan Funds</i>	86,905	93,403	50,210	78,474	91,295
Total expenditure	1,163,719	1,307,998	1,325,748	1,557,388	1,663,881

* Includes £7,597 for interest on loans and overdrafts.

(c) *Assets and Liabilities.* The finances of the shires at the end of the year 1922 showed an excess of assets of £376,786. The following table gives particulars of assets and liabilities as at the 31st December, 1922 :—

SHIRES, NEW SOUTH WALES.—ASSETS AND LIABILITIES, 1922.

Assets.	Amount.	Liabilities.	Amount.
	£		£
Bank balances and cash	170,113	Loans outstanding, interest and sundry creditors	284,364
Outstanding rates	131,071	Bank overdrafts	182,725
Sundry debtors	40,824	Other	62,866
Stores and materials	32,285		
Land, buildings, furniture, plant, machinery, etc.	532,175		
Other	273		
Total	906,741	Total	529,955

2. *Victoria.*—(i) *General.* Local Government is established throughout the State (with the exception of French Island), the various divisions being termed cities, towns, boroughs, or shires. Melbourne and Geelong were incorporated under special statutes prior to the establishment of a general system of local government, and except in a few details are not subject to the provisions of the Local Government Act.

In addition to the endowment of £50,000, the municipalities received from the Government during the financial year 1922-23 a sum of £64,340 out of the Licensing

Fund as the equivalent for (a) fees for licences, (b) fees for the registration of brewers and spirit merchants, and (c) fines, penalties, and forfeitures incurred under the Licensing Act 1915.

The financial years of the cities of Melbourne and Geelong end on the 31st December and the 31st August respectively; those of all other municipalities on the 30th September.

(ii) *Municipalities.*—(a) *Summary.* The following table shows the number of cities, towns, boroughs, and shires, with estimated population, number of ratepayers and dwellings, and value of ratable property for the years 1919 to 1923 inclusive:—

MUNICIPALITIES, VICTORIA.—SUMMARY, 1919 TO 1923.

Year ending 30th September.	Number of Municipalities.	Estimated Population.	Number of Ratepayers (both sexes).	Estimated Number of Dwellings.	Estimated Value of Ratable Property.	
					Total.	Annual.
CITIES, TOWNS, AND BOROUGHES.						
	No.	No.	No.	No.	£	£
1919.. ..	52	859,470	224,757	197,689	164,306,704	9,227,807
1920.. ..	52	877,880	228,518	200,206	172,838,636	9,687,320
1921.. ..	55	886,030	237,037	205,416a {	193,947,624	10,864,184
1922.. ..	53	914,371a	245,589		210,501,055	11,869,636
1923.. ..	53	963,180	270,058	220,209	233,586,201	13,116,589
SHIRES.						
	No.	No.	No.	No.	£	£
1919.. ..	138	622,260	188,032	141,951	176,297,529	8,922,859
1920.. ..	138	628,420	188,892	142,570	184,599,186	9,340,172
1921.. ..	138	628,970	198,801	142,579a {	205,555,121	10,350,524
1922.. ..	139	610,987a	201,956		215,984,328	10,875,948
1923.. ..	139	616,410	200,834	143,809	221,623,773	11,200,825

(a) Census figures.

(b) *Revenue and Expenditure.* The following table shows the revenue from various sources, and the expenditure under various heads, exclusive of loan revenue and expenditure, of municipalities during the years 1918 to 1922:—

MUNICIPALITIES, VICTORIA.—REVENUE AND EXPENDITURE, 1918 TO 1922.

Items.	1918.	1919.	1920.	1921.	1922.
REVENUE.					
	£	£	£	£	£
Taxation { Rates	1,462,640	1,560,968	1,750,778	2,083,931	2,303,664
Licences	109,916	136,517	135,383	126,952	137,036
Dog fees	21,481	21,074	22,575	23,682	24,316
Market and weigh- bridge dues	71,737	85,240	87,845	91,448	99,485
Government endowments and grants	62,460	96,429	74,563	65,581	75,627
Contributions for streets, etc.	63,910	93,900	73,182	84,936	111,983
Sanitary charges	101,791	101,996	116,096	133,244	146,559
Rents	65,821	69,845	85,517	92,717	102,784
Other sources	566,788	714,156	879,024	890,625	1,030,323
Total	2,526,544	2,880,125	3,224,963	3,593,116	4,031,777

MUNICIPALITIES, VICTORIA.—REVENUE AND EXPENDITURE, 1918 TO 1922—*continued.*

Items.	1918.	1919.	1920.	1921.	1922.
EXPENDITURE.					
	£	£	£	£	£
Salaries, etc.	214,797	226,692	246,851	284,158	319,430
Sanitary work, street cleaning, etc.	244,984	248,956	306,775	345,834	363,706
Lighting	98,511	100,679	102,945	115,968	130,722
Fire brigades' contributions	32,786	35,120	39,637	46,512	48,526
Public works { Construction	232,977	294,874	208,326	238,165	271,007
Maintenance	1,046,474	1,152,247	1,385,347	1,683,619	1,865,549
Formation of private streets, etc.	75,474	111,125	82,746	130,125	147,612
Redemption of loans	124,797	137,688	128,664	133,786	136,090
Interest on loans	277,435	257,057	264,147	276,065	305,289
Charities	19,977	21,103	25,031	29,468	26,436
Other expenditure	178,043	332,347	313,650	315,085	332,067
Total	2,546,255	2,917,888	3,104,119	3,598,785	3,946,434

(c) *Assets and Liabilities.* The assets of municipalities may be classified under three heads—(a) the municipal fund, (b) the loan fund, and (c) property; the liabilities under two heads—(a) the municipal fund, and (b) the loan fund. The following table shows the amount of municipal assets and liabilities for the years 1918 to 1922:—

MUNICIPALITIES, VICTORIA.—ASSETS AND LIABILITIES, 1918 TO 1922.

Items.	1918.	1919.	1920.	1921.	1922.
ASSETS.					
	£	£	£	£	£
MUNICIPAL FUND—					
Uncollected rates	132,217	133,585	133,573	158,301	176,830
Other assets	427,046	550,283	483,724	591,508	636,509
LOAN FUND—					
(a) Sinking funds—					
Amount at credit	596,550	465,132	489,332	523,834	430,689
Arrears due	5,054	1,093	3,098	483	511
(b) Unexpended balances	238,906	204,761	221,405	331,561	442,360
PROPERTY—					
Buildings, markets, etc. ..	3,871,232	3,938,068	4,077,892	4,457,527	4,804,008
Waterworks	268,815	271,581	270,147	256,169	253,520
Gasworks	110,819	114,505	117,704	123,454	129,020
Total	5,650,639	5,679,008	5,796,875	6,442,837	6,873,447
LIABILITIES.					
MUNICIPAL FUND—					
Arrears due sinking funds	5,054	1,093	3,098	483	511
Overdue interest	6,920	6,611	7,091	5,379	6,026
Bank overdrafts	317,410	484,785	442,326	542,462	858,733
Other liabilities	269,947	280,475	281,675	352,518	389,340
LOAN FUND—					
Loans outstanding	5,764,050	5,041,429	5,192,069	5,595,614	5,714,570
Due on loan contracts	47,145	129,192	220,188	158,009	177,755
Due on current contracts	78,115	64,037	85,368	102,191	88,936
Total	6,488,641	6,007,622	6,231,815	6,756,656	7,235,871

3. Queensland.—(i) *General.* The whole of the State is incorporated into cities, towns, and shires under the Local Authorities Act of 1902 and its amendments.

(ii) *Municipalities.* (a) *Summary.* The following table gives particulars of the area, population, number of inhabited dwellings, and assets and liabilities of cities and towns and of shires for the years 1918 to 1922 :—

MUNICIPALITIES, QUEENSLAND.—SUMMARY, 1918 TO 1922.

Year.	No.	Area.	Popula- tion.	Number of Inhabited Dwellings.	Capital Value.	Assets.	Liabilities.	
							Government Loans.	Total.

CITIES AND TOWNS.

		sq. miles.	No.	No.	£	£	£	£	
1918	..	36	507	330,272	65,588	17,436,371	1,988,957	270,826	1,599,025
1919	..	35	510	346,019	66,879	17,648,597	2,037,948	304,204	1,667,595
1920	..	35	510	330,044	69,340	19,066,071	2,161,774	457,170	1,867,186
1921	..	36	522	339,420	71,257	19,350,707	2,579,726	506,131	2,081,724
1922	..	36	522	343,799	71,887	19,486,391	2,402,864	540,520	2,251,373

SHIRES.

1918	..	137	669,387	411,278	88,384	45,553,989	594,828	173,024	352,819
1919	..	136	669,384	425,855	92,030	46,259,148	625,883	191,551	398,272
1920	..	135	669,384	422,683	95,173	47,259,059	723,871	299,361	513,623
1921	..	134	669,372	423,857	99,364	49,051,635	800,451	338,681	620,180
1922	..	134	669,372	427,739	96,840	50,284,568	846,102	365,863	623,086

(b) *Revenue and Expenditure.* The following table shows the revenue and expenditure (including loan moneys) of cities and towns, and of shires for each year from 1918 to 1922 :—

MUNICIPALITIES, QUEENSLAND.—REVENUE AND EXPENDITURE,
1918 TO 1922.

Year.	Revenue.			Expenditure.			
	Rates.	Government Subsidies.	Total.	Public Works.	Loan Redemp- tion.	Office Expenses & Salaries.	Total.

CITIES AND TOWNS.

1918	..	£ 535,124	£ 16,937	£ 655,538	£ 455,824	£ 21,916	£ 61,731	£ 680,837
1919	..	612,476	45,833	798,473	577,993	20,925	68,585	860,958
1920	..	700,321	180,110	1,024,834	774,969	30,234	76,703	1,074,648
1921	..	791,259	94,453	1,025,504	842,567	32,696	92,194	1,180,420
1922	..	868,996	59,652	1,139,009	960,770	32,892	86,639	1,309,288

SHIRES.

1918	..	506,447	23,448	599,042	502,390	13,864	89,387	666,893
1919	..	538,769	41,000	690,476	507,506	18,080	97,047	718,018
1920	..	616,025	123,554	860,043	618,287	18,136	110,603	831,807
1921	..	666,951	86,237	844,834	671,997	22,732	134,380	925,953
1922	..	723,478	62,424	933,771	665,229	24,545	119,776	922,811

4. South Australia.—(i) *General.* A large proportion of South Australia is unincorporated, the balance being under municipal corporations in the larger cities and towns, and district councils in outside areas. These bodies are subsidized by Government, and special grants allocated on the recommendation of the Roads Advisory Board are given for the maintenance and construction of main roads.

(ii) *Local Authorities.* (a) *Summary.* During the past five years the number of corporations and district councils has increased by 2, the total being 186, of which 10 corporations and 14 district councils are in the metropolitan area, and 25 corporations and 137 district councils in outside areas. According to the latest available information, there are 955 miles of roads under the control of corporations and about 42,439 miles under the control of district councils, and of these totals, 14½ miles are wood-blocked and 10,529 miles macadamized. The following table gives the area, population, number of occupied dwellings, capital and assessment values and outstanding loans for corporations and district councils separately for the years 1918 to 1922 :—

LOCAL AUTHORITIES, SOUTH AUSTRALIA.—SUMMARY, 1918 TO 1922.

Year.	Area.	Estimated Population.	Occupied Dwellings.	Capital Value.	Assessment Value.	Outstanding Loans.
MUNICIPAL CORPORATIONS.						
	Acres.	No.	No.	£	£	£
1918	53,287	202,328	44,768	41,765,761	2,103,195	348,744
1919	53,949	218,932	45,814	42,401,746	2,337,394	343,926
1920	53,949	208,022	45,674	44,106,632	2,300,858	343,643
1921	53,959	214,730	46,782	47,980,109	2,421,920	382,293
1922	59,279	220,559	48,120	51,100,946	2,544,974	439,319
DISTRICT COUNCILS.						
1918	29,392,214	236,550	56,529	56,334,777	2,767,309	18,007
1919	29,602,382	260,409	57,127	57,503,456	2,829,198	23,836
1920	29,602,382	259,096	57,548	60,184,690	2,938,336	35,797
1921	29,605,269	264,712	57,630	63,510,162	3,160,976	38,131
1922	30,196,509	272,104	59,737	68,293,518	3,429,776	35,358

(b) *Revenue and Expenditure.* The next table gives the revenue and expenditure of corporations and district councils for the years 1918 to 1922, showing in separate columns the receipts and expenditure on main roads. The financial year of municipal corporations ends on the 30th November and that of district councils on the 30th June.

LOCAL AUTHORITIES, SOUTH AUSTRALIA.—REVENUE AND EXPENDITURE, 1918 TO 1922.

Year.	Local Government (exclusive of Government Grants Account).						Government Grants Account (Main Roads).	
	Revenue.			Expenditure.			Revenue.	Expenditure.
	Rates.	Subsidies.	Total.	Roads.	Other Public Works.	Total.		
MUNICIPAL CORPORATIONS.								
	£	£	£	£	£	£	£	£
1918	194,497	26,821	297,907	103,640	102,482	296,590	13,033	14,640
1919	215,605	25,280	334,092	114,102	140,457	340,172	14,734	15,408
1920	233,645	27,347	364,200	115,013	163,260	379,709	16,703	17,113
1921	279,992	29,094	420,060	147,129	144,966	444,782	23,927	21,559
1922	315,772	29,328	470,183	185,758	188,756	500,421	33,222	35,364
DISTRICT COUNCILS.								
1918	162,718	38,298	233,107	165,499	29,235	250,610	126,865	149,038
1919	167,161	38,555	249,622	176,056	30,896	270,108	120,790	129,967
1920	180,414	37,730	298,953	179,802	52,891	310,676	128,345	114,891
1921	212,801	43,316	315,166	189,332	40,048	318,614	208,608	180,891
1922	242,591	50,101	356,359	213,557	53,323	361,290	171,756	185,082

5. *Western Australia.*—(i) *General.* In this State there are three forms of local authorities, namely:—(a) municipalities, (b) district road boards, and (c) local boards of health, the two former covering the whole of the State. Local boards of health are of three descriptions, (a) municipal, the members being the same as those of the municipal council of the municipality in which each is situated, (b) those under the control of road boards, and (c) those not under the control of road boards or municipalities. Several of the two latter are inactive. The financial year of municipalities and municipal boards of health terminates on the 31st October, and that of road boards and other local boards of health on the 30th June.

(ii) *Municipalities.* (a) *Summary.* The following table gives the number of municipalities, their area, population, number of dwelling houses, capital value (including improvements), annual value, and length of roads and streets, for the years 1919 to 1923. The figures for 1921 include those for one municipality which was dissolved on the 1st July, 1921, and for the population and number of dwellings in 1920, 1921 and 1922, the census-figures for 4th April, 1921, are given.

MUNICIPALITIES, WESTERN AUSTRALIA.—SUMMARY, 1919 TO 1923.

Year ended 31st Oct.—	Municipalities.	Area.	Population.	Dwelling Houses.	Valuation of Ratable Property.		Length of Roads and Streets.
					Capital Value.	Annual Value.	
	No.	Acres.	No.	No.	£	£	Miles.
1919 ..	23	60,911	151,575	33,626	26,172,435	1,506,691	1,118
1920 ..	23	60,911	166,222	35,492	26,280,406	1,550,134	1,135
1921 ..	22	60,911	166,222	35,492	29,947,232	1,673,545	1,140
1922 ..	21	58,981	162,561	34,537	29,492,571	1,710,389	992
1923 ..	21	58,981	172,881	35,137	31,054,031	1,810,173	993

(b) *Revenue and Expenditure.* The following table gives the revenue and expenditure of municipalities during the years 1919 to 1923:—

MUNICIPALITIES, WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE, 1919 TO 1923.

Year ended 31st October—	Revenue.				Expenditure.			
	From Rates.	From Govt. Grants.	From other sources.	Total.	Works and Improvements.	Disbursements in respect of Loans.	Other Expenses.	Total.
	£	£	£	£	£	£	£	£
1919 ..	177,408	3,595	377,421	558,424	71,907	135,448	351,365	558,720
1920 ..	190,171	1,142	471,859	663,172	95,194	147,396	423,233	665,823
1921 ..	250,356	710	531,589	782,655	132,011	156,123	461,547	749,681
1922 ..	263,008	300	571,394	834,702	180,537	173,038	493,635	847,210
1923 ..	277,993	939	593,937	872,869	202,758	190,738	471,140	864,636

(c) *Assets and Liabilities.* The following table shows the assets and liabilities of municipalities at the 31st October in each financial year 1919 to 1923:—

MUNICIPALITIES, WESTERN AUSTRALIA.—ASSETS AND LIABILITIES, 1919 TO 1923.

Year ended 31st October—	Assets.				Liabilities.	
	Balance in Hand.	Value of Property.	Accrued Sinking Funds.	Total.	Outstanding Debts and Bonds.	Total.
	£	£	£	£	£	£
1919 ..	41,806	1,426,270	372,168	1,967,776	1,738,568	1,823,929
1920 ..	36,087	1,456,109	385,692	2,011,498	1,745,908	1,836,596
1921 ..	64,687	1,514,671	409,879	2,089,501	1,782,471	1,890,307
1922 ..	45,461	1,533,276	412,578	2,100,799	1,767,562	1,857,490
1923 ..	48,580	1,574,805	477,016	2,212,099	1,802,782	1,894,126

(iii) *District Road Boards. (a) Summary.* The following table shows the number of road districts, their area, approximate unimproved value, length of roads in existence, assets and liabilities and outstanding loans, for the years 1919 to 1923. The unimproved values given are approximate, allowance being made for three districts for which the annual values only are available. In other instances the annual value is also given, and those portions of districts rated under the annual value are not included in the area rated under the unimproved capital value. The population at the date of the census of 4th April, 1921, was 160,970, and the number of dwellings 41,662.

On the 30th June, 1923, the population was estimated at 180,165, and the number of dwelling-houses at 45,488. Forty-two districts, however, only give figures at time of the 1921 census.

DISTRICT ROAD BOARDS, WESTERN AUSTRALIA.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Number of Road Districts.	Area.	Unimproved Capital Value (Approximate).	Length of Roads in Existence.	Assets.	Liabilities.	Out-standing Loans.
	No.	sq. miles.	£	miles.	£	£	£
1919 ..	118	975,820	14,435,000	33,669	272,441	173,002	120,887
1920 ..	118	975,820	14,553,000	34,631	280,066	191,823	140,185
1921 ..	119	975,820	14,547,000	36,506	307,521	219,660	154,411
1922 ..	121	975,828	15,088,027	37,238	356,270	286,423	172,984
1923 ..	121	975,828	16,175,944	38,907	379,649	292,915	210,755

(b) *Revenue and Expenditure.* The revenue and expenditure of district road boards are shown in the following table for the years 1919 to 1923 :—

DISTRICT ROAD BOARDS, WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE, 1919 TO 1923.

Year ended 30th June—	Revenue.				Expenditure.			
	Rates.	Government Grants.	Other.	Total.	Adminis-tration.	Works.	Other.	Total.
	£	£	£	£	£	£	£	£
1919 ..	118,144	27,692	53,748	199,584	29,591	132,276	42,245	204,112
1920 ..	135,644	53,234	68,902	257,780	31,722	152,172	59,471	243,365
1921 ..	149,904	39,172	85,659	274,735	36,891	179,317	69,008	285,216
1922 ..	166,161	35,976	87,182	289,319	38,348	185,477	83,326	307,151
1923 ..	193,018	56,518	120,202	369,738	38,704	203,267	105,315	347,286

(iv) *Local Boards of Health. (a) General.* On the 31st October, 1923, there were twenty-one local boards of health within municipalities, and on the 30th June, 1923, seventy-three under control of road boards, and thirty-one extra-municipal boards. Of the latter, three under the control of road boards and six extra-municipal boards were inactive during the year.

(b) *Finances.* The following table shows the number of boards, their revenue and expenditure, and the assets and liabilities of such as were active from 1919 to 1923. As already stated, the financial year of municipal boards ends on the 31st October, and that of other boards on the 30th June.

LOCAL BOARDS OF HEALTH, WESTERN AUSTRALIA.—FINANCES, 1919 TO 1923.

Year.	Number.	Revenue.			Expenditure.		Assets.	Liabilities.
		Rates.	Sanitary Charges and Rubbish Fees.	Total.	Sanitary and Rubbish Service.	Total.		
		£	£	£	£	£		
1919..	120	40,781	53,113	99,955	74,390	111,360	85,614	19,915
1920..	124	49,012	52,775	123,645	82,856	122,575	78,938	16,944
1921..	126	57,194	63,484	133,021	89,709	131,400	83,875	20,872
1922..	126	56,362	65,786	133,280	87,479	129,941	85,768	17,689
1923..	125	56,523	70,700	140,056	89,430	133,191	88,456	16,192

6. Tasmania.—(i) *General.* The whole State, with the exception of the cities of Hobart and Launceston, which were incorporated under separate Acts, is divided into municipal districts.

(ii) *Municipalities.* (a) *Summary.* The following table gives the number of municipalities, valuations, outstanding loans and length of roads for the year 1918 to 1922. The latest available figures for inhabited dwellings is for the year 1921, when the number was 45,950.

MUNICIPALITIES, TASMANIA.—SUMMARY, 1918 TO 1922.

Year.	Number of Municipalities.	Valuations.			Outstanding Loans.	Length of Roads.
		Annual Value.	Unimproved Value.	Total Capital Value.		
		£	£	£		
1918 ..	50	1,787,234	18,363,948	36,232,654	708,158	11,395
1919 ..	50	1,872,336	18,650,310	37,121,328	1,929,651	11,395
1920 ..	49	1,934,790	19,334,867	38,736,226	1,983,513	11,639
1921 ..	49	2,119,118	20,438,383	41,549,299	2,234,255	11,741
1922 ..	49	2,181,886	20,874,798	43,157,634	2,331,971	11,736

(b) *Revenue and Expenditure.* The following table gives the revenue and expenditure of all municipalities for the years 1918 to 1922 :—

MUNICIPALITIES, TASMANIA.—REVENUE AND EXPENDITURE, 1918 TO 1922.

Year.	Revenue.			Expenditure.			
	Rates.	Government Grants.	Total.	Adminis-tration.	Works and Services.	Interest and Sinking Fund.	Total.
	£	£	£	£	£	£	£
1918 ..	216,232	22,266	557,009	40,501	319,026	165,439	558,939
1919 ..	240,661	33,967	578,886	39,338	398,101	125,240	585,491
1920 ..	255,432	29,072	757,060	45,931	420,110	289,250	770,060
1921 ..	303,625	28,239	888,017	60,377	453,774	120,034	657,412
1922 ..	335,329	32,750	847,095	65,529	480,064	134,964	814,519

7. Northern Territory.—(i) *Municipality of Darwin.* The following particulars relate to the year 1921–22 :—Area 2,024 acres, population 1,000, number of occupied dwellings 228, and of other buildings 130. Revenue from general rates £2,826, from Government grants £1,560, total £4,386; expenditure £5,917.

(ii) *Bagot Road District.* During the year 1921–22 the receipts amounted to £235, and the expenditure to £4, leaving (with a balance of £275 brought forward from the previous year) a balance in hand of £506.

8. *Basis for Municipal Rating and Limits for Rates.*—(i) *Basis of Rating.* The basis of rating is defined in the Acts of the various States dealing with local government, roads maintenance, etc. Special rates may be declared for purposes outside the ordinary activities of local governing bodies, and separate rates may be raised from specified areas; while extra rates, or charges in lieu thereof, may be made for services rendered.

(ii) *Limitation of Rates.* In New South Wales, the total amount of all rates is not to exceed 2d. in the £1 on unimproved, and 2s. in the £1 on annual value, taken together. In Victoria, the water rate must not exceed 2s. in the £1, and the ordinary and extra rates together must not exceed 3s. in the £1. In South Australia, the total amount of general and special rates is not to exceed, in the case of a Municipality, 4s., and in the case of a District, 2s. 6d., in the £1. No limitation is in force in Queensland, Western Australia, and Tasmania.

(iii) *System of Levy.* In New South Wales, ordinary rates are levied on unimproved capital value; special rates on unimproved or improved capital value, at the option of the council. In Victoria, rating is on the net annual value; or, by majority vote at poll where at least one-third of eligible voters record their votes, or by determination of the Council, on the unimproved capital value. In Queensland, the levy is made on the capital value. In South Australia, rates are levied, in the case of a Municipality, on the average annual estimated rental; but, upon petition, a vote of at least one-fourth of the ratepayers decides that rates are to be levied on land values only; in the case of a District, the levy is on the assessed annual value. In Western Australia, payment is based on the annual value for Municipalities, and on the capital unimproved value for Districts, with annual value optional for town sites and goldfields. In Tasmania, the levy is made on the annual value.

(iv) *Maximum Ordinary Rate.* In New South Wales, the maximum ordinary rate is, in the case of a Municipality, 2d. in the £1 on the unimproved capital value, and 1s. 6d. on the assessed annual value; in the case of a Shire, it is 2d. in the £1 on the unimproved capital value. In Victoria, 3s. in the £1 of the annual value is the maximum, but the rate may be raised 6d. in the £1 for the purpose of repaying a loan from the Treasury. In Queensland, the upward limit is fixed at 1s. in the £1 on the unimproved value; but this does not apply to rateable land on a gold or mineral field. In South Australia, 1s. 6d. in the £1 on the average annual rental for Municipalities, and 2s. in the £1 on the assessed annual value for Districts, are the limits. In Western Australia, the maxima are 2s. 6d. in the £1 on the annual value for Municipalities; and for Districts 3d. (which may in special circumstances be increased to 6d.) in the £1 on the unimproved capital value, or 2s. on the annual value. In Tasmania, paving, draining, cleansing, and lighting rates together are not to exceed 1s. 6d. in the £1.

(v) *Minimum Ordinary Rates.* In New South Wales, the minimum rate is 1d. in the £1 on the unimproved capital value, subject to a reduction by the Governor in Council being permissible. In Victoria, it is 6d. in the £1 on the annual value, or 2s. 6d. in the £1 of the unimproved capital value. In Queensland, it is $\frac{1}{2}$ d. in the £1 on the unimproved value. In South Australia, it is 1s. in the £1 on the assessed annual value for Districts. In Western Australia it is 1d. (which may in Districts principally pastoral be reduced to $\frac{1}{2}$ d.) in the £1 on the unimproved capital value, and 9d. on the annual value for Districts. In Tasmania, the minimum general road rate is 6d. in the £1; occupiers of Crown lands pay half the road rate.

(vi) *Special Rates.* These may be levied in New South Wales for any purpose which may be lawfully undertaken; rates for lighting roads are to be levied on the area which derives the benefit; demand for a poll may be made by 50 ratepayers, or one-sixth if there are less than 300 on the roll. In Victoria, an extra rate may be levied on all rateable property in one or more subdivisions on requisition of not less than two-thirds of the councillors for the subdivisions affected. In Queensland, an extra rate may be raised for sewerage or drainage; gas or electric light and hydraulic power; watering, cleansing, or lighting roads; gardens, baths, libraries, etc.; eradication of noxious weeds; destruction of pests; alignment of roads; omnibus services. In South Australia, if the general rate be insufficient, a special rate may be made; lighting rate not to exceed 4d. in the £1; and in the case of Municipalities, neither Fire Brigade rates nor Parks and Reserves rates are to exceed 3d. in the £1; levy is to be by resolution of a majority of the councillors and consent of the ratepayers present at a meeting, or poll

demanded thereat by six ratepayers. In Western Australia, a District council may, with the consent of the Minister, fix the rate for town site or special area at a higher figure than the ordinary maximum, the amount so raised to be spent in that area. In Tasmania, councils may levy special rates, which must not exceed 1s. in the £1, for sewerage, lighting, watering, recreation grounds, destruction of rabbits and noxious weeds, and abattoirs.

(vii) *Local or Separate Rates.* All States, except Western Australia, permit local governing bodies to raise separate rates for defraying expenses of specified works deemed to be for the special benefit of some particular portion of the Municipality or District. These originate, in New South Wales, in a demand of a poll of 50 ratepayers, or one-fifth if not more than 150 affected; in Victoria, on petition of majority of occupiers and one-third of owners, paying over one-third of the total rates, and subject to confirmation by the Governor in Council. In Queensland, one-fifth of the ratepayers in any area may petition that a particular work be carried out; if council takes no action, appeal lies to the Minister after three months. In South Australia a petition may be made, in the case of Municipalities, by half the total number of ratepayers representing not less than three-fourths of the rateable value; and in the case of Districts, by a majority of ratepayers representing not less than two-thirds of the rateable value. In Tasmania, the local rate is not to exceed 1s. in the £1. Fifteen electors may demand a meeting of electors.

(viii) *Loan Rates.* In New South Wales, these may be levied on unimproved or improved value; they must be sufficient to pay interest and sinking fund; and cannot be repealed until the loan is paid off. In Victoria, the rate must be sufficient to pay interest and sinking fund. In Queensland, the council must levy a special loan rate to provide annual instalments for repayment. In South Australia, the maximum loan rate for permanent works is 4½d. in the £1 for Municipalities, and 3d. for Districts. In Western Australia, in Municipalities the rate is not to exceed 1s. 6d. in the £1; and in Districts, it is to be sufficient to pay interest and sinking fund. In Tasmania, the local public works loan rate is not to exceed 1s. in the £1.

(ix) *Other Rates.* In New South Wales rates for Metropolitan and Newcastle water supplies are levied on annual values. For country Municipalities, rates for water supply may be levied on unimproved or improved values. In Victoria, the water rate is not to exceed 2s. in the £1, with a minimum charge of 10s.; councils may levy a rate not above 6d. in the £1 for the removal of night-soil. In Queensland, a health rate may be struck. The cleansing rate may be on the basis of rateable value, service required, superficial measurement, or any other basis decided; the water rate is levied on land within 300 feet of road where mains are laid. In South Australia, the watering rate may be based on the lineal frontage of property served; the Free Libraries rate is not to exceed 3d. in the £1. In Western Australia, the health rate is not to exceed 9d. in the £1 on the annual, or 1½d. on the capital value in proclaimed Districts, or 6d. and ¾d. respectively in others; the sanitary rate is not to exceed 6d. in the £1 on the annual, or ¾d. in the £1 on the capital value. In Tasmania, the health rate is not to include sanitary work; the cleansing rate may be levied on rateable value, number of persons served, superficial measurement, or any other basis decided. Rates may be struck for sewerage, lighting, and noxious weed eradication.

(x) *Alternative to Cleansing Rates.* In New South Wales, Victoria, Queensland, and Tasmania, a definite charge may be made for the removal of night-soil, garbage, etc.

§ 4. Summary of Municipal Finance.

1. *General.* In the preceding parts of this chapter certain particulars have been given regarding local authorities in each individual State. In this paragraph comparative figures are given for each State regarding the financial operations of the local governing bodies referred to in § 3. The particulars in the next two tables refer to financial years as follows:—New South Wales: calendar year 1922. Victoria: 30th September, 1922, except Melbourne, 31st December, and Geelong, 31st August, 1922. Queensland: calendar year 1922. South Australia: Corporations, 30th November, and district councils, 30th June, 1922. Western Australia: Municipalities, 31st October, 1922, district road boards, 30th June, 1922. Tasmania: calendar year 1922.

2. Number, Revenue, Expenditure, and Valuation of Local Authorities.—The following table shows the number, revenue, expenditure, and valuation of local authorities in each State and in Australia during the years indicated above. It should be noted that, excepting in Tasmania, the metropolitan water supply systems are not under municipal control; the particulars given of revenue and expenditure for the five States other than Tasmania do not, therefore, include revenue and expenditure on account of these systems.

LOCAL AUTHORITIES IN EACH STATE.—FINANCIAL SUMMARY, 1922.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
No. of local authorities ..	321	192	170	186	141	49	1,059

RECEIPTS.

	£	£	£	£	£	£	£
Rates—							
General ..	7,260,009	2,303,664	1,125,919	389,793	368,161	102,084	16,485,788
Other ..		407,396	466,555	168,570	102,850	233,245	
Government grants		75,627	122,076	256,699	57,457	32,750	
Loans and other sources ..		1,245,090	358,230	216,458	714,139	479,016	
Total ..	7,260,009	4,031,777	2,072,780	1,031,520	1,242,607	847,095	16,485,788

EXPENDITURE.

	£	£	£	£	£	£	£
Works, services, etc.	7,107,290	2,778,596	1,625,999	851,729	806,164	596,743	16,394,421
Interest on loans and overdrafts		305,289	44,858	21,473	96,551	114,546	
Redemptions, sinking funds, etc. ..		136,090	57,437	19,759	115,703	20,418	
Administration ..		319,430	206,415	98,084	98,130	65,529	
Other ..		407,029	297,390	91,112	95,374	17,283	
Total ..	7,107,290	3,946,434	2,232,099	1,082,157	1,211,922	814,519	16,394,421

VALUATIONS.

Capital value of property ..	a261,004,645	455,209,974	69,770,959	119,394,464	c44,580,598	43,157,634	(b)
Annual value of property ..	(b)	24,317,414	(b)	5,974,750	d1,810,173	2,181,880	(b)

(a) Unimproved capital value of all ratable property. (b) Not available. (c) The valuation of road districts is the unimproved capital value. (d) Excluding district road boards.

3. Local Government Loans, 1922.—The following table shows the amount of loans raised by local authorities during the year 1922, of loans current at the end of that year, of liability on account of interest and sinking fund, and of loans redeemed during 1922 :—

LOCAL AUTHORITIES.—LOANS, 1922.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
Loans raised during year ..	2,358,433	797,676	(c)117,395	77,376	98,599	588,222	4,037,701
Loans current at end of year	13,219,344	5,714,570	2,142,584	474,677	2,013,536	2,331,971	25,896,682
Annual liability on account of interest ..	609,141	(b)286,000	(c)46,002	23,679	97,149	131,755	1,193,726
Total sinking fund at end of year ..	1,217,372	431,200	142,548	25,005	439,761	256,719	2,512,605
Amount of loans redeemed during year ..	(a)	(a)	(c)57,437	23,123	48,461	301,732	(a)

(a) Not available. (b) Approximate. (c) Government loans only.

§ 5. Water Supply, Sewerage and Drainage.

1. New South Wales.—(i) *General.* In Sydney and its suburbs, the water supply and sewerage systems are controlled by the Metropolitan Board of Water Supply and Sewerage, and in Newcastle and its suburbs by the Hunter District Water Supply and Sewerage Board. In country districts, both waterworks and sewerage works are constructed by the Public Works Department, and, when completed, handed over to the municipalities affected, by which the cost must be repaid.

(ii) *Metropolitan Waterworks.* (a) *General.* During the year ended 30th June, 1923, the mileage of water mains laid was 127 miles, as against 118 miles in the preceding year, making the total length in sizes from 3 inches to 72 inches in diameter, 3,100 miles. The work of providing an additional storage of 150,000,000 gallons at Potts Hill was carried on, and the new reservoir practically completed by 31st December, 1923. The supply to the city was improved by the installation of a pump to boost 14,000,000 gallons per day through the 36-in. western suburbs main.

(b) *Water Supplied, etc.* The following table gives the number of houses and estimated population supplied, and other details for the years 1919 to 1923 :—

WATERWORKS, SYDNEY.—WATER SUPPLIED, 1919 TO 1923.

Year ended 30th June—	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year.	Average Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population.	
	No.	No.	1,000 Gallons.	1,000 Gallons.	Gallons.	Gallons.	Miles.
1919 ..	204,308	1,021,540	45,557	16,628,342	223	44.59	106
1920 ..	212,046	1,060,230	48,021	17,527,753	226	45.29	142
1921 ..	221,886	1,109,430	48,496	17,701,000	218	43.71	128
1922 ..	229,274	1,146,370	51,002	18,616,000	222	44.49	118
1923 ..	239,528	1,197,640	56,595	20,657,319	236	47.26	126

(c) *Finances.* The next table gives details of the finances for the years 1919 to 1923 :—

WATERWORKS, SYDNEY.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Revenue.	Working Expenses.	Capital Cost, exclusive of Items on which Interest is not charged.	Percentage of Working Expenses on Revenue.	Percentage of Revenue on Capital Cost.	Interest Payable on Capital Cost.	Net Profit after Paying Working Expenses and Interest.
	£	£	£	%	%	£	£
1919 ..	627,288	219,322	8,900,391	34.96	7.04	377,885	30,081
1920 ..	664,975	291,618	9,584,723	43.85	6.93	433,170	-59,813
1921 ..	855,751	347,298	10,323,252	40.58	8.28	473,889	34,564
1922 ..	923,798	376,203	11,130,857	40.72	8.30	543,164	4,431
1923 ..	992,702	363,102	12,019,600	36.58	8.26	597,351	32,249

NOTE.—The minus sign (—) signifies loss.

(iii) *Metropolitan Sewerage Systems. (a) General.* In addition to the usual progress made in connecting additional houses and constructing new sewers, six tanks have been erected at the North Sydney outfall works for the treatment of sewage by the activated sludge process in substitution for septic tanks, and 707,721,000 gallons of sewage were treated by the new process.

(b) *Houses Drained, Population Served, Length of Sewers, etc.* The subjoined table gives the number of houses drained, the estimated population served, the length of sewers and stormwater drains, the length of ventilating shafts erected, and the length of sewers ventilated for the years 1919 to 1923 :—

SEWERAGE SYSTEMS, SYDNEY.—PARTICULARS OF SERVICES, 1919 TO 1923.

Year ended 30th June—	Number of Houses Drained.	Estimated Population Served.	Total Length of Sewers.	Total Length of Storm-water Drains.	Ventilating Shafts Erected.	Sewers Ventilated.
	No.	No.	Miles.	Miles.	Feet.	Miles.
1919	141,798	708,990	1,131.72	60.11	484,798	1,052
1920	145,304	726,520	1,161.94	63.73	503,362	1,096
1921	148,923	744,615	1,196.96	63.73	514,536	1,122
1922	153,789	768,945	1,226.96	63.73	527,766	1,162
1923	159,390	796,950	1,273.71	65.70	532,470	1,176

(c) *Finances.* The following table shows the revenue, working expenses, capital cost, interest, etc., for the sewerage branch of the Metropolitan Board of Water Supply and Sewerage for the years 1919 to 1923 :—

SEWERAGE SYSTEMS, SYDNEY.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Revenue.	Working Expenses.	Capital Cost, exclusive of Items on which Interest is not charged.	Percentage of Working Expenses on Revenue.	Percentage of Revenue on Capital Cost.	Interest Payable on Capital Cost.	Profit or Loss after Payment of Working Expenses and Interest.
	£	£	£	£	%	£	£
1919	497,406	151,951	6,963,573	30.54	7.14	291,347	54,108
1920	512,621	202,360	7,124,813	39.47	7.26	328,239	-17,978
1921	615,615	229,441	7,329,632	37.27	8.39	341,674	44,500
1922	683,434	244,916	7,553,906	35.83	9.05	373,671	64,847
1923	661,964	231,672	7,857,504	34.99	8.42	395,152	35,140

NOTE.—The minus sign (—) represents a loss.

(iv) *Newcastle Water Supply. (a) General.* No works of great importance were completed during the year ended 30th June, 1923, but 29 miles of water mains were laid, bringing the total up to 506 miles. The construction of the Chichester River pipe-line is being carried out by the Public Works Department, and is nearing completion.

(b) *Particulars of Services.* The following table gives the average daily supply of water, the total quantity pumped during the year, and the number of houses and population supplied for the years 1919 to 1923 :—

NEWCASTLE WATER SUPPLY.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Quantity Pumped for the Year.	Average Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population.	
	No.	No.	1,000 gallons.	1,000 gallons.	Gallons.	Gallons.	Miles.
1919	24,079	120,395	4,065	1,483,807	169	33.76	13
1920	24,364	124,320	4,319	1,580,906	174	34.74	11
1921	25,874	129,370	4,688	1,711,187	181	36.25	14
1922	26,758	133,790	4,626	1,688,537	173	34.57	13
1923	28,036	140,180	4,806	1,754,417	171	34.28	29

(c) *Finances.* The next table gives the revenue, working expenses, capital debt, and net profit for the years 1919 to 1923 :—

NEWCASTLE WATER SUPPLY.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Revenue.	Working Expenses.	Capital Debt.	Percentage of Working Expenses on Revenue.	Percentage of Revenue on Capital Debt.	Interest and Sinking Fund.	Profit or Loss after Paying Working Expenses, Interest, and Sinking Fund.
	£	£	£	%	%	£	£
1919 ..	91,204	36,297	878,599	39.80	10.38	40,000	14,907
1920 ..	97,469	45,516	973,512	46.70	10.01	42,972	8,981
1921 ..	116,320	59,895	1,379,427	51.49	8.43	46,299	10,126
1922 ..	113,217	63,736	1,819,534	56.29	6.22	50,785	- 1,304
1923 ..	110,076	62,155	2,271,295	56.47	4.85	54,682	- 6,761

NOTE.—The minus sign (—) represents loss.

The capital debt in respect of water supply set down as £2,271,295 includes expenditure amounting to £1,430,938 on the incomplete Chichester Scheme, which was not vested in the Board at 30th June, 1923. The capital expenditure in respect of transferred works is £870,657. The percentage of revenue on transferred (and, therefore, revenue-producing) works is £12.64 per cent. as against 4.85 per cent. on total debt.

(v) *Newcastle Sewerage Works.* (a) *General.* Further progress has been made by the Department of Public Works with the construction of the sewerage works of Newcastle and suburbs, and further completed works, comprising the reticulation and ventilation of parts of Waratah, were transferred by the Department to the Hunter District Water Supply and Sewerage Board.

(b) *Sewerage Connections and Length of Sewers.* During the year ended 30th June, 1923, the number of properties connected with sewers was 909, making a total of 14,325. New sewers of a total length of 4 miles were constructed by the Board, bringing the total length of sewers under the Board's control to 161 miles.

(c) *Finances.* Particulars are given in the following table of revenue, working expenses, capital debt, interest, and profit or loss of the sewerage branch of the Board for the years 1919 to 1923 :—

NEWCASTLE SEWERAGE.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Revenue.	Working Expenses.	Capital Debt.	Percentage of Working Expenses on Revenue.	Percentage of Revenue on Capital Debt.	Interest and Sinking Fund.	Loss after Paying Working Expenses, Interest, and Sinking Fund.
	£	£	£	%	%	£	£
1919 ..	26,721	9,784	480,390	36.61	5.56	25,206	8,269
1920 ..	28,050	12,734	518,804	45.40	5.41	27,892	12,576
1921 ..	32,164	16,007	555,513	49.77	5.79	30,577	14,420
1922 ..	39,477	18,863	577,833	47.78	6.83	34,446	13,832
1923 ..	49,551	19,692	592,148	39.74	8.37	36,172	6,313

(vi) *Water Supply and Sewerage in Country Towns.* (a) *General.* Under the Local Government Act of 1919, the Public Works Department may, upon application by any municipal council, construct, out of moneys voted by Parliament therefor, waterworks and sewerage works, and when completed transfer the control thereof to the council. The cost must be repaid in instalments, with interest fixed by the Governor, spread over a period not exceeding one hundred years.

(b) *Waterworks.* Up to the 30th June, 1923, waterworks had been completed in 63 towns and handed over to the respective municipal or shire councils, with the exception of the Junee Water Supply, which has been placed under special administration, and the Grafton Water Supply, which is vested in a Board composed of three members of the Grafton council and three members of the South Grafton council. The capital debt of all waterworks on the date mentioned was £1,585,180, and the annual amount payable in instalments and for interest was £65,392. The water supply of Broken Hill, on which loan expenditure to the amount of £481,795 was incurred, was constructed under a special Act, and the undertaking is administered by the Minister for Public Works. A few municipalities have also constructed waterworks out of their own resources.

(c) *Sewerage Works.* Sewerage and storm-water drainage works were completed in twenty municipalities at the 30th June, 1923. The capital debt thereon amounted to £528,353, and the amount payable annually in instalments and for interest to £21,975.

2. *Victoria.*—(i) *A. The Melbourne and Metropolitan Board of Works.* (a) *General.* All land within thirteen miles of the General Post Office is included within the metropolitan area for water supply and sewerage purposes. This area covers 434 square miles of land area, and in 1923 embraced 21 cities, two towns and part of another, and parts of 13 shires, or a total of 37 municipalities or portions thereof. The Board is also empowered to supply water to certain municipalities outside the thirteen-mile radius, to the Metropolitan Farm at Werribee, and the outfall-sewer area. Various other shires also arrange for bulk supplies of water. The liability on Government loans on the 30th June, 1923, was £938,182, and for loans raised by the Board £13,252,170. The Board is still empowered to borrow £1,949,582 before reaching the limit of its borrowing powers.

(b) *Revenue and Expenditure.* The following table shows the actual receipts and expenditure, and the loan receipts and expenditure of the Board from 1918-19 to 1922-23 :—

WATER SUPPLY AND SEWERAGE, MELBOURNE.—REVENUE AND EXPENDITURE, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
ORDINARY RECEIPTS.					
	£	£	£	£	£
Water supply	353,466	394,007	419,474	446,875	500,671
Sewerage, etc.	364,025	396,718	404,234	454,521	542,698
Live stock—Metropolitan farm ..	57,201	53,051	43,975	19,994	42,045
Interest { Water supply	826	1,707	1,021	1,917	4,587
{ Sewerage	7,525	9,509	8,737	8,477	11,306
Sinking fund proceeds .. ..	..	..	..	..	..
Total	783,043	854,992	877,441	931,784	1,101,307
ORDINARY EXPENDITURE.					
General management	49,700	51,259	59,420	65,612	64,027
Live stock, etc.—Metropolitan farm	63,595	60,851	68,742	53,162	46,632
Maintenance { Water supply	39,580	60,362	67,131	62,919	65,551
{ Sewerage	56,221	62,149	78,037	74,861	60,548
Interest { Water supply	145,458	147,750	156,645	179,034	203,569
{ Sewerage	361,898	362,886	369,204	411,828	430,418
War expenditure: Safeguarding works, etc.	3,535	1,195	..	..	..
Patriotic, Relief Funds, etc. ..	713	100	104	80	10
Sinking fund investment	30,000	5,036	4,813	..	..
Pensions and Compensation Allowances .. ..	..	..	..	6,007	5,756
Total	750,700	751,588	804,096	853,503	876,511

WATER SUPPLY AND SEWERAGE, MELBOURNE.—REVENUE AND EXPENDITURE, 1918-19 TO 1922-23—continued.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
LOAN RECEIPTS.					
Water supply	2,720	4,712	7,016	11,748	19,074
Sewerage	47,339	53,973	47,769	46,120	61,959
Proceeds of loans	176,125	543,853	543,616	1,573,326	749,410
Miscellaneous	4,857	4,351	3,196	17,497	25,978
Total	231,041	606,889	601,597	1,648,691	856,421
LOAN EXPENDITURE.					
	£	£	£	£	£
Water supply construction	35,237	55,937	119,744	316,329	297,365
Sewerage construction	191,012	205,516	257,240	300,818	351,006
Renewals, main outfall .. ..	..	..	..	..	2,280
Expenses in floating and redemption of loans	27,151	249,617	378,820	1,111,814	80,840
Miscellaneous	9,263	27,622	46,478	82,222	49,911
Total	262,663	538,692	802,282	1,811,183	781,402

B. *Melbourne Water Supply. (a) Progress of Work.* The principal works completed or in hand during the year ended 30th June, 1923, were:—The construction of the lower section of the Maroondah Dam was completed; the construction of the upper section and outlet tower being under way, including also contracts for cast-iron pipes and valves. The contract for clearing the site for Maroondah Reservoir having been determined, work will be completed by day labour. The Mitcham Reservoir was further advanced, and the laying of 2,306 lineal feet of 18-in. reinforced concrete pipes for scour main from the reservoir was in progress. The tunnel for the diversion of the river at the O'Shanassy Dam site was completed. Excavation for the cut-off wall and the forming of the upstream toe of the bank of the dam was in progress, contracts for cast-iron pipes and valves being completed. Raising sides of O'Shanassy Channel in earth with concrete lining was under way. Boring for the site of the dam for Silvan Reservoir was completed. The construction of concrete service reservoir at Werribee for Metropolitan Farm water supply was also completed. Up to the 30th June, 1923, the total amount expended on the O'Shanassy scheme was £543,606.

(b) *Quantity of Water, Number of Houses, and Population Supplied.* The following table gives various particulars for the years 1919 to 1923. The rate levied over the period has remained at sixpence in the pound.

WATER SUPPLY, MELBOURNE.—PARTICULARS OF SERVICES, 1919 TO 1923.

Year ended 30th June—	Number of Houses Served.	Estimated Population Supplied. (a)	Average Daily Supply.	Total Supply for the Year.	Average Daily Supply.		Length of Mains, Reticulation, etc.
					Per House.	Per Head of Estimated Population.	
	No.	No.	1,000 Gallons.	1,000 Gallons.	Gallons.	Gallons.	Miles.
1919 ..	165,046	751,615	41,222	15,045,938	249.76	54.88	1,708
1920 ..	170,550	771,871	44,360	16,235,587	260.10	57.47	1,723
1921 ..	177,998	785,845	46,772	17,071,857	262.77	59.52	1,783
1922 ..	184,453	802,144	47,661	17,396,103	258.39	59.42	1,857
1923 ..	195,763	842,179	51,205	18,689,754	261.56	60.80	1,931

(a) 31st December of previous year.

(c) *Capital Cost, Revenue, Expenditure and Surplus.* The following table shows the total cost of construction, revenue, working expenses (exclusive of renewals and special war expenditure), interest and surplus for the five years ending 30th June, 1923, together with the total amounts to that date :—

WATER SUPPLY, MELBOURNE.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses.	Percentage of Working Expenses on Revenue.	Interest.	Surplus.
	£	£	£	%	£	£
1919	32,245	372,180	a 59,394	15.96	b 153,573	159,213
1920	47,251	398,173	a 62,941	15.80	b 156,588	178,644
1921	112,025	407,093	a 78,755	19.34	b 173,550	154,788
1922	310,578	438,399	a 86,925	19.82	b 196,746	154,728
1923	285,352	507,475	a 85,407	16.83	b 217,723	204,345
Total to date ..	5,676,272	11,247,631	1,936,942	17.22	4,864,249	4,446,440

(a) Exclusive of Renewals.

(b) Includes Interest on Renewals and Sinking Funds.

C. *Melbourne Sewerage.* (a) *Progress of Work. By Contract.* During the year ended 30th June, 1923, construction of overflows and excavations for exterior by-pass mains, etc., was continued. One main and two branch sewers were completed; one main and one branch sewer being in progress. Fifteen reticulation areas and 55 minor reticulation extensions were also completed, while four reticulation areas and four minor reticulation extensions were in progress. *By Day Labour.* Two branch sewers and one reticulation area were completed, also 97 minor reticulation extensions and 3,430 branches and short pieces of reticulation, while one reticulation area was in progress.

(b) *Number of Houses Connected, etc.* The following table gives the number of houses connected, the estimated population served, the total length of sewers, and the number of gallons of sewage pumped for the years 1919 to 1923:—

MELBOURNE SEWERAGE.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Number of Houses Connected.	Estimated Population Served.	Length of Sewers.	Sewage Pumped.
	No.	No.	Miles.	1,000 Gallons.
1919	155,238	714,095	1,664	12,964,252
1920	158,735	730,181	1,704	12,576,051
1921	161,955	717,460	1,734	13,813,897
1922	166,871	739,239	1,774	14,320,960
1923	175,379	776,929	1,812	13,262,326

(c) *Finances.* The capital cost, revenue, working expenses (exclusive of renewals), percentage of working expenses on revenue, interest and deficiency for the years 1919 to 1923 are given below :—

MELBOURNE SEWERAGE.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses.	Percentage of Working Expenses on Revenue.	Interest.	Deficiency.
	£	£	£	%	£	£
1919	138,884	379,900	a 87,954	23.15	b 372,235	80,289
1920	158,288	409,057	a 95,287	23.29	b 373,925	60,155
1921	203,324	411,177	a 119,304	29.01	b 378,023	86,150
1922	242,220	441,516	a 121,045	27.41	b 422,295	101,824
1923	263,050	552,643	a 116,804	21.14	b 438,577	2,738
Total to date	8,585,840	6,912,994	1,616,380	23.38	7,452,855	2,156,241

(a) Exclusive of Renewals.

(b) Includes interest on Renewals and Sinking Funds.

(d) *Metropolitan Sewerage Farm.* On 30th June, 1923, the total area of the Farm was 13,219 acres. The following table gives the capital cost, revenue, working expenses (exclusive of renewals), interest, net cost of sewage purification, and trading profit for the years 1919 to 1923 :—

METROPOLITAN SEWAGE FARM.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Capital Cost.	Revenue.	Working Expenses.	Interest.	Net cost of Sewage Purification.	Trading Profit.
	£	£	£	£	£	£
1919	6,667	38,847	c13,827	22,668	(a) 2,352	34,112
1920	8,099	46,921	c18,296	22,964	(a) 5,661	41,061
1921	21,245	22,925	c22,744	23,550	23,360	15,750
1922	12,472	2,993	c23,588	28,711	49,306	(b) 4,837
1923	28,654	20,282	c26,441	29,744	35,903	11,285
Total to date ..	640,510	499,105	263,174	531,882	263,037	273,272

(a) Profit.

(b) Loss.

(c) Exclusive of Renewals.

(ii) *Geelong Waterworks and Sewerage Trust.* (a) *General.* The Geelong Waterworks and Sewerage Trust, constituted in 1908, consists of five commissioners, two of whom represent the city of Geelong, one the town of Geelong West, one the borough of Newtown and Chilwell, and one the shires of Bellarine, Corio and South Barwon. The amount of loan money which may be raised is limited to £725,000 for water supply undertaking, £502,000 for sewerage undertaking, and £200,000 for sewerage installations to properties under the deferred payment system. The population supplied is about 37,000.

(b) *Water Supply.* The catchment area is about 16,000 acres. The works comprise the Korweinguboora Reservoir and the Bolwarra Weir on Eastern Moorabool River, together with the necessary channels, mains and reservoirs. The storage capacity of all the reservoirs is 2,709,835,280 gallons, and there are 198 miles of reticulation mains within the city of Geelong and its suburbs. The total expenditure on waterworks to the 30th June, 1923, was £477,479, and the revenue for the year 1922–23 was £40,525.

(c) *Sewerage Works.* The sewerage scheme consists of a main outfall sewer to the ocean at Black Rock, about 9 miles from Geelong, and 83½ miles of reticulation mains have already been laid. The drainage area is 8,081 acres, and the number of buildings within the drainage area is 9,000 and within the sewered areas 7,690, while 6,900 buildings have been connected with the sewers. Up to the 30th June, 1923, the total expenditure on sewerage works was £429,261 and on the cost of sewerage installations under deferred payment conditions £143,330. The revenue amounted to £32,457.

(iii) *Bendigo Sewerage Authority.* The members of the Bendigo City Council constitute this authority. The sewerage district comprises the whole area of the city of Bendigo. The works, when completed, are estimated to cost £250,000, and comprise treatment works consisting of—(a) Montgomerie–Neilson non-septic liquefying tanks and oxidizing chambers with land disposal of effluent for irrigating grass and crops; (b) Main outfall sewer, main, sub-main, branch, and reticulation sewers, of which over 18 miles had been constructed by the end of April, 1924, at which date 420 premises had been connected to sewers. An unique feature of the scheme is the entire omission of the “boundary trap” from house sewers with resulting omission of “induct vent” to house sewers and the omission of all ventilation on street sewers, the main and reticulation sewers all being amply ventilated by the house sewer ventilation, while the resulting all round saving both of first cost and maintenance is very considerable. Expenditure to end of April, 1924, was £103,000.

(iv) *Water Supply in Country Towns and Districts.* Most of the country waterworks are controlled by the State Rivers and Water Supply Commission, but a number of other waterworks are controlled by Waterworks Trusts or by municipal corporations.

The following table gives particulars as to the waterworks under the control of trusts and municipal corporations for the years 1919 to 1923 :—

COUNTRY WATERWORKS, VICTORIA.—FINANCES, 1919 TO 1923.

Year.	Under Waterworks Trusts.				Under Municipal Corporations.			
	Number of Trusts.	Capital Cost.	Capital Indebtedness.	Current Interest Outstanding.	Number of Corporations.	Capital Cost.	Capital Indebtedness.	Current Interest Outstanding.
	No.	£	£	£	No.	£	£	£
1919 ..	98	1,210,097	907,087	13,898	29	779,834	515,240	9,658
1920 ..	98	1,189,259	892,222	14,970	29	782,115	515,364	10,614
1921 ..	98	1,215,526	905,842	10,171	29	784,465	512,185	2,300
1922 ..	98	1,256,973	936,112	11,342	29	785,602	509,358	1,590
1923 ..	98	1,278,847	949,510	15,178	29	785,602	506,475	3,152

3. Queensland.—(i) *The Metropolitan Water Supply and Sewerage Board, Brisbane.*

(a) *General.* Since the filtration works on Holt's Hill were put into operation, the whole of the water supply in the metropolitan area is now filtered. Four additional filters were commenced, two of which were completed in 1923, one is in progress, and one is held over for the time being. The service reservoirs on Bartley's Hill, Highgate Hill and Wickham Terrace have a total capacity of 7,000,000 gallons. A new reservoir was completed on Tarragindi Hill, a suburb of Brisbane, early in the year, and this reservoir contains approximately 14,000,000 gallons. This reservoir was put into use in March, 1923. The Board have in view important extensions, one of which is an additional trunk main, 42 inches diameter, the laying of which was commenced in July last. The Board have also in contemplation the putting down of an additional pumping plant equal to 18,000,000 gallons per day. The Board have also in view several other important works.

(b) *Brisbane Waterworks. Summary.* The following table shows the length of mains, the number of tenements connected, the population supplied, the total quantity of water supplied, the average daily supply, and the average daily supply per head of population during each year from 1919 to 1923 :—

WATERWORKS, BRISBANE.—SUMMARY, 1919 TO 1923.

Year.	Length of Reticulation Mains.	Number of Tenements Connected.	Estimated Population Supplied.	Quantity Supplied.	Average Daily Supply.	Average Daily Supply per Head of Estimated Population.
	Miles.	No.	No.	1,000Gallons.	Gallons.	Gallons.
1919 ..	477½	36,998	178,620	3,628,478	9,941,036	55.65
1920 ..	505	40,266	193,160	3,293,061	8,997,436	46.58
1921 ..	546½	42,408	206,685	3,360,747	9,207,527	44.54
1922 ..	576½	46,025	221,080	3,648,833	9,996,805	45.22
1923 ..	620½	48,368*	235,980	4,292,246	11,759,579	46.76

* Metropolitan area.

The total length of the trunk mains is 118½ miles.

(c) *Brisbane Sewerage Scheme.* The main sewer from the treatment works to Toowong (13 miles) and the outfall sewers are complete; also two main sewers, one 3½ miles long, with a tunnel under Brisbane River, and the other 3 miles long. The treatment works are nearing completion. The power house and pumping stations are under construction. The total completed is 20½ miles of main sewers and 22 miles of reticulation sewers. A temporary pumping plant has been installed and operated, ten premises having been connected in 1923; also 25,020 houses have been surveyed.

(d) *Brisbane Waterworks and Sewerage Works Finances.* The subjoined table gives the total capital cost, the revenue and working expenses, and the amount of interest and loan redemption during the years 1919 to 1923:—

WATER AND SEWERAGE WORKS, BRISBANE.—FINANCES, 1919 TO 1923.

Year.	Capital Cost.	Revenue, Net.	Working Expenses.	New Works Construction.	Interest and Redemption of Loans.
	£	£	£	£	£
1919	3,115,002	157,855	79,667	431,156	72,354
1920	3,661,580	219,742	94,074	546,578	88,033
1921	4,057,994	269,505	97,379	396,414	105,259
1922	4,618,211	305,450	105,397	560,217	188,038
1923	5,475,473	339,915	116,367	857,261	192,247

(ii) *Country Towns Water Supply.* In addition to the City of Brisbane there were at the end of the year 1922 thirty-one towns in Queensland provided with water supply systems, constructed by municipalities chiefly from Government loans. The subjoined statement gives particulars of all the water supply systems exclusive of Brisbane, for the year 1922:—

COUNTRY WATER SUPPLY SYSTEMS, QUEENSLAND, 1922.

Cost of Construction to 31st December, 1922—£1,130,085.

Receipts.		£	Expenditure.		£
Rates and sales of water	..	127,125	Administration	..	20,337
Government loans	..	28,401	Construction	..	38,186
Other	..	39,858	Maintenance	..	41,162
			Interest and redemption	..	32,214
			Other expenses	..	44,248
Total receipts	..	195,384	Total	..	176,147
Assets	..	872,076	Liabilities	..	608,989

4. *South Australia.*—(i) *General.* The whole of the water supply systems as well as the several sewerage systems are constructed and maintained by the Public Works Department.

(ii) *Adelaide Waterworks.* (a) *Summary.* The following table gives particulars for the years 1918–19 to 1922–23. The figures for consumption are as recorded by gaugings taken at the reservoirs and include evaporation and absorption. There are 45,772 meters in the Adelaide district.

ADELAIDE WATERWORKS.—SUMMARY, 1918-19 TO 1922-23.

Year ended 30th June—	Number of Assessments	Annual Value.	Area Supplied.	Capacity of Reservoirs.	Length of Mains.	Annual Consumption (a).
	No.	£	Acres.	Million Gallons.	Miles.	1,000 Gallons.*
1919	80,747	2,214,089	106,465	4,106	915	5,292,000
1920	83,085	2,336,093	106,465	4,106	947	5,626,000
1921	84,995	2,584,704	106,465	7,753	991	5,179,000
1922	87,279	2,781,473	111,295	7,753	1,010	5,873,000
1923	91,903	3,337,345	111,295	7,753	1,034	66,599,000

(a) For previous year ending 31st December.

(b) Year ended 30th June, 1923.

(b) *Finances.* Particulars available are shown in the subjoined table for the years 1918-19 to 1922-23 :—

ADELAIDE WATERWORKS.—FINANCES, 1918-19 TO 1922-23.

Year ended 30th June—	Capital Cost.	Revenue.		Expenses.			Percentage of Net Revenue on Capital Cost.
		Rates.	Total.	Engineering Branch.	Revenue Branch.	Total.	
	£	£	£	£	£	£	%
1919 ..	2,079,957	93,328	126,111	29,161	6,982	36,143	4.33
1920 ..	2,172,518	96,103	137,488	35,902	7,508	43,410	4.33
1921 ..	2,768,769	107,665	177,722	42,700	9,678	52,378	4.53
1922 ..	2,843,507	134,472	204,996	43,811	9,956	53,767	5.32
1923 ..	2,924,702	167,465	232,478	47,532	9,737	57,269	5.99

(iii) *Adelaide Sewerage.* Particulars for the years 1918-19 to 1922-23 are given hereunder :—

ADELAIDE SEWERAGE.—SUMMARY, 1918-19 TO 1922-23.

Year ended 30th June—	Length of Sewers.	Number of Connections.	Capital Cost of Revenue-Producing Works.	Revenue.		Working Expenses.		Percentage of Net Revenue on Capital Cost.
				Rates, etc.	Total.	Maintenance, etc.	Total.	
	Miles.	No.	£	£	£	£	£	%
1919 ..	358	37,837	847,160	60,808	75,505	13,226	23,636	6.12
1920 ..	363	38,979	860,438	65,744	86,076	13,396	24,046	7.21
1921 ..	368	40,168	894,085	74,582	87,183	16,222	28,587	6.55
1922 ..	373	41,240	946,213	79,562	90,525	17,083	29,893	6.41
1923 ..	390	42,879	997,604	83,266	98,657	17,356	29,514	6.93

(iv) *Country Towns Water Supply.* (a) *Summary.* The chief items of information regarding these undertakings are set forth in the table below for the years 1918-19 to 1922-23 :—

COUNTRY TOWNS WATERWORKS, SOUTH AUSTRALIA.—SUMMARY,
1918-19 TO 1922-23.

Year ended 30th June—	Number of Assessments.	Area Supplied.	Capacity of Reservoirs.	Length of Mains.	Annual Consumption (a).
	No.	Acres.	Million Gallons.	Miles.	1,000 Gallons.
1919	56,242	4,201,294	4,977	3,031	967,773
1920	57,258	4,202,360	5,068	3,070	958,068
1921	58,552	4,847,295	4,978	3,136	770,030
1922	57,623	4,850,448	4,978	3,176	823,123
1923	60,552	4,933,732	6,350	3,257	1,071,094 ^b

(a) For previous year ending 31st December.

(b) Year ended 30th June, 1923.

(b) *Finances.* The next table gives financial information for the years 1918-19 to 1922-23 :—

COUNTRY TOWNS WATERWORKS, SOUTH AUSTRALIA.—FINANCES,
1918-19 TO 1922-23.

Year ended 30th June—	Capital Cost.	Revenue.		Working Expenses.			Percentage of Net Revenue on Capital Cost.
		Rates.	Total.	Engineering Branch.	Revenue Branch.	Total.	
	£	£	£	£	£	£	%
1919	3,924,385	70,722	101,262	31,412	5,782	37,194	1.63
1920	4,017,265	70,526	108,584	38,651	6,297	44,948	1.58
1921	4,168,876	73,024	110,656	42,084	7,220	49,304	1.47
1922	4,368,091	66,527	96,373	50,475	7,821	58,296	0.87
1923	4,562,092	78,649	105,865	56,039	8,034	64,073	0.90

(v) *Other Sewerage Systems.* The following table gives information in summarized form regarding the two suburban sewerage systems, viz. : the Glenelg system and the Port Adelaide and Semaphore system, for the years 1918-19 to 1922-23 :—

SUBURBAN SEWERAGE SYSTEMS, SOUTH AUSTRALIA.—SUMMARY,
1918-19 TO 1922-23.

Year ended 30th June—	Length of Sewers.	Number of Connections.	Capital Cost.	Revenue.		Working Expenses.		Percentage of Net Revenue on Capital Cost.
				Rates.	Total.	Main-tenance.	Total.	
	Miles.	No.	£	£	£	£	£	%
1919	57	4,303	346,195	8,710	9,869	5,129	5,454	1.27
1920	58	4,657	354,084	8,765	9,849	5,581	5,952	1.10
1921	59	5,216	372,520	10,507	11,606	10,148	10,607	0.27
1922	63	5,868	400,198	12,145	13,520	10,347	10,978	0.64
1923	67	6,576	423,620	13,055	14,449	12,693	13,307	0.27

5. Western Australia.—(i) *General*. The water supply and sewerage systems of Western Australia are all under the management of Government departments, and are divided into the following categories :—(a) Metropolitan Water Supply, Sewerage and Drainage covering Perth, Fremantle, Claremont, Guildford, Midland Junction and Armadale District, (b) Goldfields Water Supply, (c) Water Supply of other towns, (d) Agricultural Water Supply, (e) other Mines Water Supply, and (f) artesian and sub-artesian waters. The consumption of water by the railways is included in the figures for water supplied given hereunder.

(ii) *Metropolitan Water Supply, Sewerage and Drainage*. (a) *General*. The sources of the metropolitan water supply are the Victoria Reservoir, Bickley Brook, Lower Bickley Brook, Mundaring Reservoir, thirteen bores and the Armadale Pipe Head Dam. The sewerage system consists of septic tanks and percolating filters for Perth, and septic tanks and ocean outfall for Fremantle.

(b) *Summary*. The following table gives particulars regarding water supply for the years 1919 to 1923.

At the 30th June, 1923, the number of houses connected with sewers was 14,734.

WATER SUPPLY, WESTERN AUSTRALIA.—SUMMARY, 1919 TO 1923.

Year ending 30th June—	Estimated Population Supplied.	Number of Houses Supplied.	Water Supplied.	Average Daily Supply.		Number of Meters.	Length of Mains.
				Per Head.	Per House.		
	No.	No.	1,000 Gallons.	Gallons.	Gallons.	No.	Miles.
1919	153,183	33,406	2,186,987	39.11	179.36	20,443	623
1920	166,414	34,677	2,256,100	37.04	177.76	21,437	633
1921	171,198	35,666	2,327,042	37.24	178.75	21,367	645
1922	175,876	36,641	2,600,697	40.51	194.46	21,511	659
1923	182,410	38,002	2,714,791	40.77	195.72	21,782	677

(c) *Finances*. The table hereunder gives the capital cost, the revenue and the expenditure of the water supply and sewerage and drainage branches separately for the years 1919 to 1923 :—

WATER SUPPLY AND SEWERAGE AND DRAINAGE, WESTERN AUSTRALIA.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Water Supply.			Sewerage and Drainage.		
	Capital Cost.	Revenue.	Expendi- ture.	Capital Cost.	Revenue.	Expendi- ture.
	£	£	£	£	£	£
1919	1,080,876	89,215	90,907	933,886	54,457	64,325
1920	1,119,910	96,882	103,570	947,411	59,628	66,001
1921	1,223,951	113,439	117,136	958,452	61,961	71,773
1922	1,309,262	122,669	129,412	968,540	70,086	72,153
1923	1,410,442	126,028	134,316	1,015,930	74,771	74,777

(iii) *Goldfields Water Supply*. The source of supply for the Coolgardie and adjacent goldfields, as well as for places on or near the pipe-line, is the Mundaring Reservoir, which has a capacity of 4,650 million gallons. There are three classes of consumers—the railways, the mines, and “other,” and in 1922–23 the railways consumed 8 per cent., the

mines 21 per cent., and "other" 71 per cent. of the supply. The following table gives statistical data for the years 1919 to 1923 :—

GOLDFIELDS WATER SUPPLY, WESTERN AUSTRALIA.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Total Consumption.	Number of Services.	Length of Water Mains.	Capital Cost.	Revenue.	Expenditure.
	1,000 gallons.	No.	Miles.	£	£	£
1919	1,117,000	12,231	1,222	3,393,510	203,266	287,562
1920	1,126,000	12,244	1,221	3,401,543	176,364	295,574
1921	1,130,000	12,238	1,219	3,427,300	187,010	311,070
1922	1,153,320	10,789	1,224	3,432,234	180,127	297,027
1923	1,169,000	10,899	1,234	3,445,059	178,495	217,680

(iv) *Water Supply of other Towns.* During the year 1922–23, there were thirteen towns provided with water supplies, apart from those in the metropolitan area and those supplied by the Goldfields Water Scheme. The total consumption of water by these thirteen towns for the year ending 30th June, 1923, was 114,368,000 gallons, and the estimated population served was 13,464. The average daily consumption was 23.27 gallons per head. In eleven other towns the water supplies are administered by local boards.

(v) *Agricultural Water Supply.* During the year 1922–23, three tanks were excavated, and six wells sunk, of which one yielded fresh water and five stock water. During the thirteen years from the 1st July, 1910, to the 30th June, 1923, 373 tanks were built, 303 wells sunk, and 2,599 bores put down to a total depth of 128,104 feet. Of the bores mentioned, 443 yielded fresh, and 236 stock-water.

(vi) *Other Mines Water Supply.* Twenty-eight bores were put down to a total depth of 1,283 feet; six of these provide fresh and one salt water. Three fresh-water wells were also sunk for the use of the travelling public.

(vii) *Artesian and Sub-artesian Waters.* Up to the 30th June, 1923, the total number of bores put down in search of artesian or sub-artesian water was 179, including 49 sunk in the metropolitan area, ranging in depth from 56 to 4,006 feet.

6. *Tasmania.*—(i) *Hobart Water Supply.* The cost of this undertaking to the 31st December, 1923, was £395,305, but a considerable amount of reticulation work has been done out of revenue and not charged to capital account. The outstanding loans at 31st December, 1923, amounted to £347,555. At the same date the number of tenements supplied in the city and suburbs was 9,750, the population 46,100, and the length of reticulation mains 103 miles. The revenue and expenditure for the years 1919 to 1923 were as follows :—

HOBART WATERWORKS.—REVENUE AND EXPENDITURE, 1919 TO 1923.

Heading.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Revenue	26,832	28,287	30,671	36,798	35,494
Expenditure	27,468	30,696	33,773	33,697	35,494

(ii) *Hobart Sewerage System.* The revenue for the year ended 31st December, 1923, was £22,885. Up to that date 75 miles of sewers had been laid in connexion with the original city system at a cost of £206,713, and 7,738 tenements connected. Since the

original city was sewered, the Municipalities of Queensborough and New Town have been included in the city, and are now being sewered. In Queensborough, 22½ miles of sewers, connecting with 830 tenements, have been constructed at a cost of £104,773. In New Town a total of 6¼ miles of sewers have been laid, and 50 properties connected. The cost to 31st December, 1923, including surveys and sewerage outfall, was £50,990.

§ 6. Harbour Boards and Trusts.

1. *New South Wales.*—(i) *Sydney Harbour Trust.* (a) *General.* The Sydney Harbour Trust, which consists of three Commissioners appointed by the Government, controls the whole of the wharves resumed by the Government in 1901. The Commissioners also provide and maintain the lighting and marking of the harbour, and carry out all necessary dredging. The whole of what might be termed city wharves are owned by the Commissioners and leased to various shipping companies, but the Trust directly operates and maintains a certain number of open wharves. Outside the city area the wharves are, to a large extent, privately controlled, but all structures beyond high-water mark are held under leases issued by the Trust. The extent of wharfage accommodation now available for use totals 60,469 lineal feet, inclusive of 7,800 lineal feet privately owned.

The depth of water at the entrance to the port is not less than 80 feet, and in the channels there are 40 feet at low-water spring tides. The foreshores of Sydney Harbour are about 200 miles in length. The area of the water in the port is 14,284 acres, of which 3,000 acres have a depth ranging from 35 to 160 feet.

Since its inception, the Trust has spent £5,814,768 on the reconstruction and extension of the wharfage of the port. Over 12,000 lineal feet of old and obsolete wharfage have been demolished, and 30,469 lineal feet of new berths have been constructed. Other improvements include 2,250,000 square feet of floor area of new sheds and nearly four miles of new roadways.

During the year 1923, 1,044,235 tons of material were dredged at a cost of £48,674. In the process of towing such material, 36,235 miles were run at a cost of £33,697.

(b) *Finances.* The subjoined table gives particulars concerning the finances of the Trust for the years 1919 to 1923 :—

SYDNEY HARBOUR TRUST.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Revenue.				Expenditure.	Total Capital Debt.	Interest.	Balance.
	Wharfage and Harbour Rates.	Tonnage Rates and Berthing Charges.	From Other Sources.	Total.				
1919 ..	323,253	31,347	264,300	618,900	179,899	8,691,972	336,823	102,178
1920 ..	323,306	22,398	312,609	658,313	206,450	8,959,887	353,037	98,826
1921 ..	429,986	43,577	323,648	797,211	244,764	9,449,213	438,210	114,237
1922 ..	451,981	44,465	330,676	827,122	261,120	9,868,165	488,552	77,450
1923 ..	517,740	39,570	294,931	852,241	253,614	10,129,113	514,756	83,871

2. *Victoria.*—(i) *Melbourne Harbour Trust.* (a) *General.* Information regarding the origin and constitution of this Trust will be found in Official Year Book No. 12, pp. 970 *et seq.* During the year 1923, the length of sheds in the port was 19,468 feet, covering an area of 1,125,295 square feet. The quantity of material raised by the dredging and excavation done in the improvement of the river and bay amounts to 77,795,353 cubic yards. The Trust has expended £336,194 in reclaiming land within its jurisdiction.

(b) *Finances.* The following table gives particulars of the revenue and expenditure of the Trust from 1919 to 1923 inclusive. Up to 31st December, 1923, the total capital expenditure amounted to £5,155,488.

MELBOURNE HARBOUR TRUST.—FINANCES, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
REVENUE.					
	£	£	£	£	£
Rates, rents, etc.	323,253	380,203	491,677	589,583	681,958
Interest	193	46	42	80	328
Other receipts	10,851	10,253	9,718	12,808	9,850
Total	334,297	390,502	501,437	602,471	692,136
EXPENDITURE.					
Management and general expenses ..	45,570	51,178	57,226	61,763	60,997
Interest	104,245	106,735	114,860	144,883	124,109
Total	149,815	157,913	172,086	206,646	185,106
Less standing charges added to works	23,495	29,150	30,892	34,628	37,272
Total	126,320	128,763	141,224	172,018	147,834
Wharfage and other refunds	1,677	2,529	3,064	3,866	5,728
Consolidated revenue of Victoria ..	62,460	75,554	96,224	114,986	135,520
Flotation of loans expenses	7,956	300	29,525	35	750
Redemption of loans expenses	4,499	..	615	..	..
Maintenance	77,766	105,147	120,412	126,051	85,458
Total expenditure	280,678	312,293	391,064	416,956	375,290
Surplus on revenue account	53,619	78,209	110,373	185,514	316,846
Less depreciation and renewals account and sinking fund	52,500	52,500	65,000	100,000	213,000
Net surplus on revenue account	1,119	25,709	45,373	85,514	103,846
CAPITAL EXPENDITURE.					
Land and property	964	3,221	2,461	11,906	32,892
Deepening waterways	68,746	80,720	81,699	98,331	150,885
Wharves construction	77,305	50,084	79,206	45,613	67,360
Approaches construction	3,774	2,364	1,565	9,084	7,519
Other harbour improvements	3,068	2,936	14,099	25,311	8,719
Floating plant	1,435	834	2,957	1,708	632
General plant	509	883	1,131	925	2,025
Total	155,801	141,042	183,118	192,878	270,032

(ii) *Geelong Harbour Trust.* (a) *General.* The Geelong Harbour Trust was constituted in 1905, and is under the control of three Commissioners appointed by the Governor in Council. The Commissioners have vested in them the Port of Geelong which includes Corio Bay, Portarlington, some miles of Bay frontage, and certain lands on the River Barwon and at Barwon Heads. The Commissioners have established complete facilities for the export of grain, frozen meat, and other produce, and have also constructed extensive abattoirs and freezing works. A large amount of money has been expended in the reclamation of waste lands, and on part of such lands a dairy farm with a complete system of drainage and irrigation has been established.

(b) *Finances.* The following table gives financial details for the years 1919 to 1923 :—

GEELONG HARBOUR TRUST.—FINANCES, 1919 TO 1923.

Year.	Loans.	Sinking Fund.	Revenue.	Expenditure.
	£	£	£	£
1919	591,000	27,542	48,213	56,207
1920	591,000	27,954	50,020	60,625
1921	591,000	28,667	49,636	53,605
1922	591,000	29,379	54,234	52,066
1923	591,000	33,045	58,680	56,065

3. *Queensland.*—(i) *Bowen Harbour Board.* (a) *General.* The Bowen Harbour Board consists of seven members, of whom two are appointed by the Governor in Council and the remainder elected by the electors of the Town of Bowen and adjacent shires. The district under its jurisdiction comprises the area within the boundaries of the Town of Bowen, the Shires of Proserpine and Wangaratta, and division I. of the Shire of Ayr.

(b) *Finances.* The capital expenditure to the 31st December, 1923, was £53,000, while for the year 1923 the receipts were £8,066 and the expenditure £7,410.

(ii) *Bundaberg Harbour Board.* (a) *General.* The Bundaberg Harbour Board was re-constituted under an Act of 1922, and consists of nine members, of whom one is appointed by the Governor in Council, four by the City of Bundaberg, and two each by the Shires of Gooburrum and Woongarra, these three municipalities comprising the Harbour Board District. The jurisdiction of the Board extends over the harbour of Bundaberg and certain lands adjacent to the River Burnett.

(b) *Finances.* The revenue for the year 1923 amounted to £4,563 as against £5,803 for the previous year, and the expenditure to £4,434 as compared with £5,433 for 1922.

(iii) *Cairns Harbour Board.* (a) *General.* The Cairns Harbour Board consists of twelve members, representing the town of Cairns and eight adjoining shires. The wharves at Cairns, which are all under the control of this Board, are constructed of reinforced ferro-concrete and are 1,500 feet in length. There is also under construction an electrically-driven mechanical sugar-handling conveyor, estimated to cost £35,000. The wharves are electrically lighted and furnished with railways. There is a gantry 10-ton crane for handling sinker logs and a special railway wharf with facilities for handling floater logs. A cold storage plant has been built at a cost of £9,000.

(b) *Finances.* During the year 1923 the revenue of the Board was £53,541, derived from harbour, berthage and miscellaneous dues.

(iv) *Gladstone Harbour Board.* (a) *General.* The Gladstone Harbour Board is composed of seven members, two of whom are appointed by the Governor in Council and five elected by the electors of the town of Gladstone and the shires of Calliope and Miriam Vale. The works under the control of the Board are (i) Auckland Point Jetty and Wharf, constructed of reinforced concrete and wood, the berth being 775 feet long, with an average depth alongside of 26 feet; (ii) the municipal wharf in Auckland-street; (iii) wool dumping plant on Auckland Point jetty, consisting of two hydraulic dumps, capable of doing either single or double dumping. Works under construction are (i) 15-ton electric crane for coal and timber for export; (ii) extension of 208 feet to western end of existing jetty; (iii) duplication of approach for mixed traffic; (iv) additional approach to jetty shed.

(b) *Finances.* The total capital expenditure to the end of 1923 amounted to £73,165. The revenue for 1923 was £2,033, and the expenditure £2,461.

(v) *Mackay Harbour Board. (a) General.* The Mackay Harbour Board consists of nine members, elected by the electors of the City of Mackay and four adjacent shires. The works being carried out are in connexion with the director wall in the Pioneer River, on the north side, of which about 5,383 feet have already been built, leaving a further 1,167 feet yet to complete (probably by March, 1924).

(b) *Finances.* The total capital expenditure of the Board from its inception in 1897 is not available, but the capital expenditure for the year ended 31st December, 1923, was £1,915. During the year 1923 the receipts amounted to £9,083 and the expenditure to £20,992.

(vi) *Rockhampton Harbour Board. (a) General.* The Rockhampton Harbour Board consists of eleven members, of whom seven are elected by the electors on the rolls for the city of Rockhampton, the town of Mount Morgan and the shires of Fitzroy and Livingstone. The remaining four are elected by the councillors of groups of inland shires.

In the port of Rockhampton, which comprises the tidal area of the Fitzroy River as far as the entrance to Keppel Bay, there are three principal places where steamers may lie and discharge cargo, viz., (i) Rockhampton itself, (ii) Port Alma, where the oversea steamers berth, and (iii) Broadmount, originally built for the oversea trade of twenty-five years ago. The wharves at these three places are connected by rail with Rockhampton and with the main central line. The Board undertakes the work of improving the navigable channels throughout the estuary and river, and of maintaining the wharves at Port Alma and Rockhampton.

(b) *Finances.* The revenue for the year 1923 was £31,858, of which £2,900 represented loans, and the expenditure was £35,451, which included £16,027 interest on loans and overdraft.

(vii) *Townsville Harbour Board. (a) General.* The Townsville Harbour Board was created in 1896, and is composed of nine members, of whom two are appointed by the Governor in Council, and the remaining seven are elected by the electors of Townsville and adjacent towns and shires. All harbour works and conveniences for the use of shipping are under the control of the Board.

(b) *Finances.* The total expenditure since the inception of the Board is £1,544,749, while the receipts for the year 1923 were £61,469, being £53,469 revenue and £8,000 loan for harbour works, and the expenditure for the same year £61,039.

(viii) *Harbour Boards—Financial Summary.* The following table shows the total revenue and expenditure of Harbour Boards and the outstanding loans for the years 1918 to 1922:—

HARBOUR BOARDS, QUEENSLAND.—FINANCIAL SUMMARY, 1918 TO 1922.

Year.	Number of Boards.	Revenue.			Expenditure.			Outstanding Loans.
		Wharfage and Harbour Dues.	Government Loans.	Total.	Works and Maintenance.	Interest and Redemption of Loans.	Total.	
		£	£	£	£	£	£	£
1918	5	116,852	4,950	142,306	88,817	36,557	146,824	856,422
1919	6	87,153	9,044	139,592	65,629	35,570	128,663	886,677
1920	6	108,212	17,712	179,432	90,761	51,492	178,436	887,628
1921	7	117,417	46,219	183,949	101,563	65,452	199,341	979,341
1922	7	132,234	78,506	234,827	171,853	58,492	230,345	1,077,833

4. *Western Australia.—(i) Fremantle Harbour Trust. (a) General.* Fremantle Harbour is controlled by a Board of five Commissioners appointed by the Governor in Council. A description of the works was given in a previous Year Book (see No. 12, p. 973). Since that account was written, the inner harbour and entrance channel have been dredged to a depth of 36 feet below the lowest known low water. The berthage accommodation at all the quays has also been deepened to 36 feet.

(b) *Finances.* The following table gives financial data for the years 1919 to 1923 :—

FREMANTLE HARBOUR TRUST.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Revenue.	Expenditure.	Gross Amount Paid to the Treasury.				
			Interest.	Sinking Fund.	Renewals Fund.	Surplus Revenue.	Total.
	£	£	£	£	£	£	£
1919	185,817	94,093	70,861	18,837	..	2,026	91,724
1920	281,600	130,740	73,872	19,301	2,000	54,513	149,686
1921	301,065	133,904	77,240	19,819	2,000	71,410	170,469
1922	282,038	126,597	80,218	20,277	2,000	56,491	158,986
1923	282,015	120,086	83,386	20,764	2,000	47,272	153,422

(ii) *Bunbury Harbour Board.* (a) *General.* The Bunbury Harbour Board was constituted in 1909, and consists of five members appointed by the Government. The jetty is 4,900 feet long with berthage accommodation of 2,750 feet on the west side and 3,000 feet on the east side, and is electrically lighted. Vessels can load alongside to depths ranging from 16 to 27½ feet. Five electric and one steam gantry cranes, all of 3 tons lifting capacity, are available.

(b) *Finances.* The following table gives the capital expenditure for each of the five years ending 30th June, 1919 to 1923, together with the revenue and expenditure for the same years. Any surplus revenue is paid into the Consolidated Revenue Fund to meet interest and sinking fund.

BUNBURY HARBOUR BOARD.—FINANCES, 1919 TO 1923.

Year ended 30th June—	Capital Expenditure.	Revenue.	Expenditure.	Paid to Consolidated Revenue Fund.
	£	£	£	£
1919	338,392	12,510	5,381	7,129
1920	377,688	16,487	8,013	8,474
1921	417,611	28,980	8,843	20,137
1922	440,965	26,175	9,818	16,357
1923	448,377	25,746	8,749	16,997

5. *Tasmania.*—(i) *Marine Board of Hobart.*—(a) *General.* The Marine Board of Hobart consists of nine wardens elected by the ship-owners of the Port of Hobart and the importers and exporters of goods into or from any port within the jurisdiction of the Board. The Board has jurisdiction over all ports, harbours and waters within the limits of the coast line from South-West Cape round the southern and eastern coasts to Cape Portland, and within all islands adjacent to such coast line. The duties of the Board are to maintain all wharves within its jurisdiction which are not vested in another authority or belonging to any private person, to construct new wharves where necessary, and to improve the navigation where desirable.

(b) *Finances.* The following table gives details for the years 1919 to 1923 :—

MARINE BOARD OF HOBART.—FINANCES, 1919 TO 30th JUNE, 1923.

Year.	Capital Debt.	Revenue.			Expenditure.			
		Harbour Improvements, Debentures, etc.	General.	Total.	Harbour Improvements.	Interest and Sinking Fund.	General.	Total.
	£	£	£	£	£	£	£	£
1919	106,350	367	21,505	21,872	108	5,700	14,603	20,411
1920	106,350	4,568	30,584	35,152	3,859	5,585	21,807	31,251
1921	96,350	..	30,055	30,055	1,080	5,400	29,470	35,950
1922 (to 30th June)	92,350	..	16,133	16,133	3	3,265	11,975	15,243
1922-23	90,350	..	32,620	32,620	373	6,511	25,670	32,554

(ii) *Marine Board of Launceston. (a) General.* The Marine Board of Launceston consists of five wardens elected by the ratepayers of the city of Launceston. The jurisdiction of the Board extends from Cape Portland along the north coast of Tasmania to Badger Head. The chief work carried out has been to deepen the channel of the River Tamar to 16 feet and to maintain the wharves. An important work was completed in 1923, the removal to a depth of 30 feet of Porpoise Rock, which lies 4 miles from the entrance of the port. It is proposed to establish a deepwater port at Bell Bay. The wharfage accommodation at Launceston is being extended.

(b) *Finances.* The following table gives details for the years 1919 to 1923 :—

MARINE BOARD OF LAUNCESTON.—FINANCES, 1919 TO 1923.

Year.	Total Capital Debt.	Capital Debt, Tamar Improvement.	Revenue.	Expenditure.
	£	£	£	£
1919	231,539	184,301	33,748	30,238
1920	263,718	216,480	39,569	40,865
1921	303,861	256,822	44,421	45,688
1922	318,361	271,322	47,638	40,021
1923	318,361	282,710	49,928	47,588

(iii) *Marine Board of Burnie.* The length of the breakwater is 1,250 feet, with a depth up to 42 feet at low water, and a wharf alongside, 630 feet in length by 91 feet wide. There are two other timber wharves, 600 feet and 400 feet long respectively. The receipts for the year ending 30th June, 1923, were £17,971, and the expenditure £17,305, including £11,500 interest on construction loans.

(iv) *Other Boards and Trusts.* In addition to the three Marine Boards mentioned above, there are four Marine Boards and three Harbour Trusts, which have control of the smaller ports and harbours.

(v) *Financial Summary.* The total receipts and expenditure of the ten marine Boards and Harbour Trusts for the years 1918 to 1922 are shown in the following table :—

MARINE BOARDS AND HARBOUR TRUSTS, TASMANIA.—FINANCIAL SUMMARY, 1918 TO 1922-23.

Year.	Receipts.				Expenditure.
	Taxes, Rents, etc.	Government and Loans.	Other.	Total.	
	£	£	£	£	£
1918	64,426	898	15,156	80,480	90,543
1919	73,485	998	15,552	90,035	100,298
1920	85,845	5,154	83,412	174,411	207,378
1921	109,363	3,867	4,957	118,187	116,358
1922-23*	143,200	19,023	21,743	183,966	172,485

* Figures for 18 months (except in the case of three trusts), the financial year having been changed.

§ 7. Fire Brigades.

1. **New South Wales.**—(i) *General.* Under the Fire Brigades Act of 1909, a Board of Fire Commissioners consisting of five members was formed and fire districts established. The cost of maintenance of fire brigades is borne in equal proportions by the Government, the municipalities, and the insurance companies concerned, but the expenditure must be so regulated that the proportion payable by the councils in a fire district must not exceed the amount obtainable from a farthing in the pound rate on the unimproved capital value of the district.

(ii) *Sydney Fire District.* (a) *Plant, etc.* The Sydney fire district includes the City of Sydney and suburbs, comprising a total area of 258 square miles. On the 31st December, 1922, the Board had under its control in this district 67 stations, 315 permanent men, 167 partially-paid firemen, 3 steam and 60 motor fire engines, 14 horses, 141,867 feet of hose, and 542 telephone fire-alarms. The length of wire used for telephone lines was 1,340 miles.

(b) *Finances.* The subjoined table shows the receipts and disbursements of the Board for the past five years in respect of the Sydney Fire District :—

SYDNEY FIRE DISTRICT.—FINANCES, 1919 TO 1923.

Year.	Receipts.						Disbursements.
	From Government.	From Municipalities.	From Fire Insurance Companies.	From Firms.	From other Sources.	Total.	
	£	£	£	£	£	£	£
1919	34,198	34,198	33,819	379	4,339	106,933	115,637
1920	47,808	47,808	47,218	589	3,815	147,238	143,262
1921	54,355	54,355	53,820	535	6,457	169,522	163,528
1922	53,979	53,979	53,425	554	4,745	166,682	163,750
1923	58,153	58,153	57,551	602	5,954	180,413	178,585

2. **Victoria.**—(i) *General.* The Fire Brigades Act of 1915 provides for a Metropolitan Fire Brigades Board, and a Country Fire Brigades Board, each consisting of nine members, with local committees in country districts. The income of each Board is derived in equal proportions from the Treasury, the municipalities, and insurance companies.

(ii) *Metropolitan Fire Brigades Board.* (a) *Plant, etc.* On the 30th June, 1922, this Board had under its control 41 stations, 271 permanent men, 130 partially-paid firemen, 50 special-service firemen, 5 motor drawn steam fire engines, 8 petrol motor fire pumps, 57 other petrol motor appliances, 2 steam fire engines, 96,397 feet of hose, and 363 fire-alarm circuits having 1,092 street fire alarms, 1,072 containing telephones.

(b) *Finances.* The following table gives particulars as to the financial operations of the Board during each year from 1918-19 to 1922-23 inclusive:—

**METROPOLITAN FIRE BRIGADES BOARD, VICTORIA.—FINANCES,
1919 TO 1923.**

Particulars.	1919.	1920.	1921.	1922.	1923.
RECEIPTS.					
	£	£	£	£	£
Contributions	85,569	95,225	117,893	125,685	122,700
Receipts for services	7,197	9,651	10,807	21,857	14,028
Interest and sundries	2,766	3,593	11,797	3,926	6,898
Total	95,532	108,469	140,497	151,468	143,626
EXPENDITURE.					
	£	£	£	£	£
Salaries	60,915	67,060	85,537	87,523	93,033
Interest and sinking fund	14,971	12,970	14,100	21,136	10,219
Other expenditure	20,968	26,963	41,859	46,198	43,515
Total	96,854	106,993	141,496	154,857	146,767

(iii) *Country Fire Brigades Board. (a) Plant, etc.* At the end of the year 1923 there were 114 municipal councils and 92 insurance companies included in the operations of the Act. The brigades are composed chiefly of volunteers, but in the large centres a few permanent station-keepers and partially paid firemen are employed. There were 140 registered brigades and 2,485 registered firemen at the end of the year 1923. The equipment included 27 motor tenders, 3 steam fire engines, and numerous manual engines and hose reels.

(b) *Revenue and Expenditure.* The following table shows the revenue and expenditure of the Country Fire Brigades Board for the years 1919 to 1923:—

**COUNTRY FIRE BRIGADES BOARD, VICTORIA.—REVENUE AND
EXPENDITURE, 1919 TO 1923.**

Particulars.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Revenue	15,585	18,816	19,995	22,718	22,088
Expenditure	15,308	18,544	20,353	23,122	22,813

3. Queensland.—(i) *General.* The Act of 1920 made provision for the retention of existing fire districts, and for the constitution of new districts. For each district there must be a Fire Brigades Board consisting of seven members, and the cost of maintenance of each brigade is proportioned as follows:—The Treasurer two-sevenths, insurance companies three-sevenths, and local authorities two-sevenths. All volunteer fire brigades must be registered.

(ii) *Fire Brigades Boards.* (a) *Plant, etc.* At the end of the year 1922 there were fire brigades in 26 towns, with a total strength of 117 permanent men, 271 partly paid, and 69 voluntary. The plant included 14 motor, 5 steam, and 11 manual fire engines, 70 hose reels, consisting of 15 motor, 9 horse, and 46 hand reels, and 80,065 feet of hose. The total number of call points was 277. The Metropolitan Fire Brigade protects an area of 32 square miles and has a staff of 143 men.

(b) *Revenue and Expenditure.* The following table shows the revenue and expenditure of all the fire brigades in Queensland for the years 1918 to 1922 :—

FIRE BRIGADE BOARDS, QUEENSLAND.—REVENUE AND EXPENDITURE, 1918 TO 1922.

Year.	Revenue.				Expenditure.			
	From Government.	From Local Authorities.	From Insurance Companies.	Total.	Salaries and Wages.	Buildings, Repairs, etc.	Plant, Stores, etc.	Total.
	£	£	£	£	£	£	£	£
1918 ..	10,901	11,093	10,857	33,931	20,037	1,252	3,889	30,430
1919 ..	12,135	12,162	12,266	38,356	23,090	4,937	4,938	38,641
1920 ..	13,724	13,320	20,330	48,573	28,583	4,499	7,793	56,306
1921 ..	14,637	14,524	22,313	54,685	31,513	3,866	8,856	55,263
1922 ..	14,711	14,996	22,976	53,647	34,340	3,687	8,444	56,071

4. *South Australia.*—(i) *General.* The Fire Brigades Act of 1913 provides for a Board of five members, and the expenses and maintenance of brigades are defrayed as to three-ninths by the Treasury, four-ninths by insurance companies, and two-ninths by the municipalities concerned.

(ii) *Fire Brigades Board.* (a) *Plant, etc.* At the end of 1923 there were altogether 21 fire brigade stations. The strength of the brigades consists of 105 permanent firemen and 66 auxiliary firemen. The plant consists of 5 steam fire engines, 4 motor engines, 21 motor hose carriages, 1 floating fire engine, 8 horses, 59,100 feet of hose, one 90 feet turntable escape ladder, 2 telescopic curricula ladders, 2 fire escapes.

(b) *Revenue and Expenditure.* The following table shows the revenue of the Board for the years 1918 to 1922, the expenditure in each year being the same :—

FIRE BRIGADES BOARD, SOUTH AUSTRALIA.—REVENUE, 1918 TO 1922.

Heading.	1918.	1919.	1920.	1921.	1922.
	£	£	£	£	£
Revenue	27,952	31,129	33,568	35,817	37,306

5. *Western Australia.*—(i) *General.* Under the 1916 Act every municipal or road board district is constituted a fire district under the control of the Western Australian Fire Brigades Board. The income of the Board is derived as to two-eighths from Government, three-eighths from municipalities, and three-eighths from insurance companies.

(ii) *Western Australian Fire Brigades Board.* (a) *Plant, etc.* The whole of the brigades throughout the State are now controlled by the Western Australian Fire Brigades Board, and number forty-two. The staff at the 31st December, 1923, included a chief officer, deputy chief officer, third officer, motor engineer, electrical engineer, 10 other officers, 62 permanent, 29 partially-paid, and 542 volunteer firemen. The plant comprised 5 steam, 5 motor and 4 manual engines, 17 motor hose carriages, 34 reels, and 75,200 feet of hose.

(b) *Finances.* The following table gives details for the years 1919 to 1923 :—

WESTERN AUSTRALIAN FIRE BRIGADES BOARD.—FINANCES, 1919 TO 1923.

Year ended 31st December—	Revenue.	Expenditure.	Estimated Value.	
			Land and Buildings.	Plant.
	£	£	£	£
1919	26,299	28,557	52,000	27,600
1920	30,100	33,423	49,000	26,000
1921	40,630	35,511	46,840	26,000
1922	34,833	34,746	46,000	26,000
1923	35,553	35,463	46,000	28,000

6. *Tasmania.*—(i) *General.* The municipal council of any municipality may, under the Act of 1920, petition the Governor to proclaim the municipality or any portion of it to be a fire district, each district to have a Board of five members. The expenses of each Board are borne in equal proportions by contributions from the Treasurer, the municipalities concerned, and insurance companies insuring property within the district.

(ii) *Hobart Fire Brigade Board.* (a) *Plant, etc.* At the end of 1922 the staff consisted of 11 permanent and 17 partially-paid firemen. There were at that date also 1 motor pump, two motor hose carriages, 3 horse and 4 hand reels, and 4 ladders.

(b) *Revenue and Expenditure.* The revenue for the years 1921 and 1922 amounted to £4,581 and £4,803 respectively, expenditure being the same for each year.

CHAPTER V.

LAND TENURE AND SETTLEMENT.

§ 1. Introduction.

1. **General.**—A comprehensive description of the land tenure systems of the several States was given in Official Year Book No. 4 (pp. 235 to 333), while later alterations were referred to in subsequent issues. In this chapter a summary is given of the principal features of existing land legislation together with some account of the various tenures under which Crown lands may be taken up at the present time. Special paragraphs are devoted to the settlement of returned soldiers on the land, the tenure of land by aliens, and advances to settlers. Particulars as to the areas of land alienated in each State and similar matter are also included.

2. **State Land Legislation.**—The legislation in force relating to Crown lands, Closer Settlement, Returned Soldiers' Settlement, and other matters dealt with in this chapter is summarized in the following conspectus:—

STATE LAND LEGISLATION, 1924.

New South Wales.	Victoria.	Queensland.
CROWN LANDS ACTS.		
Crown Lands Act 1913-1923 : Western Lands Act 1901-1919 : Crown Lands Purchase Validation Act 1923.	Land Act 1915-1923.	Land Act 1910-1923.
CLOSER SETTLEMENT ACTS.		
Closer Settlement Act 1904-1910 : Closer Settlement Purchases Validation Act 1923.	Closer Settlement Act 1915-1923.	Closer Settlement Act 1906-1923.
MINING ACTS.		
Mining Act 1906-1921.	Mines Act 1915-1921.	Mining Acts 1898-1920 : Mining for Coal and Mineral Oil Act 1912 : Petroleum Act 1915-1923 : Miners' Homestead Leases Act 1913-1921.
RETURNED SOLDIERS' SETTLEMENT ACTS.		
Returned Soldiers' Settlement Act 1916-1922.	Discharged Soldiers' Settlement Act 1917-1922.	Discharged Soldiers' Settlement Act 1916-1923.
ADVANCES TO SETTLERS ACTS.		
Government Savings Bank Act 1906-1920 : Returned Soldiers' Settlement Act 1916-1922.	State Savings Bank Act 1915-1922 : Primary Products Advances Act 1919-1922 : Closer Settlement Act 1915-1922 : Fruit Act 1915-1920 : Discharged Soldiers' Settlement Act 1917-1922.	State Advances Act 1916 : Co-operative Agricultural Products and Advances to Farmers Act 1914-1919.

3. **Northern Territory Land Legislation.**—In the Northern Territory, the legislation relating to Crown land is embodied in the Crown Lands Ordinance 1912–1923, that relating to Mining in the Northern Territory Mining Act 1903, the Gold Dredging Act 1899, the Tin Dredging Ordinance 1911–1920, and the Mineral Oil and Coal Ordinance 1922–1923; and that relating to Advances to Settlers in the Advances to Settlers Ordinance 1913.

4. **Federal Capital Territory Land Legislation.**—In the Federal Capital Territory, the Ordinances relating to Crown lands are the Leases Ordinance 1918–1923, and the City Leases Ordinance 1921.

STATE LAND LEGISLATION, 1924—*continued.*

South Australia.	Western Australia.	Tasmania.
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CROWN LANDS ACTS.

Crown Lands Act 1915–1919 : Pastoral Act 1904–1922.	Land Act 1898–1923.	Crown Lands Act 1911–1923.
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CLOSER SETTLEMENT ACTS.

Crown Lands Act 1915–1919.	Agricultural Lands Purchase Act 1909–1922.	Closer Settlement Act 1913–1920.
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MINING ACTS.

Mining Act 1893–1922 : Gold Dredging Act 1905.	Mining Act 1904–1921 : Sluicing and Dredging for Gold Act 1899.	Mining Act 1917–1921.
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RETURNED SOLDIERS' SETTLEMENT ACTS.

Discharged Soldiers' Settlement Act 1917–1923.	Discharged Soldiers' Settlement Act 1919.	Returned Soldiers' Settlement Act 1916–1923.
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ADVANCES TO SETTLERS ACTS.

State Advances Act 1895–1922 : Advances to Settlers on Crown Lands Act 1914–1916 : Loans to Producers Act 1917–1921 : Agricultural Graduates Land Settlement Act 1922 : Crown Lands Act 1915–1919 : Irriga- tion Act 1922 : Pastoral Act 1904–1922 : Discharged Sol- diers' Settlement Act 1917- 1923 : Drought Relief Act 1923.	Agricultural Bank Act 1906–1921.	State Advances Act 1907–1923 : Advances to Fruit-growers Act 1918–1921 : Closer Settlement Act 1913–1920 : Returned Sol- diers' Settlement Act 1916- 1923.
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5. *Administration and Classification of Crown Lands.*—In each of the States there is a Lands Department under the direction of a responsible Cabinet Minister who is charged generally with the administration of the Acts relating to the alienation, occupation and management of Crown lands. The administrative functions of most of the Lands Departments are to some extent decentralized by the division of the States into what are usually termed Land Districts, in each of which there is a Lands Office, under the management of a land officer, who deals with applications for selections and other matters generally appertaining to the administration of the Acts within the particular district. In some of the States there is also a local Land Board or a Commissioner for each district or group of districts. In the Northern Territory a Land Board, under the control of the Minister for Home and Territories, is charged with the general administration of the Lands Ordinance and of Crown lands in the Northern Territory. In the Federal Capital Territory the administration of the Leases Ordinances is in the hands of the Minister for Home and Territories.

Crown lands are generally classified according to their situation, the suitability of the soil for particular purposes, and the prevailing climatic and other conditions. The modes of tenure under the Acts, therefore, as well as the amount of purchase money or rent, and the conditions as to improvements and residence, vary considerably. The administration of special Acts relating to Crown lands is in some cases in the hands of a Board under the general supervision of the Minister, e.g., the Western Lands Board in New South Wales, the Lands Purchase and Management Board in Victoria, and the Closer Settlement Board in Tasmania.

In each of the States and in the Northern Territory there is also a Mines Department, which is empowered under the several Acts relating to mining to grant leases and licences of Crown lands for mining and auxiliary purposes.

6. *Classification of Tenures.*—(i) *General.* The tabular statement which follows shows the several tenures under which Crown lands may be acquired or occupied in each State. In the Northern Territory perpetual leases of pastoral and agricultural land are granted, as well as miscellaneous leases, and grazing and occupation licences. The mining leases and holdings are similar to those of the States. In the Federal Capital Territory only city leases and leases of other land are issued.

(ii) *Free Grants, Reservations and Dedications.* The modes of alienation given in this category include all free grants either of the fee-simple or of leases of Crown lands. Reservations and dedications are also dealt with therein. At present land is not granted in fee-simple without payment except for charitable, educational or public purposes, the practice of granting land free for farms, etc., having been abolished so far back as 1831. Reservations may be either temporary or permanent and may be made for charitable, educational or religious purposes, as well as for forests, mining, etc. Temporary reservations are subject to considerable fluctuations in area by reason of withdrawals, renotifications and fresh reservations.

(iii) *Unconditional Purchase of Freehold.* This class of tenure includes all methods by which the freehold of Crown lands may be obtained by direct purchase, in which the only condition for the issue of the grant is the payment of the purchase-money. No Crown land is now sold in Queensland, in the Northern Territory, or in the Federal Capital Territory. In all the other States sales by auction of Crown lands are held from time to time. Notifications of such sales are given in the Government Gazettes together with particulars as to the upset price and conditions of sale. Usually the purchase may be made either for cash or on credit by deferred payments. Land put up at auction and not sold may generally be purchased by private contract at the upset price. Small areas of Crown lands may also be sold without competition under special circumstances.

(iv) *Acquisition of Freehold by way of Conditional Purchase.* In this class are included all tenures (except tenures under Closer Settlement and Returned Soldiers' Settlement Acts) in which the issue of the grant is made after the fulfilment of certain conditions as to residence or improvements or both, in addition to the payment of the purchase-money, which is usually paid in instalments. This system is in force in all the States, except

Queensland, but not in the Territories. Though there is considerable similarity between some of the forms of tenure in the several States, the terms and conditions vary greatly in detail. As a rule, a lease or licence for a certain period is first issued to the selector, and upon fulfilment of the prescribed conditions and payment of the full amount of purchase-money, the freehold is conveyed to him.

(v) *Leases and Licences under Land Acts.* This class includes all forms of occupation of Crown lands (other than under Closer Settlement or Returned Soldiers' Settlement Acts) for a term of years under leases and licences issued by the Lands Departments. The freehold cannot be obtained under these forms of tenure, but in some instances, such tenures may be converted into conditional purchase tenures. Leases and licences are issued in all the States and Territories, and in some of them leases are granted in perpetuity, the only condition being the payment of the annual rent, though in certain cases conditions as to residence and improvements must be fulfilled in the earlier years. Comparatively large areas may be leased or occupied under licence for pastoral purposes.

(vi) *Closer Settlement.* In all the States Acts have been passed authorizing the Government to repurchase alienated lands for the purpose of dividing them into blocks of suitable size and throwing them open to settlement on easy terms and conditions. In some States, private land may be acquired compulsorily as well as by agreement with the owners. As a rule land so acquired is open for selection under conditional purchase in the States in which such system exists, though small blocks are also sold by auction or otherwise, notably in areas set apart as town sites.

(vii) *Leases and Licences under Mining Acts.* Under the Mining Acts of the various States leases of Crown lands may be granted for mining purposes of all kinds, as well as small areas for residence, business purposes, or miners' homesteads. In addition to the payment of rent, it is necessary, in order to prevent a mining lease from being forfeited, that such lease be either kept continuously worked with the number of men fixed by regulation, or, in some States, that a certain sum of money be expended annually thereon. A condition of continuous residence is generally attached to a business or residence area or to a miner's homestead area. In the case of both leases and areas, exemption from labour or residence conditions for periods up to 6 months at a time can be obtained upon good cause being shown. Provision is also made in the Mining Acts or in special Acts by which a person may obtain a mining lease of land which has already been alienated in fee-simple, with certain reservations. It is generally necessary for a person to obtain a miner's right before being allowed to take up a lease, or a residence or homestead area.

(viii) *Settlement of Returned Soldiers and Sailors.* In all the States provision has been made for the settlement of returned soldiers and sailors on the land, special Acts having been passed for that purpose. Generally, these Acts are administered by the Minister for Lands, and the details are carried out by the various Closer Settlement and other similar Boards, where such exist.

(ix) *Tenure of Land by Aliens.* In several States the holding of land by aliens or unnaturalized persons is restricted, but there is no uniformity in the legislation on the subject.

(x) *Advances to Settlers.* In all the States and in the Northern Territory provision has been made for advancing money, either out of consolidated revenue or from loans, to settlers for the purpose of acquiring land, removing encumbrances from their holdings, purchasing stock, erecting buildings, making improvements, etc. Advances are also made in some States for the erection or acquisition of cool stores, fruit canneries and similar establishments. The authorities entrusted with the task of making these advances are not, however, identical in all States. In some cases, the State Savings Bank is the authority; in others, a special Agricultural Bank, the Closer Settlement Board, or the Treasurer, or two or more thereof.

Special arrangements have been made for loans to soldier settlers, the money for this purpose having been provided by the Commonwealth Government and distributed by the State Governments.

STATE CROWN LANDS—TENURES.

New South Wales.	Victoria.	Queensland.
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FREE GRANTS, RESERVATIONS AND DEDICATIONS.

Free Grants : Reservations.	Free Grants : Reservations.	Free Grants : Reservations.
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UNCONDITIONAL PURCHASE OF FREEHOLD.

Auction Sales : After-auction Purchases : Special Purchases : Improvement Purchases : Purchases of Town Leases : Suburban Holdings : Returned Soldiers' Special Holdings : Residential Leases : Week-end Leases.

Auction Sales.

ACQUISITION OF FREEHOLD BY WAY OF CONDITIONAL PURCHASE.

Residential Conditional Purchases : Non-residential Conditional Purchases : Additional Conditional Purchases : Conversions into Conditional Purchases.

Residential Selection Purchase Leases : Non-residential Selection Purchase Leases : Licences of Auriferous worked-out Lands : Conditional Purchase Leases of Swamp or Reclaimed Lands : Selection Purchase Leases of Mallee Lands : Murray River Settlements : Special Settlement Areas : Conversions into Selection Purchase Leases.

LEASES AND LICENCES UNDER LAND ACTS.

Conditional Leases : Conditional Purchase Leases : Special Conditional Purchase Leases : Homestead Selections : Homestead Farms : Settlement Leases : Special Leases : Annual Leases : Scrub Leases : Snow Leases : Inferior Lands Leases : Crown Leases : Improvement Leases : Occupation Licences : Leases of Town Lands : Suburban Holdings : Week-end Leases : Residential Leases : Leases in Irrigation Areas : Western Lands Leases : Forest Leases : Forest Permits.

Perpetual Leases : Auriferous Lands Leases : Leases of Swamp or Reclaimed Lands : Perpetual Leases of Swamp or Reclaimed Lands : Grazing Licences : Perpetual Mallee Leases : Miscellaneous Leases and Licences : Bee Farm Licences : Bee Range Area Licences : Eucalyptus Oil Licences : Forest Leases : Forest Licences : Forest Townships.

Perpetual Lease Selections : Perpetual Lease Prickly Pear Selections : Pastoral Leases : Preferential Pastoral Leases : Occupation Licences : Special Leases : Grazing Selections : Auction Perpetual Leases.

CLOSER SETTLEMENT.

Sales by Auction : After-auction Sales : Closer Settlement Purchases : Permissive Occupancies : Closer Settlement Promotion.

Sales of Land : Conditional Purchase Leases : Conditional Purchase Leases in Mountainous Areas.

Perpetual Lease Selections : Perpetual Town, Suburban and Country Leases.

LEASES AND LICENCES UNDER MINING ACTS.

Holdings under Miners' Rights : Gold Mining Leases : Mineral Leases : Coal and Oil Mining Leases : Business Licences : Residence Areas.

Holdings under Miners' Rights : Gold Mining Leases : Mineral Leases : Business Areas : Residence Areas.

Holdings under Miners' Rights : Licences to Search for Petroleum : Licences to Prospect for Coal or Mineral Oil : Gold Mining Leases : Mineral Leases : Business Areas : Residence Areas : Miner's Homestead Perpetual Leases :

SETTLEMENT OF RETURNED SOLDIERS AND SAILORS.

Returned Soldiers' Special Holding Purchases : Returned Soldiers' Group Purchases : Returned Soldiers' Special Holding Leases.

(Same Tenures as under the Land and Closer Settlement Acts).

Perpetual Lease Selections : Perpetual Town and Suburban Leases.

STATE CROWN LANDS—TENURES—*continued.*

South Australia.	Western Australia.	Tasmania.
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FREE GRANTS, RESERVATIONS, AND DEDICATIONS.

Free Grants : Reservations.	Free Grants : Reservations.	Free Grants : Reservations.
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UNCONDITIONAL PURCHASE OF FREEHOLD.

Auction Sales.	Auction Sales.	Auction Sales : After-auction Sales : Sales of Land in Mining Towns.
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ACQUISITION OF FREEHOLD BY WAY OF CONDITIONAL PURCHASE.

Agreements to Purchase : Special Agreements to Purchase : Homestead Blocks : Pinnaroo Railway Blocks.	Conditional Purchases with Residence : Conditional Purchases without Residence : Conditional Purchases by Direct Payment : Conditional Purchases of Land for Vineyards, etc. : Conditional Purchases of Inferior Lands : Conditional Purchases by Pastoral Lessees : Conditional Purchases of Grazing Lands : Homestead Farms : Village Allotments : Workingmen's Blocks : Special Settlement Leases.	Selections for Purchase : Additional Selections for Purchase : Homestead Areas : Selections in Mining Areas : Sales by Auction : Sales by Private Contract : After-auction Sales : Special Settlement Areas.
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LEASES AND LICENCES UNDER LAND ACTS.

Perpetual Leases : Special Perpetual Leases : Homestead Blocks : Miscellaneous Leases : Grazing and Cultivation Leases : Licences : Licences of Resumed Land : Pastoral Leases : Leases to Discoverers of Pastoral Country : Special Leases to Discoverers of Water : Irrigation Blocks : Town Allotments in Irrigation Areas : Forest Leases.	Pastoral Leases : Special Leases : Residential Leases : Leases of Town and Suburban Lands : Irrigation Leases : Forest Leases.	Grazing Leases : Pastoral Leases : Leases of Land covered with Button grass, etc. : Leases of Mountainous Land : Miscellaneous Leases : Temporary Licences : Occupation Licences : Residence Licences : Business Licences : Forest Leases, Licences and Permits.
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CLOSER SETTLEMENT.

Sales by Auction : Agreements to Purchase : Miscellaneous Leases.	Conditional Purchases : Town and Suburban Areas.	Leases with Right of Purchase : Special Sales.
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LEASES AND LICENCES UNDER MINING ACTS.

Holdings under Miners' Rights : Search Licences : Occupation Licences : Gold Leases : Mineral Leases : Business Areas : Residence Areas.	Holdings under Miners' Rights : Gold Mining Leases : Mineral Leases : Business Areas : Residence Areas : Miners' Homestead Leases.	Holdings under Miners' Rights : Prospectors' Licences : Gold Mining Leases : Mineral Leases.
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SETTLEMENT OF RETURNED SOLDIERS AND SAILORS.

Perpetual Leases : Special Leases.	Ordinary Tenure : Special Tenure.	Free Grants : Ordinary Tenure : Special Tenure.
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§ 2. Free Grants, Reservations, and Dedications.

1. **New South Wales.**—(i) *Free Grants.* Crown lands may, by notification in the *Gazette*, be dedicated for public purposes and be granted therefor in fee-simple. Such lands may be placed under the care and management of trustees, not less than three in number, appointed by the Minister.

(ii) *Reservations.* Temporary reservations of Crown lands from sale or lease may be made by the Minister.

(iii) *Areas Granted and Reserved.* During the year 1922-23, the total area for which free grants were prepared was 1,233 acres, including grants of 1,180 acres of land resumed under the 12th clause of the Public Roads Act 1902. During the same period 932 acres were dedicated and permanently reserved, the number of separate dedications being 92.

On the 30th June, 1923, the total area temporarily reserved was 19,453,551 acres, of which 5,443,615 acres were for travelling stock, 3,278,697 acres for forest reserves, 781,586 acres for water, 1,365,918 acres for mining, and the remainder for temporary commons, railways, recreation and parks, and miscellaneous purposes.

2. **Victoria.**—(i) *Free Grants.* The Governor may grant, convey or otherwise dispose of Crown lands for public purposes.

(ii) *Reservations.* The Governor may temporarily or permanently reserve from sale, lease or licence any Crown lands required for public purposes, and may except any area of Crown lands from occupation for mining purposes or for residence or business under any miner's right or business licence.

(iii) *Areas Granted and Reserved.* During the year 1922, 199 acres were granted without purchase and reservations of both a permanent and temporary nature, comprising a net area of 5,940 acres, were made. At the end of 1922, the total area reserved was 7,314,744 acres, consisting of roads, 1,767,170 acres; water reserves, 315,546 acres; agricultural colleges, etc., 85,590 acres; permanent forests and timber reserves under Forests Act, 4,117,040 acres, forests and timber reserves under Land Acts, 329,600 acres; reserves in the Mallee, 397,881 acres; and other reserves, 301,917 acres.

3. **Queensland.**—(i) *Free Grants.* The Governor may grant in trust any Crown land, which is or may be required for public purposes. Under the Irrigation Act, land to be used for the purpose of any undertaking under that Act may be vested in fee-simple in the Irrigation Commission.

(ii) *Reservations.* The Governor may reserve from sale or lease, either temporarily or permanently, any Crown land which is or may be required for public purposes. Reserved lands may be placed under the control of trustees who are empowered to lease the same for not more than 21 years with the approval of the Minister.

Under the State Forests and National Parks Act, the Governor may permanently reserve any Crown Lands and declare them to be a State Forest or a National Park.

(iii) *Areas Granted and Reserved.* During the year 1923, four free grants were issued, the total area thereof being 32 acres. During the same period the area of reserves cancelled was 431,582 acres less than the area set apart as reserves. The total area reserved up to the end of 1923 was 16,611,344 acres, made up as follows:—timber reserves, 3,090,077 acres; State forests and national parks, 1,673,490 acres; for use of aborigines, 5,609,768 acres; and general, 6,238,009 acres.

4. **South Australia.**—(i) *Free Grants.* The Governor may dedicate Crown lands for any public purpose and grant the fee-simple of such lands, with the exception of foreshores and land for quays, wharves or landing-places, which are inalienable in fee-simple from the Crown.

(ii) *Reservations.* The Governor may reserve Crown lands for (a) the use and benefit of aborigines, (b) military defence, (c) forest reserves, (d) railway stations, (e) park lands, or (f) any other purpose that he may think fit.

(iii) *Areas Granted and Reserved.* During the year 1923 free grants were issued for a total area of 955 acres. During the same year reserves comprising 28,601 acres were proclaimed.

5. *Western Australia.*—(i) *Free Grants.* The Governor may dispose of in such manner as for the public interest may seem best any lands vested in the Crown for public purposes, and may grant the fee-simple of any reserve to secure the use thereof for the purpose for which such reserve was made.

(ii) *Reservations.* The Governor may reserve any lands vested in the Crown for public purposes. Areas not immediately required may be reserved from year to year. Reserves may be placed under the control of a local authority or trustees, with power to lease them for a period not exceeding 21 years, or may be leased for 99 years. Temporary reserves may also be proclaimed.

(iii) *Areas Granted or Reserved.* During the year 1923, no fresh areas of land were granted in fee-simple, but 166,670 acres were reserved for various purposes.

6. *Tasmania.*—(i) *Free Grants.* The only mention in the Crown Lands Act respecting free grants of land is that the Governor may agree with the Governor-General of the Commonwealth for the grant of any Crown land to the Commonwealth, and it is expressly stated that no lands may be disposed of as sites for religious purposes except by way of sale under the Act.

(ii) *Reservations.* The Governor in Council may except from sale or lease, and reserve to His Majesty any Crown land for public purposes, and vest for such term as he thinks fit any land so reserved in any person or corporate body. Any breach or non-fulfilment of the conditions upon which such land is reserved renders it liable to forfeiture. A school allotment, not exceeding 5 acres in area, may also be reserved.

(iii) *Areas Granted or Reserved.* During the year ended 31st December, 1923, the area granted free was 15,373 acres, nearly all of which was granted to soldiers under the Returned Soldiers' Settlement Act, while during the same year, 6 free leases were issued to local public bodies for municipal purposes, and 15,333 acres were reserved, of which 15,160 acres were reserved for a forest reserve, 140 acres for recreation purposes, 25 acres for a gravel reserve, 5 acres for a hospital reserve, 2 acres for hall site purposes, and 1 acre for abattoir purposes. The total area reserved to the end of 1923 was 4,995,333 acres.

7. *Northern Territory.*—(i) *Reservations.* The Governor-General may resume for public purposes any Crown lands, not subject to any right of or contract for purchase, and may reserve, for the purpose for which they are resumed, the whole or any portion of the land so resumed.

(ii) *Areas Reserved.* The area of land held under reserve at the end of 1922 was 35,790 square miles.

§ 3. Unconditional Purchases of Freehold.

1. *New South Wales.*—(i) *Auction Sales.* Crown lands, not exceeding in the aggregate 200,000 acres in any one year, may be sold by public auction in areas not exceeding half-an-acre for town lands, 20 acres for suburban lands, and 640 acres for country lands, at the minimum upset price of £8, £2 10s., and 15s. per acre respectively. At least 10 per cent. of the purchase-money must be paid at the time of sale, and the balance within 3 months, or the Minister may allow the payment of such balance to be deferred for a period not exceeding 10 years, 5 per cent. interest being added. Town blocks in irrigation areas may also be sold by auction.

(ii) *After-auction Purchases.* In certain cases, land offered at auction and not sold may be purchased at the upset price, but one-quarter of the purchase-money must be paid immediately, and the balance as notified in the *Gazette*. Any such application is, however, subject to the approval of the Minister.

(iii) *Special Purchases.* Under certain circumstances, land may be sold in fee-simple, the purchaser paying the cost of survey and of reports thereon, in addition to the purchase-money.

(iv) *Improvement Purchases.* The owner of improvements in authorized occupation by residence under any Mining or Western Lands Act of land within a gold field or mineral field may purchase such land without competition at a price determined by the local land board, but at not less than £8 per acre for town lands or £2 10s. per acre for other lands. The area must not exceed $\frac{1}{2}$ acre within a town or village, or 2 acres elsewhere, and no person may purchase more than one such area within 3 miles of a similar prior purchase by him.

(v) *Purchases of Residential Leases.* A holder of a residential lease (including any additional residential lease) may, after the expiration of the first 5 years of his lease, apply to purchase the land held thereunder. The local land board fixes the price and reports to the Minister, who may either grant or refuse the application. No person may hold more than one such purchase.

(vi) *Purchases of Week-end Leases and Town Lands Leases.* The holder of a week-end lease or of a town lands lease may apply to purchase the land comprised therein, and the Minister may either grant or refuse such application. The price is the capital value of the land at the date of application and is determined by the local land board. The purchase money must be paid within 3 months, or within such further period as the Minister may determine.

(vii) *Purchases of Suburban Holdings.* The land contained within a suburban holding may, with the consent of the Minister, be purchased by the holder thereof, on payment of the purchase-money in ten equal annual instalments with $2\frac{1}{2}$ per cent. interest. The value of the land is fixed by the local land board, and the purchase is subject to the condition of residence on the land for 5 years from the date of taking up the suburban holding. No transfer of land so purchased may be made without the consent of the Minister.

(viii) *Areas Sold by Auction and Special Purchases.* During the year ended 30th June, 1923, the total area sold was 4,266 acres, of which 1,008 acres were sold by auction and 563 acres after having been withdrawn from auction, while 22 acres were sold as improvement purchases and 2,673 acres as special purchases. The amount realized for the sale of the whole area was £149,980.

2. *Victoria.*—(i) *General.* Lands specially classed for sale by auction may be sold by auction in fee-simple, not exceeding 100,000 acres in any one year, at an upset price of £1 an acre, or at any higher price determined. The purchaser must pay the survey fee at the time of the sale, together with a deposit of $12\frac{1}{2}$ per cent. of the whole price; the residue is payable in equal half-yearly instalments with interest. Any unsold land in a city, town or borough, areas specially classed for sale, isolated pieces of land not exceeding 50 acres in area, and sites for churches or charitable purposes, if not more than 3 acres in extent, may be sold by auction on the same terms. Swamp or reclaimed lands may also be sold by auction, subject to the condition that the owner keeps open all drains, etc., thereon.

(ii) *Areas Sold at Auction and by Special Sales.* During the year 1922, a total of 1,833 acres was disposed of under this tenure, 1,094 acres being country lands, while 738 acres of town and suburban lands were sold by auction.

3. *Queensland.*—Since the end of 1916, land, not already conditionally acquired, cannot be alienated to selectors in fee-simple.

4. **South Australia.**—(i) *Sales by Auction.* The following lands may be sold by auction for cash :—(a) special blocks, (b) Crown lands which have been offered for lease and not taken up within 2 years, (c) town lands, and (d) suburban lands, which the Governor excepts from the operations of the Land Board. A purchaser must pay 20 per cent. of the purchase-money in cash, and the balance within one month or within such extended time as the Commissioner of Crown lands may allow. Town lands may be sold subject to the condition that they cannot be transferred or mortgaged for 6 years.

(ii) *Areas Sold, etc.* During the year ended 30th June, 1923, the area of town lands sold by auction was 63 acres. In addition 26,263 acres were sold at fixed prices, and the purchases of 46,250 acres on credit were completed, making a total of 72,576 acres.

5. **Western Australia.**—(i) *Sales by Auction.* Town, suburban, and village lands, after being surveyed into lots and notified in the *Gazette*, must be sold by auction. Ten per cent. of the purchase money must be paid in cash, together with the value of any improvements, and the balance in four equal quarterly instalments. Suburban land must be fenced within 2 years, and until that is effected, no Crown grant may be issued.

(ii) *Areas Sold.* During the year ended 30th June, 1923, the area of town and suburban allotments sold was 1,944 acres in 830 allotments.

6. **Tasmania.**—(i) *Sales by Auction.* Town lands may be sold by auction for cash or on credit, no conditions being imposed beyond the payment of the purchase-money. No town land, the price of which is less than £15, may be sold on credit.

(ii) *After-auction Sales.* Town lands, not within 5 miles of any city, which, after having been offered at auction, have not been sold, may be sold at the upset prices by private contract.

(iii) *Sales of Land in Mining Towns.* Any town land in a mining area may be sold by auction for cash, provided that any person, being the holder of a residence licence or business licence, in lawful occupation of a residence area or business area and the owner of permanent improvements of a value equal to or greater than the upset price, is entitled to purchase such area at the upset price, prior to the sale by auction. The upset price of the unimproved value must not be less than £10 and the area must not exceed $\frac{1}{2}$ acre.

(iv) *Areas Sold.* During the year 1923 the area sold by auction or by special sale amounted to 548 acres, as against 4,037 acres for the previous year.

4. Acquisition of Freehold by way of Conditional Purchase.

1. **New South Wales.**—(i) *Residential Conditional Purchases.* Crown lands, not within certain areas, and not leased or reserved, are open to conditional purchase at the price of 20s. per acre, if not otherwise gazetted. The maximum area which may be conditionally purchased is 1,280 acres in the Eastern Division, and 2,560 acres in the Central Division, and the minimum area is 40 acres. In a special area, the areas are such as are gazetted. These areas may, however, be exceeded in certain circumstances by additional holdings out of areas set apart for the purpose in order to make up a home maintenance area. Every application must be accompanied by a deposit of 5 per cent. of the price of the land, together with the amount of survey fee or an instalment thereof, and the necessary stamp duty. The balance of the purchase-money is payable in instalments of 5 per cent. of the price of the land with $2\frac{1}{2}$ per cent. interest, such instalments and interest being payable annually after the end of the third year from the date of application. The following conditions are attached to the holding :—(a) the holder must reside thereon for 5 years, (b) the boundaries must be fenced within 3 years after

the confirmation of the application, and such fence must be maintained for a period of 5 years from such confirmation; or, alternatively, (c) improvements must be made within 3 years to the value of not less than 6s. per acre and within 5 years 10s. per acre, but the value of such improvements need not exceed £384 or 30 per cent. of the value of the land within 3 years, and £640 or 50 per cent. within 5 years. A Crown grant in fee-simple is issued when all the conditions have been complied with, and the balance of the purchase-money and stamp duty and deed fee have been paid.

(ii) *Non-residential Conditional Purchases.* Crown lands, which are open to ordinary conditional purchase, may be conditionally purchased without the condition of residence subject to the following conditions:—(a) the area must not exceed 320 acres, (b) the applicant must be not less than 21 years of age, (c) no person, except with the consent of the Minister, may make a subsequent purchase, except as an additional conditional purchase which, together with the original purchase, must not exceed 320 acres, (d) the price is double that payable for the same land as a residential purchase, and the deposit is 2s. for each pound of purchase money, the balance of which is payable after the third year in annual instalments of 2s. per pound or of 9d. in the pound of the full purchase-money with $2\frac{1}{2}$ per cent. interest, and (e) the boundaries must be fenced within 12 months and not less than £1 per acre expended within 5 years on other permanent improvements. Fencing may be dispensed with subject to other approved improvements being effected to the value of 30s. per acre within 5 years after confirmation of the application.

(iii) *Additional Conditional Purchases.* An applicant or holder of an original conditional purchase and a holder of a freehold (not in the Western Division) containing not less than 40 acres, and which does not constitute a home maintenance area, may, subject to certain conditions, apply for an additional conditional purchase, but the whole area contained in the original purchase and in the additional purchase together must not exceed that allowed for an ordinary conditional purchase, and is subject to the same conditions.

(iv) *Conversions of Leases into Conditional Purchases, etc.* (a) The holder of a conditional lease may convert the whole or part of the land comprised therein into an additional conditional purchase.

(b) A conditional purchase lease may be converted into a conditional purchase on payment of 5 per cent. deposit on the capital value of the land and the balance in equal annual instalments of 5 per cent. of the purchase-money with interest at $2\frac{1}{2}$ per cent. Such conditional purchase is subject to all the unfulfilled conditions of the lease, except that of the payment of rent. It may also be converted into a homestead farm.

(c) A non-residential conditional purchase may be converted into an ordinary conditional purchase, the period of residence being reduced by the period resided, if any, under the former holding.

(d) The holder of a special lease or of an agricultural or pastoral lease granted under the Church and School Lands Dedication Act may apply to convert his holding into a conditional purchase or an additional conditional purchase, or into certain other specified tenures.

(e) A homestead selection or homestead farm may be converted into a conditional purchase subject to any special provisions attached to the original holding, and to the general provisions respecting conditional purchases. The term of residence is reduced by the period of continuous residence on the original holding. The deposit and payment of purchase-money are the same as in the conversion of a conditional purchase lease (see (b)). A homestead selection or homestead farm may also be converted into a conditional purchase lease or a conditional purchase with an associated conditional lease.

(f) The holder of a Crown lease (unless debarred by notification setting the land apart) or of a settlement lease may convert such lease into a conditional purchase, provided that the total area held by the applicant and his wife does not exceed that of a home maintenance area. Where such area is in excess of a home maintenance area, the non-convertible part may be held as a conditional lease. The terms of payment and conditions are the same as in other cases of conversion.

(v) *Areas Alienated as Conditional Purchases.* At the 30th June, 1923, the total number of conditional purchases in existence was 72,899, covering an area of 18,200,900 acres. The following table gives particulars of conditional purchases from 1918-19 to 1922-23 :—

CONDITIONAL PURCHASES, NEW SOUTH WALES, 1918-19 TO 1922-23.

Year ended 30th June—	Applications made.		Applications Confirmed.		Areas for which Deeds have been Issued.	
	Number.	Area.	Number.	Area.	During the Year.	To end of Year.
		Acres.	Acres.	Acres.	Acres.	Acres.
1919	511	75,370	201	24,911	559,779	17,877,903
1920	773	126,179	257	35,612	686,385	18,564,288
1921	533	90,573	480	78,461	664,522	19,228,810
1922	311	59,878	424	70,233	741,263	19,970,073
1923	361	69,524	200	34,453	667,073	20,637,146

2. *Victoria.*—(i) *Residential Selection Purchase Leases.* A person may select from land notified in the *Gazette* as available, a selection purchase lease, the maximum area of which ranges from 200 acres of first class land to 2,000 acres of Class 4A land. The annual rental varies from 1s. per acre in the case of first class land to 2½d. in the case of Class 4A land, for a period of 20 years, or half those rates for 40 years. Certain specified conditions must be complied with and improvements effected during the first 6 years, and the selector is required to reside on the property for 5 years and may not transfer the same during the first 6 years. At any time after the expiration of 6 years, provided that all the conditions have been fulfilled, and the balance of the purchase money has been paid, a Crown grant may be obtained.

(ii) *Non-residential Selection Purchase Leases.* These leases are similar to the preceding with the exceptions that (a) the provision for payment during 40 years is omitted, (b) there is no residential condition, and (c) the value of the improvements to be effected is double that of those on a residential lease.

(iii) *Licences of Worked-out Auriferous Lands.* A person may obtain a licence to occupy an allotment of not more than 5 acres of worked-out auriferous lands for a period not exceeding 7 years and to a depth of not more than 50 feet, at a rental of not less than 1s. per acre per annum. Such licences contain conditions prescribed by the Governor. If the licensee has complied with all the conditions of his licence for a period of 7 years he is entitled to a Crown grant on payment of the purchase-money which is fixed by the Board of Land and Works at not less than £1 per acre, from which is deducted the amount paid in licence fees.

(iv) *Conditional Purchase Leases of Swamp or Reclaimed Lands.* A conditional purchase lease of swamp or reclaimed lands covers such term as may be agreed upon between the lessee and the Board of Land and Works, and provides for the payment of the value of the allotment with interest at the rate of 4½ per cent., by 63 half-yearly instalments. The lessee must keep open all drains, etc., and make improvements to the value of 10s. per acre in each of the first 3 years, but need not reside on the land.

(v) *Selection Purchase Leases of Mallee Lands.* The terms and conditions attached to these leases are the same as those attached to ordinary selection purchase leases, but the areas may be larger, ranging from 640 acres of first class land to 4,000 acres of Class 4A land. The lessee must also, within 2 years, clear and cultivate at least one-fourth of his holding, and make provision for the storage of water.

(vi) *Murray River Settlements.* Crown lands near the River Murray may be subdivided into allotments not exceeding 50 acres each and taken up as conditional purchase leases. The value of the land is payable in 63 half-yearly instalments with not less than 4½ per cent. interest. Residential and improvement conditions are laid down, and after 12 years, if they have been complied with, a Crown grant may be obtained.

(vii) *Special Settlement Areas.* Crown land, upon which expenditure has been made by the Crown, may be set apart as a special settlement area, and surveyed into allotments not exceeding 200 acres each: Such allotments may be taken up as conditional purchase leases, but every Crown grant contains a condition that the land shall at all times be maintained and used for the purpose of agriculture, and the holder must reside thereon.

(viii) *Conversion of Perpetual Leases into Selection Purchase Leases.* A perpetual lease may, with the consent of the Board of Land and Works, be surrendered by the lessee, and a selection purchase lease (residential or non-residential) obtained in lieu thereof.

(ix) *Conversion of Auriferous Lands Licences into Selection Purchase Leases.* If the Minister of Mines consents, the Board may grant to the licensee of an auriferous lands licence a selection purchase lease in lieu thereof, provided that the land is improved to the value of £1 per acre and the occupation is *bona fide*.

(x) *Areas Purchased Conditionally.* The subjoined table gives particulars of the areas selected conditionally from 1918 to 1922 :—

AREAS PURCHASED CONDITIONALLY, VICTORIA, 1918 TO 1922.
(EXCLUSIVE OF SELECTION IN THE MALLEE COUNTRY.)

Particulars.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
With residence	61,884	76,003	79,461	72,752	133,083
Without residence	12,093	6,635	23,050	26,767	53,603
Total	73,977	82,638	102,511	99,519	186,686
No. of selectors	526	698	710	431	741

3. *Queensland.*—The granting of freehold tenure having been abolished at the end of 1916, only those lands which are held under any form of conditional purchase tenure granted before the beginning of 1917 can be converted into freehold. Land cannot be taken up under any form of conditional purchase.

4. *South Australia.*—(i) *Agreements to Purchase.* Crown lands (except town lands) which have been surveyed or of which the boundaries have been delineated in the public maps, may be offered on agreement to purchase. The area which is to be cleared and rendered available for cultivation, and the payments to be made, are notified in the *Gazette*. An application must be accompanied by a deposit of an amount equal to the first half-yearly instalment of purchase money. The whole purchase money is payable in 60 equal half-yearly instalments of not less than 2 per cent. thereof. Preference is given in allotting land to the applicant who agrees to reside on the land for 9 months in each year. If no application is made within 3 months from the date of notification, the Commissioner may offer the land at a reduced price. No agreement may be granted to any person in the case of land the unimproved value of which exceeds £5,000, nor in such manner that the purchaser would hold lands under any tenure, except pastoral lease, of which the aggregate unimproved value would exceed that sum, excepting in cases where the land is suitable for pastoral purposes only, under which circumstances no agreement to purchase is granted if the carrying capacity of the unimproved land and of all other lands held by the applicant would exceed 5,000 sheep, or, if outside Goyder's line of rainfall, 10,000 sheep. The purchaser must fence in the land within 5 years and comply with specified conditions respecting improvements, and, after 6 years, if all the conditions have been complied with and the balance of the purchase money paid, may complete the purchase.

(ii) *Special Agreements to Purchase.* Where the Commissioner directs, the following provisions for payment are made :—(a) No instalments are payable during the first 4 years; (b) from the end of the fourth to the end of the tenth year, each instalment is to be

at the rate of 2 per cent. of the value of the land, and is to be regarded as interest only; (c) from the end of the tenth year, the interest included in the instalments is at the rate of 4 per cent. on the value of the land; and (d) the agreement is for 40 years, and the purchase money is to be paid in 60 half-yearly instalments at the rate of £2 16s. 5d. for every £100 of the purchase money, including interest, the payment of such instalments to commence after the end of the tenth year.

(iii) *Homestead Blocks.* Any Crown lands and any lands which the Commissioner may acquire as suitable for homestead blocks may be surveyed and offered as homestead blocks, provided that the unimproved value of the fee-simple of a block does not exceed £100 and that no block is sold for a sum less than the amount paid therefor by the Government, together with the cost of offering the same. A homestead block may be held under an agreement to purchase, but only by a person gaining his livelihood by his own labour, and the holder must reside thereon for 9 months in each year. Such a block may be protected from encumbrance or seizure, if endorsed by the Commissioner as a "Protected Homestead Block."

(iv) *Pinnaroo Railway Blocks.* Land set apart under the Pinnaroo Railway Act may be sold under agreement with a covenant to purchase at the price fixed by the Land Board, with interest at 2 per cent. per annum, in 60 half-yearly instalments.

(v) *Lands Allotted.* The following table gives the areas of the lands allotted under Agreements to Purchase, exclusive of lands for Soldier Settlement, during the years 1918-19 to 1922-23. No Homestead Blocks have been allotted during that period.

AGREEMENTS TO PURCHASE, SOUTH AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
Eyre's Peninsula Lands ..	54,661	46,958	89,052	65,277	50,005
Murray Lands	23,174	28,906	48,625	34,606	36,104
Pinnaroo Lands	40,744	36,507	30,166	15,834	11,886
Closer Settlement Lands ..	14,472	25,720	6,176	25,255	9,096
Homestead Lands (repurchased) ..	..	5	72	9	12
Other Crown Lands	11,213	9,022	42,642	6,875	11,619
Total	144,264	147,118	216,733	147,856	118,722

5. *Western Australia.*—(i) *Conditional purchases with Residence.* Land within an agricultural area under this tenure may be disposed of subject to the following conditions:—(a) The price is fixed by the Governor, but at not less than 10s. per acre, payable in half-yearly instalments at the rate of one-twentieth of the total purchase money; (b) the maximum area which one person may hold is 1,000 acres, and the minimum, except in special approved cases, 100 acres; (c) a deposit of the first instalment must be made with the application, and, if the application is approved, a lease for 20 years is issued; (d) the lessee must reside on the lease for 6 months in each year for the first 5 years; (e) the lessee must expend on improvements an amount equal to one-fifth of the purchase money in every 2 years for the first 10 years of his lease, and fence one-half of the holding within 5 years and the whole within 10 years; and (f) at any time after 5 years, provided that all conditions have been complied with and the full purchase money and fee paid, the Crown grant must be issued.

(ii) *Conditional Purchases without Residence.* Land within an agricultural area may be disposed of without the residence condition, subject to all the other conditions prescribed in the previous paragraph, except that the amount to be expended on improvements is doubled, and must be equal to the amount of purchase money, with 50 per cent. added thereto.

(iii) *Conditional Purchases by Direct Payment.* Land may also be disposed of without residence conditions, subject to the following :—(a) The price is fixed by the Governor, but at not less than 10s. per acre, payable within 12 months or sooner; (b) the application must be accompanied by a deposit of 10 per cent. of the purchase money, and, if accepted, a licence is issued for 7 years; (c) the balance of the purchase money must be paid in 4 equal quarterly instalments within 12 months; (d) the lessee must fence in the whole of the land within 3 years, and must expend 10s. per acre on improvements in 7 years; and (e) when all the conditions have been fulfilled, and the full purchase money and fee paid, a Crown grant must be issued.

(iv) *Conditional Purchases of Land for Vineyards, Orchards, and Gardens.* The Governor may declare any Crown lands open for selection for vineyards, orchards, and gardens, subject to the following conditions :—(a) The price must be not less than 10s. per acre; (b) 10 per cent of the purchase money must be deposited with the application, and if the latter is accepted, a licence is issued for 3 years; (c) the balance of the purchase money must be paid in half-yearly instalments within 3 years; (d) the maximum area held by one person must not exceed 50 acres, and the minimum not less than 5 acres; (e) the lessee must within 3 years fence in the whole of the land and plant at least one-tenth thereof with vines or fruit trees or cultivate one-tenth as a vegetable garden; and (f) on completion of the conditions, and payment of the purchase money, a Crown grant must be issued.

(v) *Conditional Purchases of Inferior Lands.* Land which is classed as inferior and second or third class land may also be sold under the conditions mentioned in previous paragraphs, but the price may be reduced to not less than 3s. 9d. per acre, and that of land infested with poison plant may be reduced in price to not less than 1s. per acre.

(vi) *Conditional Purchases by Pastoral Lessees.* A pastoral lessee in the South-West Division may apply for land within his lease not exceeding one-fifth of the area leased by him under conditional purchase, with residence condition, and may hold a maximum area of 2,000 acres, and a minimum area of 200 acres. Similarly, a pastoral lessee in the Kimberley, North-West, Eastern or Eucla Divisions, who has in his possession at least 10 head of sheep or 1 head of large stock for each 1,000 acres, may apply to purchase an area not exceeding 1 per cent. of the total area held by him, the maximum area which may be so selected being 2,000 acres, and the minimum 500 acres.

(vii) *Conditional Purchases of Grazing Lands.* The Governor may declare lands situated in the South-West, Central or Eucla Divisions, which are unsuitable for agriculture, open for selection under the following conditions :—(a) The price must be not less than 3s. 9d. per acre; (b) the maximum area which can be held by any one person is 5,000 acres, and the minimum 100 acres; (c) on approval of the application, accompanied by a deposit of the first instalment of purchase money, a lease for 20 years is issued; (d) the lessee must reside on the lease for 6 months in the first year, and for 9 months in each of the succeeding 4 years; (e) the lessee must expend on improvements an amount equal to one-fifth of the purchase money in every 2 years; and (f) when all the conditions have been fulfilled, and the purchase money and fee paid, a Crown grant must be issued.

(viii) *Homestead Farms.* Crown lands, not within a goldfield, may be made available for free farms, termed "Homestead Farms." Any person, not already the holder of more than 100 acres of freehold land, or land held under special occupation or conditional purchase, is entitled to a homestead farm of not more than 160 acres or less than 10 acres. A fee of £1 must be paid with the application, and an approved applicant receives an occupation certificate for 7 years, and neither the land nor any interest therein of the selector is liable to be taken in execution. A selector must comply with the following conditions :—(a) Reside for 6 months in each year on the land for the first 5 years; (b) within 2 years expend not less than 4s. per acre on the total area; (c) within 5 years expend 10s. per acre; (d) within 7 years expend 14s. per acre on improvements and a house; and (e) fence one-half within 5 years, and the whole within 7 years. After 7 years a selector is entitled to a Crown grant, provided all conditions are fulfilled, or at any time after 12 months, provided all improvements are made, a Crown grant may be obtained on payment of a sum of 5s. per acre.

(ix) *Village Allotments.* In connexion with any land set apart for selection as homestead farms, the Governor may declare any land within 5 miles thereof a village site, and such site may be subdivided into allotments not exceeding in area 1 acre each. Any selector of a homestead farm may select an allotment in such village without payment. As soon as the selector is entitled to a Crown grant of his homestead farm, he may, on payment of £1 and the prescribed fee, obtain a Crown grant of his village allotment.

(x) *Working Men's Blocks.* Land may be set apart for working men's blocks and subdivided into lots not exceeding $\frac{1}{2}$ -acre each on a goldfield, or 5 acres elsewhere. Any person who is not already an owner of land in freehold or on conditional purchase, may obtain a lease under the following conditions:—(a) The price must be not less than £1 per acre, payable at the rate of one-tenth of the purchase money annually; (b) one person may hold one allotment only; (c) the application must be accompanied by the first instalment of purchase-money, and, if approved, a lease for 10 years is issued; (d) the lessee must reside on the block for 9 months in each of the first 5 years; (e) the land must be fenced in within 3 years, and improvements, in addition, made within 5 years equal in value to double the purchase-money; and (f) after 5 years a Crown grant must be issued, provided all conditions are complied with and the purchase money and fee paid.

(xi) *Special Settlement Lands.* Land may be set apart as special settlement lands, and may be cleared, drained, or otherwise improved by the Government, and disposed of under the provisions of any preceding conditional purchase tenures.

(xii) *Areas Alienated.* The following table shows the number of holdings and the areas conditionally selected for which Crown grants were issued and conditionally alienated during the years ending 30th June, 1919 to 1923. Under the heading "Deferred payments (with residence)" are included conditional purchases of grazing lands.

CONDITIONAL PURCHASES.—WESTERN AUSTRALIA, 1918–19 TO 1922–23.

Particulars.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
NUMBER OF HOLDINGS.					
	No.	No.	No.	No.	No.
Crown Grants Issued ..	872	1,416	1,269	1,995	1,553
Conditionally Alienated ..	1,136	2,622	2,220	3,275	2,997
AREAS FOR WHICH CROWN GRANTS WERE ISSUED.					
	Acres.	Acres.	Acres.	Acres.	Acres.
Free Homestead Farms ..	42,888	113,630	65,286	112,798	53,506
Conditional Purchases ..	100,237	129,207	435,387	287,669	272,436
AREAS CONDITIONALLY ALIENATED.					
	Acres.	Acres.	Acres.	Acres.	Acres.
Conditional Purchases—					
(i) Deferred Payments (with Residence) ..	496,694	1,143,240	1,460,085	1,635,911	1,619,346
(ii) Deferred Payments (without Residence) ..	49,766	114,094	131,331	139,602	95,011
(iii) Direct Payments (without Residence) ..	840	127	363	721	1,121
Free Homestead Farms ..	24,059	53,550	65,285	78,310	111,202
Working Men's Blocks ..	..	5	10	38	..
Total	571,359	1,311,016	1,657,074	1,854,582	1,826,680

6. *Tasmania.*—(i) *Selections for Purchase.* Rural land is classified into (a) first class land if its value is £1 an acre or over, (b) second class land if less than £1 but not less than 10s. an acre, and (c) third class land, if less than 10s. and not less than 5s. an acre, provided that no Crown land within the area and during the currency of a pastoral lease may be sold at less than 10s. per acre. Any person may select for purchase (a) one lot of first class land, not exceeding 200 acres nor less than 15 acres, on payment of a small deposit and the balance of the purchase money in instalments spread over 18 years, provided that he is not the holder upon credit of any first class land or of any unclassified rural land, for which the whole of the purchase money has not been paid, or (b) at the value per acre fixed by the Surveyor-General one lot of second class land, not exceeding 300 acres nor less than 30 acres, provided that he is not the holder upon credit of any second class land for which the whole of the purchase-money has not been paid, or (c) at the value per acre fixed by the Surveyor-General, one lot of third class land, not exceeding 600 acres nor less than 60 acres, provided that he is not the holder upon credit of any third class land for which the whole of the purchase-money has not been paid. The terms of purchase are as follows :—a sum equal to one-third of the price is added thereto by way of premium allowed for credit, and the whole sum is payable by a small deposit in the case of (a) or by a deposit of one-fortieth part thereof in the case of (b) and (c), and the balance in 18 and 14 annual instalments respectively. The following conditions must be observed :—(a) a purchaser of first class land must during 8 consecutive years improve the land to the extent of 2s. 6d. per acre annually, and the land must be occupied for 5 years either by himself, a member of his family, or someone employed by him, and (b) on second and third class land, improvements must be effected during 5 consecutive years to the value of 1s. per acre annually.

(ii) *Additional Selections for Purchase.* Any selector for purchase may make a further selection and purchase under the same terms and conditions, provided that the total area held by him does not exceed the maximum allowed for each class of land.

(iii) *Homestead Areas.* Any person who is not the holder on credit of any land may select and purchase at the price fixed one lot of first class agricultural land, not exceeding 50 acres nor less than 15 acres. The purchase money is payable by a deposit at the time of selection and the balance in 18 years in instalments, but no instalments are payable for the first, second, and third years. The purchaser must occupy the land within 4 years for a period of 5 years, and during that period effect improvements to the value of £1 per acre.

(iv) *Selections in Mining Areas.* Any person may select and purchase in a mining area one lot of first class land, not exceeding 100 acres, on the condition that 2s. 6d. be expended per acre per annum on improvements for 8 years. The price is fixed by the Surveyor-General. Land within 1 mile of a town may be selected and purchased only in lots of not less than 10 acres nor more than 20 acres. The residence condition is for 3 years, to be commenced within 2 years.

(v) *Sales by Auction.*—(a) *Town Lands.* Town lands may be sold by auction on credit, in which case one-third of the purchase-money is added thereto as interest. One-fourteenth of the purchase-money so increased must be paid at the time of sale, and the balance in 13 annual instalments. Improvements must be made within 5 years to the value of a sum equal to the purchase-money, otherwise such land and any improvements thereon are liable to be forfeited.

(b) *Rural Lands.* Rural lands may be sold by auction for cash or on credit. After survey and before sale such lands must be classified into first class, second class, and third class lands, with the following minimum upset prices—first class, £1 per acre; second class, 10s. per acre; and third class, 5s. per acre. Lots of less than 15 acres of first class land may be sold only for cash. When sold on credit, one-third of the purchase-money is added thereto as interest, and one-fortieth of the whole must be paid as deposit, and the balance in 14 annual instalments. Whether sold for cash or on credit, the same conditions of residence and improvements apply as in the case of land selected for purchase.

(c) *Lands within Mining Areas.* Crown land in mining areas, not selected under (iv) above, may be sold by auction for cash or on credit, having been previously surveyed into lots of (a) not more than 100 acres nor less than 10 acres of first class land; (b) not less than 30 acres of second class land; and (c) not less than 50 acres of third class land.

No land within 1 mile of a town may be sold as second class land. The upset price may not be less than £1 per acre for first class land, 10s. per acre for second class, and 5s. per acre for third class land. The usual conditions as to improvements apply, and first class land must be occupied for at least 3 years.

(vi) *After-auction Sales.* Town lands, not within 5 miles of a city, rural lands, and lands within a mining area, which have been offered for sale by auction and not sold, may be sold at the upset price by private contract under the same conditions as if sold by auction.

(vii) *Sales by Private Contract.* Where any second class Crown land, being less than 30 acres in area, and not contiguous to or adjacent to any other Crown land, is so situated as to make it desirable that the same should be sold, it may be sold either on credit privately on the same terms as second class lands or by public auction. In either case, the ordinary conditions as to the improvements on the land apply.

(viii) *Special Settlement Areas.* The Commissioner of Lands may withdraw from selection any area of rural land not less than 1,000 acres in extent which is first class land suitable for agriculture, horticulture, or dairy farming, together with adjacent inferior land, and may expend money in improving the same and subdividing it into blocks. Such blocks may be submitted to auction under the ordinary conditions applicable to first class land, or, without having been so submitted (a) may be declared to be open to any person; or (b) may be reserved for *bona fide* immigrants to the extent of one block in every six, for purchase by private contract at such price as the Commissioner may think fit, the purchase money being spread over 18 years. The usual conditions as to residence and improvements apply also to these blocks.

(ix) *Areas Conditionally Purchased.* The following table shows the areas alienated absolutely under systems of conditional purchases and sales on credit, and also the areas sold conditionally and the applications for conditional purchases received and confirmed, during the years 1918 to 1922 :—

TASMANIA.—CONDITIONAL PURCHASES, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
<i>Completion of Conditional Purchases</i> ..	52,764	80,134	102,857	76,055	67,759
<i>Sold Conditionally—</i>					
Selections for Purchase	24,796	24,084	32,248	52,455	40,502
Homestead Areas	90	40	40	50	78
Auction Sales on Credit	859	769	2,028	1,400	361
Town and Suburban Allotments ..	675	412	733	1,614	550
Total	26,420	25,305	35,049	55,519	41,491
<i>Applications—</i>					
Received	1,499	1,212	1,836	966	895
Confirmed	350	437	524	498	513

§ 5. Leases and Licences under Land Acts.

1. New South Wales.—(i) *Conditional Leases.* Any applicant for or holder of a conditional purchase may apply for a conditional lease of Crown lands adjoining his property, provided that the area of the conditional lease does not exceed three times the area of the conditional purchase. The term of the lease is 40 years, and the annual rent is determined by the local land board for three periods of 15, 15 and 10 years respectively. Pending determination, the provisional rent is fixed at 2d. per acre. The conditions of residence and improvements are the same as those attached to a conditional purchase (see § 4 (i)) and a conditional lease may be converted into an additional conditional purchase.

(ii) *Conditional Purchase Leases.* A conditional purchase lease may be granted in a classified area set apart for such leases. The areas of the blocks, and the capital values, are determined by the Minister. The term of a lease is 40 years, divided into two consecutive periods of 15 years and one of 10 years. The annual rent is $2\frac{1}{2}$ per cent. of the capital value. Five years' residence is necessary and special conditions must be complied with. A holder of an original conditional purchase lease may apply for an additional conditional purchase lease to be held under the same conditions, provided that no applicant may hold a greater area than would substantially exceed a home-maintenance area. At any time a conditional purchase lease may be converted into a conditional purchase or a homestead farm.

(iii) *Special Conditional Purchase Leases.* A special conditional purchase lease must not exceed an area of 320 acres. A deposit of rent at the rate of 6d. per acre must be made at the time of application, and, in addition to the conditions attached to a conditional purchase lease, the lessee must, within 3 years, effect improvements to the value of from 10s. to £1 per acre as the Minister may determine. The lease, moreover may be converted into a conditional purchase.

(iv) *Homestead Selections.* A classified area may be set apart for disposal by way of original homestead selection in blocks not exceeding 1,280 acres. The value and conditions as to drainage, clearing, etc., are as notified in the Gazette. Residence for 5 years is requisite, and a dwelling house valued at not less than £20 must be erected within 18 months. The rent for the first 5 years is $1\frac{1}{4}$ per cent. of the capital value, and thereafter $2\frac{3}{8}$ per cent. thereof. After 5 years, provided that all the conditions have been fulfilled, a homestead grant is issued, and then an annual rent equal to $2\frac{1}{2}$ per cent. of the capital value is payable in perpetuity, such capital value being re-determined every 25 years. The condition of residence may, if the local land board is satisfied, be performed by an approved deputy, but, under such circumstances, the rent is raised to $3\frac{1}{2}$ per cent. of the value, and the value of the dwelling house to £40, while, within 3 years, not less than one-tenth of the lease must be in full tillage, and, during the fourth and fifth years, one-fifth must be in full tillage. An additional homestead selection may be applied for by the holder of or the applicant for an original homestead selection under similar conditions to those applicable to an original selection. A homestead selection may be converted into a conditional purchase. Practically no lands are now set apart under this tenure.

(v) *Homestead Farms.* A classified area may be subdivided into farms of such areas as the Minister may determine to be home-maintenance areas. Such farms are leased in perpetuity at a rental of $2\frac{1}{2}$ per cent. of the capital value, which, after the expiration of 25 years, is re-appraised every 20 years. Residence is obligatory for 5 years, and the holder may, during the first 5 years, in lieu of paying rent, expend during each year a sum equal to not less than the amount of rent in effecting improvements. The holder of an original homestead farm may, in order to make up a home-maintenance area, apply also for an additional homestead farm under similar conditions. A homestead farm may be converted into a conditional purchase.

(vi) *Settlement Leases.* A classified area may be set apart for disposal by way of original settlement lease. Such lease, where the land appears suitable for agriculture, must not exceed 1,280 acres, or where suitable chiefly for grazing, 10,240 acres. A standard is adopted which permits the lessee to establish and maintain a home by the use of the land. The term of the lease is 40 years, divided into two periods of 15 years and one of 10 years. The annual rent for the first period is as gazetted, and for subsequent years is as determined by the local land board on application by the lessee. The lessee must reside on the land for 5 years, fence it within that period, and conform to any regulations regarding noxious animals and weeds. The holder may apply for a homestead grant of a portion of the lease and may also apply for an additional settlement lease, subject to the notified conditions, but the term of such additional lease expires upon the termination of the original lease. The holder may also convert his lease into a conditional purchase. Practically no lands are now set apart under this tenure.

(vii) *Special Leases.* Special leases may be granted for a period not exceeding 28 years for (a) wharves and jetties; (b) miscellaneous purposes, including grazing, agriculture and business purposes, up to 1,920 acres; or (c) tramway or irrigation purposes, not exceeding 3 chains in width without any limit in length. The rent is determined by the local land board. A special lease may be converted into certain specified tenures.

(viii) *Annual Leases for Pastoral Purposes.* Crown lands may be offered in areas not exceeding 1,920 acres on annual lease by auction or by tender, or may be applied for in the prescribed manner, the rent being fixed by the local land board. The holder of such lease may apply for a lease under improvement conditions, and may be granted a lease of an area sufficient for the maintenance of a home for a period not exceeding 10 years.

(ix) *Scrub Leases.* Crown lands wholly or partly covered by scrub or noxious undergrowth, may be leased for a term not exceeding 21 years, or up to 28 years, subject to such conditions as the local land board may make for the purpose of destroying the scrub. The term of the lease is divided into such periods as the Minister may determine, and the rent for the second and subsequent periods is fixed by the local land board. A home-maintenance area may be converted into a homestead selection.

(x) *Snow Leases.* Land usually covered by snow for a part of each year may be leased in areas not exceeding 10,240 acres for a period up to 14 years, but no person may hold more than one such lease.

(xi) *Inferior Lands Leases.* Leases of land of inferior character or in isolated positions may be granted subject to the terms notified in the Gazette either by tender or sold by auction, or, if no bid is received at auction, on application at the upset price. A home-maintenance area may be converted into a homestead grant during the last year of the lease.

(xii) *Crown Leases.* Crown leases may be disposed of for agriculture or grazing, or for both, in such blocks as the Minister may determine. The term is for 45 years, and the lessee must reside on his lease for 5 years. The annual rent is $1\frac{1}{2}$ per cent. of the capital value of the land, which is re-appraised every 15 years. During the last 5 years of the lease, the holder, unless debarred by notification, may convert an area thereof not exceeding that of a home-maintenance area into a homestead farm. Such lease, unless debarred by the notification setting the land apart, may be converted into a conditional purchase with or without a conditional lease.

(xiii) *Improvement Leases.* Land which is not suitable for settlement until improved may be leased subject to the following conditions:—(a) the term must not exceed 28 years; (b) the area must not exceed 20,480 acres; (c) the amount bid at auction, or offered by tender, or the upset rent, is to be the annual rent; (d) covenants must be specified for the improvement of the land; and (e) the holder may apply for a homestead grant of a portion of the leasehold, not exceeding a home-maintenance area, and has a tenant-right in the improvements which he has made.

(xiv) *Occupation Licences.* An occupation licence entitles the licensee to occupy Crown lands for grazing purposes, but the licence is only renewable from year to year, and the fees are liable to re-determination annually.

(xv) *Leases of Town Lands.* Crown lands within the boundaries of any town may be leased by auction or tender, such lease being in perpetuity and not subject to any term of residence. The area must not exceed $\frac{1}{2}$ acre. The value of the land is re-appraised every 20 years, and the rent is fixed at $2\frac{1}{2}$ per cent. of such value. No person may hold more than one lease. The land comprised in such lease may be purchased under certain conditions.

(xvi) *Suburban Holdings.* The Minister may set apart suburban Crown lands, or Crown lands within population boundaries, or within the Newcastle pasturage reserve, or any other Crown land, for disposal by way of suburban holdings. The area of each

holding is determined by the Minister, and the title is a lease in perpetuity. Residence for 5 years is necessary, but the local land board may exempt a holder from this condition for periods not exceeding 12 months. The rent is $2\frac{1}{2}$ per cent. of the capital value, which is re-appraised every 20 years. An additional suburban holding may be acquired by the holder of an original holding, but no person may hold more than one original holding, except as a mortgagee. A suburban holding may be purchased under certain conditions.

(xvii) *Week-end Leases.* A week-end lease must not exceed 60 acres, and is held in perpetuity. The rent is $2\frac{1}{2}$ per cent. of the capital value, which, after 25 years, is re-appraised every 20 years. No residence condition is attached, but improvements other than fencing must be effected to the value of £1 per acre within 5 years and any special conditions carried out that may be notified. No person may hold more than one week-end lease except as mortgagee.

(xviii) *Residential Leases.* A holder of a miner's right may, for the purpose of *bona fide* residence, acquire a residential lease on a goldfield or mineral field, provided that :—(a) the area does not exceed 20 acres; (b) the term does not exceed 28 years; and (c) the conditions as prescribed are fulfilled. A resident holder of an area on a goldfield or mineral field may similarly hold a residential lease together with the area which he already holds, but the total area of the two together must not exceed 20 acres. A residential lease may be purchased under certain conditions.

(xix) *Leases in Irrigation Areas.* Lands in an irrigation area must be divided into (a) irrigable lands; (b) non-irrigable lands; and (c) town lands. The capital values are determined by the Water Conservation and Irrigation Commission. The following are the conditions under which leases are granted :—(a) *Irrigation Farms or Blocks.*—The title is a lease in perpetuity, and the annual rent is $2\frac{1}{2}$ per cent. of the capital value, which, after the expiration of 25 years, is re-appraised every 20 years. A condition of the lease is residence in perpetuity by the holder. (b) *Leases of Non-irrigable Lands.*—Leases of non-irrigable lands may be granted under the same conditions as those of irrigation farms or blocks. (c) *Town Lands Blocks.*—The title to a town lands block is also a lease in perpetuity, subject to the same terms and conditions as a lease of an irrigation farm except that (i) the annual rent must not be less than £1, (ii) the lease is subject to such building and other conditions as the Commission deems desirable, (iii) the condition of residence may be waived, and (iv) three adjoining blocks for the purpose of residence or four for business purposes may be held by one person.

(xx) *Western Lands Leases.* Under the Western Lands Act the Minister may declare Crown lands in the Western Division open for lease, and specify the area and rent. No rental may be less than 2s. 6d. per square mile nor more than 7d. per sheep on the carrying capacity, and may not be increased by more than 25 per cent. at each re-appraisal. The successful applicant is notified in the Gazette and must pay the first year's rent within one month after such notification. All leases issued under the Western Lands Act expire not later than the 30th June, 1943, except extended leases.

(xxi) *Forest Permits and Leases.* Under the Forestry Act, permits may be granted (a) to graze and water horses and cattle; (b) to occupy land as the site of a sawmill or other building, or any tramway, wharf, or timber depot; (c) to occupy land for charcoal burning or bee farming or other approved purpose; (d) to occupy land for growing fodder; and (e) to ringbark or otherwise kill or destroy trees. The fees are prescribed by regulation. Leases of land within State forests may also be granted for grazing or other approved purposes for any term not exceeding 20 years.

(xxii) *Areas Occupied under Leases and Licences.* On the 30th June, 1923, there were 61,495 leases and licences current under the Lands Department and the Western Land Board, comprising 115,393,357 acres of Crown lands.

The following table shows the areas which were granted under lease or licence during each year and those held under various descriptions of leases and licences at the end of the years 1918-19 to 1922-23.

AREAS TAKEN UP UNDER LEASE OR LICENCE.—NEW SOUTH WALES,
1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
<i>Areas taken up under Crown Lands Act.</i>					
Occupation Licences (auction) ..	Acres. 42,230	Acres. 60,330	Acres. 36,000	Acres. ..	Acres. 10,150
Conditional leases (gazetted) ..	263,791	221,153	188,478	201,866	132,444
Conditional purchase leases ..	361	2,358	1,444	278	164
Settlement leases ..	5,370	3,460	10,430	1,292	19,753
Improvement leases ..	20,368	3,250	4,045	..	3,500
Annual leases ..	379,302	824,395	324,289	79,390	275,147
Scrub leases ..	6,615	13,890	22,420	..	4,718
Snow leases ..	3,000	..	..	..	..
Special leases ..	68,054	95,444	112,234	182,119	131,098
Residential leases ..	695	491	592	497	319
Permissive occupancies ..	209,154	409,365	103,740	36,642	436,425
Prickly pear leases ..	..	600	1,140	48	..
Crown leases ..	341,324	593,554	671,247	700,419	550,254
Homestead farms ..	383,833	507,417	437,713	378,180	460,502
Homestead selections and grants ..	..	..	..	..	9,124
Suburban holdings ..	3,226	4,073	6,764	9,121	5,130
Week-end leases ..	170	76	159	48	219
Leases of town land ..	1	1	51	70	2
Returned soldiers' special holdings ..	8,456	9,865	4,872	6,213	110
Inferior lands lease ..	..	..	..	..	1,280
<i>Areas taken up under Western Lands Act.</i>					
Leases ..	1 710,636	2,838,834	3,346 079	2,520,974	271,166
Permissive occupancies ..	1,529,038	38,501	636,451	169,460	382,445
Total ..	4,975,624	5,627,107	5,908,148	4,286,617	2,693,950

AREAS OCCUPIED UNDER LEASE OR LICENCE.—NEW SOUTH WALES,
1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Outgoing pastoral leases ..	Acres. 677,221	Acres. 627,833	Acres. 569,425	Acres. 435,970	Acres. 399,044
Occupation { (i) Ordinary ..	4,111,467	3,625,750	3,191,614	2,782,890	2,787,985
licences { (ii) Preferential ..	966,613	806,755	738,554	693,212	770,192
Homestead leases ..	51,074	35,687	35,687	15,207	15,207
Condit'l { (i) Gazetted ..	14,468,840	14,340,048	14,149,642	14,091,229	14,030,087
leases { (ii) Not gazetted (under provisional rent) ..	81,735	157,248	137,897	78,622	103,923
Conditional purchase leases ..	408,768	384,868	368,669	322,548	293,013
Settlement leases ..	4,479,135	4,248,826	3,973,171	4,032,936	3,953,363
Improvement leases ..	3,962,870	3,688,890	3,288,555	3,177,936	2,903,511
Annual leases ..	2,552,665	2,953,296	2,409,661	1,914,217	1,919,887
Scrub leases ..	1,658,675	1,537,704	1,502,434	1,247,926	1,165,782
Snow leases ..	134,420	134,424	129,200	126,020	126,020
Special leases ..	663,919	703,673	743,049	828,684	828,091
Inferior land leases ..	71,710	69,710	69,710	68,350	59,787
Blockholders' leases ..	1	1	1	..	..
Residential leases (on gold and mineral fields) ..	13,511	13,327	12,991	12,541	11,849
Church and school lands ..	11	11	11	11	11
Permissive occupancies(b) ..	1,365,570	1,774,935	1,878,675	1,915,317	2,063,273
Prickly pear leases ..	41,148	37,692	35,932	30,502	24,829
Crown leases ..	2,694,879	3,092,904	3,664,798	4,128,533	4,519,500
Homestead farms ..	1,410,612	1,889,109	2,296,848	2,622,750	3,014,076
Homestead selections and grants ..	985,914	912,573	895,330	895,298	915,483
Suburban holdings ..	41,227	40,198	45,475	51,071	59,732
Week-end leases ..	240	281	418	487	714
Leases of town lands ..	17	19	71	139	134
Returned soldiers' special holdings ..	10,952	17,888	20,118	26,567	28,711
Western land leases and licences(a) ..	75,268,115	75,475,048	76,009,212	75,975,852	75,368,253
Total ..	116,121,300	116,568,698	116,166,968	115,474,827	115,393,357

(a) Includes permissive occupancies. (b) Permissive occupancies in the Western Division not included.

2. *Victoria*.—(i) *Perpetual Leases*. A person may take up as a perpetual lease an area of Crown land varying from 600 acres of first class land to 2,880 acres of Class 4A land. The annual rental is fixed by the Board of Land and Works every 10 years. Specified improvements must be effected during the first 6 years, and residence on or within 5 miles of the land for 6 months during the first year and for 8 months during each of the 4 following years is necessary, but, if one-fourth of the allotment be cultivated during the first 2 years and one-half before the end of the fourth year, the residence covenant is not enforced.

(ii) *Auriferous Lands Licences*. Licences may be granted for any period not exceeding one year, entitling the holder to reside on or cultivate auriferous land not comprised within a city or town, and not exceeding in extent 20 acres. The terms and conditions are such as are approved by the Governor. No person may hold more than one licence. After the value of the land has been paid in rent, only a nominal rent is payable.

(iii) *Leases of Swamp or Reclaimed Lands*. Swamp or reclaimed lands may be leased in allotments not exceeding 160 acres, for a term of 21 years, subject to the lessee keeping open all drains, etc., thereon. The rent is fixed according to the value of the land as determined by the Board of Land and Works. The lessee must effect improvements to the value of 10s. per acre in each of the first 3 years, but residence on the land is not necessary.

(iv) *Perpetual Leases of Swamp or Reclaimed Lands*. The conditions under which these leases may be taken up are similar to those of ordinary leases, except that the lease is held in perpetuity, and the rent is fixed at 4 per cent. of the value of the land, which is re-appraised every 10 years.

(v) *Grazing Licences*. Grazing licences may be granted for a term not exceeding 7 years subject to cancellation at any time. In the case of returned soldiers, leases may be granted for 14 years. The rental varies according to the class of land.

(vi) *Perpetual Leases of Mallee Lands*. Perpetual leases of Mallee land may be granted for areas ranging from 640 acres of first class land to 4,000 acres of Class 4A land. The rent is $1\frac{1}{4}$ per cent. of the value of the land, which is re-appraised every 10 years. Residence is necessary during 6 months of the first year and during 8 months in each of the following 4 years, but the residence condition is waived if one-fourth of the land is cultivated within 4 years and one-half by the end of the sixth year, or, alternatively, if improvements, ranging in value from 10s. to 2s. 6d. per acre, according to the class of land, are effected during the first 6 years.

(vii) *Miscellaneous Leases and Licences*. Leases up to 21 years at an annual rental of not less than £5, and annual licences at various rates are issued for different purposes, such as sites for residences, gardens, inns, stores, smithies, butter factories, creameries, brickworks, etc. Licensees who have been in the possession of land for 5 years (if such land is situated outside the boundaries of a city) may purchase the same at a price to be determined by the Board.

(viii) *Bee Farm Licences*. Annual licences for bee farms may be issued for areas of not more than 10 acres at such fees as the Minister may fix.

(ix) *Bee-Range Area Licences*. A bee-range licence may be secured on payment of $\frac{1}{2}$ d. for every acre of Crown land within a radius of 1 mile of the apiary, and in connexion therewith all suitable timber may be protected from destruction although held under grazing lease or licence.

(x) *Eucalyptus Qil Licences*. A licence may be granted of land suitable for the growth of trees in connexion with the manufacture or production of eucalyptus oil. The licence is in force for such period and subject to such conditions as may be prescribed.

(xi) *Forest Leases*. Under the Forests Act, a person may obtain, for a term not exceeding 12 years, a lease of Crown land within any reserved forest for (a) the grazing of cattle; (b) sawmilling purposes, but not exceeding 3,000 acres in extent; or (c) any miscellaneous purpose for which a miscellaneous lease may be granted under the Land Act. The rent and conditions are as prescribed.

(xii) *Forest Licences*. Under the same Act, and subject to prescribed conditions, the Forests Commission may grant to any person for any term not exceeding one year

a licence to occupy (a) any area for the grazing of cattle ; (b) a special area, not exceeding 640 acres, for the cutting of timber ; (c) an area, not exceeding one acre, for residence purposes ; or (d) an area for any of the miscellaneous purposes for which a miscellaneous licence may be granted under the Land Act.

(xiii) *Forest Townships.* A sufficient part of any reserved forest may be set apart as a forest township site, and divided into allotments. Such allotments may, upon the prescribed terms and rental, be leased for any term not exceeding 20 years to any person engaged in the forest industry or to any business person, and these leases are renewable.

(xiv) *Areas held under Leases and Licences.* The following statement shows the areas of Crown lands occupied under leases and licences from 1918 to 1922. All grazing area-leases expired on the 29th December, 1920 :—

CROWN LANDS UNDER LEASE OR LICENCE.—VICTORIA, 1918 TO 1922.

Tenure.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
Grazing area leases	2,503,197	2,408,481	2,320,343		
Grazing licences (exclusive of Mallee) ..	5,069,740	5,074,089	6,242,276	6,649,821	6,647,808
Mallee lands	2,796,686	4,931,503	4,908,543	1,680,670	2,405,320
Auriferous lands (licences)	71,400	68,452	65,590	64,135	61,577
Swamp lands (leases)	3,412	1,759	1,478	1,585	1,697
Perpetual leases	7,559	7,559	7,559	7,559	7,559
Perpetual leases under Mallee Lands Acts 1896-1901	197,253	139,653	141,957	128,684	113,632
Total	10,649,247	13,531,476	13,696,746	8,532,434	9,237,593

3. *Queensland.*—(i) *Perpetual Lease Selections.* The area of a perpetual lease selection must not exceed 2,560 acres and is held under a lease in perpetuity. An applicant for such lease, who undertakes to reside on his selection during the first 5 years of his lease, has priority over other applicants, and further priority is granted to an applicant who, in addition, agrees to cultivate at least one-twelfth of his selection within the first 3 years. The annual rent during the first 15 years is 1½ per cent. of the notified capital value, provided that the rent for the second period is a peppercorn (if demanded). The annual rent for each period of 15 years thereafter is determined by the Land Court at a similar percentage of the unimproved capital value of the land as fixed by that Court.

(ii) *Perpetual Lease Prickly Pear Selections.* The maximum area for a perpetual lease prickly pear selection is 2,560 acres, and the same conditions as to priority apply as in the case of an ordinary perpetual lease selection. The lease is in perpetuity and contains a condition for the destruction of the prickly pear thereon. The rent for the first 15 years is a peppercorn (if demanded), and for each period of 15 years thereafter is 1½ per cent. of the unimproved capital value as determined by the Land Court.

(iii) *Pastoral Leases.* The Minister may, by notification in the Gazette, declare any Crown land open for pastoral lease, subject to conditions as to fencing, improvements, and the destruction of noxious weeds. The notification must specify the areas to be leased, the maximum area which one person may hold, the term of the lease, which must not exceed 30 years, and the rent per square mile for the first period of 10 years. The rent for the second and third periods of 10 years is fixed by the Land Court.

(iv) *Preferential Pastoral Leases.* When an applicant for a pastoral lease on making his application offers that the holding shall be subject to the condition of personal residence during the first 5 years and undertakes to perform that condition, he has priority over other applicants who have not made such offer. In other respects the conditions are the same as those for an ordinary pastoral lease, but no selector or lessee of a grazing selection, or owner of freehold land of an area of 5,000 acres and upwards, is competent to apply for or hold a preferential pastoral lease.

(v) *Occupation Licences.* Annual licences are granted to occupy Crown lands, either after notification in the Gazette or by the Minister without competition. In the former case the rent is as notified, and in the latter is as fixed by the Minister. Licences expire on the 31st December in each year, but may be renewed from year to year upon payment of the rent on or before the 30th September, and the rent may be increased on or before that date. A licence is determinable on 3 months' notice.

(vi) *Special Leases.* The Governor may issue a lease of any portion of land for any manufactory, or for any industrial, residential or business purposes, or for any race-course or recreation purposes, for a period not exceeding 30 years upon such conditions as he thinks fit. A lease may also be issued of reserved lands which are infested with noxious weeds or scrub, conditionally on the lessee destroying such noxious plants.

(vii) *Grazing Selections.* Crown land may be leased as grazing selections, but no person may hold a grazing selection or selections exceeding 60,000 acres in the aggregate. Conditions may be imposed for the erection of rabbit-proof or marsupial-proof fencing, and for the destruction of noxious weeds. A grazing selection must be fenced in within 3 years, and when so fenced, the selector is entitled to a lease. The annual rent for the first 7 years is as notified or tendered, and for each succeeding period of 7 years is as determined by the Land Court. Grazing selections may be either (a) grazing farms, or (b) grazing homesteads; and when land is declared open for grazing selection it must be available for grazing homesteads only during the first 56 days, after which it may be taken up under either tenure. The lease of a grazing farm is subject to the condition of occupation during the whole term, and that of a grazing homestead to the condition of residence during the whole term.

(viii) *Auction Perpetual Leases.* Perpetual leases of (a) town lands, in areas not exceeding half-an-acre; (b) suburban lands, in areas not exceeding 5 acres; and (c) country lands, in areas not exceeding 640 acres, may be sold by auction to any person, to trustees for religious or charitable bodies, or to companies. Improvements to the value of at least £25 must be effected within 2 years, and the rent during the first 15 years is fixed at 3 per cent. of the upset price, or of such greater capital sum as has been bid by the purchaser. For each period of 15 years thereafter, the rent is 3 per cent. of such unimproved value of the land as is determined by the Land Court. No person may hold more than 6 town or 6 suburban leases in any one town or adjacent thereto.

(ix) *Areas taken up under Lease or Licence.* The following table gives particulars of the areas taken up under lease or licence during the years 1918 to 1922 :—

AREAS TAKEN UP UNDER LEASE OR LICENCE.—QUEENSLAND, 1918 TO 1922.

Tenure.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
Pastoral leases	6,068,080	4,360,320	4,017,080	1,121,800	2,998,480
Occupation licences	6,658,120	5,321,400	4,274,440	5,994,440	7,993,560
Grazing farms	3,111,716	4,487,564	2,009,034	949,432	1,806,603
Grazing homesteads	2,597,571	2,094,413	2,807,409	1,853,990	1,673,724
Perpetual lease selections	305,873	609,483	490,546	419,886	250,518
Perpetual lease prickly pear selections	153,151	514,064	435,299	270,985	154,359
Auction perpetual leases, Town	163	231	142	150	206
" " " Suburban	428	199	262	236	371
" " " Country	1,218	607	889	916	924
Special leases	15,620	7,478	6,511	11,806	18,012
Leases of reserves	12,341	15,249	39,173	28,190	18,050
Total	18,924,281	17,361,008	14,080,785	10,651,831	14,414,807

The following particulars are available respecting leases taken up in 1923 :—

Grazing farms	1,938,428 acres.
Grazing homesteads	2,853,341 acres.
Perpetual lease selections	205,282 acres.
Perpetual lease prickly pear selections	140,093 acres.

The gross area held at the end of the year 1923 for purely pastoral purposes was 343,686 square miles.

Seven non-competitive perpetual leases were issued during 1923, the total area being 51 acres.

The total areas occupied under lease or licence will be found in a table at the end of this chapter (see § 11.4).

4. South Australia.—(i) *Perpetual Leases*. Crown lands (except town lands) which have been surveyed or of which the boundaries have been delineated in the public maps may be offered on perpetual lease. Details concerning the area which is to be cleared and rendered available for cultivation, and the rent to be paid, are notified in the Gazette. An applicant must deposit with his application 20 per cent. of the first year's rent (if any). Preference is given in allotting land to the applicant who agrees to reside on the lease for 9 months in each year. If no application is made within 3 months from the date of notification, the Commissioner may offer the land at a reduced rent. No lease may be granted to any person of lands the unimproved value of which exceeds £5,000, except where the land is suitable for pastoral purposes only, while no lease is granted if the carrying capacity of all the lands held by the lessee would exceed 5,000 sheep, or, if outside Goyder's line of rainfall, 10,000 sheep. The lessee must fence the land within 5 years, and clear and render available for cultivation not less than one-eighth during the first 2 years, one-eighth during the second 2 years, and then one-eighth annually until three-quarters have been so cleared and rendered available for cultivation.

(ii) *Special Perpetual Leases*. Where the Commissioner directs, the following provisions apply respecting the payment of rent:—(a) No rent is payable for the first 4 years; (b) from the end of the fourth to the end of the tenth year, rent is payable at the rate of 2 per cent. of the value of the land; and (c) thereafter, 4 per cent. of the value of the land is payable in perpetuity.

(iii) *Homestead Blocks*. The conditions applying to these blocks are the same as those for blocks held under agreement to purchase, except that they are leased in perpetuity and cannot be sold. (See § 4.)

(iv) *Miscellaneous Leases*. Leases may be granted for various purposes for any term not exceeding 21 years at such rents and upon such conditions as the Commissioner may determine.

(v) *Grazing and Cultivation Leases*. The Land Board may allot leases of Crown lands for grazing or cultivation purposes or for both, for any term not exceeding 21 years and upon such conditions and at such rentals as the Commissioner may determine.

(vi) *Licences*. Licences may be granted of Crown lands for (a) fishermen's residences and drying grounds, (b) manufactories, fellmongering establishments, slaughter houses, brick or lime kilns or sawmills, (c) depasturing sheep, cattle or other animals, or (d) any other approved purpose. These licences are in force for one year only and are subject to such fees and conditions as the Commissioner may impose.

(vii) *Leases of Resumed Lands*. The Commissioner may resume possession of any well or other place where water has been found, and of not more than 1 square mile of land contiguous thereto, or, in the case of artesian water, 5 square miles. A lease of such land may be offered by private contract or by auction, the original lessee of the land having a preferential right to such lease. The lessee must maintain an accommodation house, if required, and construct facilities for watering stock.

(viii) *Pastoral Leases*. These leases are issued under the Pastoral Acts, and are granted for a term of 42 years. The rent is fixed by the Commissioner of Crown Lands, and is based on the unimproved value, which is re-appraised after the expiration of 21 years. The lessee must expend in improvements such sum not exceeding 10s. per square mile per annum as is recommended by the Pastoral Board, but this covenant ceases when £3 per square mile has been expended. Conditions as to stocking must also be fulfilled.

(ix) *Leases to Discoverers of Pastoral Country, etc.* Under the same Acts, a person who has discovered pastoral lands or has applied for a lease which has been abandoned for 3 years or more on account of vermin may obtain a lease for 42 years at a pepper-corn rental for the first 10 years, at 6d. per square mile for the next 10 years, and thereafter at a rent of 2s. per square mile annually.

(x) *Special Leases to Discoverers of Water.* The Governor may, under the Pastoral Acts, issue a permit to any person desirous of searching for water. The permit is in force for one year and confers on the holder the exclusive right to search for water on the land specified therein, and a preferential right to a lease. The holder of a permit who has discovered a permanent supply of water equal to not less than 4,000 gallons per day suitable for great cattle may be granted a lease not exceeding 100 square miles at a similar rental to that paid by lessees who have discovered pastoral country (see preceding subsection (ix)). The conditions of stocking are modified, and for 10 years the land is exempt from rating under the Wild Dogs Act. The discoverer of such water supply is also entitled to a reward of at least £200, provided the supply is not less than 3 miles from any existing well or bore.

(xi) *Irrigation Blocks.* Under the Irrigation Act, blocks of land are offered in irrigation areas on perpetual lease at rentals fixed by the Irrigation Commission. Provided that the block has not been cultivated, one-quarter only of the rent is payable for the first year, one-half for the second year, three-quarters for the third year, and thereafter the full amount annually. Not more than 50 acres of irrigable or reclaimed land may be held by one person. Residence for 9 months in each year is necessary, and certain specified improvements must be effected.

(xii) *Town Allotments in Irrigation Areas.* Perpetual leases of town allotments in irrigation areas must be offered for sale by auction, and, if not so sold, may be sold by private contract at not less than the upset price. A lessee must within 18 months effect improvements to the value of not less than 10 times the annual rent, but not less than £150 if the allotment is used for residential purposes, or £200 if used otherwise. Annual licences may also be granted to occupy town allotments.

(xiii) *Forest Leases.* Leases of land comprised in any forest reserve under the Woods and Forests Act, for cultivation or grazing or both, may be offered for sale at public auction for any term not exceeding 42 years. With the approval of the Commissioner of Forest Lands such land may also be leased by the Land Board. With the exception of leases in certain scheduled forest reserves, a lessee may surrender his lease and be granted a perpetual lease or agreement to purchase in lieu thereof.

(xiv) *Areas Leased.* The following table gives the areas leased during each of the years 1918-19 to 1922-23 under the different forms of lease tenure:—

AREAS LEASED.—SOUTH AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
Perpetual leases—					
Homestead farms (repurchased)	.. 864	.. 617	15	.. 911	1
Irrigation and reclaimed lands ..	76,684	205,730	804	159,007	490
Other Crown lands			147,361		284,074
Miscellaneous leases—					
Grazing	300	169,855	98,060	1,294	136,159
Grazing and cultivation	38,421	44,141	15,102	11,687	64,371
Agricultural College land	914				
Forest		9,046	3,210	2,005	21,840
Pastoral leases	758,400	5,442,560	2,918,400	1,437,440	2,259,200
Total	875,583	5,871,949	3,182,952	1,612,344	2,766,135

The total areas held under lease are given in the table at the end of this chapter (see § 11, 5).

5. *Western Australia.*—(i) *Pastoral Leases.* Crown lands may be leased for pastoral purposes, the maximum areas of the blocks and the rentals varying according to the Division in which they are situated, but no person may acquire more than 1,000,000 acres. Pastoral leases must be stocked within 2 years at the rate of 10 head of sheep or 2 head of large stock for each 1,000 acres, within 5 years with double that quantity, and for the remainder of the term with 3 times that number. Pastoral leases may be leased for a term expiring on the 31st December, 1948, and the rentals are re-assessed at the end of 15 years, but may not be increased by more than 50 per cent. Lessees must improve their land to the extent of £5 per 1,000 acres within 5 years, and to the extent of £10 per 1,000 acres within 10 years.

(ii) *Special Leases.* The Governor may grant special leases of Crown lands, not exceeding 25 acres in area, for a term not exceeding 21 years, at a yearly rental of not less than £2. Such leases are granted for miscellaneous purposes, such as obtaining guano, sites for inns or factories, market gardens, and similar objects.

(iii) *Residential Leases.* Any unalienated town, suburban or rural lands, may be set apart for residential leases and subdivided into lots not exceeding $\frac{1}{2}$ acre each. The terms and conditions are prescribed by regulation. Any holder of a residential lease, who has resided thereon for 2 years, may convert the same into a working-man's block.

(iv) *Leases of Town and Suburban Land.* The Governor may lease any town or suburban lands for a period of 99 years at an annual rental equal to 4 per cent. of capital value, which is to be re-appraised every 10 years.

(v) *Irrigation Leases.* Under the Rights in Water and Irrigation Act, any land may be acquired for or dedicated to the purpose of that Act, and the Minister may grant leases in perpetuity of any such land at an annual rent based on the unimproved capital value of the demised land (subject to re-appraisal at prescribed periods) and the value of the improvements thereon, subject to such conditions as are prescribed.

(vi) *Forest Permits.* Under the Forests Act, the Conservator of Forests may issue permits entitling the holders (a) to occupy land as the site of a sawmill, as a timber depot, for growing fodder, or for any other approved purpose; or (b) to work a sawmill; or (c) to make roads or tramways; or (d) to graze and water cattle, on lands under his jurisdiction. The term of a permit must not exceed 10 years, and permits must be submitted to public auction. The Conservator of Forests may also grant forest leases on such conditions as he may think fit, for periods not exceeding 20 years, for grazing agriculture, or other purposes not opposed to the interests of forestry.

(vii) *Areas Leased.* The subjoined table gives the number of leases and the areas of land leased by the Lands Department during the years ending 30th June, 1919 to 1923 :—

LEASES.—WESTERN AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of leases issued ..	1,014	545	694	821	504

AREAS OF LEASES ISSUED.

	Acres.	Acres.	Acres.	Acres.	Acres.
Pastoral leases	39,016,706	18,961,478	20,303,900	28,259,124	5,738,313
Special leases	16,845	1,509	7,762	8,874	3,838
Leases in reserves	539,041	215,134	38,573	374,333	30,396
	39,572,592	19,178,121	20,350,235	28,642,336	5,778,547

The total areas leased are given in the table at the end of this chapter (see § 11, 6).

6. *Tasmania.*—(i) *Grazing Leases.* Leases of grazing lands are put up to auction, the upset price being fixed by the Commissioner, but at not less than an annual rent of 5s. per 100 acres. Lands not disposed of by auction may be gazetted and let by private contract.

(ii) *Leases of Land Covered with Button-grass, etc.* The Commissioner may lease to any person, for a period not exceeding 26 years, any Crown land covered with button-grass, river-grass or rushes, at a rental which must not be less than 25s. per 1,000 acres, provided that the lessee covenants to improve the area to the value of £2 10s. per 1,000 acres per annum.

(iii) *Leases of Mountainous Land.* Leases for a period not exceeding 21 years may be granted of land situated at an altitude of not less than 1,800 feet. The rent is not less than £2 10s. per 1,000 acres per annum, and the lessee must improve the land to the value of £5 per 1,000 acres annually.

(iv) *Miscellaneous Leases.* The Commissioner may lease for a period not exceeding 14 years land for wharves, jetties, watercourses, manufactories, railways, tramways, etc. The lessee must carry out the conditions stated in the lease and pay the prescribed rent half-yearly.

(v) *Temporary Licences.* The Commissioner may grant to any person a temporary licence to hold, for not exceeding 12 months, any Crown lands for such purposes and on such terms and conditions as may be prescribed.

(vi) *Occupation Licences.* An occupation licence for a year expiring on the 31st December may be issued at a fee of 5s. to any person, such licence entitling him to occupy the surface of any Crown land within a mining area not exceeding $\frac{1}{4}$ acre in extent.

(vii) *Pastoral Leases.* A holder of an occupation licence or any approved person may lease within a mining area by private contract a pastoral lease for a period not exceeding 14 years, upon such terms and conditions as the Governor may see fit. No such lease may exceed 1,000 acres in area.

(viii) *Residence Licences.* A residence licence, for which a fee of 10s. is charged, and which is in force until the 31st December, entitles the holder to occupy for residence an area not exceeding $\frac{1}{4}$ acre in any town situated within a mining area which has been surveyed and gazetted as available therefor.

(ix) *Business Licences.* A business licence, costing £1 for a year expiring on the 31st December, authorizes the holder to occupy for business purposes the surface of any Crown land within a mining area, not exceeding $\frac{1}{4}$ acre in area.

(x) *Forest Leases, Licences and Permits.* Under the Forestry Act, the following leases, permits, and licences may be granted on lands contained in State forests and timber reserves:—(a) *Forest Permits.* A forest permit confers upon the holder, for not exceeding 15 years, exclusive rights over the land therein defined for all purposes connected with the obtaining, conversion and removal of timber and forest produce. Such permit may be submitted to public auction or tender, and is subject to the payment of royalties on all produce taken, and to the prescribed conditions; (b) *Occupation Permits.* An occupation permit may be granted for a period not exceeding 15 years for sawmill sites, timber depots, roads and tramways. A similar permit may also be issued entitling the holder to graze and water cattle; (c) *Forest Licences.* A forest licence authorizes the holder to take forest produce, subject to the payment of fees and royalties as prescribed. The term of such licence may not exceed 3 months; (d) *Forest Leases.* Land may be leased on such conditions as the Minister may think fit for not longer than 14 years for grazing, agricultural, or other purposes. No compensation is payable for improvements, but the licensee may remove any buildings or fences, or dispose of them to an incoming tenant; (e) *Plantation Leases.* The Minister may grant, for not exceeding 60 years, leases for plantation purposes at such rent and upon such conditions as may be prescribed.

(xi) *Areas Leased.* The following table gives the areas leased during each year and the total areas leased at the end of the years 1918 to 1922 :—

AREAS LEASED.—TASMANIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
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AREAS LEASED DURING YEAR.

	Acres.	Acres.	Acres.	Acres.	Acres.
Pastoral leases	81,816	149,246	340,876	197,597	89,666

TOTAL AREAS LEASED AT END OF YEAR.

Ordinary leased land	1,201,169	1,341,000	1,540,000	1,608,000	1,577,653
Islands	197,918	151,000	107,000	108,000	107,000
Land leased for timber	183,804	218,784	230,524	236,847	308,072
Total	1,582,891	1,710,784	1,877,524	1,952,847	1,992,725

7. *Northern Territory.*—(i) *Pastoral Leases.* A pastoral lease may be granted for such term, not exceeding 42 years, as the Classification Board determines. The rental for the first period is fixed by the Board, and is subject to re-appraisalment on such dates as are specified in the lease or as are prescribed.

(ii) *Agricultural Leases.* Agricultural lands are classified, and the maximum area which may be included in any one lease is as follows :—Division A, Cultivation Farms, Class 1, 1,280 acres, Class 2, 2,560 acres ; Division B, Mixed Farming and Grazing, Class 1, 12,800 acres, Class 2, 38,400 acres. Agricultural leases are granted in perpetuity, and the rent for the first period is fixed by the Classification Board, and is re-appraised every 21 years. The lessee must—(a) in the case of lands for mixed farming and grazing, stock the land to the extent prescribed by the regulations and keep it so stocked ; (b) establish a home within 2 years and reside on the leased land for 6 months in each year in the case of land for cultivation, and for 4 months in each year in the case of land for mixed farming and grazing ; (c) cultivate the land to the extent notified by the Board ; and (d) fence the land as prescribed.

(iii) *Leases of Town Lands.* Leases of town lands are granted in perpetuity, the rental being fixed every 14 years. Such leases must, in the first instance, be offered for sale by public auction, and if not so sold, may be allotted by the Board to any applicant, at the rental fixed by the Board. The lessee must erect, within such time as is notified, buildings to the value specified in the conditions of sale.

(iv) *Miscellaneous Leases.* The Classification Board may grant a lease of any portion of Crown lands, or of any dedicated or reserved lands, for any other prescribed or approved purpose. Such leases are for a term not exceeding 21 years, and may be offered for sale by public auction, or granted to any applicant at an annual rental fixed by the Board.

(v) *Grazing Licences.* Licences may be granted to any person to graze stock on any particular Crown lands for such period, not exceeding one year, as is prescribed, and at the rent and on the conditions prescribed.

(vi) *Occupation Licences.* Licences may be granted for any period not exceeding 5 years, and on prescribed rentals and conditions, for the purpose of drying or curing fish, or for any manufacturing or industrial purpose, or for any prescribed purpose.

(vii) *Miscellaneous Licences.* The Board may grant licences for miscellaneous purposes for a period not exceeding 12 months on prescribed terms and conditions.

(viii) *Leases to Aborigines.* The Governor-General may grant to any aboriginal native, or to the descendant of any aboriginal native, a lease of Crown lands not exceeding 160 acres for any term of years upon such terms and conditions as he thinks fit.

(ix) *Areas held under Leases, Licences, and Permits.* The following table shows the total areas held under lease, licence, and permit at the end of the years 1918 to 1922 :—

NORTHERN TERRITORY.—AREAS HELD UNDER LEASES, LICENCES, OR PERMITS, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
Right of purchase leases ..	436	436	356	356	356
Pastoral leases and grazing licences ..	114,264,320	117,420,160	133,444,160	136,464,960	130,410,720
Other leases and licences ..	199,862	5,297,610	9,829,555	1,211,337	5,167,720
Total	114,464,118	122,718,206	143,274,071	137,676,653	135,578,796

On the 31st December, 1923, the areas held under leases and licences were :—Pastoral leases, 113,831,440 acres ; annual pastoral leases, 33,280 acres ; pastoral permits, 2,211,840 acres ; grazing licences, 18,138,240 acres ; miscellaneous leases (including water leases), 2,110,540 acres ; mining leases, 1,947 acres ; tin dredging leases, 329 acres ; mission station leases, 1,088,000 acres. There were also 32,724 square miles under reserve for aboriginal natives of Australia, and 45,730 square miles mostly over pastoral holdings under licences to prospect for mineral oil and coal.

8. *Federal Capital Territory.*—(i) *General.* Under the Seat of Government (Administration) Act 1910, no Crown lands in the Territory may be sold or disposed of for any estate in freehold except in pursuance of some contract entered into before the commencement of that Act. Leases of land in the City Area are granted under the City Leases Ordinance 1921, and leases of other lands under the Leases Ordinance 1918–19.

(ii) *City Leases.* The Minister may grant leases in the City Area of any Crown land for business or residential purposes. Such leases may be issued for a period not exceeding 90 years at a rental equal to not less than 5 per cent. of the unimproved value of the land, which value is subject to re-appraisal at the expiration of 20 years, and thereafter every 10 years. A suitable building must be commenced within one year and completed within 2 years, unless an extension of time, not exceeding 2 years, is allowed.

(iii) *Leases of other Lands.* Leases may be granted for grazing, fruitgrowing, horticultural, agricultural, residential, business, or other purposes for a period not exceeding 25 years, provided that a lease for any period exceeding 5 years must be approved by the Governor-General. The annual rental is 5 per cent. of the assessed value of the land, including improvements which are the property of the Crown, plus the amount of rates payable. No person may hold under lease land of a greater value than £6,000, exclusive of the value of buildings and fences thereon.

(iv) *Areas of Acquired, Leased, etc., Lands.* The following table shows the areas of lands acquired, alienated, in process of alienation, held under lease and unoccupied at the end of the year 1923 (exclusive of land at Jervis Bay) :—

TENURES OF LAND.—FEDERAL CAPITAL TERRITORY, 1923.

	Acres.
Area of acquired lands	206,000
Lands alienated	43,982
In process of alienation (conditional purchases and conditional leases)	74,070
Held under lease	119,552
Unoccupied lands (roads, reserves, etc.)	140,056
Total Area of Territory	583,660

§ 6. Closer Settlement.

1. *New South Wales.*—(i) *Acquisition of Land.* For the purposes of the Closer Settlement Act, the Governor may constitute three Closer Settlement Advisory Boards, but at present one such Board deals with closer settlement for the whole State. Where the Board reports that any land is suitable for closer settlement, the Governor may either (a) purchase it by agreement with the owner, or, failing such agreement, (b) where the value of the unimproved land exceeds £20,000, resume it compulsorily; but every such purchase or resumption must be approved by Parliament. Land within 15 miles of a railway, the construction of which is authorized, if the property of one owner, and exceeding £10,000 in value, may also be purchased or resumed.

(ii) *Sales by Auction.* Land acquired for closer settlement may be set apart as township allotments. Such allotments, which must not exceed $\frac{1}{2}$ -acre in area, may be sold by auction, but no person may hold more than three such allotments, except by way of mortgage.

(iii) *After-auction Sales.* When any land has been offered for sale or lease by auction, and is not so sold or leased, any person may apply for the same at the upset price. A deposit of 25 per cent. of the upset price must be lodged with the application, and the balance paid according to the conditions notified in the Gazette. Such land may also be set apart for disposal under the Crown Lands Act.

(iv) *Closer Settlement Purchases.* Any male over 16 or female over 21 years of age, if not a holder, except under annual tenure, of land which, with the area sought, will substantially exceed a home-maintenance area, may apply for a closer settlement purchase. The purchase money is payable in 32 annual instalments at the rate of $6\frac{1}{2}$ per cent. of the capital value of the land including $5\frac{1}{2}$ per cent. interest on the unpaid balance of the purchase money. A deposit of $6\frac{1}{2}$ per cent. of the purchase money is required, except in the case of a discharged soldier or sailor. Residence for 5 years is obligatory, and permanent improvements to the extent of 10 per cent. of the value of the land must be effected within 2 years, and an additional 15 per cent. within 5 years.

(v) *Permissive Occupancies.* The Minister may grant permits to occupy any acquired land which remains undisposed of, upon such terms and conditions as he thinks fit.

(vi) *Closer Settlement Promotion.* Any three or more persons, or one or more discharged soldiers, each of whom is qualified to hold a closer settlement purchase, may negotiate with an owner of private lands to purchase a specified area on a freehold basis. If the Minister approves, the land is bought by the Crown and paid for in cash or debentures, but the freehold value including improvements must not exceed £3,000 for any one person, or in exceptional cases £3,500. If the land is suitable for grazing only, the value may be up to £4,000. If the land is purchased for cash, the applicant for a closer settlement purchase pays therefor at the ordinary rate, but if payment for the land is made in debentures, the deposit and annual instalments are $1\frac{1}{2}$ per cent. in advance of the rate of interest paid by the Crown, and the interest on the unpaid balance of the purchase money is $\frac{1}{2}$ per cent. in advance of the rate of interest paid by the Crown as aforesaid. Any one or more discharged soldiers or sailors may also enter into agreements to purchase on present title basis a conditional purchase, a conditional purchase lease, a conditional purchase and conditional lease, a homestead selection, a homestead farm, a settlement lease, a Crown lease, an improvement lease or scrub lease, not substantially of a greater area than is sufficient for the maintenance of a home. The vendor is paid by the Crown as heretofore, but the transfer is made direct to the purchaser.

(vii) *Arens Acquired and Disposed of.* Up to the 30th June, 1923, 1,720 estates had been opened for settlement under the Closer Settlement Acts.

The number of farms allotted under the Promotion Section of the Closer Settlement Act to date is 3,715, the area 1,759,651 acres, and the amount advanced £8,205,718.

The following statement gives particulars of the aggregate areas opened up to the 30th June in each year from 1919 to 1923 :—

CLOSER SETTLEMENT AREAS.—NEW SOUTH WALES, 1918-19 TO 1922-23.

Year ended 30th June—	Areas.			Capital Values.		
	Acquired Lands.	Adjoining Crown Lands	Total.	Acquired Lands.	Adjoining Crown Lands.	Total.
	Acres.	Acres.	Acres.	£	£	£
1919	801,366	94,254	895,620	3,173,885	175,331	3,349,216
1920	1,011,223	94,254	1,105,477	4,295,223	175,331	4,470,554
1921	1,475,175	94,881	1,570,056	6,440,490	176,164	6,616,654
1922	1,961,682	94,881	2,056,563	8,389,178	176,164	8,565,342
1923	2,052,800	96,958	2,149,758	8,556,777	183,223	8,740,000

The total area thus set apart has been divided into 4,273 farms, comprising 2,112,976 acres, the remaining area being reserved for recreation areas, roads, stock routes, schools, etc.

The following table gives particulars as to the disposal of the farms by closer settlement purchase for the years ended the 30th June, 1919 to 1923 :—

CLOSER SETTLEMENT ALLOTMENTS.—NEW SOUTH WALES, 1918-19 TO 1922-23.

Year ended 30th June—	Farms Allotted to Date.			Total Amount received in respect of Settlement Purchases.	Total Number of Applications received.
	Number.	Area.	Value.		
	No.	Acres.	£		
1919	1,736	786,942	3,105,214	1,139,176	1,740
1920	2,326	1,007,000	4,263,001	1,349,393	2,330
1921	3,317	1,520,350	6,527,801	1,670,995	3,325
1922	4,062	1,987,517	8,400,975	2,136,307	4,081
1923	4,097	2,031,735	8,544,538	2,538,553	4,152

2. Victoria.—(i) *Acquisition of Land.* For the purposes of closer settlement, the Closer Settlement Board may either by agreement or compulsorily acquire blocks of private land, and may also ratify any agreement made between persons resident in Victoria and an owner of land for the purchase thereof, and dispose of such land under the Closer Settlement Act. The payment for the land is made in Victorian Government stock or debentures.

(ii) *Disposal of Land.* All land acquired under the Closer Settlement Act is disposed of as conditional purchase leases, which are of three kinds :—(a) Farm allotments, each of which must not exceed £2,500 in value ; (b) workmen's homes allotments, not exceeding £250 in value ; and (c) agricultural labourers' allotments, not exceeding £350 in value. Land for public purposes may be sold in fee-simple. Land in irrigation districts is also disposed of under the Closer Settlement Act by the State Rivers and Water Supply Commission.

(iii) *Sales of Land.* Land for public purposes may be sold in fee-simple, at a price fixed by the Board, but the area of each site must not exceed 1 acre for a church or public hall, 2 acres for a butter factory or creamery, 5 acres for a school, packing-shed, cool stores, fruit works, or cemetery, or 15 acres for a quarry or recreation reserve.

(iv) *Conditional Purchase Leases.* A conditional purchase lease is for such a term of years as may be agreed upon between the lessee and the Board, and provides for the

payment of the value of the land, with interest at not less than $4\frac{1}{2}$ per cent., in not more than 73 half-yearly instalments. The principal conditions under which a lease is held, are as follows:—(a) Noxious animals and weeds must be destroyed within 3 years; (b) the land must be fenced in within one year; (c) personal residence during 8 months of each year or residence by an approved deputy for the first 5 years is necessary; (d) improvements must be effected to the value of 2 instalments during the first year, to the value of 10 per cent. of the purchase money before the end of the third year, and to a further 10 per cent. before the end of the sixth year, or, if the residence condition is fulfilled by deputy, to the value of 10 per cent. of the purchase money during the first year, and to the value of 30 per cent. before the end of the sixth year; (e) on a workman's home allotment, a dwelling house of the value of at least £50 must be erected within one year and additional improvements to the value of £25 within 2 years; and (f) on an agricultural labourer's allotment, a dwelling house of the value of at least £30 must be erected within one year. After a period of 12 years, provided that all conditions are complied with and the full purchase-money is paid, a Crown grant may be issued.

(v) *Conditional Purchase Leases in Mountainous Areas.* In mountainous areas, the Minister may direct that no instalments of purchase-money and interest need be paid for a period not exceeding 10 years, and the term of the lease is extended accordingly. Interest at the rate of 5 per cent. for the free period is added to the capital value. During each year of such period, the lessee must reduce at least one-tenth part of the allotment to a state of clear grass or cultivation.

(vi) *Areas acquired and made available for Closer Settlement.* The following statement shows the operations under the provisions of the Closer Settlement Acts up to the 30th June, 1919 to 1923:—

CLOSER SETTLEMENT.—VICTORIA, 1918-19 TO 1922-23.
(INCLUDING IRRIGATED AREAS.)

Year ended 30th June.	Total Area Acquired by Government to Date.	Total Cost to Date.	How Made Available for Settlement.						Number of Applications Granted to Date.	Total Receipts to Date.	Repayments of Principal to Date.	Area Available for Settlement.
			Farm Allotments.	Workmen's Homes Allotments.	Agricultural Labourers' Allotments.	Town Allotments. (a)	Roads and Reserves.					
	Acres.	£	Acres.	Acres.	Acres.	Acres.	Acres.	No.	£	£	Acres.	
1919	570,617	4,252,543	501,537	785	4,586	30,244	5,037	4,476	2,300,705	729,493	28,689	
1920	573,730	4,269,050	528,502	784	4,470	34,400	4,499	4,469	2,690,934	851,888	21,069	
1921	575,900	4,298,765	524,369	784	4,446	41,830	4,471	4,490	3,183,045	992,920	10,979	
1922	582,870	4,346,383	530,383	784	3,966	43,320	4,417	4,534	4,454,582	1,098,296	7,922	
1923	737,832	5,299,035	670,956	784	3,788	43,236	4,990	4,758	4,794,908	1,202,777	99,573	

(a) Includes all land sold other than under Conditional Purchase Lease.

3. Queensland.—(i) *Acquisition of Land.* The Minister, with the approval of the Governor in Council, may acquire for the Crown, either by agreement or compulsorily, private land in any part of Queensland. The purchase-money may be paid either in cash, or, at the option of the Minister and with the consent of the owner of the land, wholly or in part by debentures. Not more than £500,000 may be expended in any one financial year in purchasing land. The land so acquired may be disposed of as perpetual leases only.

(ii) *Perpetual Lease Selections.* These leases are subject to the same conditions as similar leases under the Land Act. The capital value is fixed by the Governor in Council, but must not be less than the price actually paid for the land with 10 per cent. added thereto. The annual rent for the first 15 years is determined by the Minister, but must not exceed the rate paid by the Crown as interest on the purchase-money for the particular estate of which the land forms part, and for each subsequent period of 15 years by the Land Court at a sum equal to 5 per cent. of the unimproved capital value.

(iii) *Perpetual Town, Suburban, and Country Leases.* Perpetual leases of town, suburban, and country lands may be sold by auction, as is the case under the Land Act,

the conditions of tenure being the same, except that the rent for the first 15 years is fixed at 5 per cent. of the upset price or price bid, whichever is the greater, and for further periods of 15 years at 5 per cent. of the unimproved value of the land or of the amount bid at auction, whichever is the greater.

(iv) *Areas Acquired and Selected.* The total area acquired to the end of 1923 was 785,311 acres, costing £1,955,061, no fresh purchases having been made since 1916. The following table gives particulars of transactions under the Closer Settlement Act at the end of each of the years 1919 to 1923 :—

CLOSER SETTLEMENT.—QUEENSLAND, 1919 TO 1923.

Particulars.		1919.	1920.	1921.	1922.	1923.
Total area selected Acres		692,153	737,850	742,284	744,423	744,719
Number of selectors No.		2,351	2,370	2,393	2,352	2,398
Agricultural farms No.		2,310	2,143	2,121	2,112	2,118
Unconditional selections No.		252	256	257	256	256
Perpetual lease selections No.		236	489	535	556	563
Prickly pear selections No.		5	4	4	4	4
Perpetual lease prickly pear selections No.		1	1	2	4	3
Area sold by auction Acres		12,320	12,390	12,510	12,541	12,582

4. *South Australia.*—(i) *Acquisition of Land.* The Commissioner of Crown Lands may acquire land at a cost of not more than £600,000 in two financial years, either by agreement or compulsorily.

(ii) *Sales by Auction.* Town lands may be sold by auction for cash. Blocks which are unallotted after one year may also be sold by auction, 25 per cent. of the purchase money being paid in cash, and the balance in 5 yearly instalments with interest.

(iii) *Agreements to Purchase.* Land acquired for closer settlement is divided into blocks, but no block may exceed £4,000 in unimproved value unless suitable for pastoral purposes only, in which case the limit is £5,000. The land so divided is open to conditional purchase, the applicant agreeing (a) to reside thereon for 9 months in each year; (b) to fence it in within 5 years; (c) to spend thereon in improvements during each of the first 5 years a sum equal to £3 for every £100 of the purchase-money; and (d) to pay for the block either (1) in 35 years, in half-yearly instalments, of which the first ten are to be equal and calculated at the fixed rate on the purchase price, and each of the subsequent 60 instalments at a rate sufficient to repay during the 35 years the price together with interest at a fixed rate on the balance thereof; or (2) if the Commissioner so directs, in 64 years in half-yearly instalments, of which the first sixteen are at the rate of £1 11s. 5d. for every £100 of the purchase-money and the remaining instalments calculated at a rate sufficient to repay the price together with interest on the unpaid balance.

(iv) *Miscellaneous Leases.* Any blocks remaining unallotted for one year may be let on miscellaneous lease at a rental and upon such terms as are determined by the Land Board.

(v) *Areas Acquired and Selected.* The following table shows the area of land acquired for the purposes of closer settlement, and the manner in which it has been dealt for the years ending 30th June, 1919 to 1923 :—

CLOSER SETTLEMENT.—SOUTH AUSTRALIA, 1919 TO 1923.

Year ended 30th June—	Area of Lands Repurchased.	Agreements with Covenants to Purchase.	Total Area Leased as Homestead Blocks.		Perpetual Leases.	Miscellaneous Leases.	Sold.	Remainder Unoccupied (including Roads).
			Right of Purchase.	Perpetual Lease.				
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1919 ..	748,689	508,720	609	1,477	54,116	144	133,460	50,163
1920 ..	761,285	515,805	556	1,476	53,648	144	153,522	36,134
1921 ..	783,863	519,474	496	1,412	46,475	144	167,211	48,651
1922 ..	783,863	513,118	492	1,327	45,932	144	176,441	46,409
1923 ..	729,141	513,241	473	1,342	50,103	144	127,012	38,826

The total area repurchased at 30th June, 1923, was 729,141 acres. The purchase money was £2,419,631. Of the total area, 692,315 acres had been allotted to 2,948 persons, the average area to each being 235 acres.

5. *Western Australia.*—(i) *Acquisition of Land.* Under the Agricultural Lands Purchase Act the Minister may purchase any land which an owner may offer to surrender at a price to be named in the offer, provided that such land is situated within 20 miles of an existing railway, or of one the construction of which is authorized by Parliament. Not more than £1,200,000 may be thus spent. The Minister may also improve any such acquired land prior to disposing of it, and the cost of such improvements must be added to the price at which it is sold to the selector.

(ii) *Disposal of Land.* Land acquired for closer settlement may be disposed of either as town and suburban areas, or under conditional purchase.

(iii) *Conditional Purchases.* Such land as is not reserved for roads, reserves, town and suburban areas, etc., is thrown open for selection under conditional purchase. The selling price is ascertained by adding to the price actually paid for the land 5 per cent. thereof and the cost of all improvements thereon, as well as the cost of subdivision and survey fee. Payment is to be made in half-yearly instalments extending over a period not exceeding 30 years. The maximum area which may be held by one person is 1,000 acres of cultivable land, or 2,500 acres of grazing land. In other respects the conditions are the same as those for ordinary conditional purchases.

(iv) *Town and Suburban Areas.* The Minister may dispose of town and suburban lands in the same manner as they may be disposed of under the Land Act.

(v) *Areas Acquired and Selected.* There has been no purchase of land for closer settlement purposes for several years, the total area acquired up to the 30th June, 1923, being 446,804 acres, costing £421,373. Of this area 15,825 acres have been set aside for roads, reserves, etc., leaving a balance of 430,979 acres available for selection. The following table gives particulars of operations under the Act for the years ending 30th June, 1919 to 1923 :—

CLOSER SETTLEMENT.—WESTERN AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Area selected during the year Acres	38,890	40,653	8,979	11,193	44,866
Total area occupied to date Acres	304,937	336,707	343,237	351,282	396,148
Balance available for selection Acres	126,042	94,272	87,742	79,697	73,657
Total Revenue £	343,767	363,814	382,202	400,563	433,805

6. *Tasmania.*—(i) *Acquisition of Land.* The Minister may either (a) purchase by agreement and acquire for the Crown private land; or (b) compulsorily acquire and take for the Crown blocks of private land. Land may be acquired only when the unimproved value thereof exceeds £12,000. Land may also be acquired by agreement when three or more persons are desirous of obtaining private land belonging to the same owner. Payment may be made in cash, or in debentures or stock bearing interest at 4½ per cent., or partly in debentures or stock at the option of the owner and with the consent of the Minister. Not more than £100,000 may be raised annually for closer settlement purposes, and the total amount borrowed must not exceed £500,000. Land so acquired may be disposed of either by leases with right of purchase or by special sales.

(ii) *Leases with Right of Purchase.* Land acquired under the Closer Settlement Act is thrown open to be leased for a term of 99 years, with the condition that the lessee has the right to purchase the same after ten years, provided that he does not own land (exclusive of the lease) of a value exceeding £1,500 and has complied with all the following conditions :—(a) The land must be improved to the value of 2½ per cent. of the capital value in each of the first 10 years; (b) the lessee himself, or his wife, or child over 18 years of age must reside on the lease within 2 years, for 8 months in each of the

following 8 years, and the lessee may not transfer, mortgage or sublet his lease without the approval of the Minister; and (c) prescribed conditions relating to mining and cultivation, the destruction of pests and noxious weeds, etc., must be complied with. Under ordinary circumstances no allotment may exceed £1,500 in value, exclusive of any buildings thereon, but the Minister may increase the value up to £4,000.

(iii) *Special Sales.* The Minister may sell land in fee-simple as sites for (a) churches or public halls, not exceeding 1 acre; or (b) dairy factories, fruit-preserving factories, mills, or creameries, not exceeding 5 acres. The price of such land must not be less than the cost thereof, and must be paid in cash. The Minister may also reserve an area up to 100 acres in extent for township purposes, and sell blocks thereof for cash or on credit under the same conditions as those contained in the Crown Lands Act. Land not suitable for disposal by way of lease may be sold in fee-simple either by auction or by private contract.

(iv) *Areas Acquired and Selected.* Up to the 30th June, 1923, 34 areas had been opened up for closer settlement. The total purchase money paid by the Government was £365,148, and the total area acquired amounted to 100,727 acres, including 11,477 acres of Crown land. Particulars for the years 1919 to 1923 are given in the following statement:—

CLOSER SETTLEMENT.—TASMANIA, 1919 TO 1923.

Year ended 30th June—	Number of Farms made Available.	Number of Farms Allotted.	Area of Farms Allotted.	Rental of Farms Allotted.	Total Area Purchased.
	No.	No.	Acres.	£	Acres.
1919 .. ..	..	..	..	..	..
1920	5	5	756	492	1,647
1921	6	6	11,113	786	11,113
1922 .. ..	..	..	..	..	3,618
1923 .. ..	..	3	685	..	810

7. *Summary.*—The following table gives particulars of operations under the Closer Settlement Acts at the 30th June, 1923:—

**CLOSER SETTLEMENT.—TOTAL AREAS ACQUIRED AND ALLOTTED AT
30th JUNE, 1923.**

Particulars.	N.S.W.	Victoria.	Q'land. (a)	S. Aust.	W. Aust.	Tas.	Total.
Area acquired .. acres	1,342,576	737,882	785,311	729,141	451,844	100,727	4,147,481
Purchasing price £	5,679,047	5,299,035	1,955,061	2,419,631	451,614	365,148	16,169,536
Farms, etc., { No.	3,040	4,758	2,398	2,948	808	303	14,255
allotted { acres	1,335,323	624,181	762,010	692,315	355,713	81,597	3,851,139

(a) Year ended 31st December.

The next table shows the areas of private lands acquired at the end of each financial year from 1919 to 1923:—

CLOSER SETTLEMENT.—AREAS OF PRIVATE LANDS ACQUIRED, 1919 TO 1923.

Year ended 30th June.	N.S.W.	Victoria.	Q'land. (c)	S. Aust.	W. Aust.	Tasmania.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1919	823,899	566,725	785,311	691,109	446,804	75,259 (a)	3,389,107
1920	1,215,187	569,808	785,311	710,559	446,804	76,073 (a)	3,803,742
1921	1,297,624	572,262	785,311	726,283	446,804	84,053 (a)	3,912,337
1922	1,317,047	579,010	785,311	726,283	446,804	99,917 (b)	3,954,372
1923	1,342,576	737,882	785,311	729,141	451,844	100,727 (b)	4,147,481

(a) Including 10,382 acres of Crown lands.

(b) Including 11,477 acres of Crown lands.

(c) Year ended 31st December.

§ 7. Leases and Licences under Mining Acts.

1. New South Wales.—(i) *Holdings under Miners' Rights.* A holder of a miner's right, costing 5s. annually, is entitled to occupy Crown lands for the purpose of mining thereon. The size of a claim varies according to the nature of the mineral worked and the distance from existing workings. The principal condition of tenure is that work must be continuously carried on, unless exemption is granted. A holder of a miner's right may obtain an authority to enter and prospect on certain private lands. Water rights, machinery areas, and similar holdings may also be taken up under a miner's right.

(ii) *Gold-mining Leases.* A gold-mining lease is issued for a term not exceeding 20 years, with right of renewal for another 20 years. The maximum area granted is 25 acres, and the annual rent is 2s. per acre. A royalty of 1 per cent. of the value of all gold and minerals won must be paid to the State. Labour must be constantly employed—unless exemption is granted—at the rate of one man to every 5 acres during the first year of the lease, and thereafter one man to every 2 acres.

(iii) *Mineral Leases.* The maximum area which may be leased for mining for other than gold, coal, or oil is 80 acres. The rental and royalty are the same as for a gold-mining lease, but the labour conditions are one man to every 20 acres during the first year and one man to every 10 acres thereafter.

(iv) *Coal and Oil Mining Leases.* The term for a lease for coal or oil mining is 20 years, the maximum area 640 acres, the rental 2s. per acre, and the royalty 6d. per ton on all coal or shale won, and 1 per cent. of the value of all oil won. Two men must be employed to each area of 320 acres.

(v) *Business Licences.* A business licence, issued at an annual fee of £1, entitles the holder to occupy for the purpose of carrying on business not more than $\frac{1}{4}$ acre in a town or village, or 1 acre outside, on any gold or mineral field. No person may hold more than one area.

(vi) *Residence Areas.* A holder of a miner's right may occupy as a residence area not more than $\frac{1}{4}$ acre in a town or village, or 2 acres outside, on any gold or mineral field. Improvements to the value of £10 must be effected thereon, and no person may hold more than one area.

(vii) *Areas Occupied under Mining Acts.* The following table gives particulars of operations for the years 1919 to 1923. Of the 3,088 acres leased for gold-mining, 682 acres were leased for dredging for gold.

AREAS TAKEN UP UNDER MINING ACTS.—NEW SOUTH WALES, 1919 TO 1923.

Purposes for which Issued or Occupied.	1919.	1920.	1921.	1922.	1923.
AREAS TAKEN UP DURING YEAR.					
Gold-mining	3,526	2,168	3,120	3,187	3,088
Mining for other minerals	12,877	22,535	21,759	11,358	22,280
Authorities to prospect	1,148	14,216	3,487	1,714	14,241
Other purposes	408	387	379	513	534
Total	17,959	39,306	28,745	16,772	40,143
TOTAL AREAS OCCUPIED AT END OF YEAR.					
Gold-mining	9,262	9,953	9,061	10,870	10,428
Mining for other minerals	214,301	229,509	248,568	263,227	280,756
Authorities to prospect	706	58	5,224	866	9,179
Other purposes	5,615	5,939	5,998	6,540	6,973
Total	229,884	245,459	268,851	281,503	307,336

2. *Victoria.*—(i) *Holdings under Miners' Rights.* Under a miner's right, costing 2s. 6d. annually, a miner may take up a claim on Crown lands, the area of which varies according to the nature of the ground and the mineral worked, conditionally on such claim being worked continuously, unless exemption is granted. Under the same tenure water rights, machinery areas, etc., may be obtained.

(ii) *Gold-mining Leases.* A gold-mining lease is granted for a period not exceeding 15 years, renewable for a further 15 years, but no maximum area is prescribed. The rent is 2s. 6d. per acre per annum, and the labour conditions are as specified in the lease; but, under certain circumstances, the expenditure of a specified amount of money may be substituted for the labour conditions.

(iii) *Mineral Leases.* A mineral lease is issued for the same period as a gold-mining lease, at a rental of not less than 1s. nor more than £5 per acre per annum, as the Minister may determine, no royalty being charged. The area must not exceed 640 acres, and the Minister fixes the amount of labour to be employed, or, alternatively, the amount of money to be expended annually.

(iv) *Business Areas.* The holder of a business licence is entitled to occupy $\frac{1}{4}$ acre of Crown lands in a city or town, or $\frac{1}{2}$ acre in a borough, or 1 acre outside, for the purpose of residence and carrying on his business. A business licence costs 10s. a year in a city, town, or borough, or 5s. outside, together with 5 per cent. of the value of the land. A business area must be continuously occupied, unless exemption is obtained.

(v) *Residence Areas.* The holder of a miner's right may occupy a residence area of the same dimensions as a business area under the same conditions of occupation, but no further payment than the cost of the miner's right is required.

(vi) *Leases and Licences Issued.* During the year 1923, the number of leases, licences, etc., issued was 194, covering an area of 9,207 acres, the rent, fees, etc., for which amounted to £1,447. The following table gives particulars of operations for the years 1919 to 1923 :—

AREAS TAKEN UP UNDER MINING ACTS.—VICTORIA, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
	Acres.	Acres.	Acres.	Acres.	Acres.
Area taken up during year ..	7,032	7,032	10,696	6,699	9,207
Area occupied at end of year ..	69,165	48,561	52,892	49,178	47,361

3. *Queensland.*—(i) *Holdings under Miners' Rights.* The holder of a miner's right, costing 5s. a year, may take up a prospecting area or a claim, the areas of which vary according to the nature of the mineral sought for or worked, and the distance from existing workings. Such land must be worked continuously, unless exemption is granted. A holder of a miner's right is also entitled to cut races, reside on Crown land, cut timber thereon, etc.

(ii) *Permits to Prospect for Petroleum.* Any person may apply for a permit to prospect for petroleum. An area not exceeding 10,000 acres is allowed for a period of 2 years, and not more than two such permits may be held at the one time. A preferential right to a permit may be obtained for a period of 30 days by erecting a post or monument on the land and posting a notice in accordance with the Petroleum Act of 1923. A rental of 1d. per acre per annum is payable for the land included in the permit. Within a year the holder of the permit must erect an adequate drilling outfit on the land and commence drilling, and within 2 years drill at least 2,000 feet.

(iii) *Licences to Prospect for Coal or Mineral Oil.* Any person may apply for a licence for one year to prospect Crown land for coal or mineral oil. An area of 2,560 acres at a rental of 1d. per acre is allowed. The licence may be renewed for one year.

(iv) *Gold-mining Leases.* The term of a gold-mining lease is 21 years, renewable for a further period of 21 years, and the maximum area is 50 acres, except in the case of

a special lease, when 300 acres may be selected. The rent is £1 per acre per annum. One man must be kept constantly employed for every 4 acres, unless exemption is obtained.

(v) *Mineral Leases.* The term of a mineral lease is the same as that of a gold-mining lease, but the maximum area is, in the case of petroleum, one-fourth of the area included in the prospecting permit, with a preferential right to a further lease or leases of the balance of the area; 320 acres for mineral oil; 640 acres for coal; and 160 acres for other minerals. The annual rent per acre is (a) 1s. for coal and mineral oil, (b) 2s. for the first 2,500 acres and 4s. for the balance in the case of petroleum, and (c) 10s. for other minerals. The labour conditions are:—(a) For coal, one man for every 40 acres during the first 2 years, then one man for every 20 acres, or, alternatively, an expenditure during each half-year of £100 for every 40 and 20 acres respectively; (b) for petroleum, the installation of a drilling plant within 3 months, and the drilling of wells one at a time until a well has been drilled for every 100 acres; and (c) for other minerals, one man for every 10 acres. A royalty is payable of from 4d. to 1s. per ton on all coal raised, and of 12½ per cent. of the value of all petroleum won, there being no royalty on other minerals.

(vi) *Business Areas.* The holder of a business licence, the fee for which is £2 a year, may occupy ½ acre of land on a gold or mineral field for the purpose of carrying on a business, and must occupy the same continuously, but is entitled to obtain exemption from occupation after having expended the sum of £10 on improvements. No person may occupy more than one area with one licence.

(vii) *Residence Areas.* The holder of a miner's right may take up a residence area of ¼ acre on a gold or mineral field, but may hold only one such area on the same field. Occupation is necessary in order to hold the ground, but exemption can be obtained under certain circumstances.

(viii) *Miners' Homestead Perpetual Leases.* A person, resident of a mining field, and otherwise qualified, also any corporate body carrying on business on the field, may take up a lease or leases not exceeding in area (a) 1 acre in a city, town, or township; or (b) 20 acres within 1 mile of a city, town, or township; or (c) from 80 to 640 acres outside such limits. The rent in the case of a lease sold at auction is 3 per cent. of the purchase price, and in other cases 1½ per cent. of the notified capital value of the land. The land is subject to re-appraisal every 10 years. The title is a lease in perpetuity and the land must be occupied and improved.

(ix) *Areas held under Lease or Licence.* During the year 1923 the number of miners' rights issued was 3,744, and of business licences 22. The following table shows particulars regarding the areas of land taken up under lease or licence, and the total areas occupied for the years 1919 to 1923. In addition, an area estimated at 10,000 acres was at the end of 1923 held under miners' rights.

AREAS TAKEN UP UNDER MINING ACTS.—QUEENSLAND, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
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AREAS TAKEN UP DURING YEAR.

	Acres.	Acres.	Acres.	Acres.	Acres.
Gold-mining	46	246	61	354	253
Mining for other minerals	864	1,205	953	597	5,560
Coal prospecting licences	8,250	6,942	63,217	26,425	21,202
Miners' homestead leases	15,211	31,006	33,469	31,019	8,679
Mineral oil prospecting areas .. .. .	..	..	..	1,280	4,160
Petroleum prospecting areas .. .. .	..	..	..	118,525	25,900
Total	24,371	39,399	97,700	178,200	67,754

AREAS TAKEN UP UNDER MINING ACTS.—QUEENSLAND, 1919 TO 1923—
continued.

Particulars.	1919.	1920.	1921.	1922.	1923.
TOTAL AREAS OCCUPIED AT END OF YEAR.					
	Acres.	Acres.	Acres.	Acres.	Acres.
Gold-mining	2,136	2,032	1,620	1,313	1,279
Mining for other minerals	32,860	31,908	33,370	30,954	22,012
Coal prospecting licences	8,249	6,942	63,217	26,425	21,202
Miners' homestead leases	270,588	286,998	314,161	322,640	329,453
Mineral oil prospecting areas .. .. .	..	..	..	1,280	4,160
Petroleum prospecting areas .. .. .	..	..	..	118,525	66,480
Total	313,833	327,880	412,368	501,137	444,586

4. South Australia.—(i) *Holdings under Miners' Rights.* A miner's right costs 5s. per annum, and entitles the holder to take up a prospecting claim, a mining claim, a machinery area, a water right, etc. He is also entitled to take up a lease for mining purposes for a term not exceeding 21 years. The area of an alluvial gold claim is 30 feet by 30 feet, of a reef gold claim, 100 feet by 600 feet, of a precious stones claim, 150 feet by 150 feet, and of a mineral claim 40 acres. A gold or precious stones claim must be constantly worked by one man, a mineral claim by two men, and a coal or oil claim by eight men.

(ii) *Search Licences.* A search licence may be issued to the holder of a miner's right entitling him to search on any specified mineral lands, not exceeding 5 square miles in area, for precious stones, mineral phosphates, oil, or rare minerals, which have hitherto not proved payable. The licence is in force for 12 months, and the fee is £1 for every square mile. One man at least must be employed for every 640 acres. A licensee has a preferential right to a mineral lease of 40 acres for rare metals, of 100 acres for mineral phosphates, and of 640 acres for oil, or to a precious stones claim of 150 feet by 150 feet.

(iii) *Gold Leases.* A gold lease must not exceed 20 acres in area. The rent is 1s. per acre per annum, and a royalty of 6d. in the pound of the net profits must be paid. The labour conditions are one man to every 5 acres. For gold dredging, the maximum area allowed is 200 acres.

(iv) *Mineral Leases.* The maximum areas which may be taken up as mineral leases are for (a) coal, oil, salt, and gypsum, 640 acres; (b) mineral phosphates, 100 acres; and (c) other minerals, 40 acres. The annual rent per acre is for (a) coal or oil 6d., until a marketable quantity is produced, then 1s.; and for (b) other minerals, 1s., except that a higher rent may be charged for salt or gypsum. A royalty of 6d. in the pound of the net profits is payable in the case of all minerals. The labour conditions vary according to the class of mineral won, being (a) for coal and oil, one man to every 40 acres; (b) for barytes, ochre, etc., one man for 3 months in each year; (c) for gypsum, two men for every 40 acres; (d) for salt, one man for every 40 acres from January to April; and (e) for other minerals, one man to every 10 acres.

(v) *Business Areas.* Any person may, on payment of £1 per annum, obtain a business licence entitling him to occupy a business claim of $\frac{1}{4}$ acre in a township, or of 1 acre elsewhere, but no person may own or occupy more than one such claim, and business must be continuously carried on thereon.

(vi) *Residence Areas.* The owner of a claim, while actively engaged in prospecting or mining thereon, may occupy a residence site not exceeding $\frac{1}{4}$ acre, but, in order to hold the same, must reside thereon.

(vii) *Occupation Licences.* Any person may be granted an occupation licence authorizing him to occupy for the purpose of residence and cultivation $\frac{1}{4}$ acre of Crown lands at a rental of 2s. per annum. Such licence is in force for 14 years, and may be renewed from time to time until the land is required for public purposes.

(viii) *Areas Occupied under Mining Acts.* The following table gives particulars of operations for the years 1919 to 1923 :—

**AREAS TAKEN UP UNDER MINING ACTS.—SOUTH AUSTRALIA,
1919 TO 1923.**

Particulars.	1919.	1920.	1921.	1922.	1923.
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AREAS TAKEN UP DURING YEAR.

	Acres.	Acres.	Acres.	Acres.	Acres.
Gold-mining leases	180	37	130	127	240
Mineral and miscellaneous leases	6,156	19,855	5,617	5,120	2,589
Claims	12,778	176,758	52,164	34,827	36,026
Search licences	39,680	381,440	515,840	397,440	571,520
Occupation licences	2	4	5	5	2
Total	58,796	578,094	573,756	437,519	610,377

TOTAL AREAS OCCUPIED AT END OF YEAR.

	957	748	765	827	905
Gold-mining leases	957	748	765	827	905
Mineral and miscellaneous leases	36,680	52,877	55,882	58,682	55,505
Claims	24,688	168,131	69,982	55,791	62,995
Search licences	81,920	381,440	515,840	397,440	534,400
Occupation licences	101	101	101	101	94
Total	144,346	603,297	642,570	512,841	653,899

5. *Western Australia.*—(i) *Holdings under Miners' Rights.* A miner's right, costing 5s. a year, entitles the holder to take up a prospecting area or a claim and occupy Crown land for mining purposes or as an authorized holding. He may also construct water-races, dams, tramways, etc. Prospecting areas and claims are of various dimensions, and are held conditionally on being worked continuously.

(ii) *Gold Mining Leases.* A gold mining lease is granted for a period of 21 years, with the right of renewal for a further 21 years, and may contain an area of 24 acres. The rental is 5s. per acre for the first year, and £1 per acre for subsequent years. If the ground has been previously worked and abandoned, a lease may contain 48 acres, and the annual rent be not less than 5s. per acre nor more than £1 per acre. In the former case, not less than two men must be employed during the first 12 months, and then one man for every 6 acres, and in the latter case one man for every 12 acres.

(iii) *Mineral Leases.* The term of a mineral lease is 21 years, renewable for a similar period, and the maximum area allowed is (a) for coal, 320 acres, or for the holder of a prospecting area, 640 acres; (b) for oil, 48 acres for an ordinary lease, and 640 acres for a reward lease; (c) for precious stones, 24 acres; and (d) for other minerals, ordinary lease, 48 acres, and lease on abandoned ground, 96 acres. The annual rental per acre is for (a) 6d.; (b) ordinary lease, 6d., reward lease, a peppercorn for the first 5 years; and (c) and (d) ordinary lease, 5s., and extended lease not less than 2s. as the Governor may determine. A royalty of 3d. per ton during the first 10 years and of 6d. per ton for the balance of the lease is payable in the case of coal, and, in the case of oil, the royalty is 10 per cent. of the gross value of the output. The labour conditions are for coal and oil, during the first year, one man; during the second year, two men; and thereafter three men for every 60 acres; and for other minerals, two men for the first year, and then one man for every 6 acres of an ordinary lease, and for every 12 acres of an extended lease.

(iv) *Business Areas.* A holder of a miner's right may take up a business area not exceeding 1 acre in extent, and must occupy the same for carrying on business, but he may obtain exemption from occupation for 6 months, provided that he has effected improvements thereon to the value of £50.

(v) *Residence Areas.* A residence area of $\frac{1}{4}$ acre may be held by the holder of a miner's right, provided that he occupies the same. After expending £10 on improvements he may obtain exemption from residence for 6 months.

(vi) *Miners' Homestead Leases.* A miner, resident on a gold or mineral field, may be granted a miner's homestead lease not exceeding (a) 20 acres, if within 2 miles of the nearest boundary of any township or suburban area; or (b) 500 acres if beyond, at an annual rental, for the first 20 years, of (a) 2s. per acre, where the area does not exceed 20 acres; and (b) 6d. per acre where such area is exceeded, and thereafter 1s. if demanded. Within 3 years the lessee must fence in the land, and within 5 years must improve it to the value of 10s. per acre.

(viii) *Particulars of Areas Occupied.* The following table gives particulars of operations for the years 1919 to 1923. These figures are exclusive of holdings under miners' rights. Of the areas shown as taken up in 1923, the area under lease was 5,249 acres for gold-mining, 5,325 for mining for other minerals, and 20 for miners' homesteads, a total of 10,594 acres. The balance was taken up under licences.

**AREAS TAKEN UP UNDER MINING ACTS.—WESTERN AUSTRALIA,
1919 TO 1923.**

Particulars.	1919.	1920.	1921.	1922.	1923.
AREAS TAKEN UP DURING YEAR.					
	Acres.	Acres.	Acres.	Acres.	Acres.
Gold-mining	16,790	36,067	17,291	17,836	21,722
Mining for other minerals	52,661	37,599	73,561	42,509	15,772
Other purposes	499	1,033	2,181	1,537	73
Total	69,950	74,699	93,033	61,882	37,567
TOTAL AREAS OCCUPIED AT END OF YEAR.					
Gold-mining	22,487	36,070	21,600	25,011	24,574
Mining for other minerals	84,381	96,036	101,322	78,073	66,036
Other purposes	38,439	38,485	38,397	37,896	37,219
Total	145,307	170,591	161,319	140,980	127,829

6. *Tasmania.*—(i) *Holdings under Miners' Rights.* A miner's right is issued to any person at a fee of 5s. for a year, expiring on the 31st December next after the date of issue, and entitles the holder to take possession of Crown land and to mine thereon, also to construct water-races, build a residence thereon, etc. An ordinary claim for a single holder contains $\frac{1}{2}$ acre.

(ii) *Prospectors' Licences.* A prospector's licence, issued at a fee of 10s. for a year ending on the 31st December, empowers the licensee to take up a claim for the purpose of prospecting for gold or minerals. Such claim may be an ordinary claim with an area of up to 40 acres, or an extended claim up to 320 acres, and both must be worked continuously.

(iii) *Gold-mining Leases.* Any person may be granted a gold-mining lease of any Crown land for a period of 21 years, renewable for a further 21 years. Reward leases may be granted to discoverers of gold, and, under certain circumstances, special leases

may be issued. The maximum area allowed is 40 acres, and the rent is 10s. per acre per annum. At least £10 per acre must be expended annually in mining operations or in works connected therewith.

(iv) *Mineral Leases.* Mineral leases are also issued for a period of 21 years, renewable as in the case of gold-mining leases. The maximum area is—(a) for coal or oil, 640 acres; and (b) for other minerals, 80 acres. The annual rent per acre is—(a) for oil, 1s.; (b) for coal, 2s. 6d.; and (c) for other minerals, 5s. At least £2 per acre must be expended annually. No royalty is charged, except on oil, for which it is fixed at 5 per cent. of the gross value of all crude oil obtained after the first 50,000 gallons.

(v) *Leases and Licences Issued and Areas Occupied.* During the year 1923, the number of leases issued was 205, of which the more important were 39 for gold mining, covering 528 acres; 59 for tin, covering 1,868 acres; 7 for coal, covering 1,750 acres; and 13 for iron, covering 1,132 acres. Twenty-four licences to search for coal and oil were also granted. The following table gives particulars of operations for the years 1919 to 1923:—

AREAS TAKEN UP UNDER MINING ACTS.—TASMANIA, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
AREAS TAKEN UP DURING YEAR.					
	Acres.	Acres.	Acres.	Acres.	Acres.
Gold-mining	205	1,195	530	794	1,074
Mining for other minerals	7,380	8,419	10,862	4,309	12,884
Licences to search for coal or oil .. ..	..	..	122,611	25,481	33,473
Other purposes	100	176	236	186	104
Total	7,685	9,790	134,239	30,770	47,535

TOTAL AREAS OCCUPIED AT END OF YEAR.

Gold-mining	537	1,403	1,894	2,424	1,687
Mining for other minerals	43,050	42,120	47,562	43,667	37,662
Licences to search for coal or oil .. ..	..	..	117,031	137,692	34,761
Other purposes	2,904	2,857	3,020	3,732	3,517
Total	46,491	46,380	169,507	187,515	77,627

7. Northern Territory.—(i) *General.* Mining generally is governed by the Northern Territory Mining Act passed by the South Australian Legislature in 1903, but special Ordinances have since been promulgated by the Commonwealth respecting tin dredging and mining for mineral oil and coal.

(ii) *Holdings under Miners' Rights.* The fee for a miner's right is 5s. for 12 months from the date of issue, and a holder thereof is entitled to occupy Crown lands for mining purposes, to construct races, to divert water, to reside on his holding, etc.

(iii) *Gold-mining Leases.* The area of a gold-mining lease must not exceed 40 acres, and the term is 42 years, renewable for a further 21 years. The rent must not be less than 1s. per acre per annum. A royalty of 6d. in the pound of the net profits must be paid, and one man must be kept constantly employed for every 10 acres, unless exemption is obtained.

(iv) *Mineral Leases.* Mineral leases may be granted in blocks not exceeding 80 acres each, but no person may hold more than 640 acres altogether nor more than 320 acres in contiguous blocks. A mineral lease is issued for a term not exceeding 99 years, and the rent and royalty are the same as in the case of a gold-mining lease. One man for every 20 acres must be constantly employed during 9 months in each year.

(v) *Tin-dredging Leases.* These leases are issued for a term not exceeding 21 years at a rental of 1s. per acre per annum. The area must not exceed 1,000 acres, and the lessee must, after the first 12 months, keep continuously employed thereon either (a) not less than one man of European race or extraction for every 25 acres; or alternatively (b) fully-manned machinery of a value of not less than £500 for every 100 acres.

(vi) *Mineral Oil and Coal Licences.* A licence to search for mineral oil or coal, or for both, may be granted over an area not exceeding 1,000 square miles for a period of 5 years on payment of an annual fee of £10. At least 4 white men must be employed for not less than 6 months in each year. A holder of a mineral oil licence who discovers payable mineral oil on the land held under his licence has a preferential right to a mineral oil lease of 160 acres, together with a reward area of 640 acres thereon. A discoverer of coal in payable quantities has a preferential right to an area of 640 acres as a coal lease.

(vii) *Mineral Oil and Coal Leases.* Leases may be granted for a period of 21 years, renewable for a further 21 years, for mining for mineral oil or coal, the maximum areas being—(a) for mineral oil, 160 acres; and (b) for coal, 640 acres. In the case of mineral oil, the annual rent is 1s. per acre, and a royalty of 5 per cent. on the gross value of all crude oil obtained is payable; the lessee must also work the land to the satisfaction of the Minister. In the case of coal, the rent and conditions are fixed by regulation.

(viii) *Business Licences.* A business licence is issued at the prescribed fee and authorizes the holder to occupy on a gold-field, for the purpose of residence and carrying on his business, so much Crown land as is fixed by the Warden who issues the licence.

(ix) *Garden Licences.* The Warden may grant licences to occupy land upon any gold-field or mineral-field to any person for the purpose of growing fruit or other garden produce. The conditions as to rent, etc., are as prescribed, but the area must not exceed 20 acres.

(x) *Areas occupied.* The areas occupied under Mining Acts at the end of 1923 are given on page 180.

8. Summary.—The following tables show the total areas of Crown lands for which leases and licences for mining purposes were issued in each State during each year from 1919 to 1923 inclusive, and also the total areas of Crown lands occupied for mining purposes at the end of each year during the same period :—

CROWN LANDS, LEASES AND LICENCES FOR MINING PURPOSES, 1919 TO 1923.

Particulars.	N.S.W.	Victoria (a)	Q'land. (b)	S. Aust. (b)	W. Aust.(b)	Tas. (b)	Total.
AREAS FOR WHICH LEASES AND LICENCES ISSUED DURING YEAR.							
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1919 ..	17,959	7,032	24,371	58,796	69,950	7,685	185,793
1920 ..	39,306	7,032	39,399	578,094	74,699	9,790	748,320
1921 ..	28,745	10,696	97,700	573,756	93,033	134,239	938,169
1922 ..	16,772	6,699	178,200	437,519	61,882	30,770	731,842
1923 ..	40,143	9,207	67,754	610,277	37,567	47,535	812,483
TOTAL AREAS OCCUPIED AT END OF YEAR.							
1919 ..	229,884	69,165	313,833	144,346	145,307	46,491	949,026
1920 ..	245,459	48,561	327,880	603,297	170,591	46,380	1,442,168
1921 ..	268,851	52,892	412,368	642,570	161,319	169,507	1,707,507
1922 ..	281,503	49,178	501,137	512,841	140,980	187,515	1,673,154
1923 ..	307,336	47,361	444,586	653,899	127,829	77,627	1,658,638

(a) Including private lands, leases, and water right licences only. (b) Exclusive of lands held under miners' rights only.

NOTE.—Up to the 31st December, 1923, an area of 29,269,476 acres was under mining leases and licences in the Northern Territory, of which 2,276 acres were under lease, and the balance under licence to prospect for oil and coal.

§ 8. Settlement of Returned Soldiers and Sailors.

1. New South Wales—(i) *General*. Special provision is made by the Returned Soldiers Settlements Act for the occupation of land by discharged soldiers and sailors. Crown land or acquired land may be set apart for discharged soldiers and sailors, and obtained by them under the legislation specified, or under the Crown Lands or Closer Settlement Acts.

(ii) *Special Holdings*. The Minister may set apart any area of Crown land or land acquired under the Closer Settlement Act or Murrumbidgee Irrigation Act for sale or lease to discharged soldiers or sailors. In order to obtain a block of such land, the applicant must be certified as qualified by a classification committee. The prices, capital values, rents, charges for water (if supplied), and conditions are determined by the Minister, or by the Water Conservation and Irrigation Commission, as the case may be. The holder of a lease under this section, except in an irrigation area, may apply to purchase the same by 15 annual instalments with $2\frac{1}{2}$ per cent. interest, but residence for 5 years on the land is obligatory.

(iii) *Soldiers Group Purchases*. Under the Returned Soldiers Settlement Act, land may be subdivided into home-maintenance areas and set apart as a group settlement for discharged soldiers as approved by the Minister. Upon being satisfied as to their fitness and suitability, the Minister may allot blocks on such settlement on prescribed conditions. Within 12 months from the date of allotment right of possession is established, the title commencing from the date of confirmation thereof. Five years' residence is necessary. Boundary fences must be completed within 3 years from the date of confirmation. The capital value as notified is repayable by annual instalments, usually of 6 per cent. thereof, including interest at 5 per cent. Under certain circumstances the Minister may postpone the payment of the first two annual instalments. The third instalment may be similarly suspended, provided that improvements of a value equal to the amount of the three instalments have been effected. On payment of all moneys due, and fulfilment of all conditions, a freehold title is given.

(iv) *Progress of Soldier Settlement*. At the 30th June, 1923, the area acquired or set apart for soldier settlement was 8,844,685 acres, of which 1,893,486 acres comprised private land purchased at a cost of £7,956,784. The number of farms allotted was 6,537 (excluding 1,292 which had been transferred or surrendered), containing 7,850,705 acres, of which 6,062,848 acres were Crown lands (including 3,740,955 acres in the Western Division taken up under the Western Lands Act), 1,715,444 acres of acquired lands, and 72,413 acres in the Irrigation Areas.

2. Victoria.—(i) *General*. Returned soldiers may take up land under the conditions contained in the Land Act and Closer Settlement Act. The Governor may also set apart any area of Crown land for disposal under those Acts to discharged soldiers only, or subdivide the same into blocks, which may be granted to them on special terms. The Closer Settlement Board is empowered to improve land (a) prior to its disposal in allotments; or (b) at any time within the first 3 years after it has been disposed of under conditional purchase lease; or (c) at any time prior to its being resold after forfeiture to the Crown. The cost of the improvements is, in the case of (b) to be repaid in 40 half-yearly instalments, and in the cases of (a) and (c) it may be added to the value of the allotments, or treated as an advance.

(ii) *Progress of Soldier Settlement*. At the 30th June, 1923, the area acquired or set apart for soldier settlement was 2,270,298 acres, of which 1,730,580 acres comprised private land purchased at a cost of £13,067,656. The number of farms allotted was 8,141, containing 2,234,852 acres.

3. *Queensland.*—(i) *Acquisition of Land.* The Minister may, with the approval of the Governor in Council, acquire for the Crown, either by agreement or compulsorily, country, town or suburban land in Queensland, whether alienated in fee-simple or held from the Crown under any tenancy or tenure. The purchase-money may be paid, at the option of the Minister, in cash or in debentures, bearing interest at $4\frac{1}{2}$ per cent. per annum, which are not negotiable for 5 years. Crown land may also be set apart as open for selection as perpetual lease selections by discharged soldiers only.

(ii) *Perpetual Lease Selections.* (a) Where the land is unoccupied Crown land or has been acquired under the Discharged Soldiers Settlement Act as the whole or part of a holding held under pastoral lease or grazing selection tenure or scrub selection, or not acquired under the Closer Settlement Act, the following provisions apply :—1. No deposit of rent or survey fee is necessary. 2. During the first 3 years, the rent is a peppercorn, if demanded. 3. After the first 3 years, the survey fee must be paid in 10 annual instalments. 4. From the fourth to the fifteenth year, the annual rent is $1\frac{1}{2}$ per cent. of the notified capital value, and thereafter $1\frac{1}{2}$ per cent. of the unimproved capital value, as determined by the Land Court every 15 years. 5. The lease is subject to the condition of personal residence during the whole term.

(b) Where the land has been acquired under the Closer Settlement Act or under the Discharged Soldiers Settlement Act, not being the whole or part of a holding held under pastoral lease or grazing selection tenure or scrub selection, the terms are the same, except :—1. The survey fee is payable in instalments after 5 years. 2. The annual rent during the first 15 years is 3 per cent. of the notified capital value, together with the rate per cent. of the sum, if any, paid by the Crown for clearing, and for every term of 15 years thereafter, 3 per cent. of the unimproved capital value, as determined by the Land Court, together with 3 per cent. of the sum, if any, paid by the Crown for clearing.

(iii) *Perpetual Town and Suburban Leases.* These leases are not offered at auction, but are open to applicants in the same manner as perpetual lease selections. The conditions of tenure and rental are the same as those for perpetual lease selections by discharged soldiers.

(iv) *Progress of Soldier Settlement.* At the 30th June, 1923, the area acquired or set apart for soldier settlement was 763,625 acres, of which 41,101 acres comprised private land, purchased at a cost of £270,480. The number of farms allotted was 2,269, containing 732,538 acres.

4. *South Australia.*—(i) *Acquisition of Land.* The Minister for Repatriation may acquire by purchase, either by agreement or compulsorily, land which is held in fee-simple or under Crown lease, for the purpose of the settlement of discharged soldiers thereon. He may also purchase land under any tenure with the view to the settlement thereon of any particular discharged soldier. The Governor may also set apart any area of Crown lands for allotment to discharged soldiers only.

(ii) *Disposal of Land.* Any land set apart or purchased for discharged soldiers may be subdivided into suitable blocks, and offered to them on perpetual lease or on leases for such terms of years as the Minister thinks convenient. The Minister may remit, wholly or in part, any rent or purchase money payable by a discharged soldier upon any lease granted or agreement entered into.

(iii) *Progress of Soldier Settlement.* At the 30th June, 1923, the area acquired or set apart for soldier settlement was 2,777,710 acres, of which 2,076,181 acres comprised private land purchased at a cost of £4,236,020. The number of farms allotted was 3,168, containing 2,745,459 acres.

5. *Western Australia.*—(i) *Acquisition of Land.* Under the Agricultural Lands Purchase Act the Governor may compulsorily acquire land held in fee-simple, provided that the value thereof exceeds £5,000, exclusive of improvements, for the purpose of settling discharged soldiers thereon. The Minister may also purchase any alienated land, including land held under pastoral lease or conditional purchase, which a discharged soldier may desire to acquire.

(ii) *Disposal of Land.* The Governor may set apart any areas of land for the purpose of disposal to discharged soldiers exclusively, under the Land Act or under a special form of tenure. When land has been taken up under the Agricultural Lands Purchase Act, the payment of instalments may be spread over 40 years, and the rate of interest may be reduced during the first 5 years, while payments may also be deferred for the same period. The payment of rent on a pastoral lease granted to or acquired by a discharged soldier may be remitted for the first 5 years, provided that the area thereof does not exceed 100,000 acres.

(iii) *Special Tenure.* A discharged soldier, who has obtained a qualification certificate, may apply for a block of land in an area set apart for discharged soldiers, on the terms either of the Land Act or of the Agricultural Lands Purchase Act, but with the following modifications:—The Minister may allow payment of the instalments of the price of the land, including the value of improvements, to commence not later than 5 years from the commencement of the conditional purchase; and the price, as fixed by the Land Act (exclusive of the value of the improvements, if any, and survey fee), of Crown lands acquired by a discharged soldier is reduced by one half, and any soldier who, prior to enlisting, was a holder of a conditional purchase under the Land Act, is not required to pay more than half the purchase money. This latter provision does not apply to land acquired by the Crown under the Agricultural Lands Purchase Act.

(v) *Areas Acquired and Allotted.* At the 30th June, 1923, the area of land acquired or set apart for soldier settlement was 8,860,366 acres, of which 245,433 acres comprised private land purchased at a cost of £607,215. The number of farms allotted was 1,008, containing 8,860,366 acres. In addition, 2,983 properties with an area of 24,355,000 acres were purchased by returned soldiers with the assistance of the Agricultural Bank, which then takes a mortgage to cover its expenditure. Assistance was also given to 857 soldier settlers who occupied areas totalling 2,788,000 acres.

6. *Tasmania.*—(i) *Acquisition of Land.* The Minister may purchase by agreement and acquire or compulsorily acquire for the Crown private land for the purpose of settling returned soldiers thereon, in the same manner as under the Closer Settlement Act, with the exception that the minimum value of land which may be compulsorily acquired is reduced to £6,000. Up to £2,850,000 may be borrowed for the purposes of soldier settlement.

(ii) *Free Grants to Returned Soldiers.* Any discharged soldier, to whom a qualification certificate has been issued, may select under the Crown Lands Act one lot of first-class land (maximum value £1 per acre), not exceeding 100 acres in area, or its equivalent in value of second or third class land. The land is free, but the conditions as to occupation and improvements in the Crown Lands Act must be complied with, and the occupation must be effected by the returned soldier or by a member of his family.

(iii) *Ordinary Tenure by Returned Soldiers.* The Governor may set apart areas of Crown lands or closer settlement land for disposal under the Crown Lands Act or the Closer Settlement Act to discharged soldiers exclusively, and may modify the provisions of those Acts under which the land is taken up.

(iv) *Special Tenure for Returned Soldiers.* Land acquired under the Returned Soldiers Settlement Act may be disposed of by way of sale or lease to discharged soldiers, as well as any land which the Governor may have set apart for the same purpose. This land is subdivided into such allotments and disposed of at such prices capital values or rents and subject to such conditions as the President of the Closer Settlement Board determines. No deposit is required from an applicant, and where the land is disposed of by way of lease or sale no rates or taxes need be paid for the first 4 years.

(v) *Areas Acquired and Allotted.* At the 30th June, 1923, the area acquired or set apart for soldier settlement was 329,582 acres, of which 268,209 acres comprised private land purchased at a cost of £2,010,225. The number of farms allotted was 1,935, containing 271,537 acres.

7. **Summary.**—The following table gives a summary of the area acquired, the purchase price thereof, and the number and area of farms allotted in all the States to the 30th June, 1923 :—

**SOLDIER SETTLEMENT.—AREAS ACQUIRED AND ALLOTTED AT
30th JUNE, 1923.**

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Area acquired or set apart—							
(i) Private land acquired .. acres	1,893,486	1,730,580	41,101	2,076,181	245,433	268,209	6,254,990
(ii) Crown lands set apart.. „	6,951,199	539,718	722,524	701,529	8,614,933	61,373	17,591,276
Farms, etc., allotted { No. 6,537	6,537	8,141	2,269	3,168	1,008	1,935	23,058
{ acres 7,850,705	7,850,705	2,234,852	732,538	2,745,459	8,860,366	271,537	22,695,457
Price paid by Government for private land acquired .. £	7,956,784	13,067,656	270,480	4,236,020	607,215	2,010,225	28,148,380

§ 9. Tenure of Land by Aliens.

1. **New South Wales.**—(i) *General.* In the Crown Lands and Closer Settlement Acts restrictions are placed on the acquisition of Crown lands by aliens, but in the Mining Act there is no mention of any such restriction.

(ii) *Crown Lands Act.* An alien is not qualified to apply for an original homestead selection, an original purchase lease, a settlement lease, or an original conditional purchase, unless he has resided in New South Wales for one year and at the time of making application lodges a declaration of his intention to become naturalized within 5 years. If he fails to become naturalized, the land is forfeited. The residential limit of 12 months does not, however, apply to applicants for homestead farms, Crown leases, suburban holdings, or leases within irrigation areas; but any alien, who becomes the holder of any of these tenures, must become naturalized within 3 years. Failure to comply with this regulation involves forfeiture of the holding, together with all improvements thereon.

(iii) *Closer Settlement Act.* No person, other than a natural-born subject or a naturalized subject of His Majesty, or, if the subject of a neutral power who has served with the military or naval forces of His Majesty in the war of 1914–1919, is qualified to apply for a settlement purchase, but an unnaturalized subject of such allied power is qualified if he has resided in New South Wales for one year and lodges a declaration of his intention to become naturalized within 2 years. If such person fails to become naturalized the land is forfeited.

2. **Victoria.**—(i) *General.* No restrictions are placed on the holding of land by aliens in either the Land Act or in the Closer Settlement Act. Under the Supreme Court Act (Section 58) every alien friend resident in Victoria may acquire and hold real and personal property in the same manner as if he were a natural-born subject of His Majesty.

3. **Queensland.**—(i) *Land Act.* No alien, who has not first obtained a certificate that he is able to read and write from dictation words in such language as the Minister may direct, is competent to apply for or hold any selection. If an alien acquires a selection or any interest therein, and does not within 5 years become naturalized, all his interest in such selection is forfeited. If, however, an alien has made application to become a naturalized subject before the expiration of 5 years, and his application has, under any law, not been dealt with, such period shall be extended by a further 5 years.

(ii) *Mining Act.* No Asiatic, African, or Polynesian alien may exercise any privilege under a miner's right, except that of alluvial gold mining, nor may he hold any lease or business licence.

(iii) *Leases to Aliens Restriction Act.* Under the Leases to Aliens Restriction Act of 1912, no lease may be granted of any parcel of land exceeding 5 acres in extent to any alien who has not first obtained a certificate that he is able to read and write from dictation in such language as the Secretary for Public Lands may direct.

4. *South Australia.*—(i) *General.* The only referencē to the tenure of lands by aliens is in the Irrigation Act, which prescribes that persons of any Asiatic race, who are not subjects of His Majesty, are disqualified from being lessees.

5. *Western Australia.*—(1) *General.* There is no restriction in the Land Act forbidding the holding of land by aliens, but the regulations for the granting of leases of town and suburban lands prescribe that no lease shall be applied for or acquired by an Asiatic or African alien, except those open for cultivation situated northward of latitude 25 degrees south.

(ii) *Mining Act.* Under the Mining Act a miner's right may not be issued to any Asiatic or African alien, nor to any person of Asiatic or African race claiming to be a British subject, without the authority of the Minister. An Asiatic or African alien cannot hold a mining lease.

6. *Tasmania.*—(i) *Aliens Act.* Under the Aliens Act of 1913, real and personal property of every description may be taken, acquired, held, and disposed of by an alien in the same manner in all respects as by a natural-born British subject.

7. *Northern Territory.*—(i) *Crown Lands Ordinance.* A lease may be granted to any person over 18 years of age.

(ii) *Northern Territory Mining Act.* A miner's right held by an Asiatic alien entitles him to mine only for gold or tin on alluvial ground, while under the Northern Territory Mining Act, and the Tin Dredging Ordinance, no mining lease may be granted to an Asiatic alien, and no such alien is entitled to acquire or hold any lease or any interest therein.

(iii) *Mineral Oil and Coal Ordinance.* No licence or lease shall be granted to (a) any company other than a British Company registered under the provisions of the law relating to companies in force in the Northern Territory; (b) any company, unless two-thirds at least of its shares are held by natural-born or naturalized British subjects; or (c) to any person who is not a British subject.

§ 10. Advances to Settlers.

1. *New South Wales.*—(i) *General.* Advances to ordinary settlers are effected through the Rural Bank Department of the Government Savings Bank, and may consist of either (a) overdrafts on current accounts; (b) fixed or amortization loans upon mortgage of an estate in fee-simple or upon any tenure or holding under the Crown Lands Act; or (c) advances on purchase of farms. Advances to soldier settlers are made under the Returned Soldiers Settlement Act.

(ii) *Government Savings Bank Act.* (a) *Loans to Settlers.* The following provisions apply to fixed or amortization loans:—(1) no loan may be for a less amount than £50, nor for more than £2,000 to any person; (2) no loan may be made in respect to encumbered land, unless it is used to pay off such encumbrance; (3) the amount of any loan must not exceed two-thirds of the sale value of the security; (4) in the case of holdings under the Crown Lands Act (other than Western Lands leases and homestead leases) in respect of which a certificate of fulfilment of conditions has not issued, or which have not a currency of 5 years, a loan not exceeding £500 and not exceeding the value of the improvements may be made with the guarantee of the Minister for Lands, and (5) in the case of Western Lands leases and homestead leases the loan must not exceed 50 per cent. of the sale value of the security. The interest is fixed by the Commissioners of the Savings Bank, and loans are repayable either (1) in half-yearly instalments of interest and principal extending over 31 years, or (2) at fixed dates.

(b) *Advances on Purchase of Farms.* The Commissioners may make advances to assist persons in purchasing lands, provided that the title is either certificated conditional purchase or freehold. The amount of the advance must not exceed 80 per cent. of the

Commissioners' valuation of the security, and in other respects these advances are subject to the same provisions as other loans from the Rural Bank Department, but are limited to a maximum of £1,250 in each case.

(iii) *Returned Soldiers Settlement Act.* Advances may be made up to £625 to returned soldiers for the following purposes:—(a) clearing, fencing, draining, water supply, and general improvement of the land; (b) purchases of implements, stock, and other necessary commodities; and (c) the erection of buildings. The terms of repayment are usually (a) house, water supply, fencing, and other permanent improvements, by repayments extended over 25 years (the first 5 years' interest only to be paid); and (b) tools, stock, and implements, by payments extended over 6 years (interest only to be paid at the end of the first year). Interest is fixed at not exceeding $3\frac{1}{2}$ per cent. for the first year, 4 per cent. for the second year, and so on, the rate increasing by not more than one-half per cent. for each subsequent year, until the maximum rate of $6\frac{1}{2}$ per cent. has been reached.

(iv) *Amount of Advances.* The following table gives particulars respecting advances, &c., to 30th June, 1923:—

ADVANCES TO SETTLERS.—NEW SOUTH WALES, 1922–23.

Particulars.	Advances made during 1922-23.	Total Advances at 30th June, 1923.	Amount outstanding at 30th June, 1923.
	£	£	£
Government Savings Bank Advances ..	1,519,814	10,070,787	6,334,427
Soldier Settlement Advances ..	275,566	2,702,994	2,444,944
Advances for Purchase of Wire Netting ..	65,760	602,809	172,589
Advances to Necessitous Farmers ..	145,584	1,822,072	446,019
Total	2,006,724	15,198,662	9,397,979

2. *Victoria.*—(i) *General.* The principal institution which advances money to settlers is the State Savings Bank. The Closer Settlement Board is also authorized to make such advances, and the Government may lend money to Cool Stores Trusts, and, under special drought circumstances make advances to settlers for the purchase of seed, cattle, etc., for which purpose separate Acts have been and are passed from time to time as required.

(ii) *State Savings Bank Act.* The *Crédit Foncier* Department of the State Savings Bank was created for the purpose of making advances to settlers and others, and is authorized to borrow up to £10,000,000 for that object. The Commissioners may lend money to farmers, etc., on the security of any agricultural, horticultural, viticultural, or pastoral land held in fee-simple or on conditional purchase. Such loans are secured by a first mortgage on the property, and are payable either in cash or by debentures or mortgage bonds, at the option of the Commissioners. No advance may be less than £50, or more than £2,000, and each advance is limited to two-thirds, or, in the case of returned soldiers, to three-quarters, of the value of the land, and, in the case of a conditional purchase, this amount is reduced by the amount of rent outstanding. Where improvements are effected on a conditional purchase lease to the amount of £1 per acre at least, and the value of the land and improvements exceeds £2 per acre, an additional advance, not exceeding 15s. per acre, may be made. In the case of land which has acquired a special increase of value by reason of being cultivated as vineyards, hop-grounds, orchards, etc., advances may be made on the following terms:—(a) the total amount which may at any time be advanced must not exceed £100,000; (b) the amount of allowable advance may be increased by one-fourth, but not to a greater amount than £30 per acre; and (c) no advance may be made for a longer period than 15 years. Repayment of advances must be made in 63 half-yearly instalments of principal and interest, a slight reduction in the amount being made in the case of returned soldiers. The Commissioners may also advance money to companies in country districts for the erection of works for freezing, packing, or storing any commodities which are included in

the Primary Products Act or in the Fruit Act, provided that shares equal in value to not less than two-thirds of the proposed expenditure have been taken up, and one-third thereof paid for in cash. The loan is granted upon such terms and conditions as the Commissioners may think fit.

(iii) *Closer Settlement Act.* The Closer Settlement Board may advance money to (a) lessees of workmen's homes and agricultural labourers' allotments in aid of the cost of fencing and erecting dwelling-houses; (b) lessees of Crown land for carrying on farming or grazing pursuits, or for adding to improvements; (c) municipalities, for making roads to any land acquired by the Board; and (d) owners of land for the purchase of wire netting. An advance may not exceed £625, or, in the case of land which is suitable mainly for grazing, £1,000, and is repayable in 40 half-yearly instalments, with 5 per cent. interest. Where a lessee has, after not less than 6 years, obtained his compliance certificate or Crown grant, the amount of loan may be increased to £1,000, but must not exceed 60 per cent. of the value of the improvements and amount of purchase-money paid.

(iv) *Discharged Soldiers' Settlement Act.* The Closer Settlement Board may advance to a discharged soldier up to £625, or, if he is the owner or lessee of land in the mallee country or of grazing land only, up to £1,000. The rate of interest is fixed by the Minister, and is 3½ per cent. for the first year, increasing by ½ per cent. annually until the rate determined is reached. Repayment is as prescribed.

(v) *Primary Products Advances Act.* A company registered under the Companies Act, or a society registered under the Provident Societies Act, which is undertaking the establishment of abattoirs and freezing works, or cool storage for fish, or dried or canned fruit, or jam factories, tobacco-curing, or fruit-works, may be granted by the State Savings Bank a loan for the purpose of constructing such works. No loan may be granted unless at least one-third in number and value of the shareholders are persons engaged in the production of the primary products supplied to the company and full particulars of the proposed undertaking are furnished. The loan is repayable at such times and with such interest as the Commissioners may determine, the property must be mortgaged to the Bank, and a sum, not exceeding 5 per cent. of the value of the buildings, etc., paid annually into a depreciation fund.

(vi) *Fruit Act.* A Cool Stores Trust may be granted a loan by the Treasurer for the purchase of land and for the erection of a cool store thereon. Such loan must be a first charge on the property and revenue of the Trust, be for an agreed term of years, and provide for repayment with interest at 4½ per cent. in 40 half-yearly instalments. The State Savings Bank Commissioners may also advance money to a company for the purpose of constructing fruit-works, provided that at least one-third in number and value of the shares are held *bona fide* by shareholders being owners or occupiers of orchards within the locality. The terms of the loan are the same as those under the Primary Products Advances Act.

(vii) *Amount of Advances.* The following table gives particulars respecting advances, etc., to 30th June, 1923 :—

ADVANCES TO SETTLERS.—VICTORIA, 1922-23.

Authority Making Advances.	Advances made to—	Advances made during 1922-23.	Total Advances at 30th June, 1923.	Amount Outstanding at 30th June, 1923.
		£	£	£
State Savings Bank	Civilians	259,694	5,453,340	2,300,696
	Discharged soldiers ..	50,695	217,985	197,829
Closer Settlement Board	Closer Settlement settlers ..	451,397	5,618,641	3,658,065
	Soldier settlers ..	1,696,073	19,377,469	17,869,930
Treasurer	Cool stores, canneries, etc.	8,351	591,994	501,285
Total		2,466,210	31,259,429	24,527,805

3. *Queensland.*—(i) *General.* Advances to settlers are made under the State Advances Act (formerly the Government Savings Bank Act), the Discharged Soldiers' Settlement Act, and the Co-operative Agricultural Production Act. Under the last-named Act advances may also be made to co-operative companies for the erection of works for the manufacture or cool storage of primary products.

(ii) *State Advances Act.* The State Advances Corporation, which took the place of the Government Savings Bank, may make advances to any owner or occupier of property which is used for agricultural, dairying, grazing, horticultural or viticultural purposes, on the security of a first mortgage. The limit of advance to one person is £1,200, and, subject to the succeeding paragraphs, no advance may exceed 15s. in the £1 of the fair estimated value of the holding and existing or proposed improvements. The purposes for which loans are granted are:—(a) to pay the purchase-money of the holding; (b) to release a mortgage or other liability on the holding; (c) to purchase stock, machinery, and implements; (d) to effect suitable improvements; and (e) for general purposes (including a maximum amount of £400 for unspecified purposes to *bona fide* resident settlers). Advances may also be made, not exceeding in the aggregate £300, to the full value of the following improvements:—(a) buildings; (b) ringbarking, clearing, fencing, draining, and water conservation; and (c) wells or bores (inclusive of lifting power). Where a holder of agricultural land has an area of 35 or more acres cleared, fenced, and sown with approved grass, an amount up to £100 may be advanced for the purchase of dairy stock to the full value of such improvements. Further security may be required by way of stock-mortgage, bill of sale, lien on crops, etc. During the first 5 years following the date of the loan interest is payable at the rate of 5 per cent per annum. After the expiration of that period, the loan with interest is repayable within 20 years in half-yearly instalments of £4 0s. 3d. (which includes interest) for every £100 advanced. Advances made on the security of leases of grazing selections must be repaid with interest at 5 per cent. per annum, within a term not later than the date upon which the lease will expire.

(iii) *Discharged Soldiers' Settlement Act.* Advances may be made by the Minister to discharged soldiers who are owners of land in fee-simple or holders of land under tenure from the Crown. Such advances may be made for the purposes of (a) the payment of purchase-money; (b) the payment of existing liabilities; (c) making improvements; (d) purchasing live stock, machinery, trees, etc.; or (e) any other approved purpose. An advance to any one person may not exceed £1,200. The first portion of the advance, which must not exceed £625, nor the fair value of the holding and improvements, is repayable with interest by instalments within 40 years. The rate of interest for the first year is 3½ per cent., and it increases annually by ½ per cent. until the rate equals the actual rate (not exceeding 5 per cent.) payable by the State in respect of the loan out of which such advance was made. The balance of the loan, up to £575, may be advanced for a term of 25 years, repayable with interest at 5 per cent., but must not exceed 15s. in the £1 of the estimated value of the land and improvements. Advances may be also made on short terms for the purchase of live stock, plants, vehicles, implements, seeds, etc.

(iv) *Co-operative Agricultural Production Act.* The Minister may make advances to any co-operative company for the construction of works for the manufacture and storage of primary products of agriculture. Such advances may be made up to two-thirds of the entire cost of the works and machinery. An advance may be granted only on the condition that the articles of association of the company provide that at least two-thirds of the shares are held by primary producers, and that no greater dividend than 6 per cent. shall be paid before any advance has been repaid. The Minister takes as security a mortgage over the works, together with any available collateral security, such as a bill of sale over the machinery, etc. The repayments are spread over a period of 16 years, with interest at 5 per cent. per annum. For the first 2 years interest only is payable, and for the remaining 14 years the sum of £10 2s. 1d. must be repaid annually for every £100 advanced.

Advances may also be made to farmers, dairy farmers, or sheep farmers, for the following purposes and on the following terms:—(a) purchase of dairy cattle, £200, term seven years; (b) purchase of pigs, £50, term three years; (c) purchase of sheep, £200, term 2 years; and (d) erection of silos, £150, term 5 years. The advances for the purchase of dairy cattle, pigs, and sheep, may be made on the security of a stock mortgage only, but advances for the erection of silos must be secured by a mortgage over the property.

(v) *Amount of Advances.* The following table gives particulars of advances, etc., to 30th June, 1923:—

ADVANCES TO SETTLERS.—QUEENSLAND, 1922-23.

Act under which Advances were made.	Advances made during Year 1922-23.	Total Advances made to 30th June, 1923.	Amount Outstanding at 30th June, 1923.
	£	£	£
State Advances Act	259,254	3,247,574	1,902,178
Co-operative Agricultural Production and Advances to Farmers Acts	7,422	44,418	33,735
Discharged Soldiers' Settlement Act—			
Soldiers' Group Settlements	86,028	1,242,291	1,214,397
State Advances Corporation	56,716	998,706	884,363
Total	409,420	5,532,989	4,034,673

4. South Australia.—(i) *General.* Advances may be made to settlers and others for the purpose of discharging mortgages, making improvements, etc., under the provisions of several Acts, which are briefly summarized hereunder. Loans may be made under the Loans for Fencing Act and the Vermin Act for the purchase of fencing materials in vermin-infested districts,

(ii) *Crown Lands Act.* Advances may be made to homestead blockholders (a) for erecting buildings; or (b) for making improvements on their land. A loan must not exceed in the case of (a) the cost of existing improvements; and in the case of (b) one-half the value of the improvements to be effected; and in no case may a loan exceed £50. Repayment is to be made in 20 equal annual instalments at the rate of £7 7s. 2d. per cent. of the amount advanced.

(iii) *Advances to Settlers on Crown Lands Act.* The Advances to Settlers Board may make advances to any settler on the security of his land and improvements (a) for making improvements, up to the estimated value of his lease or agreement and improvements, not exceeding £400, and up to three-fourths of such value in excess of £400, but not exceeding £250; or (b) for stocking his holding, up to £200; or (c) for discharging an existing mortgage, up to three-fourths of the value of his lease or agreement and improvements; or (d) for any other purpose, up to the same amount. Repayment must be made by 70 equal half-yearly instalments, with interest, but for the first 5 years interest only is payable.

(iv) *State Advances Act.* Under this Act the State Bank of South Australia was established with power to make advances to farmers and other producers, to local authorities, to persons possessed of the necessary securities, and in aid of industries. Loans to farmers and other producers and in aid of industries are made upon the security of lands in fee-simple or of Crown leases, and, in the case of freehold land, must not exceed three-fifths of the unimproved value in fee-simple of the land and permanent improvements, or, if the land has acquired a special additional value by reason of cultivation be a vineyard or orchard, then plus one-third of such additional value, or, in the case of a Crown lease, one-half of the selling value thereof with improvements. No single advance

may exceed £5,000. The Bank and the borrower may agree upon the term of years not exceeding 42 over which repayment may be spread, as well as the interest to be paid.

(v) *Irrigation Act.* Settlers under this Act are entitled to loans under the Advances to Settlers on Crown Lands Act, as well as under the Irrigation Act, but not exceeding £600 under both Acts. The Irrigation Commission may make advances to lessees (a) not exceeding the value of the lease and improvements thereon, for clearing, fencing, etc., for constructing channels and drains, or for the erection of buildings; (b) up to £200 for the purchase of implements, stock, etc.; and (c) not exceeding three-fourths of the aggregate value of the lease and improvements, for the discharge of a mortgage, or any other purpose. The Commission may also, upon the application of the lessee, expend a sum not exceeding £30 per acre of the irrigable land in each block in fencing, clearing, grading, and constructing channels, drains and tanks; 15 per cent. of the estimated cost to be lodged with the application. The maximum sum which may be advanced with respect to any one piece of land within an irrigation area is £600, or £30 per acre of the irrigable portion, whichever is the greater. Advances may be made only on the security of a first mortgage. During the first 5 years interest only is payable, but thereafter the advance must be repaid in 70 equal half-yearly instalments, with interest.

(vi) *Loans to Producers Act.* The Minister may, on the security of a mortgage on the property, make loans to any registered co-operative society three-fourths of the members of which are engaged in or are about to be engaged in rural production, for any of the following purposes:—Class A (1) the erection or purchase of cool stores; or (2) the erection or purchase of factories for jam making, and for canning, drying, and otherwise preserving fruit or vegetables; or (3) the erection or purchase of fruit-packing sheds; or (4) the erection or purchase of butter, cheese, or bacon factories; or (5) the erection or purchase of wineries or distilleries; or (6) the erection of silos; Class B (1) the purchase of fruit-grading machinery; or (2) the installation of irrigation plants; or (3) any other prescribed purpose. Loans may also be made to any land-holder for any of the three last-named purposes. Repayment of loans, with interest, must be in equal half-yearly instalments, spread over a period of 20 years, under Class A, and of 7 years under Class B. Under Class A, interest only is payable for the first 2 years of the currency of the loan, the repayment by 36 half-yearly instalments of principal and interest commencing on the first day of the thirty-first month from the making of the loan. Under Class B, repayment of both principal and interest commences on the first day of the seventh month from the date of making the loan.

(vii) *Discharged Soldiers Settlement Act.* An advance may be made to any discharged soldier settler for (a) clearing, fencing, etc.; (b) the erection of buildings on the land; (c) the purchase of implements, stock, etc.; (d) the payment of rent in arrear; (e) the discharge of any encumbrance or mortgage on the land; (f) paying off any debt incurred prior to enlistment or during his absence on active service. The last three purposes apply only to holders of certain classes of tenure. Repayment may be made in the cases of (c) and (f) in 7 yearly or 14 half-yearly instalments; or, in the cases of (a), (b), or (e), in 40 yearly or 80 half-yearly instalments; or, in the case of (d), as the Minister determines. The rate of interest is fixed by the Minister, but no interest is payable for the first year, 2½ per cent. for the second, 3½ per cent. for the third, and 5 per cent. for the fourth year.

(viii) *Agricultural Graduates Land Settlement Act.* Under the provisions of this Act, the Minister may (a) purchase land with a view to the settlement thereon of agricultural graduates, the value of which land, with improvements, must not exceed £3,000 for each graduate, and is repayable with interest; (b) advance to any agricultural graduate settler up to £500 for the purpose of purchasing seeds, implements, stock, etc., such advance being repayable as follows:—During the first 3 years interest only is payable, and thereafter the whole is to be repaid in 12 equal half-yearly instalments; (c) in uncleared mallee country make advances up to £1,000, but not to exceed pound for pound in value of the improvements effected.

(ix) *Amount of Advances.* The following table gives particulars respecting advances etc., to 30th June, 1923 :—

ADVANCES TO SETTLERS.—SOUTH AUSTRALIA, 30th JUNE, 1923.

Particulars.	Advances made during 1922-23.	Total Advances at 30th June, 1923,	Amount outstanding at 30th June, 1923.
	£	£	£
Department of Lands and Surveys—			
Advances to soldier settlers	639,282	3,230,812	3,013,173
Advances to settlers for improvements ..	25,062	596,933	430,270
Advances under Vermin and Fencing Acts	44,426	798,117	234,655
Advances to blockholders	40	41,451	638
Advances for sheds and tanks	10,886	62,162	59,770
Advances in drought-affected areas ..	833	764,281	63,316
Advances under Loans to Producers Act ..	17,539	33,395	33,141
State Bank of South Australia	1,313,268	11,252,315	6,526,791
Irrigation Commission	5,592	93,339	49,629
Total	2,056,928	16,872,805	10,411,383

5. *Western Australia.*—(i) *General.* Advances to settlers are made by the Agricultural Bank, which was established in 1895. Special advances are also made to returned soldiers.

(ii) *Agricultural Bank.* This bank makes advances to a limit of £2,000 on the security of a first mortgage to persons engaged in agricultural pursuits. The borrower must pay the interest on the amount advanced for the first 5 years and after the expiration of that term the advance with interest must be repaid within 25 years in half yearly instalments. The interest is at such rates as may be prescribed, but if over 5 per cent. per annum must not exceed by more than 1 per cent. the rate of interest paid by the bank on funds raised by the bank.

(iii) *Advances to Soldier Settlers.* A soldier settler may be granted an advance up to £625 for improvements, fertilizers, machinery, plant, &c., and the interest thereon must not exceed 3½ per cent. for the first year, such interest increasing each year by ½ per cent. until the rate reaches the current rate for the time being.

(iv) *Amount of Advances.* The following table gives particulars respecting advances, etc., to 30th June, 1923 :—

ADVANCES TO SETTLERS.—WESTERN AUSTRALIA, 1922-23.

Particulars.	Year ended—	Advances made during Year 1922-23.	Total Advances at 30th June, 1923.	Amount outstanding at 30th June, 1923.
		£	£	£
Agricultural Bank advances ..	30.6.23	324,695	4,600,523	3,223,187
Soldier settlement advances ..	30.6.23	563,156	4,387,324	4,514,877
Advances to rural industries ..	30.6.23	1,102	21,259	21,970
Advances to assisted settlers ..	31.3.23	1,103,085	7,204,160	1,667,423
Total .. ..	..	1,992,038	16,213,266	9,427,457

6. *Tasmania.*—(i) *General.* Advances to farmers and producers may be made under the State Advances Act, to closer settlement settlers under the Closer Settlement Act, to fruit-growers formed into a registered company under the Advances to Fruit-growers Act, and to returned soldiers under the Returned Soldiers Settlement Act.

(ii) *State Advances Act.* The Agricultural Bank of Tasmania, constituted under this Act, is authorized to borrow up to £150,000 on debentures or stock for the purpose of advancing money to farmers and other primary producers who own land in fee-simple or under purchase from the Crown on credit. Advances are secured on first mortgages, and may be made for any of the following purposes:—(a) the payment of existing liabilities; (b) agricultural, dairying, grazing, or horticultural pursuits; (c) making the prescribed improvements on the holding; or (d) adding to improvements already made. No advance may be granted to any one person for less than £25 nor for more than £1,000, nor may an advance exceed (a) one-half of the capital value of land held under purchase on the credit system, less the amount of instalments due; or (b) three-fifths of the capital value of freehold land. The repayment of advances commences after 5 years, and the borrower must repay one-fiftieth of the principal sum half-yearly thereafter until the whole amount of the advance is repaid. Interest is payable half-yearly at the rate fixed by the Treasurer.

(iii) *Closer Settlement Act.* Under this Act the Minister may make advances to lessees in aid of the cost of fencing, draining, erecting buildings, and other improvements. The total amount advanced may not exceed £ for £ of the sum expended by the lessee in such improvements. Loans are repayable by equal half-yearly instalments with interest, not exceeding 7 per cent., extending over a period not exceeding 21 years.

(iv) *Advances to Fruit-growers Act.* The Minister may advance to registered companies on a first mortgage on freehold land or on a lien on other property, money for all or any of the following purposes:—(a) the purchase of land on which a packing shed or pulping works is or are to be erected; (b) the erection of packing sheds; (c) the erection of pulping works; (d) the purchase of pulping works; or (e) the purchase of fruit-grading machinery. Generally, the amount of advance must not exceed 75 per cent. of the value of the land or plant, but, in the case of a company desiring to purchase grading machinery, it must not exceed 50 per cent. of the value thereof. Advances are repayable in equal half-yearly instalments of principal and interest combined extending over a period of 10 years, at the rate of £6 14s. 5d. for every £100 borrowed. Any company to which an advance is made may issue debentures for the purpose of securing the repayment of principal and interest.

(v) *Returned Soldiers Settlement Act.* Advances up to £625 may be made to discharged soldiers (a) for clearing, fencing, and general improvement of land disposed of under the Returned Soldiers Settlement Act; (b) for the erection of buildings, not exceeding £450, thereon; or (c) for the purchase of implements, stock, seeds, etc. Repayment must be made at the prescribed times, and in the prescribed manner. The Minister may also remit wholly or in part the payment of rent or of instalments on the purchase-money.

A returned soldier, who has not exercised his option of acquiring a free selection, and who is already a selector of land on credit purchase, is entitled to a remission of his instalments up to £100.

(vi) *Amount of Advances.* The following table gives particulars respecting advances, etc., to 30th June, 1923:—

ADVANCES TO SETTLERS.—TASMANIA, 30th JUNE, 1923.

Authority making Advances.	Advances made to—	Advances made during 1922-23.	Total Advances to 30th June, 1923.	Amount outstanding at 30th June, 1923.
		£	£	£
Agricultural Bank ..	Settlers	7,054	157,211	90,676
Minister for Lands ..	Soldier Settlers ..	56,611	617,953	437,575
.. ..	Closer Settlement Settlers	2,340	17,711	9,569
.. ..	Fruit Growers .. ..	..	834	..
.. ..	Freezing Works ..	..	10,000	..
Total .. ..	.. ..	66,005	803,709	537,820

7. Northern Territory.—(i) *Advances to Settlers Act 1923.* This Act and the Regulations thereunder provide that the Minister for Home and Territories may, out of moneys paid into a Trust Account for the purpose, make advances to the Northern Territory for the purchase of wire netting.

Applications must state the security offered for payment and contain an undertaking that the applicant will execute an agreement—

- (a) to pay to the Minister free of interest the cost of the wire netting, including all freight and handling charges, to the port or railway station nearest to the applicant's holding. The payments must be made by cash or by not more than 20 equal annual instalments extending over a period of not more than 20 years from the 1st day of July of the year in which the advance is made.
- (b) to use the wire netting within 12 months after its receipt by the applicant for the erection of rabbit-proof or dog-proof fences.

An advance cannot be made on unimproved land or on land on which the rent is overdue.

(ii) *Advances to Settlers Ordinance.* Under this Ordinance the Advances to Settlers Board may, out of moneys voted by Parliament for the purpose, make loans to any person who is residing in the Northern Territory, and who is the holder of any land (1) under freehold or leasehold tenure from the Crown; or (2) under conditional purchase, for the purpose of (1) making improvements on the land; (2) purchasing implements or plant; (3) stocking the holding; or (4) paying off mortgages or other charges. An advance to one person may not exceed £800, and is secured by mortgage on the borrower's estate. For the first 5 years following the date on which the advance is made interest at the rate of 4 per cent. must be paid annually, and at the expiration of that period the amount of the advance, with 4 per cent. interest, must be repaid by 25 equal yearly instalments.

(iii) *Amount of Advances.* During the financial year 1922-23 the sum of £53 was advanced, making the total amount advanced to the 30th June, 1923, £2,024. The balance outstanding at that date, including interest, was £1,878.

8. Summary of Advances.—The following table gives a summary for each State to the 30th June, 1923:—

ADVANCES TO SETTLERS.—AUSTRALIA, 30th JUNE, 1923.

State.	Advances made during 1922-23.	Total Advances to 30th June, 1923.	Amount Outstanding at 30th June, 1923.
	£	£	£
New South Wales	2,006,724	15,198,662	9,397,979
Victoria	2,466,210	31,259,429	24,527,805
Queensland	409,420	5,532,989	4,034,673
South Australia	2,056,928	16,872,805	10,411,383
Western Australia	1,992,038	16,213,266	9,427,457
Tasmania	66,005	803,709	537,820
Northern Territory	53	2,024	1,878
Total	8,997,378	85,882,884	58,338,995

§ 11. Alienation and Occupation of Crown Lands in the Several States.

1. **General.**—The tables given in the previous parts of this chapter show separately the areas alienated, in process of alienation, and occupied under various tenures in the several States. The tables given below show collectively the general condition of the public estate in each State, having regard to (a) the area alienated absolutely, which includes free grants, sales, and conditional purchases for which grants have been issued, the conditions having been complied with; (b) the area in process of alienation, comprising holdings for which the fee-simple has not yet been alienated, but which are in process of sale under systems of deferred payments; (c) the area occupied under all forms of leases and licences; and (d) the area unoccupied, which, ordinarily, includes roads, permanent reserves, forests, etc. In some cases, however, lands which are permanently reserved from alienation are occupied under leases and licences, so that in such cases the areas reserved are comprised in class (c) and not in class (d). Particulars of leases and licences of reserved areas, as distinguished from leases and licences of other lands, are not available. It should be observed that in many cases lands occupied under leases or licences for pastoral purposes are held on short tenures only, and could thus be made available for settlement practically whenever required.

2. **New South Wales.**—At the 30th June, 1923, of the total area of New South Wales, 21.9 per cent. had been alienated absolutely, 10.4 per cent. was in process of alienation, 58.4 per cent. was held under leases and licences, and the remaining 9.3 per cent. was unoccupied.

The following table gives particulars for the five years ending 30th June, 1919, to 1923 :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—NEW SOUTH WALES, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. Alienated.					
Granted and sold prior to 1862	7,146,579	7,146,579	7,146,579	7,146,579	7,146,579
Sold by auction and other sales, 1862 to date	14,933,719	14,849,209	15,182,649	15,184,016	15,188,819
Conditionally sold, 1862 to date	17,887,903	18,564,288	19,228,810	19,970,073	20,637,146
Granted under Volunteer Land Regulations, 1867 to date ..	172,198	172,198	172,198	172,198	172,198
Granted for public and religious purposes	240,222	240,915	241,417	241,742	242,674
Total	40,350,721	40,973,189	41,971,653	42,714,608	43,387,416
2. In Process of Alienation.					
Under system of deferred payments	19,435,807	19,365,856	18,672,521	18,437,590	18,200,900
Closer settlement purchases	1,288,407	1,510,568	1,995,225	2,385,411	2,427,826
Total	20,724,214	20,876,424	20,667,746	20,823,001	20,628,726
3. Held under Leases and Licences.					
Total under Lands Department and Western Land Board ..	116,096,521	116,543,911	116,142,203	115,450,062	115,391,357
Mineral and auriferous leases and licences (Mines Department)..	225,134	229,884	268,851	281,503	307,336
Total	116,321,655	116,773,795	116,411,054	115,731,565	115,698,693
4. Unoccupied					
	20,610,010	19,413,092	18,986,047	18,767,326	18,321,665

Area of State—198,036,500 acres

3. Victoria.—The total area of the State of Victoria is 56,245,760 acres, of which 44.4 per cent. had been alienated absolutely up to the end of the year 1922; 15.8 per cent. was in process of alienation under deferred payments and Closer Settlement Schemes; 16.5 per cent. was occupied under leases and licences; while 23.3 per cent. was unoccupied.

The following table shows the distribution:—

ALIENATION AND OCCUPATION OF CROWN LANDS.—VICTORIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. <i>Alienated</i>	24,503,531	24,605,825	24,793,053	24,903,109	24,947,732
2. <i>In Process of Alienation</i> —					
Exclusive of Mallee, etc. ..	2,051,422	2,022,373	1,937,933	1,933,656	2,021,372
Mallee Lands	5,511,340	6,259,742	6,274,011	6,303,229	6,345,499
Under Closer Settlement Acts ..	527,237	514,128	520,003	528,545	542,978
Village Settlements	16,888	15,235	14,155	12,694	995
Total	8,106,887	8,811,478	8,746,102	8,778,124	8,910,844
3. <i>Leases and Licences Held</i> —					
Under Lands Department	10,649,247	10,944,854	9,991,558	8,040,521	9,237,593
Under Mines Department	76,799	69,165	48,561	52,892	52,866
Total	10,726,046	11,014,019	10,040,119	8,993,413	9,290,459
4. <i>Unoccupied Crown Lands</i> ..	12,909,296	11,814,438	12,666,486	13,571,114	13,096,725

Total area of State—56,245,760 acres.

4. Queensland.—The total area of this State is 429,120,000 acres, of which, on the 31st December, 1922, 4.0 per cent. was alienated absolutely; 1.8 per cent. was in process of alienation; and 70.6 per cent. was occupied under leases and licences. The remainder (23.6 per cent.) was either unoccupied or held as reserves, or for roads.

The distribution is shown in the following table:—

ALIENATION AND OCCUPATION OF CROWN LANDS.—QUEENSLAND, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. <i>Alienated Absolutely.</i>					
By Purchase	16,684,981	16,806,983	16,935,558	17,064,697	17,156,804
Without Payment	86,736	86,736	86,742	87,731	87,740
Total	16,771,717	16,893,719	17,022,300	17,152,428	17,244,544
2. <i>In Process of Alienation</i> ..	9,763,261	9,064,089	8,659,280	8,280,296	7,833,127
3. <i>Occupied under Leases and Licences.</i>					
Pastoral Leases	212,439,720	211,030,440	209,248,960	201,010,760	185,348,400
Occupation Licences	40,694,600	36,590,960	33,830,400	33,526,240	34,610,630
Grazing Farms and Homesteads ..	71,091,155	76,437,422	79,397,073	78,658,048	78,983,282
Scrub Selections	206,153	166,899	112,137	86,289	77,233
Leases Special Purposes	202,364	210,201	218,563	246,783	258,706
Under Mines Department	279,396	333,834	342,880	422,368	511,137
Perpetual Lease Selections	954,623	2,005,337	2,694,626	3,060,954	3,166,134
Auction Perpetual Leases	7,041	7,943	9,135	10,001	11,249
Total	325,875,052	326,783,036	325,853,774	317,021,443	302,966,871
4. <i>Unoccupied</i>	76,709,970	76,379,156	77,584,646	86,665,833	101,075,458

Total area of State—429,120,000 acres.

5. **South Australia.**—The area of the State of South Australia is 243,244,800 acres, and at the end of the year 1923, 4.6 per cent. was alienated absolutely; 1.3 per cent. in process of alienation; 51.2 per cent. occupied under leases and licences; and 42.9 per cent. unoccupied. The subjoined table shows the distribution :—

**ALIENATION AND OCCUPATION OF CROWN LANDS.—SOUTH AUSTRALIA,
1919 TO 1923.**

Particulars.	1919.	1920.	1921.	1922.	1923.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. Alienated—					
Sold	10,727,484	10,801,634	10,882,906	10,936,750	10,987,030
Granted for Public Purposes	130,332	130,332	131,191	131,741	131,741
Total	10,857,816	10,931,966	11,014,097	11,068,491	11,118,771
2. In Process of Alienation	3,038,084	3,166,524	3,192,633	3,023,556	3,123,074
3. Held under Lease and Licence—					
Right of Purchase Leases	2,329,100	2,285,421	2,202,841	2,112,350	2,081,003
Perpetual Leases	14,650,223	14,880,001	14,849,184	14,756,565	14,956,020
Pastoral Leases	96,358,450	100,904,690	102,832,050	98,760,263	105,984,903
Other Leases and Licences	806,029	880,420	906,764	886,989	962,985
Mining Leases and Licences	144,347	603,298	642,570	512,841	653,899
Total	114,288,149	119,554,730	121,436,409	117,029,008	121,638,810
4. Area Unoccupied	115,060,751	109,591,580	107,601,661	112,123,745	104,363,545

Total area of State—243,244,800 acres.

6. **Western Australia.**—The total area of Western Australia is 624,588,800 acres, of which, at the 30th June, 1923, 1.6 per cent. was alienated absolutely; 2.7 per cent. was in process of alienation; while 42 per cent. was occupied under leases and licences issued either by the Lands or the Mines Departments. The balance of 53.7 per cent. was unoccupied.

The following table shows the distribution :—

**ALIENATION AND OCCUPATION OF CROWN LANDS.—WESTERN AUSTRALIA,
1918-19 TO 1922-23.**

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. Alienated Absolutely	2,605,479	8,763,051	9,197,088	9,724,931	10,051,080
2. In Process of Alienation—					
Midland Railway Concessions	54,800	54,800	54,800	54,800	54,800
Free Homestead Farms	1,228,844	1,186,438	1,017,255	941,485	961,492
Conditional Purchases	7,422,504	7,571,189	7,544,062	7,615,430	8,028,588
Selections from the late W.A. Company	2,193	2,193	2,193	2,193	2,193
Selections under the Agricultural Lands Purchase Act	280,250	427,465	485,129	539,927	565,780
Special Occupation Leases and Licences	1,298	1,298	1,298	1,298	820
Homestead or Grazing Leases	4,204,301	4,978,656	5,887,426	6,833,398	7,357,291
Poison Land Leases or Licences	43,275	42,274	42,275	42,275	42,275
Village Allotments	30	30	29	28	27
Working-men's Blocks	452	426	492	342	320
Total	13,237,947	14,259,769	15,034,959	16,031,176	17,013,586

ALIENATION AND OCCUPATION OF CROWN LANDS.—WESTERN AUSTRALIA, 1918-19 TO 1922-23—*continued.*

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
3. Leases and Licences in Force—					
(i) Issued by Lands Department—					
Pastoral Leases ..	241,679,020	253,436,312	254,688,236	263,403,351	258,238,151
Special Leases ..	53,584	62,348	57,156	57,509	49,213
Leases of Reserves ..	2,139,541	2,391,571	1,988,713	2,156,186	2,101,795
Residential Lots ..	269	285	272	4,422	5,769
(ii) Issued by Mines Department—					
Gold Mining Leases ..	10,311	20,148	24,540	8,934	8,934
Mineral Leases ..	40,459	41,387	41,843	46,056	47,275
Miners' Homestead Leases ..	36,699	36,181	36,401	35,823	35,823
Timber Leases and Concessions ..	625,186	625,186	590,314	585,453	585,110
Timber Permits ..	819,520	996,882	1,076,809	1,322,168	1,075,101
Total	245,404,589	257,610,300	258,504,334	267,619,907	262,147,176
4. Area Unoccupied	357,340,785	343,955,680	341,852,419	331,212,786	335,376,958

Total area of State—624,588,800 acres.

7. **Tasmania.**—Of the total area of Tasmania, at the end of the year 1922, 31.8 per cent. had been alienated absolutely; 5.2 per cent. was in process of alienation; 14.7 per cent. was occupied under leases and licences for either pastoral, agricultural, timber, or mining purposes, or for closer or soldier settlement, or occupied or reserved by the Crown; the remainder (48.3 per cent.) being unoccupied. The following table shows the distribution :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—TASMANIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. Alienated Absolutely	5,197,283	5,241,292	5,241,856	5,259,066	5,328,825
2. In Process of Alienation	1,122,797	1,054,111	963,915	920,206	880,410
3. Leases or Licences—					
(i) Issued by Lands Department—					
Islands	197,918	151,000	107,000	108,000	107,000
Ordinary Leased Land ..	1,201,169	1,341,000	1,540,000	1,608,000	1,577,653
Land Leased for Timber ..	183,804	218,784	230,524	236,847	308,072
Closer Settlement	68,163	68,163	68,192	80,435	93,399
Soldier Settlement	17,556	60,223	162,516	219,118	202,673
Other Leases .. ..	..	..	1,000	1,000	1,000
(ii) Issued by Mines Department ..	46,600	46,491	46,380	52,476	49,823
(iii) Occupied by Commonwealth and State Departments	17,206	18,000	18,000	18,000	18,000
(iv) Reserved for Public Purposes ..	100,000	100,000	100,000	100,000	100,000
Total	1,832,416	2,003,661	2,273,612	2,423,876	2,457,620
4. Area Unoccupied	8,625,104	8,478,536	8,298,217	8,174,452	8,112,745

Total area of State—16,777,600 acres.

8. Northern Territory.—At the end of the year 1923 only 0.14 per cent. was alienated absolutely; 40.98 per cent. was held under leases and licences; while the remaining 58.88 per cent. was unoccupied. The following table shows the distribution :—

ALIENATION AND OCCUPATION OF CROWN LANDS.—NORTHERN TERRITORY, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
	Acres.	Acres.	Acres.	Acres.	Acres.
1. Alienated—					
Sold	476,428	476,508	476,508	476,508	476,508
Granted for Public Purposes	48	48	48	48	48
Total Alienated	476,476	476,556	476,556	476,556	476,556
2. Leased—					
Right of Purchase	436	356	356	356	356
Pastoral	93,669,760	106,503,680	119,069,760	114,876,000	114,876,000
Other Leases	29,048,010	36,770,115	18,606,537	19,612,170	22,460,620
Total Leases	122,718,206	143,274,151	137,676,653	134,488,526	137,336,976
3. Unoccupied (a)	211,922,118	191,366,093	196,963,591	200,151,718	197,303,268

Total area of Northern Territory—335,116,800 acres.

(a) Including Aboriginal and other Reserves, and Mission Stations.

§ 12. Classification of Alienated Holdings According to Size.

1. General.—The classification of holdings according to their area is of interest chiefly in relation to the efforts made by the several States in recent years to promote settlement on the land on blocks of suitable size, especially by means of the Closer Settlement Acts.

The following table gives particulars of the number and areas of holdings of alienated lands and land in process of alienation.

Returns showing such a classification are not available for Queensland and the Northern Territory.

CLASSIFICATION OF HOLDINGS (ONE ACRE AND OVER) IN AREA SERIES.

Size of Holdings.	N.S.W. 1921-22.	Victoria. 1918-19.	S. Aust. 1921-22.	W. Aust. 1922-23.	Tasmania. 1921-22.	Federal Capital Territory. 1921-22.
NUMBER.						
Acres.						
1 to 50	15,177	20,866	7,165	4,638	4,544	3
51 " 100	7,723	8,036	1,825	801	2,523	5
101 " 500	26,429	26,246	6,109	2,927	5,420	26
501 " 1,000	11,669	11,224	4,319	3,181	776	18
1,001 " 5,000	9,778	5,865	4,244	5,301	743	17
5,001 " 10,000	1,090	290	125	311	127	6
10,001 " 20,000	503	117	38	89	60	..
20,001 " 50,000	218	35	15	22	32	1
50,001 and over	72	..	..	4	5	..
Total	72,059	72,679	23,840	17,274	14,230	76
AREA.						
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1 to 50	340,829	370,426	117,818	(2,032	76,500	118
51 " 100	598,389	572,349	136,948	£5,512	174,550	395
101 " 500	6,917,705	6,517,118	1,725,600	759,075	1,117,720	6,996
501 " 1,000	7,788,621	7,763,815	3,085,518	2,620,237	535,610	13,382
1,001 " 5,000	19,322,386	10,117,530	7,243,776	10,655,070	1,591,000	31,574
5,001 " 10,000	7,478,508	1,996,606	809,522	2,145,719	893,000	45,344
10,001 " 20,000	6,846,347	1,621,460	510,799	1,243,230	762,700	..
20,001 " 50,000	6,334,766	1,016,847	351,739	617,000	869,000	22,050
50,001 and over	6,371,061	..	..	310,915	385,000	..
Total	61,998,612	29,976,151	13,981,720	18,478,790	6,405,080	119,859

2. *Classification of Holdings.*—The next table gives the numbers of holdings of alienated lands, and of lands in process of alienation, arranged in groups, in each State and Territory for which such figures are available for the last five years. In the case of New South Wales and the Federal Capital Territory, prior to 1919-20, many holdings, nearly all from 1 to 5 acres in extent, which were not used for agricultural or pastoral purposes were included. In Victoria data are not collected annually. Details are not available for Queensland and the Northern Territory.

CLASSIFICATION OF HOLDINGS (ONE ACRE AND OVER).
NEW SOUTH WALES.

Size of Holdings.		1915-16.	1918-19.	1919-20.	1920-21.	1921-22.
Acres.		Number.	Number.	Number.	Number.	Number.
1 to	50	40,033	41,732	22,404	16,556	15,177
51 "	100	8,586	8,291	8,251	7,841	7,723
101 "	500	26,405	25,978	26,323	26,278	26,429
501 "	1,000	9,326	9,982	10,362	10,789	11,069
1,001 "	5,000	7,971	8,723	9,105	9,463	9,778
5,001 "	10,000	942	1,014	1,045	1,066	1,090
10,001 "	20,000	411	455	485	487	503
20,001 "	50,000	233	233	229	229	218
50,001 and over		76	72	75	71	72
Total		93,983	96,480	78,279	72,780	72,059

VICTORIA.

Size of Holdings.		1906.	1908.	1910.	1912.	1919.
Acres.		Number.	Number.	Number.	Number.	Number.
1 to	50	13,309	14,692	16,609	18,757	20,866
51 "	100	5,864	6,223	6,696	7,356	8,036
101 "	500	21,628	22,510	23,397	24,735	26,246
501 "	1,000	7,688	7,817	8,216	10,181	11,224
1,001 "	5,000	4,083	4,409	4,908	5,364	5,865
5,001 "	10,000	220	231	239	267	290
10,001 "	20,000	116	118	131	116	117
20,001 "	50,000	73	61	42	34	35
50,001 and over		6	4	2	1	..
Total		52,987	56,065	60,240	66,811	72,679

SOUTH AUSTRALIA.

Size of Holdings.		1916-17.	1918-19.	1919-20.	1920-21.	1921-22.
Acres.		Number.	Number.	Number.	Number.	Number.
1 to	50	7,272	7,204	7,120	7,300	7,165
51 "	100	1,867	1,840	1,822	1,832	1,825
101 "	500	6,016	5,953	6,024	6,015	6,109
501 "	1,000	4,057	4,050	4,081	4,243	4,319
1,001 "	5,000	4,006	4,132	3,991	4,179	4,244
5,001 "	10,000	127	114	121	114	125
10,001 "	20,000	43	49	46	40	38
20,001 "	50,000	24	23	16	14	15
50,001 and over		..	..	..	..	..
Total		23,412	23,365	23,221	23,737	23,840

CLASSIFICATION OF HOLDINGS (ONE ACRE AND OVER)—*continued.*

WESTERN AUSTRALIA.

Size of Holdings.		1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Number.	Number.	Number.	Number.	Number.
1 to	50	3,533	3,670	3,754	4,423	4,638
51 "	100	607	635	657	756	801
101 "	500	2,965	2,952	2,938	2,919	2,927
501 "	1,000	3,310	3,170	3,133	3,116	3,181
1,001 "	5,000	4,154	4,187	4,510	4,900	5,301
5,001 "	10,000	263	285	299	308	311
10,001 "	20,000	95	93	89	93	89
20,001 "	50,000	27	32	26	22	22
50,001 and over		4	4	6	4	4
Total		14,958	15,028	15,412	16,541	17,274

TASMANIA.

Size of Holdings.		1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	Acres.	Number.	Number.	Number.	Number.	Number.
1 to	50	4,606	4,636	4,546	4,539	4,544
51 "	100	2,348	2,363	2,428	2,521	2,523
101 "	500	5,163	5,196	5,237	5,412	5,420
501 "	1,000	788	793	771	776	776
1,001 "	5,000	723	728	731	738	743
5,001 "	10,000	125	126	130	128	127
10,001 "	20,000	56	57	62	60	60
20,001 "	50,000	33	33	31	32	32
50,001 and over		5	5	6	5	5
Total		13,847	13,937	13,942	14,211	14,230

FEDERAL CAPITAL TERRITORY.

Size of Holdings.		1915-16.	1918-19.	1919-20.	1920-21.	1921-22.
	Acres.	Number.	Number.	Number.	Number.	Number.
1 to	50	36	34	4	4	3
51 "	100	26	20	5	5	5
101 "	500	65	54	27	26	26
501 "	1,000	27	33	17	18	18
1,001 "	5,000	34	46	16	17	17
5,001 "	10,000	4	9	5	5	6
10,001 "	20,000	..	4	..	..	..
20,001 "	50,000	2	4	1	1	1
50,001 and over		..	..	..	..	..
Total		194	204	75	76	76

§ 13. The Progress of Land Settlement.

1. Recent Progress.—The progress of settlement and the growth of land alienation under recent legislation may be gathered from the subjoined statement, which shows the condition of the public estate in each State at the end of each year from 1918 to 1922 inclusive. The effect of the land laws during the period has been generally to diminish the number of large holdings, at the same time restricting the area held under lease, while both the area alienated and the area in process of alienation have increased. As leases of large areas fall in or are otherwise terminated they are in many cases not renewed, but the land is then divided for the purpose of settlement under systems of deferred payment; the State Governments, also, have in many cases acquired by repurchase considerable areas under the provisions of the various Closer Settlement Acts. Further, greater facilities have been granted to workers to acquire land, and special inducements have been offered to bona fide settlers by the introduction of new forms of tenure on easy terms and conditions.

From 1901 to 1922 the area alienated absolutely in the whole of Australia increased by 35,405,634 acres, or 46.5 per cent.; the area in process of alienation increased by 22,508,320 acres, or 64.2 per cent.; the area leased by 228,477,369 acres, or 31.7 per cent.; while the area unoccupied decreased by 286,391,323 acres, or 26.7 per cent.

AREAS ALIENATED, IN PROCESS OF ALIENATION, HELD UNDER LEASE OR LICENCE AND UNOCCUPIED, 1918 TO 1922.

Year.	Alienated.		In Process of Alienation.		Held under Lease or Licence.		Occupied by the Crown or Unoccupied.	
	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.
NEW SOUTH WALES.—AREA, 198,036,500 ACRES. (a)								
1918	39,799,257	20.10	20,470,027	10.34	117,446,969	59.30	20,320,247	10.26
1919	40,380,621	20.39	20,724,214	10.46	116,321,655	58.74	20,610,010	10.41
1920	40,973,189	20.69	20,876,424	10.54	116,773,795	58.97	19,413,092	9.80
1921	41,971,653	21.19	20,667,746	10.44	116,411,054	58.78	18,986,047	9.59
1922	42,714,608	21.57	20,823,001	10.51	115,731,565	58.44	18,767,326	9.48
VICTORIA.—AREA, 56,245,760 ACRES.								
1918	24,503,531	43.57	8,106,887	14.41	10,726,046	19.07	12,909,296	22.95
1919	24,605,825	43.75	8,811,478	15.66	11,014,019	19.58	11,814,438	21.01
1920	24,793,053	44.08	8,746,102	15.55	10,940,119	17.85	12,666,486	22.52
1921	24,903,109	44.28	8,778,124	15.60	8,993,443	15.99	13,571,114	24.13
1922	24,947,732	44.35	8,910,844	15.84	9,290,459	16.52	13,096,725	23.29
QUEENSLAND.—AREA, 429,120,000 ACRES.								
1918	16,771,717	3.91	9,763,261	2.27	325,875,052	75.94	76,709,970	17.88
1919	16,893,719	3.94	9,064,089	2.11	326,783,036	76.15	76,379,156	17.80
1920	17,022,300	3.97	8,659,280	2.02	325,853,774	75.93	77,584,646	18.08
1921	17,152,428	4.00	8,280,296	1.93	317,021,443	73.88	86,665,833	20.19
1922	17,244,544	4.02	7,833,127	1.83	302,966,871	70.60	101,075,458	23.55
SOUTH AUSTRALIA.—AREA, 243,244,800 ACRES.								
1918	10,785,941	4.44	3,025,166	1.24	113,081,068	46.49	116,352,625	47.83
1919	10,857,816	4.46	3,038,084	1.25	114,288,149	46.99	115,060,751	47.30
1920	10,931,966	4.50	3,166,524	1.30	119,554,730	49.15	109,591,580	45.05
1921	11,014,097	4.53	3,192,633	1.31	121,436,409	49.92	107,601,661	44.24
1922	11,068,491	4.55	3,023,556	1.24	117,029,008	48.11	112,123,745	46.10

(a) To 30th June.

AREAS ALIENATED, IN PROCESS OF ALIENATION, ETC.—*continued.*

Year.	Alienated.		In Process of Alienation.		Held under Lease or Licence.		Occupied by the Crown or Unoccupied.	
	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.	Area in Acres.	Per Cent.

WESTERN AUSTRALIA.—AREA, 624,588,800 ACRES.(a)

1918	8,462,085	1.35	13,105,628	2.10	208,049,010	33.31	394,972,077	63.24
1919	8,605,479	1.38	13,237,947	2.12	245,404,589	39.29	357,340,785	57.21
1920	8,763,051	1.40	14,259,769	2.28	257,610,300	41.25	343,955,680	55.07
1921	9,197,088	1.47	15,034,959	2.41	258,504,334	41.39	341,852,419	54.73
1922	9,724,931	1.56	16,031,176	2.56	267,619,907	42.85	331,212,786	53.03

TASMANIA.—AREA, 16,777,600 ACRES.

1918	5,197,283	30.98	1,122,797	6.69	1,832,416	10.92	8,625,104	51.41
1919	5,241,292	31.24	1,054,111	6.28	2,003,661	11.94	8,478,536	50.54
1920	5,241,856	31.24	963,915	5.75	2,273,612	13.55	8,298,217	49.46
1921	5,259,066	31.35	920,206	5.48	2,423,876	14.45	8,174,452	48.72
1922	5,326,825	31.75	880,410	5.25	2,457,620	14.65	8,112,745	48.35

NORTHERN TERRITORY.—AREA, 335,116,800 ACRES.

1918	476,476	0.14	..	..	106,331,275	31.73	228,309,049	68.13
1919	476,476	0.14	..	..	122,718,206	36.62	211,922,118	63.24
1920	476,556	0.14	..	..	143,274,151	42.75	191,366,093	57.11
1921	476,556	0.14	..	..	137,676,653	41.09	196,963,591	58.77
1922	476,556	0.14	..	..	134,488,526	40.13	200,151,718	59.73

FEDERAL CAPITAL TERRITORY.—AREA, 601,580 ACRES.

1918	41,112	6.82	78,812	13.10	152,865	25.41	328,791	54.67
1919	41,269	6.86	79,124	13.15	152,386	25.32	328,801	54.67
1920	41,269	6.86	78,084	12.98	152,386	25.32	329,841	54.84
1921	39,967	6.64	78,064	12.98	152,378	25.32	331,171	55.06
1922	44,708	7.43	66,325	11.03	300,697	49.99	189,850	31.55

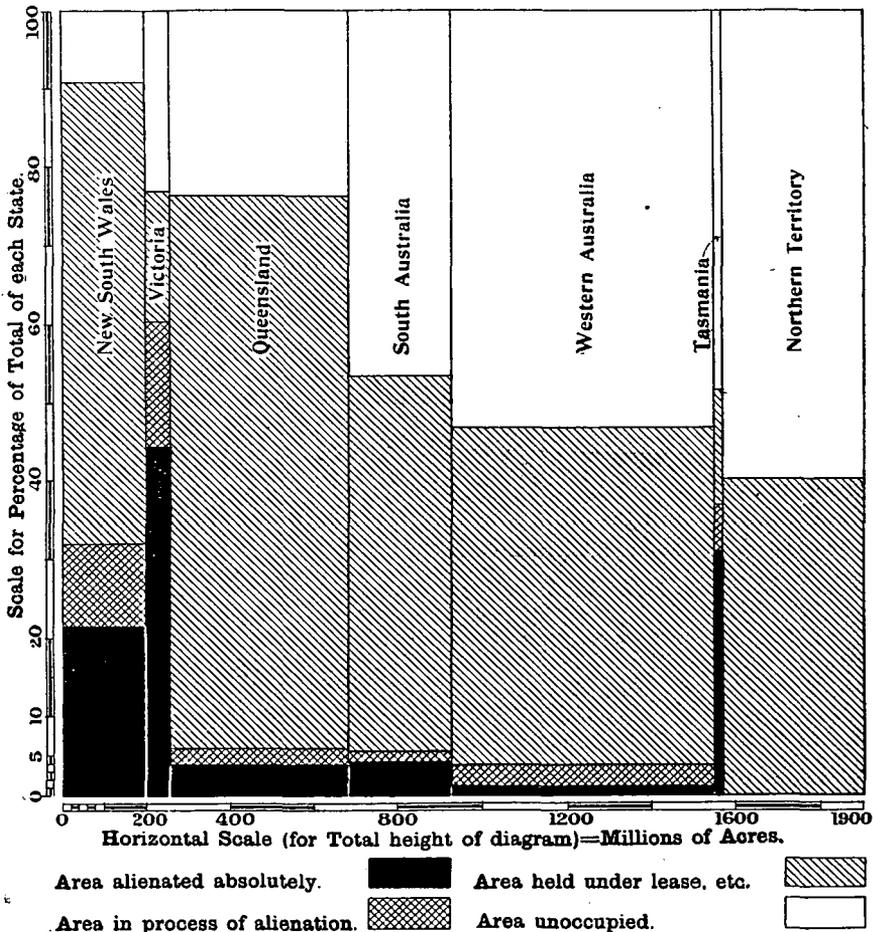
AUSTRALIA.—AREA, 1,903,731,840 ACRES.

1901	76,142,761	4.00	35,060,119	1.84	721,407,284	37.89	1,071,121,676	56.27
1918	106,037,402	5.57	55,672,578	2.92	883,494,701	46.41	858,527,159	45.10
1919	107,102,497	5.63	56,009,047	2.94	938,685,701	49.31	801,934,595	42.12
1920	108,243,240	5.69	56,750,098	2.98	975,532,867	51.24	763,205,635	40.09
1921	110,013,964	5.78	56,952,028	2.99	962,619,560	50.57	774,146,288	40.66
1922	111,548,395	5.86	57,568,439	3.02	949,884,653	49.90	784,730,353	41.22

(a) To 30th June.

2. Diagram showing Condition of Public Estate.—The following diagram shows the condition of the public estate at the end of the year 1922. The square itself represents the total area of Australia, while the relative areas of individual States are shown by the vertical rectangles. The areas alienated absolutely, in process of alienation under systems of deferred payments, and the areas held under leases or licences, are designated by the differently-shaded areas as described in the reference given below the diagram, while the areas unoccupied are left unshaded :—

Land Tenure



CHAPTER VI. OVERSEA TRADE.

§ 1. Introductory.

1. **Constitutional Powers of the Commonwealth in regard to Commerce.**—The powers vested in the Commonwealth Parliament by the Commonwealth Constitution Act with respect to oversea trade and commerce will be found in sub-section 51 (i) and sub-sections 86 to 95 of the Act, which is printed in full in chapter I. of this volume.

§ 2. Commonwealth Legislation affecting Foreign Trade.

1. **General.**—In previous issues of the Year Book brief particulars of the various Commonwealth Acts and amendments thereof affecting foreign trade have been given in chronological order. It is not proposed to repeat this information in the present issue but the main provisions of the initial Commonwealth Customs Legislation and also of the principal Acts in operation at the present time affecting foreign trade are mentioned hereunder.

2. **Development of Customs Legislation.**—(i) *Customs Act of 1901.* The first Commonwealth Act relating to Customs, entitled “Customs Act 1901 (No. 6 of 1901),” came into operation by proclamation on the 4th October, 1901. This Act provided for the establishment of the necessary administrative machinery for all matters pertaining to the Customs, and prescribed, *inter alia*, the manner in which Customs duties shall be computed and paid. It did not, however, determine the rates of duties.

During the interval between the establishment of the Commonwealth, *viz.*, on 1st January, 1901, and the coming into operation of the Customs Act 1901, the Customs Acts of the several States were administered by the Executive Government of the Commonwealth under Section 86 of the Constitution.

(ii) *Customs Act 1901–1923.* Several amendments of the original Act of 1901 have been made, and the amendments so made have been incorporated in the Customs Act 1901–1923, which comprises the Customs Act 1901 (No. 6 of 1901), as amended by Acts No. 36 of 1910, No. 19 of 1914, No. 10 of 1916, No. 41 of 1920, No. 19 of 1922, and No. 12 of 1923. The Customs Act 1901 has also been amended by the Spirits Act 1906 (No. 21 of 1906), section 5, and by the Customs (Interstate Accounts Act) 1910 (No. 9 of 1910), section 2. Act No. 12 of 1923 provided that aeroplanes, seaplanes, airships, etc., from parts beyond the seas were subject to similar Customs control as those provided for vessels from oversea. This Act is now incorporated in Customs Act 1901–1923.

(iii) *The First Tariff.*—The first Commonwealth Customs Tariff was introduced in the House of Representatives on the 8th October, 1901, and the “Customs Tariff Act 1902 (No. 14 of 1902)” was assented to on the 16th September, 1902. This Act made provision that uniform duties of Customs specified in the Tariff Schedule should be imposed from the 8th October, 1901. From this date, trade between the States became free, with the exception, that under Section 95 of the Constitution Act, the right was reserved to the State of Western Australia to levy duty on the goods from other States for five years. Prior to the establishment of the Commonwealth, a different tariff was in operation in each State, and interstate trade was subject to the same duties as oversea trade.

Several amendments of the Customs Tariff Schedule have been made since 1902. Particulars of these amendments have been furnished in previous issues of the Year Book.

3. **Customs Tariff 1921 (No. 25 of 1921.)**—The Tariff Schedule which is now in operation was submitted to Parliament on the 24th March, 1920, and the Act was assented to on the 16th December, 1921. The date of commencement of the imposition of the duties of Customs imposed by this Act was the 25th March, 1920. The Tariff Schedule provides a British Preferential Tariff, an Intermediate Tariff, and a General Tariff. The main provisions of the Act are mentioned hereunder:—

The rates of duty set out in the Schedule in the column headed “British Preferential Tariff” apply to goods the produce or manufacture of the United Kingdom, subject

to the condition that the goods have been shipped in the United Kingdom to Australia, and have not been transhipped, or, if transhipped, then only if it is proved satisfactorily that the intended destination of the goods, when originally shipped from the United Kingdom, was Australia (Section 8).

The provisions of the British Preferential Tariff may be applied wholly or in part to any part of the British Dominions, and the provisions of the Intermediate Tariff may be applied wholly or in part to any part of the British Dominions or to any foreign country.

The Act of 1921 repealed the following Acts:—Customs Tariff 1908 (No. 7 of 1908); Customs Tariff Amendment 1908 (No. 13 of 1908); Customs Tariff 1910 (No. 39 of 1910); Customs Tariff 1911 (No. 19 of 1911); and with the exception of the proposals contained in such Acts relating to the Tariff on goods imported from, and the produce or manufacture of, the Union of South Africa, the Customs Tariff Validation Act 1917, and the Customs Tariff Validation Act 1919.

The Tariff proposals assented to by the House of Representatives on the following dates ceased to have effect as from the time when the Act of 1921 was deemed to have come into operation:—

3rd December, 1914; 12th December, 1914; 9th June, 1915; 12th November, 1915; 10th August, 1917; 26th September, 1917; and 25th September, 1918.

The provisions of the Customs Tariff (South African Preference) 1906 (No. 17 of 1906) and the Tariff proposals relating to the Tariff on goods imported from, and the produce or manufacture of, the Union of South Africa agreed to in the House of Representatives on the 3rd December, 1914, and on 25th September, 1918, were not affected by the Act of 1921.

4. **Customs Tariff 1922 (No. 16 of 1922).**—This Act was assented to on the 28th September, 1922, and amended the Schedule to the Customs Tariff 1921. The items of import affected by the amendments to the Schedule were—wire, wire fencing, wire netting, traction engines, and alternating current-recording watt-hour meters.

5. **Customs Tariff (Sugar) 1922 (No. 32 of 1922).**—This Act was assented to on the 18th October, 1922, and amended the Schedule to the Customs Tariff 1921–1922. The amendments related to the duties on sugar, golden syrup and sugar syrups.

6. **Customs Tariff 1923 (No. 22 of 1923).**—This Act was assented to on 1st September, 1923, and amended the Schedule to the Customs Tariff 1921–22, by inserting in Item 275 of the Schedule after Sub-item A (1) the following proviso:—“Provided that, so long as a bounty is payable on sulphur under any law of the Commonwealth, the importation of sulphur to which this Sub-item applies shall be free of duty.”

7. **South African Preference.**—By the Customs Tariff (South African Preference) 1906 it was provided that certain goods, specified in the Schedule to that Act, imported from, and the produce or manufacture of, any of the British South African Colonies or Protectorates included in the South African Customs Union, should be admitted to the Commonwealth at preferential rates as compared with the general rates then in force under the Schedule to the Customs Tariff 1902. Although the Schedule to the Customs Tariff 1902 has been repealed, subsequent enactments have provided for the continuance of the South African Preference. (*vide* Section 15 of Customs Tariff 1921.)

8. **British Preference.**—The Customs Tariff 1908 (No. 7 of 1908) made provision for preferential rates of Customs duties on certain goods the produce or manufacture of the United Kingdom. This Act was repealed by the Customs Tariff 1921 (No. 25 of 1921), the main provisions of which have already been mentioned.

9. **New Zealand Preference.**—The Customs Tariff (New Zealand Preference) 1922 (No. 3 of 1922) was assented to on the 23rd August, 1922, and repealed Act No. 27 of 1921. The Act was proclaimed on the 1st September, 1922, and the duties of Customs provided for in the Schedule of the Act came into force on and from that date. The Act provides

that the duties of Customs on goods imported direct from, and the produce or manufacture of, the Dominion of New Zealand shall be in accordance with the following rates:—

- a) On all goods described in the Tariff Schedule against which rates of duty are set out in the column headed " Proposed Duties against New Zealand " the rates so set out.
- (b) On all goods other than those provided for in paragraph (a) the rates of duty for the time being applicable to goods to which the British Preferential Tariff applies.

The Act ratifies and confirms the agreement made on the 11th April, 1922, between the Commonwealth of Australia and the Dominion of New Zealand.

The Act provides that, from and after the 1st May, 1922, duties of Customs on goods not being the produce or manufacture of New Zealand which are imported into the Commonwealth from that Dominion and upon which, if they had been imported into the Commonwealth direct from the country of origin there would have been payable duties of Customs at the rates set out in the British Preferential Tariff shall be in accordance with the rates set forth in that particular tariff.

10. **Tariff Board Act 1921 (No. 21 of 1921).**—This Act, which was assented to on the 15th December, 1921, as amended by Tariff Board Act 1923 (No. 25 of 1923), provides for the appointment of a Tariff Board consisting of four members, one of whom shall be an administrative officer of the Department of Trade and Customs. This member shall be appointed Chairman of the Board. The purpose of the Tariff Board is to assist the Minister in the administration of matters relating to trade and customs. The more important matters which the Minister shall refer to the Board for enquiry and report include the classification of goods for duty; the determination of the value of goods for duty; any disputes arising out of the interpretation of any Customs or Excise Tariff; the necessity for new, increased or reduced duties; the necessity for granting bonuses; any proposal for the application of the British Preferential Tariff or the Intermediate Tariff to any part of the British Dominions or any foreign country; and any complaint that a manufacturer is taking undue advantage of the protection afforded him by the tariff by charging unnecessarily high prices for his goods or acting in restraint of trade. The Minister may refer to the Board for enquiry and report the following matters:—the general effect of the working of the Customs Tariff and the Excise Tariff; the fiscal and industrial effects of the Customs laws of the Commonwealth; the incidence between the rates of duty on raw materials and on finished or partly finished products; and any other matter affecting the encouragement of primary and secondary industries in relation to the tariff.

11. **Tariff Board Act 1923 (No. 25 of 1923).**—This Act, which was assented to on 1st September, 1923, amended the Tariff Board Act 1921. Section 5 of the Principal Act provided for a Tariff Board consisting of three members. The section has been amended by omitting therefrom the word "three" and inserting in its stead the word "four." Section 37 relating to the duration of the Act has also been amended to provide that "the Act shall continue in force for a period of three years and no longer."

The Annual Report of the Tariff Board, issued in accordance with Section 18 (1) of the Tariff Board Act 1921, reviews the work of the Board to June, 1923. The Report covers:—(a) Operation of the Tariff in regard to—(1) Primary Industries; (2) Secondary Industries; (3) Admission of Goods under By-laws; and (a) Deferred Duties. (b) Industries Preservation Act; (c) Preference Treaties; (d) Development of Industries; (e) Special Reports; (f) Navigation Act; (g) Tariff Board.

12. **Customs Tariff (Industries Preservation) Act 1921 (No. 28 of 1921).**—This Act, assented to on the 16th December, 1921, provides that after inquiry and report by the Tariff Board, special duties shall be collected in the following cases when the importation of the goods referred to might be detrimental to an Australian industry. In the case of goods sold for export to Australia at a price less than the fair market price for home consumption or at a price which is less than a reasonable price, a special dumping duty shall be collected equal to the difference between the price at which the goods were sold and a fair market price. Similar provision is made for goods consigned to Australia for sale. With regard to goods exported to Australia at rates of freight less than the rates prevailing at the time of shipment, there shall be collected a dumping freight duty

equal to 5 per cent. of the fair market value of the goods at the time of shipment. Special duties are also imposed in the case of goods imported from countries whose currency is depreciated. Provision is also made for the protection of the trade of the United Kingdom in the Australian market from depreciated foreign currency.

Several amendments of the Act have been recommended by the Tariff Board and have been put into effect. In Section 5 of the Act "a reasonable price" meant such a price as represented the cost of production of the goods, plus 5 per cent., plus free on board charges. The addition of only 5 per cent. to the cost of production was considered to be inadequate, and this was altered to read "such addition not exceeding 20 per cent., as is determined by the Minister after inquiry by the Board." Section 6 (Goods on Consignment) was similarly amended.

Under Section 8, Dumping Exchange Duty (for the protection of Australian industries), as originally provided, the maximum amount of duty that could be imposed was *ad valorem* 75 per cent. Owing to the rapid depreciation of the currency of some European countries after the Act was introduced, the maximum of 75 per cent. proved to be insufficient to meet the competition from such countries. Section 8 was therefore amended, providing that when the currency of the country of origin or export of any goods has depreciated to less than one-twelfth of its normal par value as compared with the pound sterling, the duty which shall be charged under this section shall be the difference between—

- (a) the landed cost in warehouse in Australia (including duty calculated in accordance with the provisions of the Customs Act 1901-1920), plus a percentage of profit to be determined by the Minister after inquiry and report by the Tariff Board, and
- (b) the Australian wholesale price of similar goods of Australian manufacture.

The Act provides that the Minister for Trade and Customs, after inquiry and report by the Tariff Board, may publish a notice in the *Commonwealth Gazette* specifying the goods upon which special rates of duty under this Act shall be charged and collected. During the period August, 1922, to the end of March, 1924, 180 notices have been gazetted. The commodities brought under the various sections of the Act exceed 200. The number of notices gazetted under each section is shown hereunder :—

Section 4.—25 gazetted (below fair market value).

Section 5.—15 gazetted (at less than a reasonable price).

Section 6.—1 gazetted (goods on consignment and which may be sold at a low price).

Section 7.—3 gazetted (goods carried at low freight rates).

Section 8.—74 gazetted (from countries with depreciated currency to detriment of Australian industry).

Section 9.—62 gazetted (from countries with depreciated currency to detriment of British industry).

Ninety-six of these gazetted relate to goods imported from Germany. Of the remainder, 16 relate to the United States; 14 to Czecho-Slovakia; 14 to United Kingdom; 10 to Austria; 9 to France; 6 to Belgium; 4 to Norway; and one or more to the following countries :—Finland, Holland, Hungary, Portugal, Spain, Luxemburg, Sweden, Japan, Canada, South Africa and Jugo-Slovakia. Two gazetted relate to imports from all countries while one relates to all countries excepting United Kingdom. The notices cover a very wide range of commodities. Some of the original gazetted have been revoked and amended.

13. Commerce (Trade Descriptions) Act 1905 (No. 16 of 1905).—This Act was assented to on the 8th December, 1905, and brought into operation by proclamation on the 8th June, 1906. It gives power to compel the placing of a proper description on certain prescribed goods, or on packages containing the same, being imports or exports of the Commonwealth. The imports to which a trade description must be applied are :—

- (a) Articles used for food or drink by man, or used in the manufacture or preparation of articles used for food or drink by man;
- (b) medicines or medicinal preparations for internal or external use;
- (c) manures;
- (d) apparel (including boots and shoes), and the materials from which apparel is manufactured;
- (e) jewellery;
- (f) agricultural seeds and plants.

§ 3. Method of Recording Imports and Exports.

1. **Value of Imports.**—The recorded value of goods imported from countries beyond Australia as shown in the following tables represents the amount on which duty is payable or would be payable if the duty were charged *ad valorem*. The value of goods is taken to be 10 per cent. in advance of their fair market value in the principal markets of the country whence the goods were exported. Acting upon a recommendation of the Tariff Board the section of the Customs Act relating to the valuation of imports was recently amended and Section 154 (1) of the Customs Act 1901–1923 now provides that “when any duty is imposed according to value, the value for duty shall be the sum of the following :—

- (a) (i) the actual money price paid or to be paid for the goods by the Australian importer plus any special deduction, or
- (ii) the current domestic value of the goods, whichever is the higher ;
- (b) all charges payable or ordinarily payable for placing the goods free on board at the port of export ; and
- (c) ten per centum of the amounts specified under paragraphs (a) and (b) of this sub-section.

“Current domestic value” is defined as “the amount for which the seller of the goods to the purchaser in Australia is selling or would be prepared to sell for cash, at the date of exportation of those goods, the same quantity of identically similar goods to any and every purchaser in the country of export for consumption in that country.”

Section 157 of the Customs Act provides that when the invoice value of imported goods is shown in any currency other than British currency, the equivalent value in British currency shall be ascertained according to a fair rate of exchange. Under this section it was the practice of the Department of Trade and Customs, until the 8th December, 1920, to convert on the basis of the mint par of exchange. Since the date mentioned, in consequence of a ruling of the High Court, all conversions have been based on the commercial rates of exchange. As the values for statistical purposes as well as those for duty purposes were based on the mint par, it follows that the recorded values of imports from countries such as France and Italy, where the pound sterling has been at a premium, were, for some time prior to December, 1920, in excess of their commercial value, whereas imports from Japan, the United States of America and other countries where sterling was at a discount, were not given their full commercial value.

2. **Value of Exports.**—The recorded value of goods exported is taken to represent the value in the principal markets of the Commonwealth in the ordinary commercial acceptance of the term.

3. **Customs Area.**—The Customs Area, to which all Oversea Trade statistics issued by this Bureau apply, is the whole area of the Commonwealth of Australia, comprising the States of New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania and the Northern Territory (contiguous territory). Other (non-contiguous) territories and mandated areas are treated as outside countries. Trade transactions between the Commonwealth and these non-contiguous territories are included in the oversea trade of the Commonwealth. Such transactions, however, are also registered separately, i.e., the trade of the Commonwealth with each particular country is separately recorded and tabulated.

4. **Statistical Classification of Imports and Exports.**—The Oversea Trade Bulletin No. 20 for the year 1922–23, from which the summary figures in this Year Book are extracted, was compiled according to a revised classification which came into operation on 1st July, 1922. In order to meet the demand for more detailed information relating to Imports and Exports the existing Statistical Classification was revised and considerably extended during the early part of 1922. Provision was made for recording particulars concerning over 500 additional items of Import while the number of Export items was also increased. The new classification is divided into 21 classes, with 1,453 separate Import items and 505 Export items.

5. **The Trade Year.**—From the 1st July, 1914, the statistics relating to Oversea Trade are shown according to the fiscal year (July to June). Prior to that date the figures showed the volume of trade during each calendar year.

6. **Records of Past Years.**—In the years preceding federation, each State independently recorded its trade, and in so doing did not distinguish other Australian States from foreign countries. As the aggregation of the records of the several States is, necessarily, the only available means of ascertaining the trade of Australia for comparison with later years, it is unfortunate that past records of values and the direction of imports and exports were not on uniform lines. The figures in the following table for years prior to federation have been carefully compiled and may be taken as representative of the trade of Australia as a whole. On the introduction of the Customs Act 1901, the methods of recording values were made uniform throughout the States, but it was not until September, 1903, that a fundamental defect in the system of recording transhipped goods was remedied. Prior to 1905 the value of ships imported or exported was not included in the returns of trade.

7. **Ships' Stores.**—Prior to 1906 goods shipped in Australian ports on board oversea vessels as ships' stores were included in the general exports. From 1906, ships' stores have been specially recorded as such, and omitted from the return of exports. A table showing the value of these stores shipped each year since 1906 is given later on in this Chapter.

§ 4. Oversea Trade.

1. **Total Oversea Trade.**—(i) *General.* The following table shows the total trade of the Commonwealth with oversea countries from the earliest date for which records are available. To economise space, the period 1826 to 1915-16 has been divided into quinquennia, and the figures shown represent the annual averages for the quinquennia specified. The figures for individual years have been published in previous issues of the Year Book.

OVERSEA TRADE.—AUSTRALIA, 1826 TO 1922-23.

Period.(a)	Recorded Value.			Value per Inhabitant.(b)			Percentage of Exports on Imports.
	Imports.	Exports.	Total.	Imports.	Exports.	Total.	
	£1,000.	£1,000.	£1,000.	£ s. d.	£ s. d.	£ s. d.	%
1826-30 ..	638	153	791	10 12 5	2 10 11	13 3 4	23.9
1831-35 ..	1,144	613	1,757	11 19 10	6 8 6	18 8 4	53.6
1836-40 ..	2,283	1,112	3,395	14 15 9	7 4 1	21 19 10	48.7
1841-45 ..	1,906	1,378	3,284	9 0 5	6 10 5	15 10 10	72.3
1846-50 ..	2,379	2,264	4,643	6 18 10	6 12 2	13 11 0	95.2
1851-55 ..	11,931	11,414	23,345	19 12 5	18 15 4	38 7 9	95.7
1856-60 ..	18,816	16,019	34,835	18 6 1	15 11 8	33 17 9	85.1
1861-65 ..	20,132	18,699	38,831	15 17 1	14 14 9	30 11 10	93.0
1866-70 ..	18,691	19,417	38,108	12 7 4	12 16 11	25 4 3	103.9
1871-75 ..	21,982	24,247	46,229	12 7 2	13 13 6	26 0 8	110.3
1876-80 ..	24,622	23,772	48,394	11 19 7	11 10 9	23 10 4	96.6
1881-85 ..	34,895	28,055	62,950	14 4 3	11 9 5	25 13 8	80.4
1886-90 ..	34,675	26,579	61,254	11 16 11	9 1 0	20 17 11	76.6
1891-95 ..	27,335	33,683	61,018	8 5 2	10 5 5	18 7 7	123.2
1896-1900	33,763	41,094	74,857	9 5 4	11 5 6	20 10 10	121.7
1901-5 ..	39,258	51,237	90,495	10 1 10	13 2 9	23 4 7	130.5
1906-10 ..	51,508	69,336(c)	120,844	12 4 8	16 9 11	28 14 7	134.6
1911-15-16	73,411	74,504	147,915	15 7 4	15 12 10	31 0 2	101.5
1916-17 ..	76,229	97,955	174,184	15 10 0	19 18 3	35 8 3	128.5
1917-18 ..	62,335	81,429	143,764	12 10 3	16 6 9	28 17 0	130.6
1918-19 ..	102,335	113,964	216,299	20 2 9	22 8 7	42 11 4	111.4
1919-20 ..	98,974	149,824	248,798	18 13 2	28 4 11	46 18 1	151.4
1920-21 ..	163,802	132,159	295,961	30 5 7	24 8 5	54 14 0	80.7
1921-22 ..	103,066	127,847	230,913	18 14 1	23 4 1	41 18 2	124.0
1922-23 ..	131,758	117,870	249,628	23 7 8	20 18 4	44 6 0	89.5

(a) The figures given for the years 1826 to 1915-16 represent the annual averages for the quinquennial periods. The trade of the individual years will be found in the Official Year Book No. 15 and earlier issues. (b) Reckoned on mean population. (c) Prior to 1906 ships' stores were included in the general exports. For value of these goods shipped each year since 1906 see later table.

The graphs of the movement of the oversea trade of Australia which accompany this Chapter show that periods of depressed trade have been recurrent at more or less regular intervals of from seven to nine years, and, measured by population, each succeeding depression since 1855 carried the trade per head lower than the preceding one, until the lowest point was reached in 1894. This was due to the acute financial stress which culminated in the commercial crisis of 1893.

There was a slight recovery in 1895, and a continuous upward movement until 1901. A decline, due to drought, in the exports of primary products, reduced the figures for 1902, but from this date until 1907 there was an increase. There was a falling-off in 1908 as compared with 1907, but from 1909 the value of imports and exports showed a steady increase until 1913, the year prior to the war.

The trade of 1914-15 and subsequent years was seriously disturbed by the dislocation of shipping and increased prices arising out of war conditions. The shortage of shipping was particularly marked in 1917-18, when, in order to conserve space for more essential requirements, the importation of goods which were considered to be in the nature of luxuries was prohibited or restricted.

Shipping facilities having improved during 1918-19 the oversea trade of Australia increased rapidly. Imports and exports during that year show heavy increases compared with previous years. The value of imports declined during 1919-20, but exports increased enormously, the total reaching the high figure of £149,823,509.

(ii) *Effect of Prices.* The effect of prices on the value of exports is shown in the "Price Levels" given in §10 hereinafter. On the basis of uniform prices, the exports during the years 1914-15 to 1918-19 were less than for the years immediately preceding the war, and notwithstanding that they include accumulations of wool and wheat which could not be shipped earlier, the exports of 1919-20 were, on the basis of quantities, only 11 per cent. greater than the exports during 1913, though the recorded values were 91 per cent. higher. On a quantitative basis, i.e., eliminating the effect of varying prices—the exports during 1921-22 were greater than in any previous year although the recorded value of exports for the year was less than in 1919-20 and 1920-21. The recorded value of exports declined during 1922-23, as compared with the figures for the three preceding years, and on a quantitative basis the exports of 1922-23 were less than the exports during each of the four previous years and also lower than those of 1913.

(iii) *Exchange Values.* The value of the exports during 1919-20 was sufficient to establish a very substantial balance in favour of Australia, though this balance was not actually so large as the official records would make it appear. This is due to the understatement of the value of imports as a result of the conversion of values on the par of exchange, whereas their commercial values, i.e., the value of exports which would be required to effect a settlement of exchange would be determined by the current commercial rates. The net result of converting values on the par of exchange is that the value of imports during 1919-20 is understated by about 7 per cent. The figures for 1920-21 are similarly defective, though in a lesser degree, since from the 8th December, 1920, values have been converted on the basis of the current rates of exchange.

(iv) *Trade Conditions, 1920-21.* During the year 1920-21 the value of imports increased considerably. This increase was largely due to the fulfilment of long standing orders which it had been impossible to execute earlier. In their anxiety to replenish stocks which had become depleted during the war, and to take advantage of the free spending of soldiers' gratuities and repatriation moneys, Australian importers ordered freely in the belief that their orders could not be satisfied immediately, but hoping to get a percentage thereof. The trade depression in Great Britain, and the cancellation of foreign orders, however, enabled British manufacturers to devote their attention to Australian orders, with the result that shipments, which it had been expected would be spread over a long period were received in quick succession. The rapidity with which the goods arrived created some difficulty in providing exchange, and the banks found

it necessary to restrict credit for import business. The value of imports during 1920-21 reached the exceptionally high figure of £163,801,826, an amount greatly in excess of any previous year.

The decline in the value of exports during 1920-21 as compared with 1919-20 was mainly due to reduced exports of wool at lower prices, and to smaller exports of meats, flour, hides and skins, tallow, copper, and lead. As a set-off against these items there was an increase in the exports of wheat of nearly £12,000,000, and of butter of nearly £8,000,000.

(v) *Trade in 1921-22.* Imports during 1921-22 amounted to £103,066,436 and the total exports were valued at £127,846,535, of which £123,487,513 was Australian produce. The trade position was, therefore, very much improved as compared with the previous year, by a reduction of 37 per cent. in the value of imports accompanied by a fall in the value of exports of only 3.2 per cent.

(vi.) *Trade in 1922-23.* A reversal of the trade position occurred in 1922-23, when imports were greatly in excess of exports. The value of goods imported during the year was £131,747,835, while exports were valued at £117,870,147. Compared with the previous year, the value of imports increased 27 per cent. and exports declined 8 per cent. The heavy decline in the exports of wheat was mainly responsible for the decrease in the total value of exports during this year. The total was also affected by the smaller figures for flour and butter as compared with previous years. The value of wool exported during 1922-23 reached over £57 millions, or 48 per cent. of the total exports.

2. Ratio between Exports and Imports.—The foregoing table shows the percentage of exports on imports for each quinquennial period from 1826-30 to 1911-15 and for each financial year since 1915-16. Prior to the quinquennial period 1891-95 the balance of trade, with two exceptions, due to temporary dislocations, has been on the side of imports, while from that period to 1919-20 the position was reversed. From the 1st July, 1920, to the 30th March, 1924, there has been an excess of imports, though the results for each of those years have not been consistently in that direction.

The excess of imports in the earlier years represents the introduction of capital into Australia in the form of Government loans or for investment in private undertakings, and the excess of exports which appears for many subsequent years represents mainly the interest and profit on the earlier investments, repayments of loans to oversea bondholders, and freight on trade carried chiefly on vessels of the United Kingdom and foreign countries. As the introduction of new capital, and the payments for interest on existing investments and for shipping and other services are continually operating in opposite directions at the same time in the statistics of trade, it follows that it is the balance only of these transactions which is reflected in the excess of imports or exports.

Trade balances are further modified by the loans floated abroad by local governing bodies, by the imports of foreign capital for private enterprises, and by the addition to or the absorption of bank balances held in London on Australian account. Definite information regarding these items is not readily available. Other factors which affect trade balances to a certain extent are the financial arrangements made by immigrants to Australia and also by tourists in Australia from abroad.

The purchase in Australian ports of bunker coal and other stores for vessels owned outside Australia is also a matter of some importance.

Against these items, however, account must be taken of the capital of persons emigrating from Australia and the travelling and other expenses of tourists from Australia to other parts of the world. These expenses would include fares on all steamers not owned in Australia, and since the termination of the war would represent very large sums, the total of which could not be readily ascertained.

The following table presents the balance of trade of Australia as shown by the records of imports and exports for each year since 1st July, 1914, and also the modification of these figures by loans raised abroad by the Commonwealth and State Governments. In the exceptional circumstances arising from the war the excess of exports during this

period is somewhat understated, as much of the wool exported appeared in the records at appraised rates, whereas sales effected later by the British Australian Wool Realization Association (B.A.W.R.A.) made considerable additions to the funds available in London on Australian account. Allowance has been made in the table for this increased value of wool exported. An approximation of Australia's annual liability for interest and services is also shown; any error in these figures will be in the direction of an understatement.

BALANCE OF AUSTRALIAN TRADE FROM 1st JULY, 1914, TO MARCH, 1924.

Year.	Recorded excess of Exports.	Increase in Public Debt (Commonwealth and State) raised abroad.	B.A.W.R.A. Dividends.	Total of Columns (2), (3), and (4).	Approximate annual obligations abroad for interest and services.	Addition to Funds available abroad for transmission to Australia.	
						For the Year.	Accumulated from 1st July, 1914.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000	£1,000,000
1914-15 ..	- 3.8	5.1	..	1.3	16.0	-14.7	-14.7
1915-16 ..	- 3.0	4.3	..	1.3	17.2	-15.9	-30.6
1916-17 ..	21.7	18.6	..	40.3	18.4	21.9	- 8.7
1917-18 ..	19.1	20.9	..	40.0	22.0	18.0	9.3
1918-19 ..	11.6	.5	..	12.1	22.2	-10.1	- .8
1919-20 ..	50.8	10.8	..	61.6	23.2	38.4	37.6
1920-21 ..	-31.6	11.3	*7.2	-13.1	24.3	-37.4	.2
1921-22 ..	24.8	42.2	*7.2	74.2	26.7	47.5	47.7
1922-23 ..	-13.9	3.8	*7.2	- 2.9	26.8	-29.7	18.0
1923-24 (9 months)	-12.3	12.7	*7.3	7.7	20.1	-12.4	5.6
Total ..	63.4	130.2	28.9	222.5	216.9	5.6	..

* Approximate.

Although the data used in computing the figures in the table are necessarily incomplete, the general accuracy of the results to the close of the year 1920-21 is confirmed by the exchange rates of that time. The figures given show that in June, 1921, Australian funds in London were at practically the same level as at 30th June, 1914; while at the later date the quoted buying price of the Associated Banks of Australia for "telegraphic transfers" on London was at a premium of 20s. per £100. On a similar basis the amount of Australian money held in London and elsewhere at the end of March, 1924, was about £5,600,000 in excess of the amount so held at 30th June, 1914, while "telegraphic transfers" on London were quoted at 40s. per cent. discount buying. On the other hand, in June, 1922, when the balance of funds for transmission to Australia was very high, similar transfers were quoted at 5s. per cent. discount; and a year later, when there was still a large balance of funds outstanding, the buying price was 25s. per cent. discount. The apparent inconsistency between the relatively small amount of money held abroad (as determined above) and the high rates operating in March, 1924, for the transfer of money to Australia, might be due in some measure to the prospective further borrowing by Australian governments in the near future, and to the investment of British or foreign capital in Australian industries or in Government loans in Australia. The high rate of exchange, on the other hand, may indicate a variation in the relative values of the British and the Australian currencies.

The exchanges between Australia and New Zealand and London have been the subject of much discussion in political, financial, and commercial circles; but, hitherto, no generally acceptable explanation of the position has been forthcoming.

§ 5. Direction of Trade.

1. Imports according to Country of Origin.—The following table shows the value of the imports into Australia stated to be the produce or manufacture of the under-mentioned countries during the past five years:—

AUSTRALIAN IMPORTS—COUNTRIES OF ORIGIN, 1918-19 TO 1922-23.

Country of Origin.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
United Kingdom	34,584,611	38,516,436	76,849,934	53,001,926	68,394,423
British Possessions—					
Canada	2,844,050	2,640,280	4,425,262	3,146,450	5,064,253
Ceylon	1,379,337	1,675,443	838,340	1,009,477	1,001,412
India	7,967,228	4,777,905	7,312,832	3,747,023	4,393,685
Malaya (British)	359,162	354,170	284,886	571,544	272,759
New Zealand	2,136,146	1,930,049	1,995,897	1,702,991	2,003,307
Pacific Islands—					
Fiji	180,111	285,456	204,775	217,248	116,290
Territory of New Guinea	338,252	626,151	635,370	619,537	204,934
Other Islands	607,404	750,309	988,085	907,547	990,571
Papua	207,651	218,006	325,773	163,232	209,193
South African Union	5,918,705	964,195	534,118	356,869	758,720
Other British Possessions	502,637	1,011,737	891,150	565,213	631,867
Total British Possessions	22,420,683	15,233,710	18,436,488	13,007,131	15,646,991
Total British Countries	57,005,294	53,750,146	95,286,422	66,009,057	84,041,414
Foreign Countries—					
Belgium	4,691	276,940	1,929,647	950,952	906,050
China	791,378	1,094,427	1,034,306	950,772	873,570
France	1,651,833	2,422,304	3,597,811	2,731,739	3,231,197
Germany	10,956	13,474	56,944	85,978	593,812
Italy	581,631	581,038	828,217	944,226	1,174,489
Japan	8,203,725	4,222,511	5,230,039	3,581,614	3,936,150
Netherlands	259,599	196,712	613,926	498,824	580,888
Netherlands East Indies	3,036,018	8,313,874	8,798,957	3,236,970	4,361,302
Norway	654,220	831,909	1,920,997	848,134	1,686,439
Pacific Islands	287,197	262,377	152,938	119,127	94,884
Philippine Islands	113,997	204,958	200,170	151,106	168,742
Sweden	512,624	793,945	2,751,827	1,238,327	1,629,515
Switzerland	1,250,904	959,828	2,016,156	1,836,291	2,189,854
United States of America	27,183,792	23,826,313	36,113,477	18,823,113	24,851,303
Other Foreign Countries	787,300	1,223,538	3,260,992	1,060,208	1,433,217
Total Foreign Countries	45,329,865	45,224,146	68,515,404	37,057,379	47,716,421
Total	102,335,159	98,974,292	163,801,826	103,066,436	131,757,835

The value of imports into Australia fluctuated considerably during the five years under review. The lack of shipping materially affected the importation of commodities during the war period, and the value of imports during each of the war years was lower than that of 1913, the year prior to the war. Shipping facilities became practically normal during the early part of 1919, and the value of imports for the year 1918-19, was 40 millions in excess of that for the previous year. Imports declined slightly during 1919-20, but increased abnormally during the following year, when the value reached the exceptionally high figure of 163 millions. The enhanced price of commodities and the peculiar conditions affecting Australian trade during this period were responsible for the high value of imports during 1920-21, and in making comparisons with imports during pre-war years these facts should be taken into consideration. The exceptional conditions affecting Australian trade during 1920-21 have already been mentioned in a previous paragraph.

Compared with 1920-21 the value of imports during 1921-22 showed a decrease of over 60 millions. This heavy decline was partly due to the exceptional importations of the previous year and partly to the lower prices of commodities during the later year. Imports in 1922-23 were greatly in excess of those for 1921-22, but the total value of the commodities imported during the year was 32 millions less than in 1920-21.

In view of the effect that the varying prices of commodities had upon the value of imports during the period under review it is somewhat difficult to ascertain from the preceding table the relative importance of the various countries in the import trade of Australia. A better idea of the proportion of imports supplied by each country during each year may be obtained from the following table of percentages.

2. Percentage of Imports from Various Countries.—In the following table of percentages the relative proportions of the import trade of Australia which have been

supplied by the various countries may be readily seen, together with the proportions furnished by the United Kingdom, British Possessions and foreign countries respectively.

**AUSTRALIAN IMPORTS.—PERCENTAGES FROM COUNTRIES OF ORIGIN,
1918-19 TO 1922-23.**

Country of Origin.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	per cent.				
United Kingdom	33.80	38.91	46.92	51.43	51.90
British Possessions—					
Canada	2.78	2.67	2.70	3.05	3.84
Ceylon	1.35	1.69	0.51	0.98	0.76
India	7.79	4.83	4.46	3.64	3.33
Malaya (British)	0.33	0.36	0.17	0.55	0.21
New Zealand	2.09	1.95	1.22	1.65	1.52
Pacific Islands—					
Fiji	0.18	0.29	0.12	0.21	0.09
Territory of New Guinea	0.33	0.63	0.39	0.60	0.15
Other Islands	0.59	0.76	0.60	0.88	0.75
Papua	0.20	0.22	0.21	0.16	0.16
South African Union	5.78	0.97	0.33	0.35	0.58
Other British Possessions ..	0.49	1.02	0.54	0.55	0.48
Total British Possessions	21.91	15.39	11.25	12.62	11.87
Total British Countries ..	55.71	54.30	58.17	64.05	63.77
Foreign Countries—					
Belgium	0.00	0.28	1.18	0.92	0.69
China	0.77	1.11	0.63	0.92	0.67
France	1.61	2.45	2.20	2.65	2.45
Germany	0.01	0.01	0.04	0.08	0.45
Italy	0.57	0.59	0.51	0.91	0.89
Japan	8.02	4.27	3.19	3.48	2.99
Netherlands	0.25	0.20	0.37	0.48	0.44
Netherlands East Indies ..	2.97	8.40	5.37	3.14	3.31
Norway	0.64	0.84	1.17	0.82	1.28
Pacific Islands	0.28	0.26	0.09	0.12	0.07
Philippine Islands	0.11	0.21	0.13	0.15	0.13
Sweden	0.50	0.80	1.68	1.20	1.24
Switzerland	1.22	0.97	1.23	1.78	1.66
United States of America ..	26.57	24.07	22.05	18.27	18.87
Other Foreign Countries ..	0.77	1.24	1.99	1.03	1.09
Total Foreign Countries	44.29	45.70	41.83	35.95	36.23
Total	100	100	100	100	100

The percentage of imports of United Kingdom origin increased steadily during the five years under review, but the rate of increase declined in the last year. Imports from United Kingdom represented 51.90 per cent. of the total imports during 1922-23, as compared with 33.80 per cent. during 1918-19. The figures show, however, that the United Kingdom is regaining the trade lost during the war period. A noticeable feature in the table is the decline in the percentage of imports from British Possessions, for, with the exception of Canada, all the countries represented in this group show decreased percentages. The percentages of imports from United States and Japan show reduced figures in 1922-23 as compared with 1918-19. United States provided 26.57 per cent. of the total imports during 1918-19 as against 18.87 per cent. in 1922-23, while the figures for Japan for these years were 8.02 per cent. and 2.99 per cent. respectively. The greater freedom of shipping facilities with these countries during the war years was

largely responsible for the increased proportion of Australian trade during the earlier years. Other countries furnishing a fair volume of imports to Australia are India, Netherlands East Indies, Canada, France, Switzerland, and New Zealand.

3. Direction of Exports.—The following tables show a decreasing proportion of Australian exports to the United Kingdom. This was not entirely due to the relatively smaller purchases of Australian produce by the United Kingdom, but was in some measure the effect of an increasing tendency towards direct shipment of wool, skins, etc., to the consuming countries—notably to Belgium, France, and Germany—instead of distributing the trade through London. The figures given below do not, however, denote the total purchases by European countries of Australian produce, as large quantities were still distributed from London. The reservation to the United Kingdom of the first call on Australian primary products increased the proportion of exports to that country during the war period, and, to a greater extent, the proportion shipped to other parts of the Empire, notably to Egypt and to India. Large shipments of wool and wheat to Belgium and to France during the last three years have caused the proportion of exports to move somewhat towards the pre-war distribution. The following table shows the value of exports from Australia to the more important countries during the five years 1918–19 to 1922–23:—

EXPORTS FROM AUSTRALIA TO VARIOUS COUNTRIES, 1918–19 TO 1922–23.

(INCLUDING BULLION AND SPECIE.)

Country.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
	£	£	£	£	£
United Kingdom	61,603,958	80,784,096	67,519,740	57,742,767	51,975,331
British Possessions—					
Canada	891,529	312,452	154,899	373,570	364,732
Ceylon	648,426	354,810	299,131	711,163	814,435
Egypt	8,409,107	2,769,331	6,607,172	3,523,355	1,583,785
Fiji	413,981	664,634	732,251	573,401	352,744
Hong Kong	1,551,679	2,599,757	866,839	536,596	501,874
India	7,741,081	2,439,935	2,193,006	6,770,067	3,107,584
Malaya (British)	1,563,056	6,216,398	2,121,030	1,876,648	1,343,029
Mauritius	40,108	102,944	117,554	145,352	134,997
New Zealand	4,156,860	7,743,744	7,780,763	4,619,655	4,302,231
Papua	205,193	308,159	292,851	172,419	219,225
South African Union	2,347,367	3,044,351	3,049,507	1,660,359	1,967,861
Other British Possessions	1,660,886	1,293,421	1,701,305	880,614	977,326
Total British Possessions	29,659,273	27,849,936	25,916,368	21,843,199	15,669,873
Total British Countries	91,263,231	108,634,032	93,436,108	79,585,966	67,645,254
Foreign Countries—					
Argentine Republic	2,218	5,532	7,484	8,426	4,173
Belgium	104,890	4,263,608	6,845,925	5,015,976	4,299,926
Chile and Peru	204,466	181,928	227,037	227,538	197,845
China	314,008	543,365	328,087	509,339	278,121
France	1,045,182	6,871,878	6,409,862	8,701,179	12,296,665
Germany	1,608	16,520	1,457,119	4,003,728	4,186,864
Italy	1,724,801	3,771,544	2,547,810	8,047,291	5,950,723
Japan	3,846,951	7,229,501	3,117,572	7,952,547	9,309,560
Netherlands	1,264	11,005	1,264,530	765,725	640,818
Netherlands East Indies	2,632,901	3,119,766	2,568,619	2,368,197	1,862,864
Norway	453,731	500,208	170,532	300,389	47,696
Pacific Islands	1,060,767	724,666	757,541	482,666	451,230
Philippine Islands	653,653	1,061,463	420,870	565,063	568,648
Spain	3,679	866	287,669	354,405	932
Sweden	731,282	256,702	136,500	25,180	168,112
United States of America	9,009,425	11,129,937	9,965,575	8,314,386	9,630,770
Other Foreign Countries	909,919	1,700,938	2,210,072	618,536	329,893
Total Foreign Countries	22,700,745	41,189,477	38,722,804	48,260,569	50,224,893
Total	113,963,976	149,823,509	132,158,912	127,846,535	117,870,147

4. Percentage of Exports to Various Countries.—The following table gives the relative proportions of the export trade of Australia with the countries specified, together with the proportions shipped to the United Kingdom, British Possessions and foreign countries respectively:—

EXPORTS FROM AUSTRALIA.—PERCENTAGES TO VARIOUS COUNTRIES,
1918-19 TO 1922-23.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	per cent.				
United Kingdom	54.06	53.92	51.10	45.16	44.10
British Possessions—					
Canada	0.78	0.21	0.12	0.29	0.31
Ceylon	0.57	0.24	0.22	0.56	0.69
Egypt	7.37	1.85	5.01	2.76	1.34
Fiji	0.39	0.44	0.53	0.45	0.30
Hong Kong	1.36	1.74	0.65	0.42	0.43
India	6.79	1.63	1.66	5.30	2.64
Malaya (British) ..	1.37	4.15	1.61	1.47	1.14
Mauritius	0.03	0.07	0.09	0.11	0.11
New Zealand	3.65	5.17	5.90	3.61	3.65
Papua	0.18	0.21	0.22	0.13	0.19
South African Union ..	2.06	2.02	2.31	1.30	1.67
Other British Possessions ..	1.47	0.86	1.29	0.69	0.83
Total British Possessions	26.02	18.59	19.61	17.09	13.30
Total British Countries ..	80.08	72.51	70.71	62.25	57.40
Foreign Countries—					
Argentine Republic ..	0.00	0.00	0.00	0.01	0.00
Belgium	0.09	2.85	5.18	3.92	3.65
Chile and Peru	0.18	0.12	0.17	0.18	0.17
China	0.28	0.36	0.25	0.40	0.24
France	0.92	4.45	4.86	6.81	10.43
Germany	0.00	0.01	1.10	3.13	3.55
Italy	1.51	2.52	1.93	6.29	5.05
Japan	3.38	4.83	2.36	6.22	7.90
Netherlands	0.00	0.01	0.96	0.60	0.54
Netherlands East Indies ..	2.31	2.08	1.94	1.85	1.58
Norway	0.40	0.33	0.12	0.24	0.04
Pacific Islands	0.93	0.48	0.57	0.38	0.38
Philippine Islands ..	0.57	0.71	0.32	0.44	0.48
Spain	0.00	0.00	0.21	0.28	0.00
Sweden	0.64	0.17	0.10	0.02	0.14
United States of America ..	7.91	7.43	7.55	6.50	8.17
Other Foreign Countries ..	0.80	1.14	1.67	0.48	0.28
Total Foreign Countries	19.92	27.49	29.29	37.75	42.60
Total	100	100	100	100	100

5. **Principal Imports and Exports—Countries.**—The total value of imports from, and exports to, each of the more important countries, together with brief particulars of the principal commodities interchanged with such countries are given hereunder. Should further details be required reference may be made to the annual publication "Oversea Trade Bulletin, No. 20," issued by this Bureau, which gives details of the trade of 38 of the principal countries of the world with Australia during the past five years. This publication also furnishes information regarding the country of origin of each statistical item of imports for the years 1921-22 and 1922-23, showing the value and (where available) the quantity imported from each country. The value of each item imported into each State of the Commonwealth is also shown. The publication referred to also gives information as to the country to which each item of exports was shipped during the year 1922-23.

United Kingdom. Total Imports of United Kingdom Origin, £68,394,423. The two outstanding classes of goods imported were—Apparel, textiles, etc, £31,015,472, and machines, machinery and manufactures of metal, £20,159,269. Imports of the undermentioned goods also contributed largely to the total:—Whisky; yarns, woollen and other; china and earthenware; paper and stationery; drugs and chemicals; and vessels.

Total Exports to United Kingdom, £51,975,381. Of this total £51,523,341 represented Australian produce. The principal items of export were—Wool, £25,901,608; wheat, £2,932,322; and butter, £5,244,422. Other commodities which bulked largely were—Frozen beef, mutton, and lamb; cheese; flour; fruits, fresh, and dried; hides and skins; tallow; leather; copper; lead and zinc.

United States of America. Total Imports of United States Origin, £24,851,303. The following were the more important items of import:—Tobacco, manufactured and unmanufactured; apparel, textiles, etc.; petroleum spirit, benzine; kerosene; lubricating and other oils; electrical machinery, materials and appliances; printing machinery; motor car chassis, etc.; manufactures of metals; undressed timber; musical instruments; films for kinematographs; sulphur; preserved fish; rubber manufactures; and leather.

Total Exports to United States, £9,630,770. Of this total £9,498,956 represented Australian produce. The principal exports were—Wool, £5,003,681; rabbit, kangaroo, and opossum skins, £2,065,967; pearlshell; sausage casings; butter; coal; and hides. The value of the above commodities represents 95 per cent. of the total exports to the United States.

India. Total Imports of Produce or Manufacture of India, £4,393,685. Bags and sacks valued at £2,602,553 represent 59 per cent. of the total imports. The other principal items were—Hessians; rice; tea; hides and skins; linseed; paraffin wax; gums and resins; precious stones; coffee and chicory; and spices.

Total Exports to India, £3,107,584. Of this total £3,096,609 represented Australian produce. The chief exports were—Gold specie, £1,596,382; silver, £1,008,219; undressed timber; coal; tallow; preserved meats; preserved milk and cream; and horses.

Japan. Total Imports of Japanese Origin, £3,936,150. Principal imports—Piece goods of silk or containing silk, £1,927,066; cotton piece goods, £601,651; china and porcelain ware; glass and glassware; undressed timber; fancy goods; and apparel and attire.

Total Exports to Japan, £9,309,560. Of this total £9,255,596 was Australian produce. Chief exports—Wool, £6,095,616; wheat, £976,271; tallow; pig lead; zinc; flour; trochus shell; and milk and cream.

Netherlands East Indies. Total Imports of Netherlands East Indies Origin, £4,361,302. The principal imports were—Petroleum spirit, including benzine, etc., £1,836,011; tea, £1,478,692; kerosene; crude petroleum; crude rubber; kapok; coffee and chicory; spices; and tobacco.

Total Exports to Netherlands East Indies, £1,862,864. Of this total £1,828,304 was the produce of Australia. Chief exports were—Flour, £627,156; butter, £502,729; preserved milk and cream; coal; leather; bacon and hams; and biscuits.

Canada. Total Imports of Canadian Origin, £5,064,253. The principal imports were—Chassis for motor cars, £1,936,574; bodies for motor cars, £88,843; printing paper, £474,211; wrapping paper, £108,048; preserved fish; apparel and textiles; agricultural implements; undressed timber; corsets; metal manufactures; and rubber manufactures.

Total Exports to Canada, £364,732. Of this total £361,155 was Australian produce. Chief items were—Wool, greasy, scoured, and tops, £184,365; meats; hides and skins; and fruits.

France. Total Imports of French Origin, £3,231,197. Chief imports were—Piece goods of silk or containing silk, £678,982; trimmings for attire, £397,416; motor cars and parts, £214,115; lace for attire; brandy; wine; indiarubber manufactures; cream of tartar; perfumery and toilet preparations; fancy goods; tobacco-pipes; gloves; apparel and attire; and paper manufactures.

Total Exports to France, £12,296,665. Of this total £12,190,254 was Australian produce. Principal exports were—Wool, £10,408,195; wheat, £346,844; sheep skins, £1,128,695; butter; copra; concentrates; tallow; and beef.

Switzerland. Total Imports of Swiss Origin, £2,189,854. Chief items were—Piece goods of silk, £658,778; trimmings and ornaments for attire, £537,974; lace for attire; clocks and watches; grass straw for manufacture of hats; and handkerchiefs.

Total Exports to Switzerland, £14,277. Chief items were greasy wool, £7,006; and timepieces and parts, £4,410.

Pacific Islands (British and Foreign). Total Imports of Produce of the Pacific Islands, £1,406,679. Chief items were—Copra, £611,759; rock phosphates, £454,178; sugar, molasses, etc.; cocoa beans; cattle; and guano.

Total Exports to Pacific Islands, £1,618,374. Of this amount £1,032,893 was the produce of Australia. The exports to these islands cover a very wide range of commodities. The outstanding items, in order of value, were—Foodstuffs of vegetable origin, £419,498; apparel, textiles, etc., £188,382; coal and coke, £170,935; machines, machinery and metal manufactures, £160,988; foodstuffs of animal origin, £157,016; and tobacco, cigars, and cigarettes, £101,573. The chief individual items were—Butter; meats: biscuits; flour; rice; sugar; potatoes; tea; ale and porter; spirits; tobacco and cigarettes; boots; canvas and duck; cotton piece goods; kerosene; coal; undressed timber; and soap.

New Zealand. Total Imports of New Zealand Origin, £2,003,307. The principal items were—Timber, £535,452; hides and skins, £450,745; butter, £224,566; flax and hemp; oakum and tow; linseed and other seeds; smoked fish; horses; and grain and pulse.

Total Exports to New Zealand, £4,302,281. Of this total £3,142,689 was Australian produce. The chief items were—Apparel, textiles and manufactured fibres, £405,196; machinery and metal manufactures, £417,412; coal, £428,372; manufactured tobacco, £557,024; undressed timber, £314,304; indiarubber manufactures; leather; dried and fresh fruits; confectionery; and medicines. The remaining exports covered a very large range of commodities and included a number of items which are not produced in Australia, such as rice, tea, paints, dyes, glassware, earthenware, etc.

Sweden. Total Imports of Swedish Origin, £1,629,515. Chief items were—Printing paper, £195,954; cream separators, £146,532; wood pulp, £101,699; dressed and undressed timber, £465,440; wrapping and other paper; matches; and electrical fittings.

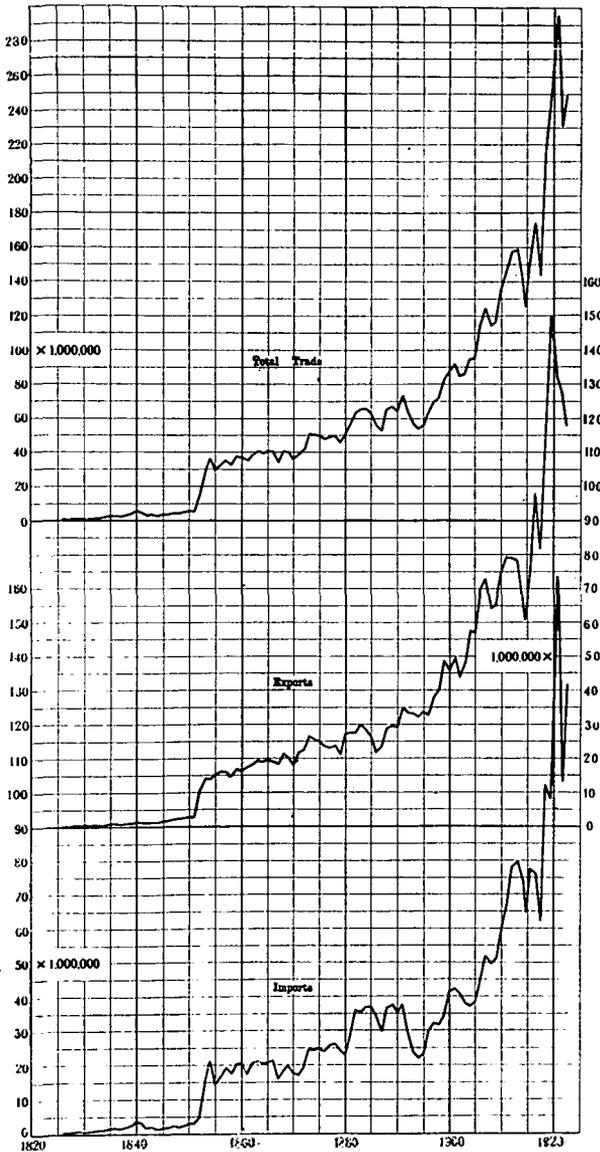
Total Exports to Sweden, £168,112. Chief items were—Wool, £45,361; wheat, £109,485; hides, £8,493.

Ceylon. Total Imports of Cingalese Origin, £1,001,412. The chief items were—Tea, £864,960; nuts, £71,218; rubber; cocoa beans; and fibres.

Total Exports to Ceylon, £814,435. Of this total £809,886 was Australian produce. The principal exports were—Gold specie, £583,220; flour, £85,502; undressed timber; butter; bacon and ham; preserved milk; silver; oils and fats; and preserved meats.

Belgium. Total Imports of Belgian Origin, £906,050. Principal imports were—Iron and steel, bar, angle, hoop, etc., £34,506; glass and glassware, £359,107; cotton and linen piece goods; gloves; parchment; cameos and precious stones (unset); and iron, steel and other wire.

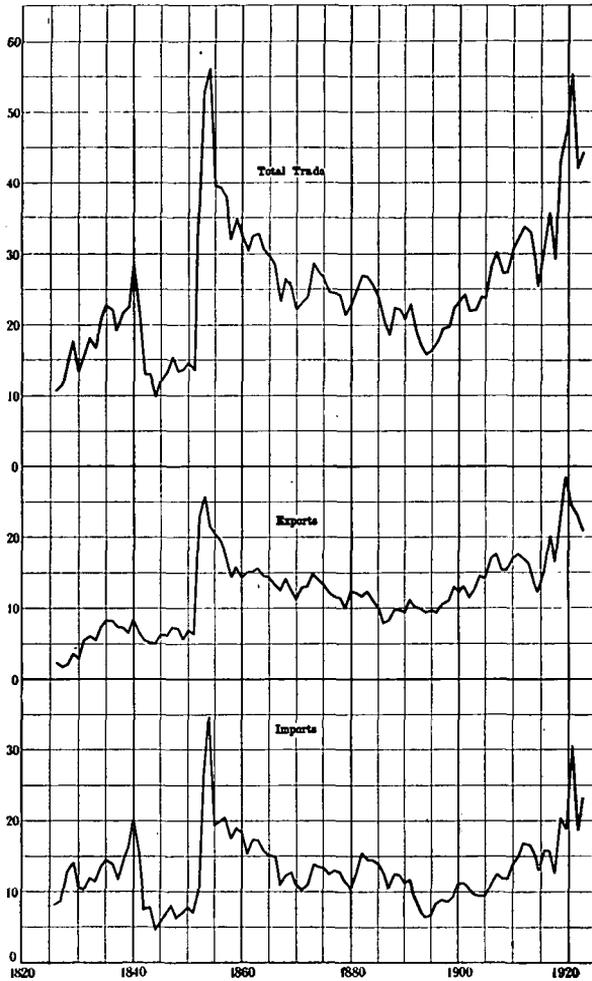
VALUES OF TOTAL TRADE, EXPORTS, AND IMPORTS, AUSTRALIA, 1826 TO 1922-23.



(See page 223.)

EXPLANATION.—The base of each square represents an interval of five years, and the vertical height five million pounds sterling for imports and exports, and ten million pounds sterling for total trade.

VALUES PER HEAD OF POPULATION OF TOTAL TRADE, EXPORTS, AND IMPORTS,
AUSTRALIA, 1826 TO 1922-23.



(See page 223.)

EXPLANATION.—The base of each square represents an interval of five years, and the vertical height £5 per head of the population.

Total Exports to Belgium, £4,299,926. Of this total £4,269,392 was the produce of Australia. Chief items were—Wool, £2,514,717; wheat, £47,586; hides and skins, £235,332; zinc concentrates, £1,064,493; silver and silver-lead concentrates, £203,869; barley; tallow; and beef.

China. Total Imports of Chinese Origin, £873,579. The principal items were—Silk piece goods, £146,415; lace for attire, £107,600; rice, £66,822; tea; edible nuts; preserved ginger; china and other oils; raw cotton; grass straw; and hair and fibre.

Total Exports to China, £278,121. Of this total £274,423 was Australian produce. Principal items were—Silver, bar, ingots, etc., £33,311; butter, £43,123; sandalwood, £3,076; flour; wool; wheat; tallow; leather; jams and jellies; undressed timber; and pig lead.

Italy. Total Imports of Italian Origin, £1,174,489. Chief imports were—Chassis for motor cars, £369,615; silk piece goods, £146,462; edible nuts; hides; hats; essential oils; flax and hemp; marble; gloves; and works of art.

Total Exports to Italy, £5,950,726. Of this total, £5,943,469 was Australian produce. Chief exports were—Wheat, £3,093,384; wool, £2,498,733; tallow, £275,929; hides and skins; and copra.

Norway. Total Imports of Norwegian Origin, £1,686,439. Principal items were—Paper, £386,104; timber, £730,696; preserved fish, £264,092; and wood pulp, £27,178.

Total Exports to Norway, £47,696. Of this total the principal items were wheat, £32,309; and wool, £11,058.

Malaya (British). Total Imports of (British) Malayan Origin, £272,759. Principal items were—Rubber, £79,621; sago and tapioca, £90,359; spices; resins; and bamboo and cane.

Total Exports to (British) Malaya, £1,343,029. Of the total, £1,273,185 was the produce of Australia. Chief exports were—Preserved milk and cream, £356,398; gold; £39,765; flour, £404,952; mining machinery, £47,777; butter; coal; sheep; horses; bacon and ham; and preserved and frozen meat.

Netherlands. Total Imports of Netherlands Origin, £580,888. Principal items were—Metal manufactures; piece goods; cocoa and chocolate; paper; gin and schnapps; and jewellery.

Total Exports to Netherlands, £640,818. Chief exports were—Wool, £347,698; copra, £216,140; ores, £19,622; and tallow, £24,173.

South African Union. Total Imports of Produce of South African Union, £758,720. Principal items were—Precious stones, £224,275; explosives, £106,968; maize, £259,213; fancy goods; fish; tanning bark; fibres and seeds.

Total Exports to South African Union, £1,967,861. Of this total £1,963,792 was the produce of Australia. Chief exports were—Wheat, £700,820; flour, £452,550; undressed timber, £472,564; preserved milk and cream, £81,190; tallow; dried fruits; and leather.

Philippine Islands. Total Imports of Philippine Islands Origin, £168,742. Chief items were—Hemp, £90,789; timber, £58,141; and tobacco and cigars.

Total Exports to Philippine Islands, £568,648. Principal items were—Frozen meats, £80,649; flour, £127,428; preserved milk and cream, £52,846; coal, £150,988; butter; bacon and ham; and cattle.

Spain. Total Imports of Spanish Origin, £150,780. Chief items were—Corks, etc., £50,699; edible nuts, £40,934; liquorice; raisins; and quicksilver.

Total Exports to Spain, £932.

Germany. Trade with Germany was suspended on the outbreak of war, and importation of German goods, except by permits granted by the Minister for Trade and Customs, was not permitted until the 1st August, 1922. Imports from Germany during 1922-23 were valued at £593,812, and exports thereto amounted to £4,186,864. Chief items of export were—Wool, £3,448,031; beef, £202,119; copra, £108,570; tallow, £47,285; pig lead, £64,299; hides and skins, £120,875; sausage casings; and ores and concentrates.

Egypt. Total Imports of Egyptian Origin, £23,657. Chief items were—Gums and resins, £16,357; and cigarettes, £3,106.

Total Exports to Egypt, £1,583,785. Principal items were—Flour, £1,404,318; wheat, £10,580; frozen meat, £95,424; butter; and undressed timber.

Russia. Total Imports of Russian Origin, £18,867. Chief items were—Hair and fibre; furs; calf skins; and drugs.

Total Exports to Russia, £239.

Hong Kong. Total Imports of Hong Kong Origin, £4,888. Chief items were—Coir mats and matting; bamboo and wicker articles; and fireworks.

Total Exports to Hong Kong, £501,874. Chief items were—Flour, £71,891; fish, £62,788; sandalwood, £66,460; butter, £44,411; preserved milk and cream; pig lead; leather and manufactures thereof; jams and jellies; bacon and ham; and frozen meat.

6. Imports—States, and Total.—Imports are recorded at the port of landing and are credited to the State in which the port is situated. Records are not obtainable of interstate trade and the State totals represent, therefore, the value of oversea goods consigned to the various States. They do not, moreover, represent the consumption within each State.

IMPORTS.—STATES, AND TOTAL, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales	46,013,102	44,691,959	72,466,306	43,321,478	55,010,083
Victoria	35,026,311	33,788,287	57,608,777	36,352,056	46,729,100
Queensland	6,075,649	7,218,694	11,840,442	8,639,446	10,782,906
South Australia	6,502,319	7,473,893	12,381,973	9,047,242	10,846,619
Western Australia	8,083,852	4,959,062	7,219,538	4,308,141	6,788,165
Tasmania	608,786	813,341	2,264,933	1,385,958	1,588,158
Northern Territory	25,140	29,056	19,857	12,115	12,804
Total	102,335,159	98,974,292	163,801,826	103,066,436	131,757,835

7. Exports—States, and Total.—The following table gives the value of exports shipped from each State during the past five years. It must be noted that the value of goods transferred from one State to another for shipment to oversea countries is shown as an export from the State from which the goods were finally despatched.

EXPORTS.—STATES, AND TOTAL, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales	51,027,359	55,017,065	52,601,798	48,012,511	42,581,874
Victoria	28,095,159	43,124,940	34,871,961	34,644,182	33,768,701
Queensland	12,447,616	14,403,922	15,171,884	17,573,103	15,782,072
South Australia	11,570,470	20,530,355	17,773,919	14,747,260	13,583,003
Western Australia	9,444,021	14,459,097	10,395,015	10,797,000	9,679,496
Tasmania	1,002,093	2,010,503	1,329,533	2,067,443	2,460,374
Northern Territory	377,258	277,627	14,752	5,036	14,627
Total	113,963,976	149,823,509	132,158,912	127,846,535	117,870,147

8. Trade of Principal Ports.—The following table gives the value of Imports received at, and Exports despatched from, the principal ports of Australia during 1921-22 and 1922-23.

OVERSEA TRADE.—PRINCIPAL PORTS, 1921-22 AND 1922-23.

Port.	1921-22.			1922-23.		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
	£	£	£	£	£	£
<i>New South Wales.</i>						
Sydney	41,753,947	46,041,670	87,795,617	53,362,111	40,573,690	93,935,801
Newcastle	1,567,531	1,915,624	3,483,155	1,614,584	1,916,482	3,531,066
Other Ports .. ..	..	55,217	55,217	33,388	91,702	125,090
Total	43,321,478	48,012,511	91,333,989	55,010,083	42,581,874	97,591,957
<i>Victoria.</i>						
Melbourne	36,057,242	29,935,460	65,992,702	46,294,074	30,593,080	76,887,154
Geelong	226,271	3,382,514	3,608,785	388,991	2,011,441	2,400,432
Other Ports	68,543	1,326,208	1,394,751	46,035	1,164,180	1,210,215
Total	36,352,056	34,644,182	70,996,238	46,729,100	33,768,701	80,497,801
<i>Queensland.</i>						
Brisbane	7,603,342	15,076,563	22,679,905	9,178,849	13,194,617	22,373,466
Rockhampton	235,708	754,830	990,538	511,017	833,913	1,344,930
Townsville	431,133	1,231,361	1,662,494	634,355	1,202,142	1,836,497
Other Ports	369,263	510,349	879,612	458,685	551,400	1,010,085
Total	8,639,446	17,573,103	26,212,549	10,782,906	15,782,072	26,564,978
<i>South Australia.</i>						
Port Adelaide, including Adelaide	8,919,867	9,948,437	18,868,304	10,711,752	9,400,065	20,111,817
Port Pirie	66,590	1,977,542	2,044,132	107,215	2,480,671	2,587,886
Wallaroo	60,785	1,636,251	1,697,036	27,652	1,186,131	1,213,783
Other Ports .. ..	..	1,185,030	1,185,030	..	516,136	516,136
Total	9,047,242	14,747,260	23,794,502	10,846,619	13,583,003	24,429,622
<i>Western Australia.</i>						
Fremantle (Perth)	4,218,047	7,827,798	12,045,845	6,574,467	7,354,549	13,929,016
Bunbury	20,552	1,193,943	1,214,495	34,720	829,264	863,984
Other Ports	69,542	1,775,259	1,844,801	178,978	1,495,683	1,674,661
Total	4,308,141	10,797,000	15,105,141	6,788,165	9,679,496	16,467,661
<i>Tasmania.</i>						
Hobart	888,154	1,535,948	2,424,102	925,021	1,589,049	2,514,070
Launceston	484,018	387,279	871,297	620,810	731,826	1,352,636
Other Ports	13,786	144,216	158,002	42,327	139,499	181,826
Total	1,385,958	2,067,443	3,453,401	1,588,158	2,460,374	4,048,532
<i>Northern Territory.</i>						
Port Darwin	12,115	5,036	17,151	12,804	14,627	27,431
Grand Total	103,066,436	127,846,535	230,912,971	131,757,835	117,870,147	249,627,982

§ 6. Exports to Eastern Countries.

1. **Principal Articles Exported.**—The following table shows the value of exports from Australia to Eastern countries during the last five years. The principal countries concerned in this trade are China, India and Ceylon, Japan, Netherlands East Indies and Timor (Portuguese), Philippine Islands, Malaya (British), and Hong Kong. The particulars given in the tables apply to these countries only.

EXPORTS FROM AUSTRALIA TO EASTERN COUNTRIES.—PRINCIPAL COMMODITIES, 1918-19 TO 1922-23.

Article.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Antimony	1,313	1,099	160	683	298
Biscuits	208,495	165,584	127,573	86,187	62,197
Butter	659,743	1,066,694	700,283	760,581	789,325
Cheese	41,706	61,862	30,104	19,036	11,527
Coal	85,792	247,147	863,165	422,323	397,632
Concentrates—Zinc	158,557	37,310			
Copper	280,598	729,041	212,466	4,239	22,350
Grain and Pulse—					
Wheat	1,997,299	2,389,191	13,881	6,243,878	986,596
Flour	1,811,476	4,057,560	628,274	1,413,859	1,353,990
Other (prepared and unprepared)	289,854	210,079	109,465	47,693	9,882
Hay, chaff, and compressed fodder	19,542	36,190	24,659	22,110	18,576
Horses	176,239	121,857	154,235	40,382	82,834
Iron and Steel (unmanufactured)	314,776	301,612	67,961	1,527	4,472
Jams and jellies	155,377	128,688	158,092	81,299	59,613
Lead, Pig	681,473	580,724	32,701	347,963	644,848
Leather	229,695	346,510	282,738	217,185	242,681
Meats	1,581,192	526,277	587,907	545,659	397,005
Milk and cream	697,311	901,343	944,021	1,305,277	1,140,775
Pearl shell and trochus shell	70,007	209,657	43,880	50,779	56,531
Sandalwood	138,468	266,945	194,591	75,556	110,822
Skins, hoofs, horns, bones, sinews, tallow	464,544	947,271	439,270	601,079	523,619
Sulphate of ammonia	323,793	204,759	126,639	83,346	47,249
Tin ore			2,735		
Timber (undressed)	5,258	29,834	151,059	182,032	87,161
Wool	1,481,315	2,014,820	2,161,707	4,535,541	6,124,687
Other merchandise	2,235,562	1,755,816	1,672,567	1,588,522	1,338,978
Total merchandise	14,111,385	17,337,870	9,730,133	18,676,734	14,504,648
Specie and gold and silver bullion	4,854,609	6,232,767	2,192,714	2,615,178	3,284,263
Total exports	18,965,994	23,570,637	11,922,847	21,291,907	17,788,911

2. **Destination of Exports.**—The next table shows the destination of the articles exported to Eastern countries during the past five years.

EXPORTS FROM AUSTRALIA OF MERCHANDISE TO PRINCIPAL EASTERN COUNTRIES.—DESTINATION, 1918-19 TO 1922-23.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	313,908	406,850	323,087	371,836	244,810
East Indies	2,645,840	2,878,615	2,372,881	2,262,758	1,865,660
Hong Kong	685,256	1,406,924	668,713	536,596	501,874
India and Ceylon	4,452,771	1,571,885	1,229,252	5,158,346	711,432
Japan	3,846,901	7,229,424	2,853,406	7,952,547	9,308,960
Malaya (British)	1,513,056	2,782,812	1,856,924	1,829,568	1,303,264
Philippine Islands	653,653	1,061,360	420,870	565,063	568,648
Total	14,111,385	17,337,870	9,730,133	18,676,734	14,504,648

3. Chief Exports to Eastern Countries.—The series of tables given hereunder shows the value of each of the principal articles exported to the countries specified during each of the last five years.

BUTTER.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	56,271	89,217	91,173	88,358	43,123
East Indies	424,458	564,585	374,999	461,645	503,267
Hong Kong	28,618	66,197	62,127	42,116	44,411
India and Ceylon	10,168	38,485	35,922	19,237	26,150
Japan	1,170	55,126	12,204	36,721	30,358
Malaya (British)	90,400	162,044	78,856	76,751	98,877
Philippine Islands	48,658	91,040	45,002	35,753	34,139
Total	659,743	1,066,694	700,283	760,581	780,325

The exports of butter given above for the year 1922-23 were shipped from the several States as follows:—New South Wales, £156,080; Victoria, £558,636; Queensland, £65,528; South Australia, £81.

COAL.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. .. .	..	..	10,251	..	..
East Indies	31,533	73,303	422,213	219,919	76,519
Hong Kong	6,079	2	13,758	4,293	2,259
India and Ceylon	14,438	15,258	105,488	65,643	118,912
Japan .. .. .	..	3,473	7,639	2,502	889
Malaya (British)	25,174	98,368	192,328	70,803	48,065
Philippine Islands	8,568	56,743	111,488	59,163	150,988
Total	85,792	247,147	863,165	422,323	397,632

The exports of coal are chiefly from New South Wales.

COPPER.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	1,876	59,981	16,954	4,125	..
East Indies .. .. .	..	1,848	2	..	..
India and Ceylon	270,695	276,840	195,510	..	22,350
Japan	8,027	390,372	..	..	..
Malaya (British) .. .. .	..	..	..	114	..
Total	280,598	729,041	212,466	4,239	22,350

The copper exported to the East was mainly shipped from New South Wales.

GRAIN AND PULSE.—WHEAT.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. .. .	..	..	..	34,150	10,003
East Indies	48	57,716	173	7	..
Hong Kong .. .. .	..	6	..	..	..
India and Ceylon	1,573,608	402,662	10,306	4,248,575	296
Japan	422,028	1,924,723	3,376	1,961,063	976,271
Malaya (British)	1,544	4,084	..	83	7
Philippine Islands	71	..	26	..	19
Total	1,997,299	2,389,191	13,881	6,243,878	986,596

The exports of wheat given for the year 1922-23 were shipped from the following States:—New South Wales, £79; Victoria, £515,515; Queensland, £7; South Australia £291,569; Western Australia, £179,426.

GRAIN AND PULSE.—FLOUR.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	13,873	20,183	1,440	63,388	3,140
East Indies	508,071	802,968	345,561	591,093	628,414
Hong Kong	226,971	591,734	9,364	124,498	71,891
India and Ceylon	256,337	174,562	11,768	94,315	98,828
Japan	18,743	464,922	8,603	83,260	19,337
Malaya (British)	374,839	1,319,493	186,268	301,390	404,952
Philippine Islands	412,642	683,698	65,270	155,915	127,428
Total	1,811,476	4,057,560	628,274	1,413,859	1,353,990

The flour exported during 1922-23 as above, was shipped from the several States as follows:—New South Wales, £534,081; Victoria, £583,026; Queensland, £8; South Australia, £99,337; Western Australia, £137,538.

GRAIN AND PULSE, OTHER THAN WHEAT AND FLOUR.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	5,028	474	3,365	423	120
East Indies	41,378	67,689	65,209	5,211	3,130
Hong Kong	5,663	6,760	5,426	1,208	514
India and Ceylon	25,532	17,222	6,804	6,802	3,035
Japan	191,767	106,499	22,346	10	11
Malaya (British)	12,968	9,109	3,861	33,857	2,976
Philippine Islands	7,518	2,326	2,454	182	96
Total	289,854	210,079	109,465	47,693	9,882

The exports given above for 1922-23 were shipped from the following States:—New South Wales, £1,285; Victoria, £6,629; Queensland, £25; South Australia, £60; Western Australia, £1,883.

HAY AND CHAFF, AND COMPRESSED FODDER.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. .. .	..	..	65	44	42
East Indies	1,655	3,420	2,413	2,963	1,738
Hong Kong	1,596	1,191	1,783	1,103	953
India and Ceylon	4,874	13,881	10,547	4,514	4,651
Japan	135	67	540	..	26
Malaya (British)	3,114	5,030	3,328	4,550	5,129
Philippine Islands	8,168	12,601	5,983	8,901	6,037
Total	19,542	36,190	24,659	22,110	18,576

The exports given above for the year 1922-23 were shipped from the several States as follows:—New South Wales, £278; Victoria, £13,075; Queensland, £92; South Australia, £26; Western Australia, £5,105.

HORSES.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. .. .	..	250	140	..	110
East Indies	18,336	14,464	15,375	6,163	4,555
Hong Kong	80	50	..	..	..
India and Ceylon	146,758	86,801	128,611	26,724	71,274
Japan	1,350	1,770	3,025	2,425	1,260
Malaya (British)	5,915	15,192	6,406	5,070	5,285
Philippine Islands	3,800	3,330	678	..	350
Total	176,239	121,857	154,235	40,382	82,834

The value of horses exported to the above countries from each State during 1922-23 was as follows:—New South Wales, £14,865; Victoria, £27,209; Queensland, £27,720; South Australia, £12,720; Western Australia, £320.

LEAD, PIG.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	30,672	30,698	..	223	15,196
East Indies	2,945	463	128	313	..
Hong Kong	77,426	120,427	347	39,695	67,512
India and Ceylon	7,145	..	..	..	..
Japan	563,035	428,796	32,200	307,732	562,140
Malaya (British)	250	..	26	..	..
Philippine Islands .. .. .	..	340	..	..	..
Total	681,473	580,724	32,701	347,963	644,848

The exports of pig lead in 1922-23 were shipped from New South Wales, £579,749; Victoria, £523; South Australia, £64,551; Western Australia, £25.

MEATS.—PRESERVED BY COLD PROCESS.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. ..	..	..	..	5	1,416
East Indies	21	1,637	7,600	14,566	17,028
Hong Kong	7,465	21,213	31,599	20,961	21,720
India and Ceylon	7,696	25,066	34,747	16,883	20,476
Japan .. ..	..	1,019	1,303	4,023	5,813
Malaya (British)	62,374	104,633	130,963	89,542	77,026
Philippine Islands	56,617	88,481	73,691	148,310	80,649
Total	134,173	242,049	279,903	294,290	224,128

The exports to the above-mentioned Eastern countries during 1922-23 of meats preserved by cold process were shipped from the following States :—New South Wales, £83,558; Victoria, £9,902; Queensland, £122,012; Western Australia, £8,656.

MEATS.—OTHER THAN MEATS PRESERVED BY COLD PROCESS.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	14,124	14,972	16,115	5,193	5,621
East Indies	52,567	73,454	114,501	81,683	75,409
Hong Kong	14,608	28,753	23,082	13,303	9,410
India and Ceylon	1,289,847	48,450	50,987	80,220	26,229
Japan	2,335	3,312	2,460	1,619	2,251
Malaya (British)	49,894	81,698	51,982	45,529	28,789
Philippine Islands	23,644	33,589	48,877	23,822	25,168
Total	1,447,019	284,228	308,004	251,369	172,877

The exports given above for the year 1922-23 were shipped from the following States :—New South Wales, £45,262; Victoria, £39,198; Queensland, £87,591; South Australia, £490; Western Australia, £336.

SANDALWOOD.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	18,767	18,307	39,798	7,611	30,876
East Indies	2,032	115	96	66	3
Hong Kong	92,518	174,659	111,730	57,714	66,460
India and Ceylon	1,588	1,860	7,736	6,180	8,161
Japan	1,500	482	40	50	..
Malaya (British)	22,063	71,522	35,191	3,935	5,322
Total	138,468	266,945	194,591	75,556	110,822

The exports of sandalwood in 1922-23 were shipped from Queensland, £6,866; Western Australia, £103,956.

SKINS, HOOFS, HORNS, BONES, SINEWS, AND TALLOW.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China	20	1,742	5,268	31,161	14,522
East Indies .. .. .	..	..	821	4,230	4,040
Hong Kong	1,247	4,633	11,728	10,239	8,369
India and Ceylon	11,719	167,579	75,167	65,883	65,934
Japan	447,454	772,881	345,460	488,554	424,462
Malaya (British)	4,086	146	709	960	2,170
Philippine Islands	18	290	117	..	4,122
Total	464,544	947,271	439,270	601,077	523,619

The above exports of skins, etc., in 1922-23 were shipped from the several States as follows:—New South Wales, £320,276; Victoria, £81,254; Queensland, £95,122; South Australia, £25,960; Western Australia, £262; Northern Territory, £745.

TIMBER, UNDRESSED.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. .. .	..	5,996	39,682	19,796	27,418
East Indies .. .. .	..	..	3,674	37	16
Hong Kong	2,197	2,969	4,954	6,580	3,883
India and Ceylon	650	13,948	91,966	153,117	47,860
Japan	2,276	6,921	8,380	2,478	2,169
Malaya (British)	135	..	..	24	5,045
Philippine Islands .. .. .	..	..	2,403	..	770
Total	5,258	29,834	151,059	182,032	87,161

The above exports of undressed timber during 1922-23 from the several States were shipped as follows:—New South Wales, £9,785; Victoria, £781; Queensland, £4; Western Australia, £59,256; Tasmania, £17,335.

WOOL.

Country.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
China .. .. .	..	..	..	46,626	14,093
India and Ceylon	78,336	..	45,198	50,243	11,487
Japan	1,400,192	2,010,732	2,107,473	4,438,672	6,095,616
Philippine Islands	2,787	4,088	9,036	..	3,491
Total	1,481,315	2,014,820	2,161,707	4,535,541	6,124,687

The value of wool exported to the East by each State during 1922-23 was as follows:—New South Wales, £3,861,210; Victoria, £1,067,301; Queensland, £1,183,685; South Australia, £12,491.

§ 7. Classified Summary of Australian Trade.

1. Imports.—The following table shows the value of imports into Australia during each of the last five years, arranged in classified order in accordance with the statistical classification which came into operation on 1st July, 1922 :—

AUSTRALIAN IMPORTS.—IN CLASSES, 1918-19 TO 1922-23.

Classes.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
I. Animal foodstuffs, etc.	555,562	1,459,212	1,224,099	1,535,308	1,770,241
II. Vegetable foodstuffs; non-alcoholic beverages, etc.	4,916,366	11,800,877	10,728,551	4,450,028	5,577,049
III. Alcoholic liquors, etc.	1,263,324	1,308,656	2,000,248	1,583,382	1,864,738
IV. Tobacco, etc.	1,864,504	2,743,535	3,841,548	2,467,033	2,232,910
V. Live animals	39,785	117,519	76,382	96,934	113,808
VI. Animal substances, etc.	794,792	1,072,163	716,523	708,196	960,784
VII. Vegetable substances, etc.	2,923,551	3,492,396	3,829,032	2,891,040	2,854,308
VIII. Apparel, textiles, etc.	37,566,014	27,630,783	52,322,707	34,225,643	44,570,027
IX. Oils, fats, and waxes	4,099,649	4,751,906	8,428,750	5,130,286	5,987,331
X. Paints and varnishes	553,630	459,136	627,333	426,039	564,038
XI. Stones and minerals, etc.	267,319	245,824	268,957	210,922	339,222
XII. Metals, metal manufactures, and machinery	18,576,114	23,352,444	42,220,826	25,096,571	35,203,294
XIII. Rubber and leather, etc.	2,289,444	2,125,234	3,093,611	1,583,611	2,643,498
XIV. Wood and wicker, etc.	2,135,793	2,876,247	5,722,464	2,884,550	4,767,841
XV. Earthenware, etc.	1,467,886	1,237,558	3,184,438	1,886,934	2,205,799
XVI. Paper and stationery	5,545,880	4,156,626	8,978,897	4,855,564	6,275,837
XVII. Jewellery, etc.	1,659,243	2,065,318	2,609,446	1,762,373	2,405,779
XVIII. Optical, surgical, and scientific instruments	745,718	991,041	1,125,158	943,688	1,189,254
XIX. Drugs, chemicals, etc.	4,426,002	3,652,671	5,591,325	3,556,742	3,895,988
XX. Miscellaneous	3,148,793	3,374,917	7,185,721	6,702,300	6,281,525
XXI. Gold and silver; and bronze specie	7,467,700	60,149	25,810	74,286	53,964
Total	102,335,159	98,974,292	163,801,826	103,066,436	131,757,835

2. Exports.—In the following tables the exports from Australia are shown in classes according to the same classification, distinguishing (a) Australian Produce; (b) Other Produce (Re-exports); and (c) Total Exports.

EXPORTS FROM AUSTRALIA.—IN CLASSES, 1918-19 TO 1922-23.

Classes.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
(a) AUSTRALIAN PRODUCE.					
	£	£	£	£	£
I. Animal foodstuffs, etc.	13,969,397	18,148,656	20,980,389	16,355,946	15,498,298
II. Vegetable foodstuffs; non-alcoholic beverages, etc.	21,336,399	36,021,644	43,612,176	38,722,000	16,588,345
III. Alcoholic liquors, etc.	363,839	438,837	611,300	237,437	222,457
IV. Tobacco, etc.	197,651	276,735	369,157	451,940	620,430
V. Live animals	238,560	245,528	386,296	177,569	237,674
VI. Animal substances, etc.	47,656,882	62,098,711	37,741,985	51,552,436	64,284,144
VII. Vegetable substances, etc.	310,657	499,651	356,555	234,846	441,745
VIII. Apparel, textiles, etc.	1,048,036	1,441,267	1,168,653	318,775	171,619
IX. Oils, fats, and waxes	2,679,540	3,629,903	1,731,162	1,596,965	1,775,599
X. Paints and varnishes	122,191	230,555	179,834	83,983	59,462
XI. Stones and minerals, etc.	1,256,577	1,531,692	2,869,590	1,934,846	3,171,607
XII. Metals, metal manufactures, and machinery	7,850,536	7,895,361	5,467,373	3,912,258	4,895,991
XIII. Rubber and leather, etc.	2,336,256	2,644,509	1,603,105	891,039	911,652
XIV. Wood and wicker, etc.	259,870	559,026	1,471,550	1,242,562	1,116,025
XV. Earthenware, etc.	68,197	113,315	219,952	128,173	79,417
XVI. Paper and stationery	97,093	147,178	194,732	148,804	141,309
XVII. Jewellery, etc.	193,931	350,694	259,395	84,321	91,123
XVIII. Optical, surgical, and scientific instruments	43,138	62,658	67,564	61,076	58,336
XIX. Drugs, chemicals, etc.	1,055,084	966,262	914,950	501,326	505,228
XX. Miscellaneous	778,116	693,752	760,025	514,832	536,272
XXI. Gold and silver; and bronze specie	4,164,761	6,573,390	5,464,938	4,336,569	3,344,576
Total	106,026,801	144,569,324	126,430,681	123,487,512	114,751,309

EXPORTS FROM AUSTRALIA.—IN CLASSES, 1918-19 TO 1922-23—*continued.*

Classes.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
(b) OTHER PRODUCE.—RE-EXPORTS.					
	£	£	£	£	£
I. Animal foodstuffs, etc.	127,446	70,793	71,200	39,822	77,391
II. Vegetable foodstuffs; non-alcoholic beverages, etc.	390,459	676,714	474,283	427,943	435,999
III. Alcoholic liquors, etc.	73,264	176,524	155,548	102,880	77,246
IV. Tobacco, etc.	89,886	136,348	117,506	61,365	63,063
V. Live animals	14	24,298	3,793	9,092	12,977
VI. Animal substances, etc.	7,174	121,381	19,898	35,803	37,865
VII. Vegetable substances, etc.	519,322	605,577	1,078,137	1,077,326	615,748
VIII. Apparel, textiles, etc.	509,192	944,079	800,525	964,764	616,394
IX. Oils, fats, and waxes	103,770	178,321	272,633	243,834	94,646
X. Paints and varnishes	8,903	11,760	8,102	5,341	7,200
XI. Stones and minerals, etc.	737	3,982	7,175	2,015	4,583
XII. Metals, metal manufactures, and machinery	290,191	559,023	663,110	473,846	417,070
XIII. Rubber and leather, etc.	84,348	154,340	107,800	226,773	76,847
XIV. Wood and wicker, etc.	28,125	52,082	106,821	76,766	52,075
XV. Earthenware, etc.	15,493	35,693	30,354	14,129	20,140
XVI. Paper and stationery	77,193	96,939	114,537	99,575	100,718
XVII. Jewellery, etc.	46,762	85,888	173,277	132,914	103,866
XVIII. Optical, surgical, and scientific instruments	65,750	100,147	126,795	85,883	84,578
XIX. Drugs, chemicals, etc.	161,327	150,662	129,406	101,291	73,940
XX. Miscellaneous	312,377	993,309	1,252,056	176,102	145,892
XXI. Gold and silver; and bronze specie	5,025,442	76,125	15,275	1,550	600
Total	7,937,175	5,254,185	5,728,231	4,359,023	3,118,838

(c) TOTAL EXPORTS.—AUSTRALIAN PRODUCE AND RE-EXPORTS.

	£	£	£	£	£
I. Animal foodstuffs, etc.	14,096,843	18,219,449	21,051,589	16,395,768	15,575,689
II. Vegetable foodstuffs; non-alcoholic beverages, etc.	21,726,858	36,698,358	44,086,459	39,149,952	17,024,344
III. Alcoholic liquors, etc.	437,103	615,361	766,848	340,326	299,703
IV. Tobacco, etc.	287,537	413,083	486,663	513,305	683,493
V. Live animals	238,664	269,826	390,089	186,661	250,651
VI. Animal substances, etc.	47,664,056	62,220,092	37,761,883	51,588,239	64,322,000
VII. Vegetable substances, etc.	829,979	1,105,228	1,434,692	1,312,172	1,057,493
VIII. Apparel, textiles, etc.	1,557,228	2,385,346	1,969,178	1,283,539	788,013
IX. Oils, fats, and waxes	2,783,310	3,808,224	2,003,795	1,840,799	1,870,245
X. Paints and varnishes	131,094	242,315	187,936	89,324	66,662
XI. Stones and minerals, etc.	1,257,314	1,535,674	2,876,765	1,936,861	3,176,190
XII. Metals, metal manufactures, and machinery	8,140,727	8,454,384	6,130,483	4,386,104	5,313,061
XIII. Rubber and leather, etc.	2,420,604	2,798,849	1,710,905	1,117,812	988,490
XIV. Wood and wicker, etc.	287,995	611,108	1,578,371	1,319,328	1,168,100
XV. Earthenware, etc.	83,690	149,008	250,306	142,302	99,557
XVI. Paper and stationery	174,286	244,117	309,269	248,179	242,027
XVII. Jewellery, etc.	240,693	436,582	432,672	217,235	194,989
XVIII. Optical, surgical, and scientific instruments	108,888	162,805	194,359	146,959	142,914
XIX. Drugs, chemicals, etc.	1,216,411	1,116,924	1,044,356	602,617	579,168
XX. Miscellaneous	1,090,493	1,687,261	2,012,081	690,934	682,164
XXI. Gold and silver; and bronze specie	9,190,203	6,649,515	5,480,213	4,338,119	3,345,176
Total	113,963,976	149,823,509	132,158,912	127,846,535	117,370,147

3. Imports of Merchandise, Specie and Bullion.—The following table gives the value of imports into Australia during each of the last five years, grouped under the headings—Merchandise, and Specie and Bullion. The imports of merchandise are shown under the sub-headings of “free” and “dutiable” goods.

IMPORTS OF MERCHANDISE, SPECIE AND BULLION.—AUSTRALIA, 1918-19 TO 1922-23.

Year.	Merchandise.		Specie and Bullion.	Total Imports.
	Free Goods.	Dutiable Goods.		
	£	£	£	£
1918-19	36,822,721	58,441,399	7,071,039	102,335,159
1919-20	38,443,794	60,484,412	46,086	98,974,292
1920-21	62,467,773	101,313,909	20,144	163,801,826
1921-22	38,400,193	64,622,939	43,304	103,066,436
1922-23	43,749,955	87,977,056	30,824	131,757,835

4. Exports of Merchandise, Specie and Bullion.—The next table shows the value of exports from Australia during each of the last five years, grouped under the headings—Merchandise, and Specie and Bullion; giving the exports of Australian Produce and Other Produce separately.

EXPORTS OF MERCHANDISE, SPECIE AND BULLION.—AUSTRALIA, 1918-19 TO 1922-23.

Year.	Merchandise.		Specie and Bullion.		Total Exports.
	Australian Produce.	Other Produce.	Australian Produce.	Other Produce.	
	£	£	£	£	£
1918-19	101,862,040	2,911,733	4,164,761	5,025,442	113,963,976*
1919-20	138,011,233	5,173,060	6,558,091	76,125	149,823,509*
1920-21	120,997,216	5,712,956	5,433,465	15,275	132,158,912*
1921-22	119,160,362	4,357,473	4,327,150	1,550	127,846,535*
1922-23	111,450,970	3,118,238	3,300,339	600	117,870,147*

* Does not include the value of Ships' Stores. See later table.

5. Imports in Tariff Divisions.—In the following table the imports into Australia during the last five years have been classified in accordance with the sixteen divisions of the Customs Tariff 1921.

IMPORTS CLASSIFIED ACCORDING TO DIVISIONS OF THE CUSTOMS TARIFF OF 1921—AUSTRALIA, 1918-19 TO 1922-23.

Tariff Division.	Imports.				
	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
I. Ale, Spirits, and Beverages	1,401,856	1,495,212	2,237,364	1,758,023	2,053,142
II. Tobacco and preparations thereof	1,864,594	2,743,535	3,841,548	2,467,033	2,232,910
III. Sugar	1,066,702	4,378,219	6,590,314	209,787	126,649
IV. Agricultural Products and Groceries	6,757,545	11,498,070	8,127,079	7,891,727	9,274,696
V. Textiles, Felts and Furs, and Manufactures thereof, and Attire	34,756,876	25,526,984	47,974,571	31,151,498	40,112,188
VI. Metals and Machinery	16,415,314	19,675,024	37,286,278	21,184,911	26,829,243
VII. Oils, Paints, and Varnishes	4,668,444	5,113,381	9,457,198	5,711,960	6,673,295
VIII. Earthenware, Cement, China, Glass, and Stone	1,812,065	1,565,999	3,622,336	2,223,380	2,837,598
IX. Drugs and Chemicals	4,036,179	3,291,868	4,856,129	3,115,647	2,691,018
X. Wood, Wicker, and Cane	2,185,786	2,933,500	5,948,837	2,989,968	4,767,841
XI. Jewellery and Fancy Goods	2,118,440	2,679,264	3,139,672	2,332,226	2,857,037
XII. Hides, Leather, and Rubber	2,506,199	2,362,826	3,411,386	1,738,198	3,007,484
XIII. Paper and Stationery	5,543,880	4,156,626	8,978,897	4,839,613	6,259,063
XIV. Vehicles	2,279,864	3,974,069	5,984,764	4,061,656	8,335,452
XV. Musical Instruments	385,038	427,619	874,313	426,610	741,815
XVI. Miscellaneous	4,829,292	4,172,089	8,673,891	8,692,515	10,847,830
— Free Goods not specially mentioned in Tariff	2,636,046	2,933,921	2,777,105	2,228,380	2,079,750
Total Merchandise	95,264,120	98,928,206	163,781,682	103,023,132	131,727,011
Specie and Bullion	7,071,039	46,086	20,144	43,304	30,824
Grand Total ..	102,335,159	98,974,292	163,801,826	103,066,436	131,757,835

§ 8. Excise.

The figures under Tariff Divisions I. and II. in the table above refer to imports. For the sake of convenience the quantities of spirits, beer, and tobacco on which excise was paid during the last five years are shown in the next table.

**QUANTITIES OF SPIRITS, BEER, AND TOBACCO ON WHICH EXCISE DUTY
WAS PAID—AUSTRALIA, 1918-19 TO 1922-23.**

Article.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	proof gal.	proof gal.	proof gal.	proof gal.	proof gal.
Spirits—					
Brandy (Pure Australian Standard Brandy) ..	141,702	191,951	165,277	145,202	158,492
Brandy (Blended Wine Brandy, etc.) ..	7,807	14,321	15,479	11,123	14,016
Gin (Distilled from Barley, Malt, Grain, or Grape Wine, etc.) ..	74,990	85,647	66,792	50,212	54,503
Whisky (Australian Standard Malt Whisky) ..	160,317	201,083	171,244	136,349	143,190
Whisky (Australian Blended Whisky) ..	829	732	367	92	99
Rum (Australian Standard Rum) ..	349,775	498,378	454,993	448,213	468,952
Rum (Blended) ..	..	2,238	..	..	642
Liqueurs ..	..	..	80	101	635
Spirits, n.e.i. ..	12,962	4,925	4,909	1,054	2,756
Spirits for Industrial or Scientific Purposes ..	109,498	138,472	114,792	130,991	141,646
Spirits for Fortifying Wine ..	628,780	608,746	703,932	793,749	851,007
Spirits for making Vinegar ..	34,448	31,085	41,107	35,325	38,378
Spirits for Manufacture of Scents, &c.* ..	17,643	23,409	19,720	21,373	26,046
Methylated Spirits* ..	424,273	483,512	41,416	5	..
Amylic Alcohol and Fusel Oil ..	..44	..5	..20	..13	..27
Total, Spirits ..	1,963,068	2,284,504	1,800,128	1,773,802	1,900,389
	gal.	gal.	gal.	gal.	gal.
Beer, n.e.i. ..	62,687,612	69,954,249	66,118,642	62,968,031	63,195,280
Beer, Brewed from Malt and Hops ..	62,687,612	69,954,249	66,118,642	62,968,031	63,195,280
Total, Beer ..	62,687,612	69,954,249	66,118,642	62,968,031	63,195,280
	lb.	lb.	lb.	lb.	lb.
Tobacco—Manufactured, n.e.i.	7,862,456	9,611,939	9,844,157	11,872,442	11,894,776
Tobacco—Hand-made ..	861,196	613,526	516,381	545,532	471,147
Tobacco—Uncovered ..	973,897	987,160	..	..	..
Tobacco—Fine-cut, suitable for Cigarettes ..	19,385	48,957	37,187	36,303	33,804
Total, Tobacco ..	9,716,934	11,261,582	10,397,725	12,454,277	12,399,727
Cigars—Machine-made ..	44,834	60,727	59,463	51,187	52,812
Cigars—Hand-made ..	403,706	506,544	456,634	473,840	434,258
Total, Cigars ..	448,540	567,271	516,097	525,027	487,070
Cigarettes—Machine-made ..	3,486,463	4,667,882	5,009,842	4,807,118	4,410,713
Cigarettes—Hand-made ..	35,757	47,438	48,943	57,497	42,448
Total, Cigarettes ..	3,522,220	4,715,320	5,058,785	4,864,615	4,453,161
Snuff	1,095	245	238	230	231

* Liquid gallons.

§ 9. Ships' Stores.

Prior to 1906 goods shipped in Australian ports on board oversea vessels as ships' stores were included in the general exports. From 1906, ships' stores have been specially recorded as such, and have been omitted from the export figures. The value of these stores shipped each year, during the period 1906 to 1922-23, showing bunker coal separately, is given in the following table:—

VALUE OF STORES SHIPPED IN AUSTRALIAN PORTS ON OVERSEA VESSELS,
1906 TO 1922-23.

Period.	Bunker Coal.	All Stores (including Coal).	Period.	Bunker Coal.	All Stores (including Coal).
	£	£		£	£
1906	575,471	875,966	1914-15 ..	829,875	1,587,757
1907	663,724	998,897	1915-16 ..	719,510	1,544,872
1908	867,707	1,196,106	1916-17 ..	748,852	1,676,116
1909	781,113	1,071,677	1917-18 ..	632,910	1,389,291
1910	740,567	1,080,133	1918-19 ..	857,507	1,765,367
1911	858,783	1,238,446	1919-20 ..	1,487,872	2,688,371
1912	1,008,259	1,431,985	1920-21 ..	2,027,133	3,560,648
1913	1,018,595	1,458,702	1921-22 ..	2,178,101	3,152,604
1914 (1st six mths.)	533,288	771,581	1922-23 ..	1,988,890	2,887,399

§ 10. Exports according to Industries.

1. **Classification.**—The following table gives an analysis of the exports of Australian produce according to the main classes of industry in which the goods were produced. In certain cases in which the produce has been subjected to some initial process of manufacture, opinions may differ in regard to its classification, but in preparing the following table the method adopted generally has been to credit to the primary industry those products in which the value of the primary element is appreciably the greater. Thus, such commodities as flour, jams and preserved fruits, chaff and prepared fodders, etc., have been treated as the produce of agriculture; butter, cheese, preserved milk, and bacon and hams have been credited to the dairying industry; canned meats, tallow and fellmongered skins have been credited to the pastoral industry, but leather has been classed as a product of manufacturing; minerals and metals which have been smelted or otherwise refined, but not further manufactured, have been included as the produce of mining; and sawn timber as the produce of forestry.

Increasing manufacturing activity in close proximity to the centres of primary production—in some instances by co-operative association of primary producers—has the effect of merging more closely the direct interests of primary and secondary production. Prominent cases of the kind referred to are the production of butter, preserved and dried milk, bacon and hams, canned and dehydrated fruit, jam, sugar, flax fibre. As, therefore, no sharp distinction can be made in such cases between the primary and secondary industries, it follows that the values allocated to these divisions in the table must be taken as a general indication only of their relative importance in the export returns. While there is in the primary products some value due to factory processes, there is, on the other hand, in the manufactured products a considerable element of Australian primary produce in the raw materials from which these manufactured products were made. As the figures given are, however, on the same basis throughout the period covered by the table, they indicate, with reasonable accuracy, the variations in the relative importance of the several industrial groups.

EXPORTS OF AUSTRALIAN PRODUCE ACCORDING TO INDUSTRIAL ORIGIN.

VALUE OF EXPORTS AS RECORDED.

Industrial Group.	1913.(a)		1921-22.		1922-23.	
	£		£		£	
Agriculture	10,677,734	100	38,452,643	360	16,708,194	157
Pastoral	42,057,346	100	58,220,175	138	73,310,786	174
Dairy and Farmyard	3,854,734	100	10,992,021	285	7,985,754	207
Mines and Quarries	14,712,242	100	9,345,342	64	11,035,889	75
Fisheries	424,849	100	434,552	102	414,256	98
Forestry	1,106,549	100	1,270,691	115	1,181,656	107
Total Primary Produce	72,833,454	100	118,715,424	163	110,636,535	152
Manufacturing	2,304,693	100	4,772,088	207	4,114,774	179
Total	75,138,147	100	123,487,512	164	114,751,309	153

(a) Base year.

2. **Effect of Price Changes.**—If the effect of price changes be eliminated from the above figures by the application of the export price index numbers, the relative quantitative results will be approximately as follows:—

AUSTRALIAN EXPORTS.—ELIMINATION OF PRICE CHANGES.

Industrial Group.	1913.(a)		1921-22.		1922-23.	
	£		£		£	
Agriculture	10,677,734	100	24,151,470	226	11,456,058	107
Pastoral	42,057,346	100	45,233,380	108	44,191,861	105
Dairy and Farmyard	3,854,734	100	8,198,428	213	4,865,034	126
Mines and Quarries	14,712,242	100	7,295,523	50	8,426,306	57
Fisheries	424,849	100	450,313	106	483,379	114
Forestry	1,106,549	100	739,204	67	724,054	65
Total Primary Produce	72,833,454	100	86,068,318	118	70,146,692	96
Manufacturing	2,304,693	100	2,302,020	91	1,912,959	83
Total	75,138,147	100	88,370,338	118	72,059,651	96

(a) Base year.

3. **Relative Importance of Industrial Groups.**—In the first of the two preceding tables the value of commodities in each industrial group of exports is that recorded at date of shipment from Australia, while in the second table the effect of price changes during the period has been taken into account. In the table showing exports according to recorded value the pastoral group was responsible for the highest proportion of exports during each year. In 1913 the value of commodities included in this group represented 55.97 per cent. of the total exports, as compared with 47.15 per cent. during the year 1921-22, and 63.89 per cent. during 1922-23. Wool constitutes the greater part of the exports in the pastoral group. The higher price ruling for wool was mainly responsible for the increased percentage during 1922-23.

The value of minerals, etc., included in the mining group exceeded the value of items in the agricultural group during the year 1913, but, during the two later years the value of agricultural produce exported was in excess of mineral exports. According to value, the agricultural group now ranks next to the pastoral group. Wheat and flour are the two items of export mainly responsible for this position, and the low percentage of the agricultural group to the total exports during 1922-23, as compared with that of the previous year, is due to the greatly reduced quantity of wheat exported during the year.

The value of exports of dairy and farmyard produce increased during 1921-22, but declined considerably during 1922-23. Exports included in the fisheries and forestry groups have not varied to a marked extent, but an increase occurred in the value of exports classified in the manufacturing group, although the figures for 1922-23 show a decline as compared with those for 1921-22.

The recorded value of exports for all industrial groups shows an increase of 64 per cent. during 1921-22, and of 53 per cent. during 1922-23, as compared with the total value of exports during the year 1913. The effect of eliminating price changes during the period may be seen in the second table. The higher prices of commodities in 1921-22 and 1922-23 tended to inflate the value of exports during these years. Computing the figures on the basis of prices ruling in 1913 it will be seen that the exports of 1921-22 were 18 per cent. greater than those of 1913, while the exports during 1922-23 were 4 per cent. less than in 1913. The effect of eliminating price changes from the recorded value of exports is particularly noticeable in the figures for the agricultural, pastoral, dairy produce, and manufacturing groups.

4. Australian Production and Exports according to Industry.—The following table gives particulars of the total value of Australian Production, and Australian Exports during the period of seven years, 1916-17 to 1922-23, classified according to industries; the proportion of each industrial group to total production and also to total exports, and in the last column the percentage exported of the production of each industrial group:—

**VALUE OF AUSTRALIAN PRODUCTION AND EXPORTS, ACCORDING TO
INDUSTRY, 1916-17 TO 1922-23.**

Industrial Group.	Value of Production during Seven Years.	Percentage of Total Production.	Value of Exports during Seven Years.	Percentage of Total Exports.	Percentage Exported of the Production in each Industrial Group.
Agriculture	£1,000. 531,007	23.3	£1,000. 187,383	23.8	35.3
Pastoral	593,788	26.0	391,509	49.6	65.9
Farmyard and Dairy	271,839	11.9	57,733	7.3	21.2
Mining	154,540	6.8	99,496	12.6	64.4
Forestry and Fisheries	60,043	2.6	9,138	1.2	15.2
Total Primary Produce	1,611,217	70.6	745,259	94.5	46.3
Manufacturing	669,560	29.4	43,495	5.5	6.5
Total	2,280,777	100	788,754	100	34.6

The figures in the above table relating to value of production and value of exports are subject to the qualifications mentioned in the first paragraph of this section in regard to classification. A period of seven years is covered by the table and the values of production and of exports during that period gives a very fair index of the relative importance of the several industrial groups. Of the total production 70.6 per cent. was classified as primary produce and 29.4 per cent. as manufactured articles. The main contributing groups to the primary produce section were pastoral with 26.0 per cent., and agriculture with 23.3 per cent. of the total production.

Exports of primary produce represented 94.5 per cent. of the total exports. The pastoral group, with 49.6 per cent. of the total, shows the highest percentage, followed by the agricultural and mining groups with 23.8 per cent. and 12.6 per cent. respectively. Exports of goods classified in the manufacturing group represented only 5.5 per cent. of the total.

The figures in the last column of the table are of special interest, as they show the percentage exported of the production of each industrial group. Of the total production during the period 34.6 per cent. was exported. Over one-third of the agricultural production and approximately two-thirds of the pastoral production were sent abroad.

Sixty-four per cent. of the total production of the mining industry and 21 per cent. of the produce included in the dairy and farmyard group were exported.

§ 11. Movement of Specie and Bullion.

1. Imports and Exports.—The following tables show the value of gold and silver bullion, and specie, including bronze specie, imported and exported during the years 1918-19 to 1922-23:—

AUSTRALIAN IMPORTS AND EXPORTS, SPECIE AND BULLION, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
IMPORTS.					
	£	£	£	£	£
Gold—Specie ..	152	19	13	7	7
Bullion ..	6,969,849	36,312	6,736	6,356	3,501
Total ..	6,970,001	36,331	6,749	6,363	3,508
Silver—Specie ..	24,760	8,152	10,882	34,877	24,300
Bullion ..	75,678	1,596	2,502	2,041	2,130
Total ..	100,438	9,748	13,384	36,918	26,430
Bronze—Specie ..	600	7	11	23	886
GRAND TOTAL ..	7,071,039	46,086	20,144	43,304	30,824
EXPORTS.					
	£	£	£	£	£
Gold—Specie ..	7,166,029	5,321,053	5,303,423	3,480,420	2,219,998
Bullion ..	2,132	226,154	796	200	5,907
Total ..	7,168,161	5,547,207	5,304,219	3,480,620	2,225,905
Silver—Specie ..	83,991	105,657	66,687	6,955	5,870
Bullion ..	1,938,001	979,307	77,319	841,085	1,069,159
Total ..	2,021,992	1,084,964	144,006	848,040	1,075,029
Bronze—Specie ..	50	2,045	515	40	5
Total—					
Australian Produce ..	4,164,761	6,558,091	5,433,465	4,327,150	3,300,339
Other Produce ..	5,025,442	76,125	15,275	1,550	600
GRAND TOTAL ..	9,190,203	6,634,216(a)	5,448,740(a)	4,328,700(a)	3,300,939(a)

(a) Includes premium on gold exported.

2. Imports and Exports by Countries.—The next table shows the imports and exports of specie and bullion from and to various countries during the year 1922-23.

AUSTRALIAN IMPORTS AND EXPORTS—SPECIE AND BULLION BY COUNTRIES, 1922-23.

Country.	Imports.			Exports.		
	Specie.	Bullion.	Total.	Specie.	Bullion.	Total.
	£	£	£	£	£	£
Australia (a)	21,181	..	21,181	..	..	..
United Kingdom	1,557	2,377	3,934	631	9,569	10,200
Ceylon .. ..	..	..	..	583,220	22,766	605,986
India .. ..	..	..	..	1,596,382	1,008,219	2,604,601
Malaya (British) .. ..	..	..	..	39,765	..	39,765
New Zealand .. ..	..	2,211	2,211	1,000	669	1,669
Pacific Islands—						
Fiji .. ..	..	..	..	..	532	532
Solomon Islands .. ..	..	..	..	2,200	..	2,200
Territory of New Guinea .. ..	..	..	..	75	..	75
Papua .. ..	..	671	671	..	..	..
Total British Countries	22,738	5,259	27,997	2,223,273	1,041,755	3,265,028
China	178	..	178	..	33,311	33,311
Germany	176	..	176	..	..	..
Japan .. ..	..	..	..	600	..	600
Netherlands East Indies	2,101	..	2,101	..	..	..
Pacific Islands—						
New Caledonia .. ..	..	..	..	300	..	300
New Hebrides .. ..	..	..	..	1,700	..	1,700
United States of America .. ..	..	372	372	..	..	..
Total Foreign Countries	2,455	372	2,827	2,600	33,311	35,911
GRAND TOTAL	25,193	5,631	30,824	2,225,873	1,075,066	(b)3,300,939

(a) Australian Produce re-imported.

(b) Includes the premium on gold exported.

§ 12. Effect of Prices on Value of Exports.

1. General.—In comparing the value of exports from, and also imports into, any country for a series of years, the question naturally arises as to the extent to which any variation in the aggregate value is due to fluctuations in prices, or to increase or decrease of actual quantities, for, in aggregates expressed in value—the only possible method when the commodities differ—the two sources of variation are confused.

2. Methods of Computation.—The method of comparison adopted consists in the taking of an annual average for an extended period of the quantities of all such articles of export as are recorded by quantity, and the application to the average quantities so obtained of the average prices in each year. The quantities used to produce the following results are the averages for 19½ years, viz., from 1st January, 1897, to 30th June, 1916, which it is considered may be taken as representing the general quantitative composition or norm of the exports from Australia. The results published in issues of this work prior to No. 12, 1919, were ascertained by applying to the quantities exported during each year the average price per unit ruling in some year arbitrarily taken as the basic year. The advantage of the method now adopted is that the results are comparable throughout, whereas under the method previously followed each year was comparable with the basic year only.

3. Effect on Export Values.—The following table shows the value of exports as actually recorded in each year specified, together with the value computed on the assumption that the prices of 1901 were maintained. The table also shows the yearly "price-levels" based upon the results so ascertained.

This table obviously furnishes a measure of the influence of prices on the value of exports in each year since 1901. Column IV.—values computed on 1901 prices—represents the volume of exports (less specie and gold bullion), expressed in the common denomination of value, and from the figures therein it will be seen that, had the prices of 1901 remained constant, the value of the exports of merchandise during the year 1922–23, for example, would have been £56,713,275 only, instead of £115,638,367—the value actually recorded. The difference between these amounts (£58,925,092) results from a rise of 104 per cent. (i.e., from 1,000 to 2,039) in the prices of commodities for the period intervening between 1901 and 1922–23. A further increment in values has arisen from the premium on exported gold. During 1922–23 the premium on gold represented £26,450, or 1.26 per cent. on the standard price. Thus, on the basis of 1901 prices the total value of the exports during 1922–23 would have been £58,918,605 instead of £117,870,147 as recorded.

It will be seen from the column "Price-levels" that prices as indicated by the exports rose from the beginning of the decade to the year 1906. Owing to the large proportion of the aggregate value of exports represented by wool and wheat, any change in the price of these commodities has a marked effect on the index-numbers for the total group of exports, and it is to their influence that the fall of prices in 1911 is mainly due. Since that year prices steadily increased, reaching their maximum during 1920–21, but there was a considerable decline during 1921–22. An upward trend was manifested during 1922–23, and the price level for that year for all groups of exports was 2,039 as compared with 1721 for 1921–22. The index number for the agricultural group shows that commodities included therein were lower in price, while the index numbers for the pastoral and the dairy produce groups indicate that prices of such commodities were higher than in 1921–22.

**AUSTRALIAN EXPORTS.—VALUES AND PRICE LEVELS, 1901, 1906, AND
1911 TO 1922–23.**

Year.	Exports of Specie and Gold Bullion.	Other Exports.		Total Exports (including Specie and Gold Bullion).		Price-Levels.(a) Year 1901 = 1,000.
		Values as Recorded.	Values Computed on Mass Prices of 1901.	Values as Recorded.	Values Computed on Mass Prices of 1901.	
I.	II.	III.	IV.	V.	VI.	VII.
	£	£	£	£	£	
1901 ..	14,347,776	35,348,396	35,348,396	49,696,172	49,696,172	1000
1906 ..	16,895,059	52,842,704	42,005,330	69,737,763	58,900,389	1258
1911 ..	11,561,639	67,920,619	58,501,825	79,482,258	70,063,464	1161
1912 ..	11,881,216	67,214,874	53,213,427	79,096,090	65,099,643	1263
1913 ..	3,164,105	75,407,664	58,455,553	78,571,769	61,619,658	1290
1914–15 ..	2,474,197	58,118,379	44,740,861	60,592,576	47,215,058	1299
1915–16 ..	10,391,019	64,387,302	40,469,705	74,778,321	50,860,724	1591
1916–17 ..	11,521,815	86,433,667	43,985,398	97,955,482	55,507,213	1965
1917–18 ..	6,483,265	74,945,956	35,962,551	81,429,221	42,445,816	2084
1918–19 ..	7,252,202	106,711,774	52,489,805	113,963,976	59,742,007	2033
1919–20 ..	5,654,909 ^b	144,168,600	64,103,424	149,823,509	68,516,379	2249
1920–21 ..	5,371,421 ^b	126,787,491	56,249,996	132,158,912	60,330,722	2254
1921–22 ..	3,487,615 ^b	124,358,920	72,259,686	127,846,535	75,225,164	1721
1922–23 ..	2,231,780 ^b	115,638,367	56,713,275	117,870,147	58,918,605	2039

(a) These are index-numbers for the total group of exports, excluding specie and gold bullion.

(b) Including premium on gold exported 1919–20, £1,241,954, or 23.8 per cent. on standard price; 1920–21, £1,290,895, or 32.1 per cent.; 1921–22, £522,137 or 17.6 per cent.; 1922–23, £26,450 or 1.26 per cent.

4. Price-Levels of Exports.—The following table of index-numbers shows the variations in price of the different classes of goods exported, grouped according to their industrial origin:—

AUSTRALIAN EXPORTS.—PRICE-LEVELS, 1901, 1906 AND 1911 TO 1922-23.

Year.	Agricultural Produce.	Pastoral Produce.	Dairy Produce.	Mineral Produce.(a)	Miscellaneous.	All Classes.(a)
1901 ..	1,000	1,000	1,000	1,000	1,000	1,000
1906 ..	1,155	1,344	1,021	1,113	991	1,258
1911 ..	1,243	1,193	1,085	944	1,227	1,161
1912 ..	1,388	1,268	1,198	1,133	1,254	1,263
1913 ..	1,324	1,334	1,124	1,114	1,329	1,290
1914-15 ..	1,480	1,323	1,176	1,066	1,221	1,299
1915-16 ..	1,927	1,589	1,488	1,393	1,106	1,591
1916-17 ..	1,726	2,131	1,690	1,650	1,357	1,965
1917-18 ..	1,954	2,250	1,624	1,760	1,401	2,084
1918-19 ..	1,864	2,166	1,855	1,692	1,775	2,033
1919-20 ..	2,145	2,393	2,023	1,787	2,150	2,249
1920-21 ..	3,177	2,093	2,854	1,813	2,179	2,254
1921-22 ..	2,108	1,717	1,507	1,427	1,845	1,721
1922-23 ..	1,931	2,213	1,845	1,459	1,701	2,039

(a) Excluding gold which, since February, 1919, has been exported at a premium. During the year 1919-20 the premium realized was 28·8 per cent.; during 1920-21, 32·1 per cent.; during 1921-22, 17·6 per cent.; and during 1922-23, 1·26 per cent.

§ 13. External Trade of Australia and other Countries.

1. Essentials of Comparisons.—Direct comparisons of the external trade of any two countries are possible only when the general conditions prevailing therein, and the system of record, are more or less identical. For example, in regard to the mere matter of record, it may be observed that in one country the value of imports may be the value at the port of shipment, while in another the cost of freight, insurance, and charges may be added thereto. Again, the values of imports and exports in the one may be declared by merchants, whereas in the other they may be the official prices fixed from time to time by a commission constituted for the purpose. In later years, moreover, a very substantial difference in the value of imports would arise from the different methods of converting the moneys of foreign countries, *i.e.*, from the application of current rates of exchange or of the mint par. Lastly, the figures relating to the external trade of any country are also affected in varying degree by the extent to which they include transit or re-export trade. Including bullion and specie, the transit trade of Belgium, for example, represented, prior to the war, approximately 40 per cent. of the gross trade recorded; of Switzerland, 45 per cent.; of France, 20 per cent.; and of the United Kingdom, 15 per cent.; whereas in Australia the same element represents, normally, about 4 per cent., and in New Zealand even less.

2. "Special Trade" of Various Countries.—Special trade may be defined according to the interpretation of the British Board of Trade, as (a) imports entered for consumption in the country (as distinguished from imports for transshipment or re-export) and (b) exports of domestic products.

In the following table the figures relate as nearly as possible to imports entered for consumption in the various countries specified, and to exports of their domestic products. It is to be noted, however, that these figures do not invariably denote the same thing throughout, since, in the United Kingdom and other manufacturing countries, raw or partly manufactured materials are imported as for home consumption, and, after undergoing some process of manufacture or further modification, are re-exported as domestic production. Further, the statistical records of many countries do not distinguish between bullion and specie imported for the use of the particular country (home consumption) and the amount in transit, nor between the exports of that produced within the country and that re-exported. Nevertheless, a comparison of this character reveals

approximately the extent of the external trade which otherwise would not be manifest. The figures relating to foreign countries have been converted on the average of the commercial rates of exchange for the years subsequent to the war.

**IMPORTS FOR HOME CONSUMPTION, AND EXPORTS OF DOMESTIC PRODUCTS
—INCLUDING BULLION AND SPECIE, VARIOUS COUNTRIES.**

Country.	Year ended—	Trade.			Trade per Inhabitant.		
		Imports.	Exports.	Total.	Imports.	Exports.	Total.
		£1,000	£1,000	£1,000	£ s. d.	£ s. d.	£ s. d.
C'wealth of Australia	30/6/23	128,639	114,751	243,390	22 16 8	20 7 4	43 4 0
	31/12/13	76,323	75,113	151,436	15 17 11	15 12 10	31 10 9
United Kingdom (a)	31/12/23	1,098,016	767,329	1,865,345	23 2 3	16 3 0	39 5 3
	31/12/13	671,265	525,461	1,196,728	14 11 8	11 8 4	26 0 0
Canada (a)	31/3/23	174,459	202,489	376,948	19 17 0	23 0 10	42 17 10
	31/3/14	132,019	89,915	221,934	16 13 6	11 7 2	28 0 8
New Zealand	31/12/23	42,919	45,372	88,291	32 1 3	33 17 11	65 19 2
	31/12/13	21,879	22,578	44,457	20 10 7	21 3 8	41 14 3
Union of South Africa	31/12/23	54,717	73,210	127,927	7 18 0	10 11 4	18 9 4
	31/12/22	51,557	60,334	111,891	7 8 11	8 14 4	16 3 3
United States of America (a)	30/6/23	840,250	863,678	1,703,958	7 19 0	8 3 4	16 2 4
	30/6/14	391,780	493,182	884,962	4 0 0	5 0 8	9 0 8
Argentine Republic	31/12/22	125,390	122,911	248,301	14 6 8	14 1 0	28 7 8
Belgium	31/12/22(b)	150,028	100,924	250,952	19 7 6	13 0 8	32 8 2
	31/12/12	210,211	160,054	370,265	27 15 3	21 2 10	48 18 1
Denmark(a)	31/12/22	67,715	54,696	122,411	20 11 9	16 12 7	37 4 4
	31/12/12	41,954	33,940	75,894	14 19 8	12 2 5	27 2 1
France	31/12/23	465,829	434,736	900,565	11 17 7	11 1 9	22 19 4
	31/12/12	350,482	281,495	631,977	8 16 9	7 1 11	15 18 8
German Empire	31/12/12	541,675	447,392	989,067	8 3 9	6 15 3	14 19 0
Italy	31/3/22	141,530	82,239	223,769	3 10 7	2 1 1	5 11 8
	31/12/12	149,113	97,536	246,649	4 5 2	2 15 8	7 0 10
Japan(a)	31/12/21	198,788	152,463	351,251	3 11 1	2 14 5	6 5 6
	31/12/12	66,007	57,972	123,979	1 5 3	1 2 2	2 7 5
	31/12/22	175,927	108,712	284,639	25 4 3	15 11 7	40 15 10
Netherlands	31/12/20	314,717	163,412	478,129	46 8 6	24 2 2	70 10 8
Norway	31/12/22	52,557	31,496	84,053	19 16 8	11 17 9	31 14 5
	31/12/12	28,756	18,147	46,903	11 15 9	7 8 10	19 4 7
Spain (a)	31/12/22	106,428	50,848	157,276	4 19 8	2 7 8	7 7 4
	31/12/12	42,080	41,826	83,915	2 2 9	2 2 6	4 5 3
Sweden (a)	31/12/21	74,006	64,131	138,137	12 14 7	11 0 7	23 15 2
	31/12/12	44,095	42,257	86,352	7 17 4	7 10 10	15 8 2
Switzerland (a)	31/12/22	81,841	73,382	155,223	21 1 10	18 18 3	40 0 1
	31/12/12	81,577	55,629	137,206	21 6 7	14 10 11	35 17 6

(a) Excluding Bullion and Specie.

(b) Includes Luxemburg.

§ 14. Trade of the United Kingdom with Australia, compared with that of Competing Countries.

1. Proportion of Trade from United Kingdom and Competing Countries.—The failure of the United Kingdom to maintain the position formerly held in the import trade of Australia has been a matter of more than ordinary interest for some years. Since 1908 a permanent resident Commissioner appointed by the British Board of Trade has been established in Australia for the purpose of advising manufacturers and merchants in the United Kingdom with regard to Australian trade affairs. From the 8th August, 1907, the Commonwealth Customs Tariffs have provided special rates in favour of goods from the United Kingdom with the object of assisting the British manufacturer to retain or improve his position in this market.

Previous issues of this Year Book have contained a table showing, since 1886, the proportions of the imports into Australia which were shipped from the United Kingdom, Germany, and the United States respectively. The records according to "Countries of Shipment" having been discontinued, references to this aspect of the trade of Australia are restricted to the trade according to "Countries of Origin," for which accurate information is available from 1908.

It may be pointed out that there are many items of magnitude in Australian imports, such as tea, unmanufactured tobacco, petroleum products, timber, etc., which the United Kingdom could not possibly supply. Consequently, in any investigation concerning the relative position of the United Kingdom in the Australian market, inquiries must be confined to those classes of goods which are produced in the United Kingdom. The principal of these competitive classes are shown in the following tables:—

AUSTRALIAN IMPORTS.—PRODUCTS OF VARIOUS COUNTRIES, 1913 AND 1919-20 TO 1922-23.

Nature of Imports.	Year.	United Kingdom.	France.	Germany.	Japan.	U.S. of America.	All Countries.
	£	£	£	£	£	£	£
Foodstuffs of animal origin	1913 ..	301,025	3,093	12,071	6,988	289,229	947,697
	1919-20	311,934	1,681	..	13,554	429,137	1,459,212
	1920-21	406,982	2,557	..	5,695	310,202	1,224,099
	1921-22	345,803	3,145	..	6,423	390,545	1,535,308
	1922-23	335,022	4,074	200	9,052	346,090	1,770,241
Spirituous and alcoholic liquors	1913 ..	1,227,561	343,394	143,426	1,689	2,805	1,947,248
	1919-20	941,290	219,271	85	947	1,331	1,308,686
	1920-21	1,443,554	346,059	..	480	53	2,000,248
	1921-22	1,364,857	134,430	31	126	..	1,583,382
	1922-23	1,585,244	177,597	490	160	66	1,864,738
Apparel, textiles, and manufactured fibres	1913 ..	12,254,561	961,025	1,712,395	475,973	623,542	19,935,750
	1919-20	16,655,976	1,315,240	1	2,576,953	2,950,227	27,630,783
	1920-21	34,282,863	1,808,371	55	3,215,401	4,125,344	52,322,707
	1921-22	23,155,981	1,447,505	275	2,755,020	1,657,927	34,225,643
	1922-23	31,015,472	1,702,088	54,482	2,928,768	2,432,296	44,570,027
Metals, metal manufactures and machinery	1913 ..	13,905,483	217,148	2,380,152	7,657	3,817,705	21,670,212
	1919-20	13,151,262	34,488	4,059	196,590	8,510,598	22,332,444
	1920-21	25,103,669	237,338	10,682	287,095	13,518,897	42,220,826
	1921-22	14,443,901	337,048	70,099	69,993	7,194,024	25,096,571
	1922-23	20,159,269	306,487	229,225	73,346	10,095,490	35,203,294
Paper and stationery	1913 ..	1,789,577	21,930	266,483	10,656	403,679	3,134,750
	1919-20	1,274,565	70,760	146	85,439	1,287,938	4,156,626
	1920-21	3,480,920	109,027	1,352	106,649	1,325,978	8,978,597
	1921-22	2,260,155	122,122	2,337	17,744	523,048	4,855,564
	1922-23	3,577,157	143,373	19,918	25,052	630,867	6,275,837
Jewellery, time-pieces, and fancy goods	1913 ..	521,290	88,070	263,688	19,307	138,217	1,442,292
	1919-20	648,782	182,384	12	131,445	267,408	2,065,318
	1920-21	1,045,357	209,422	12	161,636	357,394	2,609,446
	1921-22	769,645	104,583	24	86,254	231,162	1,762,373
	1922-23	1,003,207	165,016	53,236	149,477	261,661	2,405,779
Earthenware, cements, glass, etc.	1913 ..	650,138	40,245	453,188	21,493	62,887	1,565,727
	1919-20	1,274,565	5,647	7	328,809	251,906	1,237,558
	1920-21	1,234,509	13,650	17	620,028	323,232	3,184,438
	1921-22	1,199,808	20,252	25	202,252	166,885	1,886,934
	1922-23	1,311,817	20,090	10,882	221,253	155,720	2,205,790
Drugs, chemicals, fertilizers	1913 ..	1,020,647	245,426	304,179	139,178	210,758	2,721,902
	1919-20	1,359,661	377,686	63	111,340	878,436	3,652,671
	1920-21	2,415,128	425,259	37,409	88,435	1,243,037	5,501,325
	1921-22	1,718,317	228,599	5,451	50,740	619,954	3,556,742
	1922-23	1,982,104	266,499	57,980	31,572	586,548	3,895,988
Rubber and leather and manufactures thereof and substitutes therefor	1913 ..	485,216	68,686	347,045	688	433,837	1,717,035
	1919-20	1,014,462	74,571	..	6,073	1,048,860	2,125,284
	1920-21	788,883	169,600	..	3,963	1,291,509	3,093,611
	1921-22	503,498	135,473	2	1,048	508,765	1,583,611
	1922-23	687,663	152,341	15,475	759	1,151,893	2,643,498
Total above-mentioned imports	1913 ..	32,155,498	1,989,017	5,882,627	683,629	5,982,659	55,082,613
	1919-20	35,271,734	2,281,728	4,373	3,451,150	15,625,841	65,988,582
	1920-21	70,199,865	3,321,283	49,527	4,489,382	22,495,646	121,225,597
	1921-22	45,761,965	2,533,157	78,244	3,189,605	11,292,310	76,056,128
	1922-23	61,656,955	2,937,565	441,888	3,439,439	15,660,531	100,835,201
Total imports (less bullion and specie)	1913 ..	40,948,803	2,222,631	7,029,325	950,300	10,907,512	78,196,109
	1919-20	38,514,975	2,422,304	6,848	4,222,511	23,824,259	68,928,206
	1920-21	76,845,973	3,597,511	52,432	5,230,039	36,310,081	163,781,682
	1921-22	52,987,879	2,731,728	79,447	3,581,614	18,822,364	103,022,132
	1922-23	68,390,489	3,231,197	593,636	3,936,150	24,850,931	131,727,011

**AUSTRALIAN IMPORTS.—PRODUCTS OF VARIOUS COUNTRIES.—PERCENTAGES,
1913 AND 1919-20 TO 1922-23.**

Nature of Imports.	Year.	United Kingdom.	France.	Germany.	Japan.	U.S. of America.	All Countries.
Foodstuffs of animal origin	1913 ..	31.77	0.33	12.74	0.74	30.52	100
	1919-20	21.38	0.12	..	0.93	29.41	100
	1920-21	33.25	0.21	..	0.47	25.35	100
	1921-22	22.52	0.20	..	0.42	25.43	100
	1922-23	18.93	0.23	0.01	0.51	19.55	100
Spiritous and alcoholic liquors	1913 ..	63.04	17.64	7.37	0.09	0.14	100
	1919-20	71.93	16.76	0.00	0.07	1.02	100
	1920-21	72.19	17.30	..	0.00	0.00	100
	1921-22	86.18	8.49	..	0.01	..	100
	1922-23	85.02	9.52	0.03	0.01	0.00	100
Apparel, textiles, and manufactured fibres ..	1913 ..	61.48	4.82	8.59	2.39	3.13	100
	1919-20	60.28	4.76	0.00	9.33	10.68	100
	1920-21	65.52	3.46	0.00	6.15	7.88	100
	1921-22	67.66	4.23	0.00	8.05	4.85	100
	1922-23	69.59	3.82	0.12	6.57	5.46	100
Metals, metal manufactures, and machinery	1913 ..	64.17	1.00	10.98	0.04	17.62	100
	1919-20	58.84	0.15	0.02	0.88	38.07	100
	1920-21	59.46	0.56	0.03	0.68	32.02	100
	1921-22	57.55	1.34	0.28	0.28	28.67	100
	1922-23	57.26	0.87	0.65	0.21	28.68	100
Paper and stationery	1913 ..	57.41	0.70	8.50	0.34	12.88	100
	1919-20	30.66	1.70	0.00	2.06	30.99	100
	1920-21	38.77	1.21	0.02	1.19	14.77	100
	1921-22	46.55	2.52	0.05	0.37	10.77	100
	1922-23	57.00	2.28	0.32	0.40	10.05	100
Jewellery, time-pieces, and fancy goods	1913 ..	36.14	6.11	18.28	1.34	9.58	100
	1919-20	31.41	8.83	0.00	6.36	12.95	100
	1920-21	39.98	8.03	0.00	6.19	13.70	100
	1921-22	43.67	5.93	0.00	4.89	13.12	100
	1922-23	41.70	6.86	2.21	6.21	10.87	100
Earthenware, cements, glass, etc.	1913 ..	41.52	2.57	28.94	1.37	4.02	100
	1919-20	41.84	0.46	0.00	26.57	20.36	100
	1920-21	38.77	0.43	0.00	19.47	10.15	100
	1921-22	63.59	1.07	0.00	10.72	8.84	100
	1922-23	59.47	0.91	0.49	10.03	7.06	100
Drugs, chemicals, and fertilizers	1913 ..	37.49	9.02	11.18	5.11	7.74	100
	1919-20	37.22	10.34	0.00	3.05	24.05	100
	1920-21	43.19	7.60	0.67	1.58	22.23	100
	1921-22	48.31	6.43	0.15	1.43	17.43	100
	1922-23	50.88	6.84	1.49	0.81	15.06	100
Rubber and leather and manufactures thereof, and substitutes therefor	1913 ..	28.26	4.00	20.21	0.04	25.27	100
	1919-20	19.31	3.51	..	0.29	49.35	100
	1920-21	25.50	5.48	..	0.13	41.75	100
	1921-22	31.79	8.55	0.00	0.07	32.13	100
	1922-23	26.01	5.76	0.59	0.03	43.57	100
Total above-mentioned articles	1913 ..	58.38	3.61	10.68	1.24	10.86	100
	1919-20	53.45	3.46	0.01	5.23	23.68	100
	1920-21	57.91	2.74	0.04	3.70	18.56	100
	1921-22	60.15	3.33	0.10	4.19	14.84	100
	1922-23	61.15	2.91	0.44	3.41	15.53	100
Total imports (less bullion and specie)	1913 ..	52.37	2.84	8.99	1.22	13.95	100
	1919-20	38.93	2.45	0.01	4.27	24.08	100
	1920-21	46.92	2.20	0.03	3.19	22.05	100
	1921-22	51.44	2.65	0.08	3.48	18.27	100
	1922-23	51.92	2.45	0.45	2.99	18.87	100

It may also be mentioned here that the value of the imports from the United States and from Japan during the later years are somewhat understated, inasmuch as the values have been converted from the currencies of those countries on the basis of the par of exchange, whereas the actual exchange rates were considerably in their favour. The effect of this method of conversion, except in the case of Italy, did not reach serious dimensions until the year 1919-20. This method of conversion, which was applied to values for Customs duty also, was an advantage to Japan and to the United States in the Australian market by reducing the amount of duty to be paid on goods subject to *ad valorem* rates. In

consequence of using the par of exchange, the figures given in the foregoing tables, though taken from the official records, are somewhat misleading. As the practice of converting import values on the par of exchange was continued until the 8th December, 1920, it follows that the figures for 1920-21 are also affected to some extent. The position of the United Kingdom in the Australian market has been recovered to such a marked extent that minor defects in the records are, however, of little consequence in the results.

From the foregoing tables it is clear that the value of the trade for which the United Kingdom is a substantial competitor increased from £55,082,613 in 1913, to £100,835,201 in 1922-23. Of this larger amount the United Kingdom supplied 61.15 per cent. as against 58.38 per cent. of similar imports in 1913. In 1919-20 the share of the United Kingdom in this trade represented 53.45 per cent. The share of Japan increased from 1.24 per cent. in 1913 to 5.23 per cent. in 1919-20, but fell to 3.41 per cent. in 1922-23. The value of imports of competitive goods from Japan is much less than from the United States of America, but the rate of increase has been far greater—from £683,629 in 1913 to £3,439,439 in 1922-23, over 400 per cent. The classes of goods chiefly imported from Japan are as follows:—Apparel and textiles, metal manufactures and machinery, china and porcelain ware, earthenware, glass and glassware, paper and stationery, and fancy goods.

The position of the United States in this competitive trade has improved from 10.86 per cent. in 1913 to 15.53 per cent. in 1922-23, though it is much lower than in 1919-20, when it represented 23.68 per cent. In the latest pre-war year (1913), the value of goods from the United States in the "competitive" groups was £5,982,659, whereas in 1922-23 it was £15,660,531. The following are the principal groups of commodities in which United States sales to Australia during 1922-23 were increased over those of 1913:—Apparel and textiles, manufactured metals and machinery (including vehicles), and rubber and manufactures thereof.

The position of France has declined from 3.61 per cent. in 1913 to 2.91 per cent. in 1922-23. The proportion supplied by France has, however, not varied greatly as the imports during the five years under review have represented about 3 per cent. of the competitive trade.

The proportion of the imports supplied by Germany in 1913 was 10.68 per cent. as compared with 58.38 per cent. from the United Kingdom; 3.61 per cent. from France; 1.24 per cent. from Japan and 10.86 per cent. from the United States. The corresponding figures for the year 1922-23 were:—Germany, 0.44 per cent.; United Kingdom, 61.15 per cent.; France, 2.91 per cent.; Japan, 3.41 per cent. and the United States, 15.53 per cent.

From the foregoing it will be seen that the more prominent position held by the United States of America and by Japan in the Australia import market in 1922-23 was not at the expense of the United Kingdom, but, rather, represented a substitution of the trade formerly supplied by Germany.

Comparing the percentages of imports from each country during the period 1919-20 to 1922-23 it will be noticed that the proportions supplied by the United Kingdom and Germany increased, while those from France, Japan and the United States decreased.

2. Preferential Tariffs.—The Commonwealth Tariff Act of 1908 provided preferential tariff rates in favour of goods produced or manufactured in the United Kingdom. Subsequent amendments of the Tariff have extended the list of articles to which the preferential rates apply. In the schedule submitted to Parliament on the 3rd December, 1914, the extension of the number of preferential rates was very material, and was accompanied in many instances by an increase of the margin in favour of the United Kingdom. This favourable treatment of the United Kingdom was again extended in both directions by the Tariff submitted on the 24th March, 1920 (Tariff Act 1921).

On the introduction of the preferential treatment of British goods by the Commonwealth Tariff, it was required that British material or labour should represent not less than one-fourth the value of such goods. From the 1st September, 1911, it has been required, in regard to goods only partially manufactured in the United Kingdom, that the final process or processes of manufacture shall have been performed in the United Kingdom, and that the expenditure on material of British production and/or British labour shall have been not less than one-fourth of the factory or works cost of the goods in the finished state.

On the basis of the imports during 1913, the preferential provisions of the Tariff of 1908-11 covered 65 per cent. of the imports of merchandise of United Kingdom origin,

the margin of preference being equal to 5.08 per cent. of the value of the goods. On the same basis the Tariff of 1921 has extended the application of the preferential Tariff rates to 90 per cent. of the imports from the United Kingdom, and, at the same time, has increased the margin of preference to 12.22 per cent. *ad valorem*. For the purpose of these computations an unusual importation of warships valued at £2,495,000 has not been taken into account. The average equivalent *ad valorem* rate of duty payable under the tariff of 1921 on goods of United Kingdom origin is about 25 per cent., whereas the same goods under the general Tariff rates would be called upon to pay an average rate of about 37½ per cent.

An application of the Tariff of 1921 to the imports from the United Kingdom entered for home consumption during the year 1921–22 shows that about 90 per cent. of these imports were favoured by a margin of 12.6 per cent. *ad valorem*, representing about £5,573,000 additional duty which would have been paid had the same goods been imported under the General Tariff rates. A similar computation applied to the imports from the United Kingdom during 1922–23 shows that approximately £7,600,000 additional duty would have been paid if the imports had been dutiable under the General Tariff rates.

3. *Reciprocal Tariffs.*—(i) *General.* The Tariff Act of 1921 introduced a new feature into Australian Tariffs in the form of an Intermediate Tariff. In submitting the schedule to Parliament, the Minister for Trade and Customs made the following statement of the object of the Intermediate Tariff:—“ . . . the Minister is empowered under the Bill to enter into reciprocal arrangements with other Dominions of the British Crown. The Minister will be able, if we can arrange a satisfactory reciprocal agreement, to extend to other Dominions on individual items the British preference rate, or the intermediate rate, or, it may be, the general rate. Such agreements will be subject to the ratification of Parliament. The provision simply means that if any of our sister self-governing Dominions desires to enter into reciprocal trade relationships with us, the Minister, with the British Preference Tariff, the Intermediate Tariff, and the General Tariff before him, may bargain with the sister Dominion and come to an agreement which, as I say, must subsequently be ratified by Parliament. . . . There is a provision of a somewhat similar character in regard to other countries than the Dominions, the only difference being that the Minister is empowered to extend to countries other than the Dominions only the Intermediate Tariff; that is to say, in entering into such negotiations, he is precluded from offering to those countries what we might term, for the purposes of this Bill, the Empire rate. He is confined in his negotiations with these other countries to the Intermediate Tariff.”

(ii) *Union of South Africa.* Until 1922, the Union of South Africa was the only British Dominion with which Australia had a reciprocal Tariff arrangement. The Commonwealth Customs Tariff (South African Preference) Act, No. 17 of 1906, and subsequent amending Acts have provided preferential rates of duty to be applied to certain imported goods “when those goods are imported from and are the produce or manufacture of any of the British South African Colonies or Protectorates which are included within the South African Customs Union.”

(iii) *Dominion of New Zealand.* On the 11th April, 1922, an agreement was made between the Commonwealth of Australia and the Dominion of New Zealand whereby goods specified in the schedule attached to the agreement should be admitted at the rates of duty set out in the schedule. In addition to the goods specially mentioned in the schedule, it is provided that “all other goods being the produce or manufacture of Australia or New Zealand shall be dutiable at the rates applicable to goods being the produce or manufacture of the United Kingdom, upon entry into New Zealand or Australia respectively.” This agreement was ratified by the Commonwealth Parliament by the Customs Tariff (New Zealand Preference) 1922, and, by Proclamation dated 24th August, 1922, came into operation on the 1st September, 1922.

(iv) *Dominion of Canada.* Although previous efforts to bring about reciprocal Tariff arrangements between Canada and Australia have not been successful, further negotiations with this object in view are in progress.

4. *Preferential Tariff of the United Kingdom.*—The post-war Tariff of the United Kingdom provides Preferential Customs Rates on certain goods where they are shown to the satisfaction of the Commissioners of Customs and Excise to have been consigned

from and grown, produced, or manufactured in the British Empire. Manufactured articles generally are not entitled to the preferential rates unless 25 per cent. of their value is the result of labour within the British Empire. The principal items of interest to Australia which are accorded preferential treatment under the Tariff of the United Kingdom are:—Fruits, dried and preserved; jam; fruit pulp; preserved milk; wine; and brandy.

The question of Tariff Preference was discussed at the Imperial Economic Conference held in 1923, when the following resolution was adopted:—

“ This Imperial Economic Conference, holding that, especially in present circumstances, all possible means should be taken to develop the resources of the Empire and trade between the Empire countries, desires to affirm the resolution on the subject of Imperial Preference passed by the Imperial War Conference of 1917.”

The resolution was agreed to by all delegates, including the representative from Great Britain. The British Ministry in power at the time was prepared to grant certain increased preferences, but stipulated that their proposals could not go beyond the established fiscal system.

Under the existing tariff there is a duty of 10s. 6d. per cwt. on dried figs, raisins, plums and apricots imported from foreign countries with a preference of one-sixth, i.e., of 1s. 9d. per cwt., if of Empire origin. It was proposed that the duty be retained, but that Empire raisins, figs, and plums should be admitted free, thus having a preference of 10s. 6d. per cwt. Other proposals of the British Ministry to the conference included a preference of 2s. per cwt. on currants, 5s. per cwt. on raw apples, 10s. per cwt. on honey, and also increased preferences on sparkling wines and tobacco.

Before the proposals could be submitted to the British Parliament the Ministry in power at the date of conference was defeated. The new Prime Minister (Mr. Ramsay MacDonald) announced, however, that the Imperial Preference resolutions of the Imperial Economic Conference would be discussed in the House of Commons during June, 1924, and that the debate would be unfettered and the votes on non-party lines. The proposals duly came before Parliament, and as a result of the debate on Imperial Preference, the first four resolutions, which proposed Imperial Preference without imposing any new charge upon the foreigner, were defeated by small majorities. The other six resolutions, of which notice had been given, were then withdrawn.

§ 15. Customs Tariff of 1921.

1. **General.**—The Commonwealth Customs Duties are levied partially in the form of *ad valorem* duties and partially in the form of fixed rates per unit of quantity; in a few instances both these forms are complementary, and in a few other instances provision is made for the application of fixed rates or *ad valorem* rates according to which will produce the greater amount of duty. Under the Tariff of 1921 about 46 per cent. of imports (on the basis of the imports of 1913) would be subject to *ad valorem* rates, about 25 per cent. would pay fixed rate duties, and the balance—about 29 per cent.—would be free of duty.

2. **Comparisons with Tariff of 1908–11.**—The following table shows approximately the changes made in the average equivalent *ad valorem* rates of duty on the various classes of imports by the Tariff of 1921 in comparison with the Tariff of 1908–11. The results given have been obtained by applying, as closely as possible, the rates of duty prescribed by each Tariff to the imports of 1913. The year 1913 has been selected as representing more nearly than any subsequent year the normal composition of Commonwealth imports. Owing to the many subdivisions which have been made in the items of the earlier Tariff by the recent revision, and the inadequacy of the statistics of imports to meet these changes, the results must be taken as merely approximate to the truth. As the imports for 1913 have been taken as the basis of the comparison it has been necessary to make allowance for the increase in prices in computing the *ad valorem* equivalent of the fixed rate duties in operation under the Tariff of 1921. For this purpose the average prices for similar goods imported during 1921–22 have been taken.

From the results given it would appear that the Tariff of 1921 has reduced the proportion of imports which were free from duty from 42.96 per cent. to 29.12 per cent., or, conversely, has increased the proportion of dutiable goods from 57.04 per cent. to 70.88 per cent. This result is due in the most part (75 per cent.) to the imposition of

duties of general application, and to a lesser degree (25 per cent.) to duties imposed for the purpose of providing preference to the manufactures of the United Kingdom.

The average *ad valorem* rate of duty over all merchandise—both dutiable and free—has been raised from 17.08 per cent. to 22.63 per cent. This comparatively small increase in what is the equivalent of an average *ad valorem* rate is due to the effect of increased prices for those goods which are subject to fixed rate duties. In order to determine what change has been made in the average rate of duty over all goods, it is usual to put all rates on a common *ad valorem* basis. Notwithstanding that in numerous cases very substantial increases were made in these fixed rate duties the increase in price was so much greater, that their *ad valorem* incidence is less, *at the present time*, under the 1921 Tariff than it was when the Tariff of 1908-11 was in operation. A simple illustration, to make this clear, may not be out of place.

AUSTRALIAN CUSTOMS TARIFFS OF 1908-11 AND OF 1921 COMPARED.

Class of Imports.	Tariff of 1908-11.			Tariff of 1921.		
	Per-centage of Free Goods.	Equivalent <i>ad val.</i> Rates of Duty on—		Per-centage of Free Goods.	Equivalent <i>ad val.</i> Rates of Duty on—	
		All Merchandise.	All Dutiable Merchandise.		All Merchandise.	All Dutiable Merchandise.
I. Foodstuffs of Animal Origin ..	10.42	15.43	17.22	10.42	14.71	16.44
II. Foodstuffs of Vegetable Origin ..	5.33	33.11	34.97	12.00	23.75	26.98
III. Beverages (non-alcoholic) and Substances used in making ..	79.62	4.36	21.38	79.62	4.08	20.04
IV. Spirituous and Alcoholic Liquors ..	00.00	144.95	144.95	00.00	108.92	108.92
V. Tobacco and preparations thereof ..	00.00	159.00	159.00	00.00	85.32	85.32
VI. Live Animals ..	87.70	00.07	00.59	100.00	00.00	00.00
VII. Animal Substances (mainly un-manufactured) ..	80.37	2.70	13.76	80.37	3.64	18.56
VIII. Vegetable Substances and Fibres ..	87.89	3.52	29.01	79.31	6.51	31.46
IX. (i) Apparel ..	15.12	24.75	29.15	4.67	34.85	36.55
(ii) Textiles ..	45.39	9.45	17.31	44.60	12.40	22.36
(iii) Bags and Cordage ..	91.30	1.91	21.92	91.30	2.42	27.88
X. Oils, Fats, and Waxes ..	32.32	11.12	16.43	27.72	9.73	13.46
XI. Paints and Varnishes ..	4.43	16.25	17.00	4.07	21.33	22.23
XII. Stones and Minerals used industrially ..	16.54	19.27	23.10	6.60	21.30	22.80
XIII. Ores and Mineral Earths ..	100.00	..	..	63.78	19.28	53.22
XIV. (i) Machines and Machinery. Agricultural Implements and Machinery ..	39.47	12.44	20.56	4.62	32.58	34.16
Other Machines and Machinery ..	25.92	14.80	19.98	10.60	23.62	26.43
Total Machines and Machinery ..	27.42	14.54	20.04	9.94	24.63	27.34
(ii) Manufactures of Metals, iron and steel (simpler forms) ..	52.18	3.94	8.25	1.60	20.83	21.17
Other Manufactures of Metals ..	42.33	11.64	20.18	16.74	22.83	27.43
Total Manufactures of Metals ..	47.22	7.81	14.80	9.22	20.74	22.85
XV. Rubber and Manufactures of Rubber ..	34.46	15.43	23.54	34.46	23.21	35.42
Leather and Manufactures of Leather ..	3.34	18.72	19.37	1.94	31.37	31.99
XVI. Wood and Wicker, raw and manufactured ..	7.70	15.53	16.83	2.86	21.64	22.28
XVII. Earthenware, Cements, China, Glass, and Stoneware ..	7.13	25.71	27.67	2.38	28.44	29.13
XVIII. (i) Paper ..	71.75	6.30	22.30	2.34	15.43	15.80
(ii) Stationery ..	67.46	7.82	24.03	67.04	10.05	30.47
XIX. Jewellery, Timepieces, and Fancy Goods ..	20.47	20.39	25.64	20.48	32.55	40.94
XX. Optical Surgical and Scientific Instruments ..	75.38	3.52	14.26	21.91	22.37	28.65
XXI. Drugs, Chemicals, and Fertilizers ..	71.50	6.82	23.92	39.19	14.82	24.37
XXII. Miscellaneous ..	75.93	5.68	23.60	73.08	8.24	30.61
Total Merchandise ..	42.96	17.08	29.96	29.12	22.63	31.93
Total Merchandise, excluding Alcoholic Liquors and Tobacco ..	44.76	11.66	21.10	30.31	18.17	26.26

NOTE.—In computing the results given in the above table it has been assumed that all imports during 1913 were entered for consumption during the year and that all deferred duties were in operation.

Under the Tariff of 1908-11 the duty on whisky was 14s. per gallon, while under the Tariff of 1921 it is 30s. per gallon—an actual increase in duty of 114 per cent. In 1913 the import value of a gallon of bulk whisky was 6s. 6d., whereas in 1921-22 a similar gallon of whisky was valued at 26s. 5d.—an increase in price of 306 per cent. Thus under the 1908-11 Tariff a gallon of whisky valued at 6s. 6d. paid duty amounting to 14s. or 215 per cent. *ad valorem*, while under the Tariff of 1921 a gallon of whisky valued at 26s. 5d. would pay 30s. which, however, would represent only 113 per cent. *ad valorem*. The same thing applies, in varying degree, to all goods subject to fixed rate duties.

The classes most conspicuously affected in this way are those numbered I. to V. in the accompanying table, and it will be noticed that for each of these classes the rates of duty on the *ad valorem* basis are lower under the 1921 Tariff than before. These results do not indicate a reduction of duties, but merely an increase in prices greater than the increase in duties. As prices revert towards the pre-war level the duties collected under fixed rates will, of course, increase relatively to the cost of the goods.

§ 16. Commonwealth Trade Representation in Overseas Countries.

The Commonwealth is represented in the United Kingdom by the High Commissioner for Australia (Rt. Hon. Sir Joseph Cook, P.C., G.C.M.G.), with headquarters at Australia House, London. Oversea trade matters affecting Australia come within the scope of the duties attaching to the office of High Commissioner.

The Commonwealth has a Trade Representative in France, with headquarters at Paris. This official is attached to the High Commissioner's office, London.

The first appointment of a Commissioner for Australia in the United States of America was made in 1918, when Mr. (now Sir) H. Y. Braddon was appointed. He was succeeded in 1919 by Mr. (now Sir) M. Sheldon, who continued in office until 1922. Since his resignation and until the appointment of Mr. Donald Mackinnon on 1st June, 1923, the duties of the office were carried on by the Official Secretary, Mr. D. B. Edward, with headquarters at New York. Mr. J. A. M. Elder has been appointed to succeed Mr. Mackinnon, and it is understood that he will take over the duties on or about the 20th October, 1924.

Early in 1921, a Commonwealth Trade Commissioner was appointed in China, with offices at Shanghai and Hong Kong. This office was terminated in 1923. In 1922, Mr. E. T. Sheaf was appointed Australian Trade Representative in the East, with headquarters at Singapore, and this officer now deals with all trade matters in the East.

CHAPTER VII.

TRANSPORT AND COMMUNICATION.

A. SHIPPING.

§ 1. System of Record.

NOTE.—Owing to the general disorganization of shipping during the war, the figures relating to the war period given in the following tables are of little comparative significance.

So far as oversea vessels are concerned the system of record treats Australia as a unit, and counts, therefore, only one entry and one clearance for each voyage, without regard to the number of States visited.

On arrival of every vessel at a port in Australia, whether from an oversea country or from another port in Australia, the master must deliver to the Customs officer a form giving all particulars necessary for statistical purposes in regard to the ship, passengers, and cargo. Similarly, on departure from a port, a form containing corresponding information must be lodged. These forms, which provide a complete record of the movements of every vessel in Australian waters, are at the end of each month forwarded by the Customs officer at each port to the Commonwealth Bureau of Census and Statistics, and furnish the material for the compilation of the Shipping and Migration Returns.

Under the system previously in force it was found that the estimates of population, in so far as they were based on seaward movement, were unsatisfactory, and it is believed that the method referred to above gives decidedly better results.

From the 1st July, 1914, the statistical year for the record of Trade and Shipping of Australia was altered from the calendar year to the fiscal year ending 30th June.

In all instances the tonnage quoted is net tonnage.

§ 2. Oversea Shipping.

1. Total Movement.—In previous issues of the Year Book particulars were given of the number and tonnage of vessels entered and cleared each year since 1822. In this and future issues particulars for the last five years only will be shown. The following table gives the number and tonnage of steam and sailing vessels entering Australian ports from oversea during the years 1918–19 to 1922–23 :—

TOTAL OVERSEA SHIPPING, ENTERED.—AUSTRALIA, 1918-19 TO 1922-23.

Year.	Steam.		Sailing.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1918-19	1,053	2,907,572	297	331,488	1,350	3,239,060
1919-20	1,265	3,842,735	211	198,809	1,476	4,041,544
1920-21	1,526	4,422,880	304	336,036	1,830	4,758,916
1921-22	1,429	4,466,655	138	93,726	1,567	4,560,381
1922-23	1,341	4,599,021	148	138,833	1,489	4,737,854

The average tonnage of vessels entered has risen from 2,399 tons per vessel in 1918–19 to 3,182 tons in 1922–23.

2. **Comparison with other Countries.**—The place of Australia among various countries in regard to oversea shipping is indicated in the following table, both absolutely and in respect of tonnage per head of population.

OVERSEA SHIPPING.—VARIOUS COUNTRIES.

Country.	Calendar Year.	Tonnage Entered and Cleared.	
		Total. 000 omitted.	Per Inhabitant.
Australia	1923(a)	9,240	1.62
Belgium	1922	34,428(b)	4.60
Brazil	1922	44,904	1.47
Canada	1921	24,917	2.84
France	1922	62,208(b)	1.59
Germany	1922	44,820	0.75
Great Britain	1922	103,008(b)	2.18
India	1922	14,110(b)	0.04
Japan	1921	55,872	0.73
Netherlands	1922	26,424(b)	3.79
New Zealand	1922	3,573	2.69
Norway	1922	7,464(b)	2.82
Spain	1921	36,012	1.69
Sweden	1922	21,324	3.58
Union of South Africa	1922	8,904	1.29
United States	1922	130,032(c)	1.23

(a) To 30th June. (b) With cargoes only. (c) Exclusive of vessels trading on lakes and rivers between Canada and the United States.

3. **Shipping Communication with various Countries.**—In previous issues of the Year Book, tables were published giving the number and tonnage of ships recorded as arriving from and departing to particular countries. It was pointed out, however, that such records were of no significance, for the reason that the tonnage of a vessel can be recorded against one country only, notwithstanding that the same vessel on the same voyage may carry cargo or passengers to or from Australia for several countries. For instance, a mail steamer on a voyage from Europe to Australia, through the Suez Canal, may call at Antwerp, Bremerhaven, London, Marseilles, Genoa, Port Said, Aden and Colombo, yet can be credited only to one of these ports, to the exclusion of all the others from the records. Also, a number of vessels touch at New Zealand ports on their voyages to and from the United States of America and Canada, but their tonnages are not included in the records of Australian shipping trade with New Zealand. Similarly, the record of shipping engaged in trade between Australia and the United Kingdom via South African ports does not show tonnage to or from South Africa, the whole of it being included in the figures for United Kingdom. In view of this defect, it has been decided to discontinue the publication of the figures purporting to show the shipping communication with particular countries, and to restrict the statistics relating to the direction of the shipping to and from Australia to the following tables in which countries situated on the main trade routes are grouped together.

4. **General Direction of Shipping.**—A grouping of countries into larger geographical divisions, as in the following tables, shows more readily the general direction of Australian shipping, and, to some extent, avoids the limitations of the records in relation to particular countries, by covering more closely the main trade routes. The figures relating to Africa, however, are still subject to the limitations referred to in the previous sub-section.

OVERSEA SHIPPING, AUSTRALIA.—DIRECTION, 1918-19 TO 1922-23.

Countries.	Cargo and Ballast.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
TONNAGE ENTERED.						
United Kingdom and European Countries	Cargo	607,680	982,237	1,102,994	1,333,469	1,026,907
	Ballast	348,719	477,183	269,351	204,680	72,819
New Zealand	Cargo	393,927	411,819	518,789	421,365	392,526
	Ballast	98,691	173,601	350,370	213,347	167,187
Asiatic Countries and Islands in the Pacific	Cargo	619,174	682,592	837,195	686,888	821,036
	Ballast	296,264	538,630	631,004	794,175	279,043
Africa	Cargo	107,607	50,982	21,298	36,170	32,025
	Ballast	254,878	254,527	236,320	215,841	122,660
North and Central America	Cargo	490,592	454,830	747,599	629,688	911,026
	Ballast	14,895	3,642	8,747	15,940	2,944
South America	Cargo	1,179	11,501	8,236	1,179	5,470
	Ballast	5,454	..	27,013	7,641	4,211
	Cargo	2,220,159	2,593,961	3,236,111	3,108,757	4,088,990
	Ballast	1,018,901	1,447,583	1,522,805	1,451,624	648,864
Total		3,239,060	4,041,544	4,758,916	4,560,381	4,737,854

TONNAGE CLEARED.

United Kingdom and European Countries	Cargo	1,122,890	1,925,711	1,864,330	1,819,444	2,193,528
	Ballast	33,446	12,547	15,421	13,951	11,776
New Zealand	Cargo	373,058	596,367	789,094	542,865	518,972
	Ballast	25,230	23,157	24,254	43,140	49,097
Asiatic Countries and Islands in the Pacific	Cargo	672,306	844,879	1,123,141	1,116,430	922,243
	Ballast	43,618	30,129	52,374	27,644	100,832
Africa	Cargo	387,550	320,721	387,649	581,359	121,175
	Ballast	7,270	4,789	7,506	..	..
North and Central America	Cargo	235,228	224,368	294,145	345,817	436,800
	Ballast	5,791	17,068	22,673	3,488	35,011
South America	Cargo	33,709	45,237	162,974	26,759	89,816
	Ballast	1,330	..	541	..	23,675
	Cargo	2,824,741	3,957,273	4,621,333	4,432,674	4,282,534
	Ballast	116,685	87,690	122,769	88,223	220,391
Total		2,941,426	4,044,963	4,744,102	4,520,897	4,502,925

5. *Nationality of Oversea Shipping.*—(i) *General.* The greater part of the shipping visiting Australia is of British nationality, though the proportion of British tonnage in 1920-21 was very much lower than in the immediately preceding years. This was largely due to the dislocation of the coal-mining industry in the United Kingdom. The exports of coal from Australia were, in consequence, largely increased, and the unusual practice of shipping coal from Australia to European countries was adopted, while the demand for Australian coal was the principal cause of the increased tonnage of foreign ships which were sent to carry the coal to their home countries. In 1922-23 approximately 77 per cent. of the shipping entering Australian ports was British as compared with 80 per cent. in 1921-22.

Particulars of the nationality of oversea shipping for the last five years are given in the following table:—

OVERSEA SHIPPING, AUSTRALIA.—NATIONALITY OF VESSELS ENTERED,
1918-19 TO 1922-23.

Nationality.	Tonnage.				
	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
BRITISH—					
Australian	448,610	395,865	551,100	589,175	645,867
United Kingdom	1,969,441	2,553,850	2,541,310	2,802,487	2,754,316
Canadian	(a)	(a)	38,569	88,526	110,095
New Zealand	129,463	147,585	149,650	103,471	66,521
Other British	18,639	46,375	35,623	54,464	72,438
Cargo	1,679,659	2,096,754	2,529,089	2,568,236	3,226,702
Ballast	886,494	1,046,921	787,163	1,069,887	422,535
Total British	2,566,153	3,143,675	3,316,252	3,638,123	3,649,237
Per cent. on total	79.23	77.78	69.69	79.78	77.02
FOREIGN—					
Danish	8,394	9,716	24,542	28,416	39,394
Dutch	69,280	70,966	133,613	134,662	141,264
French	74,585	181,899	107,990	69,033	114,102
German .. ..	.. ..	.. ..	.. ..	.. ..	44,666
Italian	15,229	63,733	128,466	105,159	50,608
Japanese	164,724	307,896	505,989	218,564	243,935
Norwegian	93,890	39,760	132,647	123,218	148,873
Russian	21,916	.. ..	.. ..	.. ..	.. ..
Swedish	33,086	20,741	85,405	65,971	82,230
United States	174,999	192,805	273,989	139,686	194,180
Other Foreign	16,804	10,353	50,023	37,549	29,365
Cargo	540,500	497,207	707,022	540,521	862,288
Ballast	132,407	400,662	735,642	381,737	226,329
Total Foreign	672,907	897,869	1,442,664	922,258	1,088,617
Per cent. on total	20.77	22.22	30.31	20.22	22.98
Cargo	2,220,159	2,593,961	3,236,111	3,108,757	4,088,990
Per cent. on total	68.54	64.18	68.00	68.17	86.30
Ballast	1,018,901	1,447,583	1,522,805	1,451,624	648,864
Per cent. on total	31.46	35.82	32.00	31.83	13.70
Grand Total	3,239,060	4,041,544	4,758,916	4,560,381	4,737,854

(a) Not available; included with other British.

The Australian tonnage which entered Australia from overseas during the year 1922-23 represented 13.63 per cent. of the total tonnage entered. This figure was in excess of the average for the quinquennium, which was 12.30 per cent.

(ii) *Proportion of British and Foreign with Cargo.* The relative proportions of British and foreign tonnage which entered Australia with cargo during the last five years is given below. These figures may be considered to indicate more closely the proportion of the actual carrying trade done than does the total tonnage. The proportion of foreign tonnage declined materially in the earlier years of the war owing to the complete withdrawal of ships under the German and Austrian flags, and to the greatly reduced tonnage of French and Norwegian ships which were precluded from following their usual employment.

**OVERSEA SHIPPING, AUSTRALIA.—PERCENTAGE BRITISH AND FOREIGN
ENTERED WITH CARGO, 1918-19 TO 1922-23.**

Nationality.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
British	75.65	80.83	78.15	82.61	78.91
Foreign	24.35	19.17	21.85	17.39	21.09
Total	100.00	100.00	100.00	100.00	100.00

During the period under review the average annual tonnage of foreign vessels entering with cargo was 20.64 per cent.

(iii) *Principal Foreign Countries Engaged.* The following table shows the direction of the activities of the principal foreign countries engaged in the oversea carrying trade of Australia :—

OVERSEA SHIPPING, AUSTRALIA.—FOREIGN TONNAGE, 1922-23.

Countries.	Nationality.							
	Japanese.		French.		United States.		Dutch.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
EUROPEAN COUNTRIES—								
United Kingdom .. .. .	..	26,614	..	..	..	..	4,800	..
France .. .. .	..	..	40,389	27,802	..	..	..	..
Other European Countries .. .. .	..	6,681	1,307	27,017	..	7,109	56,740	69,362
ASIATIC COUNTRIES AND ISLANDS IN THE PACIFIC—								
Dutch East Indies .. .. .	..	6,338	4,293	..	..	..	42,036	19,538
Japan	176,168	165,861	..	..	..	..	..	..
New Caledonia .. .. .	..	..	58,254	58,195	..	..	..	..
Other Pacific Islands .. .. .	..	7,637	2,744	5,205	497	2,404	8	..
Straits Settlements .. .. .	..	..	5,696	..	..	..	32,886	40,645
Other Asiatic Countries .. .. .	..	24,855	11,563	4,410	14,521	24,219	1,830	5,025
AFRICAN COUNTRIES .. .. .	..	7,663	4,537	..	..	..	..	1,830
NORTH AMERICAN COUNTRIES—								
United States	28,937	..	..	..	175,800	194,325	..	..
Canada .. .. .	..	..	..	..	3,362	3,400	2,964	..
SOUTH AMERICAN COUNTRIES—								
Chile .. .. .	..	..	..	..	..	18,816	..	..
With Cargo	171,074	224,078	100,139	118,685	181,332	165,934	110,258	131,637
In Ballast	72,861	7,037	13,963	..	12,848	24,339	31,006	4,763
Total	243,935	231,115	114,102	118,685	194,180	190,273	141,264	136,400

Most of the foreign tonnage entered is employed between its home ports or the colonies of its own country and Australia, e.g., French shipping is engaged chiefly between Australia, France and New Caledonia, while Dutch ships are employed almost entirely between Australia and the Netherlands, the Netherlands East Indies, or Straits Settlements. Norwegian shipping is always an exception to this rule. The greater portion of Norwegian tonnage engaged in trade with Australia is composed of vessels operating under charters. Of the 148,873 tons of Norwegian shipping which entered Australia during 1922-23, 46,191 tons (31.03 per cent.) were in ballast.

During the year Japanese tonnage was engaged principally between Australia and Japan, though some tonnage entered from the United States of America and from the Philippine Islands.

(iv) *Nationality of Steam and Sailing Tonnage.* A further analysis is appended, distinguishing between steam and sailing vessels of British and foreign nationality which entered Australia during the years 1918-19 to 1922-23.

OVERSEA SHIPPING, AUSTRALIA.—NATIONALITY OF STEAM AND SAILING VESSELS ENTERED, 1918-19 TO 1922-23.

Description and Nationality of Vessels.	1918-19.		1919-20.		1920-21.		1921-22.		1922-23.	
	Ton-nage.	Per-centage.								
Steam—										
British ..	2,487,868	86	3,102,345	81	3,232,463	73	3,597,388	81	3,634,411	79
Foreign ..	419,704	14	740,390	19	1,190,417	27	869,267	19	964,610	21
Total Steam	2,907,572	100 (90)	3,842,735	100 (95)	4,422,880	100 (93)	4,466,655	100 (98)	4,599,021	100 (97)
Sailing—										
British ..	78,285	24	41,330	21	83,789	25	40,735	43	14,826	11
Foreign ..	253,203	76	157,479	79	252,247	75	52,991	57	124,007	89
Total Sailing	331,488	100 (10)	198,809	100 (5)	336,036	100 (7)	93,726	100 (2)	138,833	100 (3)
Steam and Sailing—										
British ..	2,566,153	79	3,143,675	78	3,316,252	70	3,638,123	80	3,649,237	77
Foreign ..	672,907	21	897,869	22	1,442,664	30	922,258	20	1,088,617	23
Total	3,239,060	100	4,041,544	100	4,758,916	100	4,560,381	100	4,737,854	100

6. *Tonnage in Ballast.*—(i) *Total and Percentage by Nationality.* The following table shows the tonnage according to nationality of oversea vessels which entered and cleared Australia in ballast during the years 1918-19 to 1922-23 :—

OVERSEA SHIPPING, AUSTRALIA.—TONNAGE IN BALLAST, 1918-19 TO 1922-23.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.

TOTAL TONNAGE.

1918-19 ..	886,494	132,407	1,018,901	93,671	23,014	116,685
1919-20 ..	1,046,921	400,662	1,447,583	60,021	27,669	87,690
1920-21 ..	787,163	735,642	1,522,805	75,356	47,413	122,769
1921-22 ..	1,069,887	381,737	1,451,624	79,377	8,846	88,223
1922-23 ..	422,535	226,329	648,864	155,605	64,786	220,391

PERCENTAGE.

1918-19 ..	34.55	19.68	31.46	4.05	3.65	3.97
1919-20 ..	33.30	44.62	35.82	1.90	3.12	2.17
1920-21 ..	23.74	50.99	32.00	2.27	3.32	2.59
1921-22 ..	26.41	41.39	31.83	2.22	0.93	1.95
1922-23 ..	11.58	20.79	13.70	4.49	6.23	4.89

(ii) *Tonnage entered in Ballast—States.* The tonnage which entered each State in ballast during 1922-23 was as follows:—

OVERSEA TONNAGE IN BALLAST ENTERING STATES, 1922-23.

State.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Tonnage ..	346,115	39,484	2,147	45,049	192,404	17,174	6,491	648,864
Percentage on total ..	53.34	6.09	0.33	6.94	29.65	2.65	1.00	100.00

In normal times the large exports of coal from New South Wales afford special inducements to vessels in search of freights. The tonnage in ballast into New South Wales is mainly for coal cargo, into Victoria for wheat, into South Australia for wheat and ore, and into Western Australia for timber and wheat.

§ 3. Shipping of Ports.

1. *Tonnage Entered.*—Appended is an abstract of the total shipping tonnage—oversea, interstate, and coastwise—which entered the more important ports of Australia during the year 1922-23, together with similar information in regard to some of the ports of New Zealand for the year 1922 and of Great Britain for the year 1921:—

SHIPPING OF PORTS, AUSTRALIA, NEW ZEALAND, AND THE UNITED KINGDOM.

Port.	Tonnage Entered.	Port.	Tonnage Entered.
AUSTRALIA—		ENGLAND AND WALES—	
Sydney	8,813,432	London	17,369,115
Melbourne	7,015,030	Liverpool (inc. Birkenhead)	12,287,191
Newcastle	4,662,155	Cardiff	6,950,523
Adelaide	4,065,796	Tyne Ports	6,870,203
Brisbane	3,121,839	Southampton	5,542,771
Fremantle	2,664,643	Hull	4,040,352
Townsville	1,172,515	Plymouth	3,450,128
Mackay	787,750	Bristol	2,545,683
Albany	720,007	Manchester (inc. Runcorn)	2,184,924
Pirie	646,288	Newport	2,049,925
Hobart	589,248	Swansea	2,005,349
Cairns	570,703	Middlesbrough	1,880,782
Geelong	553,689	Sunderland	1,753,499
Rockhampton	497,388	Beaumaris (inc. Holyhead)	1,678,858
Bowen	487,454	Dover	1,638,270
Burnie	461,697	Falmouth	1,535,751
Launceston	382,315	Grimsby (inc. Immingham)	1,344,429
Devonport	359,317	Cowes	1,210,041
Thursday Island	309,436	Blyth	1,190,024
Bunbury	306,891	SCOTLAND—	
Walleroo	233,046	Glasgow	4,202,711
NEW ZEALAND—		Leith	1,509,693
Wellington	2,707,993	IRELAND—	
Auckland	1,802,308	Belfast	2,779,967
Lyttleton	1,622,697	Dublin	2,718,484
Otago	751,587	Cork (inc. Queenstown) ..	1,690,961

§ 4. Vessels Built and Registered.

1. Vessels Built.—The following tables show the number and tonnage of vessels built in Australia during each of the calendar years 1919 to 1923, so far as such information can be ascertained from the Shipping Registers of the various States. The Merchant Shipping Act, under which vessels are registered in Australia, does not, however, make it compulsory to register vessels under 15 tons burthen if engaged in river or coastal trade. Larger vessels are also exempt from registration if not engaged in trade. Yachts and small trading vessels may be, and frequently are, registered at the request of the owners. As the Shipping Registers are the source of information, it follows that the figures given below will be subject to additions in the future, inasmuch as vessels already built may be added to the register at some future date.

VESSELS BUILT IN AUSTRALIA, 1919 TO 1923.

NUMBER.

Year.	Steamers built of—					Oil Motor Vessels.	Sailing.	Pontoons, Dredges, etc.	Total.
	Wood.	Iron.	Steel.	Com- posite.	Total.				
1919 ..	2	..	6	..	8	4	9	..	21
1920 ..	6	..	8	1	15	4	11	..	30
1921 ..	2	..	5	..	7	6	3	..	16
1922 ..	4	..	5	..	9	7	8	..	24
1923 ..	..	..	3	..	3	3	1	2	9

TONNAGE.

Year.	Steamers.		Oil Motor Vessels.		Sailing.		Pontoons, Dredges, etc.		Total.	
	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.
1919 ..	11,497	6,858	64	55	1,022	876	..	..	12,583	7,789
1920 ..	30,851	17,834	65	57	571	438	..	..	31,487	18,329
1921 ..	14,129	8,044	69	57	27	23	..	..	14,225	8,124
1922 ..	9,239	5,093	191	148	304	251	..	..	9,734	5,492
1923 ..	7,043	3,996	73	47	100	80	414	386	7,630	4,509

2. Vessels Registered.—The following table shows the number and net tonnage of steam, sailing, and other vessels on the registers of the States and of the Northern Territory on the 31st December, 1923 :—

VESSELS ON THE STATE REGISTERS, 31st DECEMBER, 1923.

State.	Steam.				Sailing.				Barges, Hulks, Dredges, etc., not Self-propelled.		Total.	
	Dredges and Tugs.		Other.		Fitted with Auxiliary Power.		Other.		No.	Net Tons.	No.	Net Tons.
	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.				
New South Wales ..	49	1,389	565	144,495	118	1,902	247	15,853	45	9,915	1,024	173,554
Victoria ..	24	2,815	158	137,561	31	1,165	65	3,201	68	27,785	346	172,527
Queensland ..	19	2,799	67	22,393	27	317	122	2,166	30	4,109	265	32,284
South Australia ..	13	608	87	43,400	28	1,554	57	1,847	52	8,896	237	56,305
Western Australia ..	10	191	29	18,393	12	205	329	4,856	23	7,567	403	31,212
Tasmania ..	6	498	59	14,481	48	1,205	74	3,425	2	563	189	20,172
Northern Territory ..	..	..	..	..	1	17	24	310	..	..	25	327
Total ..	121	8,300	965	381,223	265	6,365	918	31,658	220	58,835	2,489	486,381

§ 5. Interstate Shipping.

1. **System of Record.**—*Interstate Shipping* comprises two elements, viz.:—(a) Vessels engaged solely in interstate trade; and (b) Vessels trading between Australia and oversea countries and in the course of their voyage proceeding from one State to another. (It should be mentioned that these vessels, except under special circumstances, do not now engage in interstate carrying.)

No complexity enters into the record of those in category (a), but with regard to the method of recording the movements of the overseas vessels (b) some explanation is necessary. Each State desires that its shipping statistics (which are prepared in the Commonwealth Bureau of Census and Statistics) shall show in full its shipping communication with oversea countries, but at the same time it is necessary to avoid any duplication in the statistics for Australia as a whole. In order to meet these dual requirements, a vessel arriving in any State from an overseas country—say United Kingdom—*via* another State, is recorded in the second State as from United Kingdom, *via* States, thus distinguishing the movement from a *direct* oversea entry. Continuing the voyage, the vessel is in the third State again recorded for the statistics of the State concerned as *from* United Kingdom *via* other States. As, however, this inward voyage will terminate at an Australian port it follows that the *clearance* from the second State to the third State is a *clearance* interstate, and is included with interstate tonnage in conformity with the pre-federation practice of the States, and to preserve the continuity of State statistics. Thus, movements of ships which are, from the standpoint of Australia as a whole, purely coastal movements, must for the individual States be recorded as “Oversea *via* other States” or “Interstate” according to the direction of the movement. The significance of the record of these movements will be more clearly seen from the following tabular presentation of the inward and outward voyages to and from Australia of a mail steamer which, it is presumed, reaches Fremantle (Western Australia) and then proceeds to the terminal port of the voyage—Sydney (New South Wales)—*via* the States of South Australia and Victoria. From the terminal port the vessel will commence the outward voyage, and retrace its inward track.

ITINERARY OF AN OVERSEA VESSEL ON AUSTRALIAN COAST.

Particulars.	Recorded as—	
	For the State and for Australia.	For the States.
Inward Voyage—		
Enters Fremantle from United Kingdom	Oversea direct	
Clears Fremantle for Adelaide .. ..	.. ..	Interstate direct
Enters Adelaide from United Kingdom	.. ..	.. .. Oversea <i>via</i> States
<i>via</i> Fremantle .. ..	.. ..	.. .. Interstate direct
Clears Adelaide for Melbourne .. ..	.. ..	.. .. Oversea <i>via</i> States
Enters Melbourne from United Kingdom	.. ..	.. .. Interstate direct
<i>via</i> Adelaide .. ..	.. ..	.. .. Oversea <i>via</i> States
Clears Melbourne for Sydney .. ..	.. ..	.. .. Interstate direct
Enters Sydney from United Kingdom	.. ..	.. .. Oversea <i>via</i> States
<i>via</i> Melbourne .. ..	.. ..	.. ..
Outward Voyage—		
Clears Sydney for United Kingdom <i>via</i>		
Melbourne .. ..	.. ..	.. .. Oversea <i>via</i> States
Enters Melbourne from Sydney .. ..	.. ..	.. .. Interstate direct
Clears Melbourne for United Kingdom <i>via</i>		
Adelaide .. ..	.. ..	.. .. Oversea <i>via</i> States
Enters Adelaide from Melbourne .. ..	.. ..	.. .. Interstate direct
Clears Adelaide for Fremantle .. ..	.. ..	.. .. Oversea <i>via</i> States
Enters Fremantle from Adelaide .. ..	.. ..	.. .. Interstate direct
Clears Fremantle for United Kingdom ..	Oversea direct	

From the method outlined above, the requirements for Australia and for the individual States are ascertained as follows:—(a) The aggregate of all ships recorded for each State

as "Oversea direct" gives the oversea shipping for Australia as a whole. (b) The aggregate for all ships recorded in any State as "Oversea direct" plus those recorded as "Oversea via States" gives the total *oversea shipping* for that State. (c) From the example given in the table it may be noticed that for every entry "Oversea via States" there is a corresponding clearance "Interstate," so that according to the purpose for which the figures are required, the movements of "oversea ships via States" can be added to the recorded interstate shipping, and thus furnish figures showing the total interstate *movement* of shipping, or a similar deduction may be made from the recorded interstate shipping to give the total movement of shipping engaged solely in interstate trade.

2. **Vessels and Tonnage Entered.**—The following table gives the number and tonnage of vessels recorded as having entered each State from any other State during each of the years 1918-19 to 1922-23. The shipping on the Murray River, between the States of New South Wales, Victoria, and South Australia is not included.

INTERSTATE SHIPPING.—NUMBER AND TONNAGE OF VESSELS ENTERED,
1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
NUMBER.					
New South Wales ..	1,461	1,226	1,650	1,748	1,848
Victoria ..	1,239	1,269	1,614	1,797	1,886
Queensland ..	529	406	469	459	548
South Australia ..	445	456	603	724	822
Western Australia ..	309	367	431	484	364
Tasmania ..	727	787	987	1,072	1,169
Northern Territory ..	28	21	18	19	18
Total ..	4,738	4,532	5,772	6,303	6,655

TONNAGE.

New South Wales ..	2,291,462	2,451,644	3,297,358	3,614,744	4,278,072
Victoria ..	1,393,549	2,017,798	2,434,778	3,091,313	3,581,571
Queensland ..	700,617	635,809	770,233	857,715	1,123,192
South Australia ..	707,248	1,215,970	1,554,649	1,949,071	2,453,776
Western Australia ..	944,088	1,364,866	1,600,142	1,817,361	1,630,730
Tasmania ..	442,457	441,660	592,852	937,296	1,023,645
Northern Territory ..	53,607	34,251	36,269	52,814	52,107
Total ..	6,533,028	8,161,998	10,286,281	12,320,314	14,143,093

3. **Oversea Vessels Moving Interstate.**—From the above it will be seen that while certain movements of the vessels referred to are included in the interstate shipping, other movements of the same vessels, between the same ports, are not so included.

To ascertain the aggregate movement of shipping between the States during the year 1922-23, including the total interstate movements of oversea vessels, the figures in

the following table, which give the number and tonnage of vessels entered from or cleared for overseas countries *via* other Australian States, must be added to those in the table preceding :—

SHIPPING ENTERED AND CLEARED FROM AND TO OVERSEA COUNTRIES VIA OTHER AUSTRALIAN STATES, 1922-23.

State.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ..	610	2,642,610	472	2,104,112	1,082	4,746,722
Victoria ..	536	2,337,488	429	1,917,767	965	4,255,255
Queensland ..	193	1,071,003	203	1,132,146	396	2,203,149
South Australia ..	294	1,359,819	256	1,186,395	550	2,546,214
Western Australia ..	9	27,657	11	21,752	20	49,409
Tasmania ..	36	139,454	52	271,683	88	411,137
Northern Territory ..	..	..	2	2,914	2	2,914
Total ..	1,678	7,578,031	1,425	6,636,769	3,103	14,214,800

Oversea vessels moving interstate are with few exceptions not engaged in the active interstate trade of Australia but are merely proceeding to the several States in continuation of their overseas voyage.

4. *Vessels engaged Solely in Interstate Trade.*—Reverting to the explanation given in the first paragraph it may be assumed that vessels *entered* in the several States as from “Oversea countries *via* other States” have really been *cleared* from other States as “Interstate,” and further, that the vessels *cleared* to “Oversea countries *via* other States” have likewise been *entered* as “Interstate”. If, on this assumption, all such vessels are excluded, the remainder will represent vessels engaged in the interstate trade only. Applying this suggestion, and so eliminating all interstate movements of overseas vessels, the number and tonnage movement of vessels engaged solely in the interstate trade for Australia as a whole during the years 1918-19 to 1922-23 were as follows :—

NUMBER AND TONNAGE OF VESSELS ENGAGED SOLELY IN INTERSTATE TRADE, 1918-19 TO 1922-23.

Year.	Entered.		Cleared.	
	No.	Tons.	No.	Tons.
1918-19	4,093	4,357,115	4,074	4,377,666
1919-20	3,482	3,939,055	3,510	3,986,345
1920-21	4,539	5,406,967	4,566	5,433,856
1921-22	4,897	6,464,999	4,885	6,335,396
1922-23	5,230	7,506,324	5,264	7,624,311

5. *Total Interstate Movement of Shipping.*—(i) *Australia.* The appended table shows the total inward interstate movement of shipping for each of the years 1918-19 to 1922-23 :—

TOTAL INWARD INTERSTATE MOVEMENT OF SHIPPING, 1918-19 TO 1922-23.

Vessels.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Tons.	Tons.	Tons.	Tons.	Tons.
Oversea vessels moving interstate	5,219,515	8,741,260	10,001,668	11,579,340	14,214,800
Vessels solely interstate ..	4,357,115	3,939,055	5,406,967	6,464,999	7,506,324
Total	9,576,630	12,680,315	15,408,635	18,044,339	21,721,124

(ii) *States.* The following table shows the number and tonnage of vessels which entered and cleared each State during 1922-23, including the coastal movements of oversea vessels :—

INTERSTATE SHIPPING OF EACH STATE, 1922-23.

State.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	2,458	6,920,682	2,367	6,606,289
Victoria	2,422	5,919,059	2,534	6,293,492
Queensland	741	2,194,195	773	2,400,045
South Australia	1,116	3,813,595	1,115	3,781,993
Western Australia	373	1,658,387	344	1,532,798
Tasmania	1,205	1,163,099	1,214	1,171,211
Northern Territory	18	52,107	20	53,283
Total Australia	8,333	21,721,124	8,367	21,839,111

6. *Interstate and Coastal Services.*—The subjoined table gives particulars, so far as they are available, of all steamships engaged in regular interstate or coastal services at the end of each of the years 1919 to 1923 :—

AUSTRALIAN INTERSTATE AND COASTAL STEAMSHIP SERVICES, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
Number of companies making returns	23	23	(a)39	32	35
Number of steamships	143	154	183	195	205
Tonnage .. { Gross	250,610	280,609	317,019	357,652	384,650
{ Net	143,143	159,293	179,393	204,219	220,042
Horse-power (Nominal)	27,341	29,557	32,801	34,886	36,934
Number of 1st class passengers for which licensed	5,229	5,250	4,226	4,647	9,184
{ 2nd class and steerage	5,524	5,632	4,642	5,016	4,756
Complement of Crew { Masters and officers	493	537	571	667	704
{ Engineers	409	464	551	607	645
{ Crew	3,671	4,502	4,613	5,175	5,614

(a) In this year a number of small organizations were included for the first time.

§ 6. Tonnage of Cargo.

The following table shows the aggregate tonnage of oversea cargo discharged and shipped in Australian ports, and the tonnage of interstate cargo shipped in all ports for the years 1918-19 to 1922-23 :—

AUSTRALIAN SHIPPING—CARGO MOVEMENT, 1918-19 TO 1922-23.

Year.	Oversea Cargo.		Interstate Cargo.
	Discharged.	Shipped.	Shipped.
	Tons.	Tons.	Tons.
1918-19	2,312,288	3,813,651	4,495,258
1919-20	2,238,298	4,984,946	4,415,909
1920-21	3,201,215	5,925,133	4,993,678
1921-22	2,419,977	5,816,174	5,533,716
1922-23	3,718,795	4,064,196	5,137,501

In the foregoing table cargo which was recorded in cubic feet has been converted to weight on the basis of 40 cubic feet to the ton.

§ 7. Commonwealth Government Shipping Activities.

1. **Local Building Programme.**—The original Commonwealth Government programme of ship construction in Australia provided for 48 vessels, 24 of which were to be wooden sailing vessels, and the remainder steel cargo ships. Owing to certain variations, the programme resulted in the building of 21 steel cargo vessels and 2 five-masted schooners with auxiliary power.

Particulars of the vessels built in Australia to 31st December, 1922, were included in the *previdus* issue of this book (see *Year Book* No. 16, p. 273). Two vessels have since been completed, the *Elouera* and the *Euroa*, of 1,916 and 1,922 tons net respectively.

It is anticipated that the *Ferndale* will be launched some time in 1924, and with this vessel the shipbuilding programme will be complete.

2. **Vessels Built in the United Kingdom.**—In addition to the vessels previously referred to five steamers each approximately 8,450 tons net were constructed in yards in the United Kingdom.

These vessels have an approximate length of 520 feet by 68 feet beam, and a capacity of 900,000 cubic feet of which 370,000 cubic feet are insulated.

3. **Australian Commonwealth Line of Steamers.**—(i) *Foundation of Line.* The Commonwealth Shipping Act 1923 provided for the establishment of the Australian Commonwealth Line of Steamers under the control of a Board of Directors consisting of not less than three nor more than five members. The date at which the Act was to come into force was fixed by proclamation as 1st September, 1923.

The whole of the right, title, and interest of the Commonwealth in and to the 50 vessels (155,302 tons net) of the Commonwealth Government Line of Steamers, and appurtenances used for the purposes of such vessels, were vested in the Board, also four other vessels (15,442 tons net) which were under construction at the time of transfer. The valuation of the vessels, tackle, apparel, gear, furniture, stores and equipment was fixed at £4,718,150 and the office furniture and fittings at £7,500, making a total of £4,725,650.

(ii) *Disposal of Vessels.* Since the advent of the Board of Directors, 18 vessels have been disposed of, 9 of which passed to Japanese owners.

(iii) *Particulars of Operations.* Particulars as to the operations of the Board are not yet available, but a balance-sheet will be issued annually. Information in regard to the Board's activities will be published in subsequent issues of this work.

§ 8. World's Shipping Tonnage.

The table hereunder shows the number and gross tonnage of steam and motor, and sailing vessels owned by several of the most important maritime countries, together with the proportion of the grand total owned by each country :—

WORLD'S SHIPPING TONNAGE, 1923-24.

Nationality.	Steam and Motor.		Sailing.		Total.		Percentage on Total.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
United Kingdom	8,299	19,115,178	395	166,371	8,694	19,281,549	26.43	30.78
Australia and New Zealand	615	757,085	26	12,504	641	769,589	1.95	1.23
Canada (a) ..	531	841,867	296	118,358	827	960,225	2.51	1.53
Other British ..	617	740,744	254	65,805	871	806,549	2.65	1.29
Total, British Empire ..	10,062	21,454,874	971	363,038	11,033	21,817,912	33.54	34.83
Belgium ..	264	605,050	6	11,620	270	616,670	0.82	0.99
Denmark ..	614	937,743	166	59,119	780	996,862	2.37	1.59
France ..	1,650	3,452,940	362	284,304	2,021	3,737,244	6.15	5.97
Germany ..	1,745	2,509,768	98	80,305	1,843	2,590,073	5.60	4.14
Greece ..	391	747,474	14	7,967	405	755,441	1.23	1.21
Holland ..	1,051	2,607,210	63	18,531	1,114	2,625,741	3.39	4.19
Italy ..	1,043	2,880,776	372	152,966	1,415	3,033,742	4.30	4.84
Japan ..	2,003	3,604,147	..	..	2,003	3,604,147	6.09	5.75
Norway ..	1,669	2,375,970	131	175,942	1,800	2,551,912	5.47	4.07
Spain ..	779	1,198,716	170	61,490	949	1,260,206	2.89	2.01
Sweden ..	1,164	1,135,612	221	72,115	1,385	1,207,727	4.21	1.93
United States of America (b) ..	3,819	13,487,779	1,084	1,170,965	4,903	14,658,744	14.91	23.40
Other Foreign Countries ..	2,393	2,900,106	578	282,892	2,971	3,182,998	9.03	5.08
Total, Foreign Countries ..	18,594	38,443,291	3,265	2,378,216	21,859	40,821,507	66.46	65.17
Grand Total..	28,656	59,898,165	4,236	2,741,254	32,892	62,639,419	100.00	100.00

(a) Sea-going. (b) Includes Philippine Islands.

It should be mentioned that the foregoing figures have been compiled from Lloyd's Register of Shipping, and vessels of 100 tons or upwards only have been included.

§ 9. Ferries.

1. General.—In previous issues of the Year Book particulars of ferries were included in the sub-section dealing with tramways, as the ferries are mainly a supplementary means of transport to the suburban railway and tramway systems.

2. New South Wales.—The ferry services in Port Jackson are under the control of two companies which, during the year 1923 had 65 vessels in commission, 63 of which were double-ended screw steamers, the remaining two being motor driven. It is claimed for the steamers that they are superior in size and equipment to boats employed on similar service in any other part of the world.

3. Victoria.—The Williamstown City Council owns one steamer which is engaged in the transport of passengers between Port Melbourne and Williamstown. There are several other steamers which are engaged during the summer season in the carriage of passengers and goods to the several seaside resorts. Particulars of these services, however, are not included in the table in sub-par. 7 following.

4. Queensland.—The Brisbane City Council and the Balmoral Shire Council control the ferry services in the Metropolitan area. During the year 1923, 13 vessels were employed, 4 of which were steam-propelled.

5. Western Australia.—The ferries plying on the Swan River during 1923 were operated by a private company, and consisted of 8 petrol-driven vessels. At South Perth the Western Australian Government employed 4 vessels, 2 of which were steamers.

6. Tasmania.—In and around Hobart there were in 1923, 3 ferry services, 2 being controlled by a private company which had 5 steamers in commission, and 1 by the Public Works Department, with 2 motor-propelled vessels.

7. Particulars of Working.—The subjoined table shows for the year 1923 so far as returns are available the most important items in connexion with the operation of the ferry services in the several States:—

FERRIES.—PARTICULARS OF WORKING, 1923.

Particulars.	New South Wales.	Victoria.	Queensland.	Western Australia.	Tasmania.	Total.
Boats in Service—						
Steam .. No.	63	1	4	2	5	75
Other .. No.	2	..	9	10	2	23
Total .. No.	65	1	13	12	7	98
Number of passengers which boats are licensed to carry .. No.	45,576	280	751	1,757	1,419	49,783
Revenue .. £	662,711	6,607	11,034	15,053	17,839	713,244
Working Expenses .. £	595,013	8,156	23,571	14,626	15,941	657,307
Passengers carried (b) No.	39,942,429	132,140	3,392,400	1,090,433	945,536	45,502,938
Mileage of Boats miles	(a)193,423	(b)19,000	(a)35,000	83,442	57,306	(a)388,171
Accidents—						
Killed .. No.	..	..	..	..	..	..
Injured .. No.	96	..	..	..	..	96
Employees—						
Salaried Staff .. No.	35	1	2	2	7	47
Wages Staff .. No.	1,057	4	35	23	33	1,152

(a) Incomplete.

(b) Approximate.

8. Other Services.—In addition to the foregoing there are throughout the several States a number of row-boat ferry services, and on many of the principal inland rivers punts are in operation.

§ 10. Miscellaneous.

1. Lighthouses.—Transport and Communication Bulletin No. 14, published by this Bureau, contains a list of the principal lighthouses on the coast of Australia, giving details of the location, number, colour, character, period, candle-power, and visibility of each light so far as particulars are available.

2. Distances by Sea.—A statement giving the distances by sea between the ports of the capital cities of Australia and the most important ports in other countries which trade with Australia has also been included in the Transport and Communication Bulletin No. 14.

3. Shipping Freight Rates.—The Quarterly Summary of Australian Statistics gives a list of the ruling freight rates for general merchandise both in respect of oversea and interstate shipments. The latest figures available, which give the rates current at 31st March, 1924, show that the rate for general merchandise from Australia to United Kingdom and Continent was 70s. per ton weight or measurement, as compared with 55s. per ton in 1915.

4. **Depth of Water at Main Ports.**—A table compiled from information supplied by the Navigation Branch of the Department of Trade and Customs, showing the depth of water at the main ports of Australia at 1st January, 1924, has been included in the Transport and Communication Bulletin No. 15, published by this Bureau.

5. **Marine Casualties.**—Particulars of shipping casualties reported on or near the coast during the year 1922-23 are shown in the Transport and Communication Bulletin No. 15. This information has also been furnished by the Navigation Branch.

B. RAILWAYS.

§ 1. General.

1. **Introduction.**—In the issues of the *Official Year Book*, Nos. 1 to 7, the statistics of all Government railway systems were treated under the head of *Government Railways*. In subsequent issues, including the present volume, the greater part of the statistics relating to State-owned lines is dealt with separately from those under the control of the Commonwealth Government. The State railways are referred to throughout as "State" and the Commonwealth railways as "Federal" railways. A summary in regard to Federal and State railways will, however, be found in § 4 of this section.

In all tables relating to Government Railways, the particulars quoted, except where otherwise stated, are for the financial years.

2. **Improvement of Railway Statistics.**—Some of the earlier issues of the *Year Book* contain a condensation of the report issued in 1909 by the Commonwealth Statistician to the Minister for Home Affairs on the subject of *The Desirability of Improved Statistics of Government Railways in Australia* (see *Year Book* No. 7, page 598).

In accordance with the decision of the Conference of Railways Commissioners, held in Sydney on the 17th May, 1921, in regard to the desirability of attaining uniformity in the methods of accounting in the several Railways Departments of Australia, representative officials from the accountancy staffs met in conference in Melbourne on the 31st May, 1921, and formulated a scheme for the uniform classification of earnings and working expenses, and the mode of presentation of financial and certain other tables in the Commissioners' Annual Reports. Great improvement, both as regards the volume of information and the mode of presentation thereof in the statistical tables appearing in the reports of the several Railways Commissioners, has been made during the past few years.

The Australian Bureau of Railway Statistics was established in Sydney almost entirely at the expense of the New South Wales and Victorian Railways, but each of the other States has undertaken to supply all available information, and bulletins giving details of revenue, operating costs, etc., are published quarterly.

3. **Railway Communication in Australia.**—(i) *General.* An account of the progress of railway construction in Australia since the opening of the first line in 1854 will be found in *Year Book* No. 6, p. 681. In the eastern, south-eastern, and southern parts of Australia there is now a network of railway lines converging from the various agricultural, pastoral, and mining districts towards the principal ports, which are themselves connected by systems of lines running approximately parallel to the coast. In the east, lines radiating from Cairns, Townsville, Rockhampton, Brisbane, and Sydney extend inland in various directions for distances ranging up to over 600 miles; in the south-east there are numerous lines, those in Victoria converging towards Melbourne, while others in New South Wales have their terminus in Sydney; in the south there are four main lines, with numerous branches, running from Melbourne; while from Adelaide one main line, with several branches to the coastal towns, runs inland in a northerly direction for a distance of nearly 700 miles, and another line runs in a south-easterly direction to various ports, meeting the main line from Melbourne on the border of South Australia and Victoria near Serviceton. The South Australian and Victorian railway systems also meet on the border at two other points, one near Pinnaroo, and the other at Rennick, near Mount Gambier.

In Western Australia there is a connected system of main or trunk lines between the ports of the State and the agricultural, pastoral, and mining districts, and two short lines, one on the north-west, the other on the south coast, which are unconnected with the main system. In the northern portion of Queensland and in the Northern Territory there are also several disconnected lines running inland from the more important ports. The North Coast line when completed will give an uninterrupted service as far north as Cairns. At present there are two gaps in the line—between Parapi and Proserpine, and between Ingham and El Arish. In Tasmania the principal towns are connected by a system of lines, and there are also, more especially in the western districts, several lines which have been constructed for the purpose of opening up mining districts.

By the opening, in 1917, of the Trans-Australian railway from Port Augusta to Kalgoorlie, through communication by rail was established between the eastern States and the Western Australian railway system.

(ii) *The Main Interstate Lines.* The main interstate lines, which permit of direct communication between the five capital cities—Brisbane, Sydney, Melbourne, Adelaide, and Perth—cover a distance from end to end of 3,474.80 miles or 3,479.82 miles via Newcastle. The scheduled time for the journey from Brisbane to Perth is six days one hour forty-two minutes, and from Perth to Brisbane five days twenty-one hours forty minutes, the time in each case being taken over all.

The longest railway journey which can be undertaken in Australia on one continuous line of railway is from Yaraka in Queensland to Meekatharra in Western Australia, a total distance of 4,809.14 miles.

4. *Non-conformity of Gauge.*—(i) *General.* With but few exceptions, all the railway lines in Australia open for general traffic are now owned and managed by the respective States in whose territory they run, or by the Commonwealth Government; but, unfortunately for the purpose of interstate traffic, the construction of the various systems in different parts of Australia has proceeded without uniformity of gauge. A statement giving the reasons for the adoption of the various gauges in the several States appeared in Year Book No. 15, p. 534, but considerations of space preclude its repetition in the present issue.

(ii) *Interstate Junctions.* Connexions at border stations were established as follows:—Victoria and New South Wales, at Albury, 14th June, 1883; Victoria and South Australia, at Serviceton, 19th January, 1887; and New South Wales and Queensland, at Wallangarra, 16th January, 1888. Through trains were unable to run on this latter section until the completion of the Hawkesbury River Bridge on 1st May, 1889. On the 22nd October, 1917, through communication from east to west was made possible by the opening of the Trans-Australian line.

(iii) *Proposals for Unification.* The question of the unification of gauges in the several States has been under consideration for several years, and numerous conferences on the subject have been held from time to time between the several Railways Commissioners and between the Premiers of the States concerned. Reference to these conferences has been made in previous issues of the Year Book.

(iv) *Estimated Cost of Unification of Gauges.* The scheme advocated by the Royal Commission of 8th February, 1921, and adopted by the Prime Minister and Premiers of the several States in conference during November of the same year, as the first step will provide a standard 4-ft. 8½-in. gauge railway between Brisbane and Fremantle, and the conversion of the whole of the broad-gauge lines of Victoria and South Australia, at an estimated cost of £21,600,000, spread over a period of approximately eight years. The details of the estimate of £21,600,000, which provides for a main trunk line between Fremantle and Brisbane, and the conversion of the 5-ft. 3-in. gauge lines in Victoria and South Australia, together with the quota from each State and the Commonwealth Government in terms of the allocation of cost agreed upon, were given in the previous issue (see Year Book No. 16, p. 278.)

The estimated cost of converting the whole of the lines in the States concerned is approximately £57,200,000.

5. Rolling Stock Gauges.—Allied to the question of the gauges of the railways of Australia is that of the rolling stock gauges in use, the rolling stock gauge being the maximum transverse dimensions to which the rolling stock may be constructed. The following table gives particulars of the present rolling stock gauges, together with the maximum lengths and weights of vehicles :—

RAILWAYS, STATE AND FEDERAL.—ROLLING STOCK GAUGES, 1922-23.

PASSENGER ROLLING STOCK.

Railway.	Gauge of Track.	Maximum Rolling Stock Gauge.		Length over all.	Maximum—			
		Width.	Height above Rail Level.		Tare.	Carrying Capacity.		
	ft. in.	ft. in.	ft. in.	ft. in.	t.	c.	q.	persons.
New South Wales	4 8½	10 6	14 0	74 4½	44	2	1	90
Victoria	5 3	10 0	14 0	74 1¼	47	16	0	94
”	2 6	7 0¼	10 4¼	31 8	8	11	0	40
Queensland	3 6	9 4	12 9	55 5	27	10	0	90
”	2 0	6 3½	10 0	22 0	4	0	0	24
South Australia	5 3	10 4¼	14 1½	74 1¼	40	11	0	76
”	3 6	9 4¾	12 1	62 6	24	18	0	60
Western Australia	3 6	8 10	12 7	61 9	31	10	0	90
Tasmania	3 6	9 6	12 5	64 0	30	0	0	110
”	2 0	6 6	10 0	30 2	5	10	1	24
Federal—								
Trans-Australian	4 8½	10 6	14 6	78 11½	48	0	0	34 (a)
Northern Territory	3 6	9 4	12 9	39 0	12	0	0	36
Oodnadatta	3 6	9 4¾	12 1	62 6	24	18	0	60

(a) Sleeping berths.

GOODS ROLLING STOCK.

Railway.	Gauge of Track.	Maximum Rolling Stock Gauge.		Length over all.	Maximum—					
		Width.	Height above Rail Level.		Tare.	Carrying Capacity.				
	ft. in.	ft. in.	ft. in.	ft. in.	t.	c.	q.	t.	c.	q.
New South Wales	4 8½	9 8	13 6	60 11	23	3	0	45	0	0
Victoria	5 3	9 7½	13 7½	55 4½	20	14	2	30	0	0
”	2 6	6 5½	9 7¼	27 3¼	7	12	2½	10	0	0
Queensland	3 6	8 9	12 0	45 5	15	0	0	21	8	0
”	2 0	6 6	9 0	22 0	5	0	0	16	0	0
South Australia	5 3	10 0¼	12 10¾	52 1	23	10	0	30	0	0
”	3 6	8 6	12 5½	52 9	22	0	0	25	0	0
Western Australia	3 6	8 8	12 6	44 9	17	10	0	27	0	0
Tasmania	3 6	8 6	11 0	40 10	12	5	0	30	0	0
”	2 0	6 0	6 6	27 0	5	15	2	20	0	0
Federal—										
Trans-Australian	4 8½	10 6	14 6	47 6½	15	0	0	40	0	0
Northern Territory	3 6	9 4	12 9	34 6	9	10	0	12	0	0
Oodnadatta	3 6	8 6	12 5¼	52 9	22	0	0	25	0	0

In the above tables the transverse dimensions given are the greatest employed on any vehicle.

It will be observed that the dimensions adopted by the Federal Government for the Trans-Australian Railway are in excess of those at present in use on the 5-ft. 3-in. gauge lines of Victoria and South Australia, and the 4-ft. 8½-in. gauge lines of New South Wales. It is, however, the intention of the latter State to adopt the Federal standard as soon as possible, and with that end in view a commencement has been made in the Sydney suburban area with the enlargement of bridges, tunnels, buildings and platforms to enable the larger rolling stock to be employed. The question of standard couplings on the New South Wales lines is also receiving attention.

6. **Mileage Open for Traffic, all Lines.**—(i) *General.* In all the States the principle that the control, construction, and maintenance of the railways should be in the hands of the Government has long been adhered to, excepting in cases presenting unusual circumstances. In various parts of Australia, lines have been constructed and managed by private companies, but at the present time nearly the whole of the railway traffic is in the hands of the State or Commonwealth Governments. A large proportion of the private lines has been laid down for the purpose of opening up forest lands, mining districts, or sugar areas, and these lines are not generally used for the conveyance of passengers or the public conveyance of goods. (See § 5 *Private Railways*, hereinafter.)

The subjoined table shows the mileage of Commonwealth Government, State Government, and private lines open for traffic (exclusive of sidings and cross-overs) in each State for each of the years 1918–19 to 1922–23. The railway mileage given for each State includes both Commonwealth and State Government railways in that State, and in this table and in those immediately following is estimated from the geographic point of view and not from that of ownership. The figures are to the end of the financial year ending on the 30th June, excepting the mileages for private lines, which are in most cases taken for the calendar year :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE OPEN, 1919 TO 1923.

State or Territory.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	5,169.82	5,376.99	5,402.08	5,475.44	5,689.18
Victoria ..	4,260.58	4,284.65	4,337.35	4,374.73	4,393.48
Queensland ..	6,841.41	6,946.69	7,012.62	7,063.89	7,180.10
South Australia ..	3,404.10	3,458.26	3,463.35	3,487.37	3,503.40
Western Australia ..	4,965.48	4,846.02	4,905.83	4,867.48	4,844.93
Tasmania ..	811.03	840.25	877.01	872.49	896.36
Federal Capital Territory ..	4.94	4.94	4.94	4.94	4.94
Northern Territory ..	199.56	198.68	198.68	198.68	198.68
Australia ..	25,656.92	25,956.48	26,201.86	26,345.02	26,711.07

In previous issues of the Year Book particulars were given for different periods from 1855 onwards. (See No. 15, page 537.)

(ii) *Government and Private Lines Separately.* The subjoined table shows for each State (a) the length of lines owned by the State Government, and by the Commonwealth Government in that State, all of which lines are open for general use by the public, (b) the length of private lines available for general use by the public, and (c) the length of the private lines not so available. The mileages specified in the case of Government lines

are to the 30th June, 1923; those given for private lines are to the same date with an exception of Western Australia, which are to 31st December, 1922:—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE CLASSIFIED, 1922-23.

State or Territory.	Government Lines—		Private Lines available for General Traffic.	Total Open for General Traffic.	Private Lines used for special Purposes only.	Grand Total.
	State.	Federal.				
	Miles.	Miles.				
New South Wales	5,317.79	..	188.38	5,506.17	183.01	5,689.18
Victoria ..	4,333.35	..	24.94	4,358.29	35.19	4,393.48
Queensland ..	5,905.41	..	280.31	6,185.72	994.38	7,180.10
South Australia ..	2,373.09	1,075.41	33.80	3,482.30	21.10	3,503.40
Western Australia ..	3,554.84	453.99	278.35	4,287.18	557.75	4,844.93
Tasmania ..	663.38	..	194.90	858.28	38.08	896.36
Federal Capital Territory	..	4.94	..	4.94	..	4.94
Northern Territory	..	198.68	..	198.68	..	198.68
Australia ..	22,147.86	1,733.02	1,000.68	24,881.56	1,829.51	26,711.07

7. **Comparative Railway Facilities.**—The relation to population and area respectively of the mileage of line open to the public for general traffic (including both Government and private lines) on the 30th June, 1923, are shown in the subjoined statement:—

RAILWAYS.—GOVERNMENT AND PRIVATE.—COMPARISON OF FACILITIES, 1923.

State or Territory.	Population, 30th June 1923.	Area.	Mileage of Railway.	
			Per 1,000 of Population.	Per 1,000 sq. miles of Territory.
			Number.	Sq. miles.
New South Wales ..	2,189,379	309,432	2.60	18.39
Victoria ..	1,607,586	87,884	2.73	49.97
Queensland ..	805,636	670,500	8.97	10.60
South Australia ..	516,685	380,070	6.78	9.22
Western Australia ..	348,119	975,920	13.92	4.96
Tasmania ..	213,784	26,215	4.19	34.19
Federal Capital Territory ..	3,255	940	1.52	5.26
Northern Territory ..	3,648	523,620	54.45	0.38
Australia ..	5,688,092	2,974,581	4.69	8.98

8. **Classification of Lines according to Gauge, 1922-23.**—The next table gives a classification, according to gauge, of the total mileage, exclusive of sidings and cross-overs, of (i) Commonwealth Government railways, given in the State or Territory in which situated; (ii) State Government railways; (iii) Private railways open to the public for general traffic; and (iv) Private lines open for special purposes. Particulars of Government railways are up to the 30th June, 1923, of private railways open for general

traffic to the 31st December, 1923, as nearly as possible, and of private railways open for special purposes to the 30th June, 1923, with the exception of Western Australia, the figures for which State are to the 31st December, 1922.

RAILWAYS.—GOVERNMENT AND PRIVATE.—GAUGES, 1922-23.

State or Territory in which situated.	Route mileage having a gauge of—								Total.
	5 ft. 3 in.	4ft. 8½ in.	3 ft. 6 in.	3 ft. 0in.	2 ft. 6 in.	2 ft. 3 in.	2 ft. 0 in.	1 ft. 8 in.	
FEDERAL RAILWAYS.									
South Australia ..	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Western Australia ..	..	597.46	477.95	..	..	..	..	..	1,075.41
Federal Capital Territory ..	..	453.99	..	..	..	..	..	..	453.99
Northern Territory ..	..	4.94	..	..	..	..	..	..	4.94
..	..	..	198.68	..	..	..	..	..	198.68
Total ..	..	1,056.39	676.63	..	..	..	..	..	1,733.02
STATE RAILWAYS.									
New South Wales ..	..	5,278.28	39.51	..	..	..	..	..	5,317.79
Victoria ..	4,211.58	..	..	..	121.77	..	..	..	4,333.35
Queensland ..	..	..	5,875.15	..	..	..	30.26	..	5,905.41
South Australia ..	1,163.51	..	1,204.58	..	..	..	..	..	2,373.09
Western Australia ..	..	..	3,554.84	..	..	..	..	..	3,554.84
Tasmania ..	..	..	638.55	..	..	..	24.83	..	663.38
Total ..	5,375.09	5,278.28	11,317.63	..	121.77	..	55.09	..	22,147.86
PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.									
New South Wales ..	45.00	80.46	36.67	..	..	..	26.25	..	183.38
Victoria ..	13.94	..	..	11.00	..	..	..	..	24.94
Queensland ..	..	..	120.72	..	7.00	..	152.59	..	280.31
South Australia ..	..	..	33.80	..	..	..	..	..	33.80
Western Australia ..	..	..	278.35	..	..	..	..	..	278.35
Tasmania ..	..	..	178.41	..	..	..	16.49	..	194.90
Total ..	58.94	80.46	647.95	11.00	7.00	..	195.33	..	1,000.68
PRIVATE RAILWAYS OPEN FOR SPECIAL PURPOSES.									
New South Wales ..	..	169.25	3.50	..	..	..	10.26	..	183.01
Victoria ..	18.09	..	..	4.50	..	..	12.60	..	35.19
Queensland ..	..	..	227.50	..	240.00	..	526.88	..	994.38
South Australia ..	..	..	..	..	2.00	3.75	15.35	..	21.10
Western Australia ..	..	..	534.75	..	..	..	14.00	9.00	557.75
Tasmania ..	..	..	21.00	..	..	..	17.08	..	38.08
Total ..	18.09	169.25	786.75	4.50	242.00	3.75	536.17	9.00	1,829.51
ALL RAILWAYS.									
New South Wales ..	45.00	5,527.99	79.68	..	..	..	36.51	..	5,689.18
Victoria ..	4,243.61	..	..	15.50	121.77	..	12.60	..	4,393.48
Queensland ..	..	..	6,223.37	..	247.00	..	700.73	..	7,181.10
South Australia ..	1,163.51	597.46	1,721.33	..	2.00	3.75	15.35	..	3,503.40
Western Australia ..	..	453.99	4,367.94	..	..	..	14.00	9.00	4,844.93
Tasmania ..	..	..	837.96	..	..	..	58.740	..	893.36
Federal Capital Territory ..	..	4.94	..	..	..	..	..	..	4.94
Northern Territory ..	..	..	198.68	..	..	..	..	..	198.68
GRAND TOTAL	5,452.12	6,584.38	13,428.96	15.50	370.77	3.75	846.59	9.00	26,711.07

§ 2. Federal Railways.

1. **General.**—On the 1st January, 1911, the Commonwealth Government took over the Northern Territory from the South Australian Government, and at the same time the railways from Darwin to Pine Creek in the Northern Territory, and from Port Augusta to Oodnadatta in South Australia, came under its control. Subsequently the construction of a transcontinental line from Port Augusta in South Australia to Kalgoorlie in Western Australia was undertaken by the Commonwealth Government, while a line has been constructed in the Federal Capital Territory, connecting Canberra with the New South Wales railway system at Queanbeyan. In 1917 an Act was passed by which all the Federal railways were vested in a Commonwealth Railways Commissioner.

2. **Northern Territory Railway.**—(i) *Darwin to Katherine.* On the 1st January, 1911, the line from Darwin to Pine Creek came under the jurisdiction of the then Department of External Affairs, and was worked under the Administrator of the Northern Territory. As mentioned above, the management of this railway is now vested in the Commonwealth Railways Commissioner.

In the Northern Territory Acceptance Act the construction of a transcontinental line from South Australia is provided for. The extension of the line from Pine Creek to Katherine River was completed, and the first train ran through to Emungalan (Katherine River) on 13th May, 1917.

(ii) *Proposed Extension.* The selection of the route of the transcontinental line from North to South has been the subject of investigations by the Parliamentary Standing Committee on Public Works which, after a tour of inspection and the taking of a mass of evidence, recommended to Parliament that—

- (a) the existing line (Darwin to Emungalan) be extended to Daly Waters on the understanding that it is to form portion of an eventual line through Newcastle Waters to Camooweal ;
- (b) a light low-level line be constructed from Oodnadatta to Alice Springs ;
- (c) these lines be regarded as providing sufficient railway development for the Northern Territory for some years ;
- (d) the 3 ft. 6 in. gauge be adopted.

Several other recommendations relative to sleepers and rails, bridges, labour, and the developmental policy of the Northern Territory were also submitted.

(iii) *Line Authorized for Construction.* The Northern Territory Railway Extension Act 1923 provides for the construction of a 3 ft. 6 in. gauge line from the present terminus Emungalan to Daly Waters, a distance of approximately 160 miles. The estimated cost of this line is £1,545,000.

3. **Port Augusta to Oodnadatta Railway.**—This line was taken over by the Commonwealth Government from 1st January, 1911, but was held under lease by the South Australian Government until 31st December, 1913. From the 1st January, 1914, the line has been worked by the South Australian Government for and on behalf of the Commonwealth. It is provided in the Northern Territory Acceptance Act that the Commonwealth shall annually reimburse the State with the interest payable on the amount of loans raised by the State for the purpose of constructing the railway, and the agreement for working the line prescribes that the Commonwealth is responsible to the State for any financial loss incurred by the State in the working and management of the railway, but is entitled to receive from the State any profit made in such working and management.

4. **Federal Capital Territory Railway—Queanbeyan-Canberra.**—This line was built by the Railway Construction Branch of the Public Works Department, New South Wales, and was completed and taken over by the Chief Commissioner of Railways for that State, who has since worked the line for and on behalf of the Commonwealth Government. The line was opened for departmental goods traffic on 25th May, 1914. It connects with the New South Wales railway system at Queanbeyan, is 4.94 miles in length, and has sidings of an aggregate length of 2.00 miles.

5. **Trans-Australian Railway (Kalgoorlie to Port Augusta).**—In the issue of the Year Book for 1918 (No. 11, pp. 663 to 666 and p. 1213), a short history of the construction of the Trans-Australian line is given, also a description of the country through which the line passes between Kalgoorlie and Port Augusta.

On the 22nd October, 1917, the first through train left Port Augusta with an official party on board for Kalgoorlie. It should be mentioned that owing to deviations from the original route, the length of this line was reduced from 1,063.39 miles to 1,051.45 miles, a saving of 11.94 miles.

6. Lines Open, Surveyed, etc.—The following table shows the lines open for traffic under the control of the Commonwealth Government at 30th June, 1923, together with the lines which have been or are being surveyed :—

RAILWAYS, FEDERAL, 30th JUNE, 1923.

Terminals.	Miles.
OPEN FOR TRAFFIC.	
Trans-Australian—Port Augusta (South Australia) to Kalgoorlie (Western Australia)	1,051.45
Port Augusta to Oodnadatta (South Australia)	477.95
Queanbeyan to Canberra (Federal Capital Territory)	4.94
Northern Territory Railway—Darwin to Emungalan, Katherine River ..	198.68
Total opened for traffic	1,733.02
SURVEYED, OR BEING SURVEYED.	
Katherine River to Mataranka (Northern Territory)	65.44
Mataranka to Daly Waters (Northern Territory)	95.00
Kingoonya to Boorthanna (South Australia)	176.44
Canberra to Jervis Bay (Federal Capital Territory)	140.22
Canberra (Federal Capital Territory) to Federal Capital Territory Border in the direction of Yass (New South Wales)	11.67
Daly Waters (Northern Territory) to Oodnadatta (South Australia) ..	851.50
Port Augusta to Crystal Brook (South Australia)	69.25
Total surveyed or being surveyed	1,409.52

7. Mileage open, worked, and Train miles run.—The following table shows the length of the Federal railways open for traffic, average miles worked, and the train miles run in the years 1919 to 1923 :—

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES, 1919 TO 1923.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Oodnadatta.	Federal Capital Territory.	Northern Territory.	
MILES OPEN FOR TRAFFIC.					
	Miles.	Miles.	Miles.	Miles.	Miles.
1919	1,051	478	5	200	1,734
1920	1,051	478	5	199	1,733
1921	1,051	478	5	199	1,733
1922	1,051	478	5	199	1,733
1923	1,051	478	5	199	1,733

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES,
1919 TO 1923—*continued.*

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Oodnadatta.	Federal Capital Territory.	Northern Territory.	
AVERAGE MILES WORKED.					
	Miles.	Miles.	Miles.	Miles.	Miles.
1919	1,051	478	5	200	1,734
1920	1,051	478	5	199	1,733
1921	1,051	478	5	199	1,733
1922	1,051	478	5	199	1,733
1923	1,051	478	5	199	1,733
TRAIN MILES RUN.					
1919	368,886	221,763	1,015	83,209	674,873
1920	401,709	262,917	1,000	60,348	725,974
1921	472,290	320,292	1,058	17,270	810,910
1922	471,061	242,751	1,263	16,078	731,153
1923	449,609	303,187	1,065	20,823	774,684

8. Cost of Construction and Equipment.—In the following table particulars are given of the cost of construction and equipment for traffic of the undermentioned railways for each of the years 1919 to 1923 :—

RAILWAYS, FEDERAL.—CAPITAL COST, 1919 TO 1923.

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Oodnadatta. (a)	Federal Capital Territory. (b)	Northern Territory.	
TOTAL COST OF CONSTRUCTION AND EQUIPMENT OF LINES OPEN.					
	£	£	£	£	£
1919	6,911,624	2,282,973	48,124	1,707,392	10,950,113
1920	7,053,900	2,282,934	48,144	1,709,932	11,094,910
1921	7,137,365	2,287,193	48,144	1,711,585	11,184,287
1922	7,213,923	2,296,139	48,144	1,718,021	11,276,227
1923	7,301,433	2,309,136	48,144	1,725,666	11,384,379
COST PER MILE OPEN.					
1919	6,574	4,776	9,742	8,556	6,316
1920	6,710	4,776	9,746	8,607	6,402
1921	6,788	4,785	9,746	8,615	6,454
1922	6,861	4,804	9,746	8,647	6,507
1923	6,944	4,381	9,746	8,686	6,569

(a) Exclusive of Rolling Stock the property of South Australian Government Railways.
(b) Exclusive of Rolling Stock the property of New South Wales Government Railways.

9. Gross Revenue.—(i) *Total, per average mile worked, and per train mile run.* The following table shows the total revenue from all sources, the revenue per average mile worked, and the revenue per train mile run for each of the undermentioned railways for the financial years 1919 to 1923 inclusive :—

RAILWAYS, FEDERAL.—GROSS REVENUE, TOTAL, ETC., 1919 TO 1923.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Oodnadatta.	Federal Capital Territory.	Northern Territory.	
TOTAL GROSS REVENUE.					
	£	£	£	£	£
1919	175,134	58,286	407	32,237	266,064
1920	213,388	74,709	571	27,089	315,757
1921	206,871	112,091	1,240	12,214	332,416
1922	206,826	99,462	1,847	14,364	322,499
1923	208,925	108,770	2,883	15,835	336,413

GROSS REVENUE PER AVERAGE MILE WORKED.					
1919	167	122	82	162	153
1920	203	156	116	136	182
1921	197	235	251	62	192
1922	197	208	374	72	186
1923	199	228	584	80	194

GROSS REVENUE PER TRAIN-MILE RUN.					
	d.	d.	d.	d.	d.
1919	113.94	63.08	96.24	92.98	94.62
1920	127.49	68.25	137.04	107.73	104.39
1921	105.12	83.99	281.29	169.74	98.38
1922	105.37	98.34	350.97	214.41	105.86
1923	111.52	86.10	649.69	182.51	104.22

(ii) *Classification and Percentages.* The gross revenue is composed of (a) receipts from coaching traffic, including the carriage of mails, horses, parcels, etc., by passenger trains; (b) receipts from the carriage of goods and live stock; and (c) rents and miscellaneous items. The subjoined table shows the gross revenue for 1919 to 1923 classified according to the three chief sources of receipts, together with their percentages on the total revenue. The respective totals of the three items are given in the preceding table.

RAILWAYS, FEDERAL.—RECEIPTS, VARIOUS SOURCES, 1919 TO 1923.

Year ended 30th June—	Railway.									
	Trans-Australian.		Oodnadatta.		Federal Capital Territory.		Northern Territory.		Total.	
	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.
COACHING TRAFFIC RECEIPTS.										
	£	%	£	%	£	%	£	%	£	%
1919	93,867	59.60	12,455	21.37	34	8.25	5,250	16.28	111,606	41.95
1920	95,671	44.83	10,600	14.19	15	2.63	4,433	16.36	110,719	35.07
1921	128,953	62.34	18,589	16.58	20	1.61	2,700	22.11	150,262	45.20
1922	139,192	67.30	19,689	19.78	48	2.60	2,685	18.69	161,594	50.11
1923	138,304	66.20	17,927	16.48	47	1.63	397	2.51	156,675	46.57

GOODS AND LIVE STOCK RECEIPTS.

1919	50,485	28.33	43,194	74.11	373	91.75	19,676	61.04	113,728	42.74
1920	82,490	38.67	61,401	82.19	453	79.33	14,930	55.12	159,274	50.44
1921	39,750	19.21	90,802	81.01	1,210	97.58	4,859	39.78	136,621	41.10
1922	31,081	15.03	76,710	77.12	1,779	96.32	5,194	36.16	114,764	35.53
1923	31,005	14.84	87,552	80.49	2,819	97.78	7,163	45.23	128,539	38.21

MISCELLANEOUS RECEIPTS.

1919	30,783	17.57	2,636	4.52	..	..	7,311	22.68	40,730	15.31
1920	35,227	16.50	2,708	3.62	103	18.04	7,726	28.52	45,764	14.49
1921	38,168	18.45	2,700	2.41	10	0.81	4,655	38.11	45,533	13.70
1922	36,553	17.67	3,083	3.10	20	1.08	6,485	45.15	46,141	14.31
1923	39,616	18.96	3,291	3.03	17	0.59	8,275	52.26	51,199	15.22

10. Working Expenses.—(i) *Total.* The following table shows the total working expenses, and the percentages on the corresponding gross revenues of each railway for each year from 1919 to 1923.

Details of the annual expenditure on (a) maintenance of ways, works and buildings, (b) locomotives, carriages and wagons repairs and renewals, (c) traffic expenses, and (d) compensation, general and miscellaneous charges, are given in (iii) following.

RAILWAYS, FEDERAL.—WORKING EXPENSES, TOTAL, ETC.. 1919 TO 1923.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Oodnadatta.	Federal Capital Territory.	Northern Territory.	

TOTAL WORKING EXPENSES.

	£	£	£	£	£
1919	243,988	111,362	1,288	50,617	407,255
1920	256,027	112,192	801	48,617	417,637
1921	298,209	172,552	655	27,551	498,967
1922	255,434	177,369	1,308	26 511	460,622
1923	250,280	178,181	1,588	30,984	461,033

PERCENTAGE OF WORKING EXPENSES ON REVENUE.

	%	%	%	%	%
1919	139.31	191.06	316.45	157.02	153.07
1920	119.98	150.17	140.28	179.47	132.26
1921	144.15	153.94	52.82	225.57	150.10
1922	123.50	178.33	70.82	184.56	142.83
1923	119.79	163.81	55.08	195.67	137.04

(ii) *Averages.* The following table shows the working expenses per average mile worked and per train-mile run for each railway for the years 1919 to 1923 :—

RAILWAYS, FEDERAL.—WORKING EXPENSES, AVERAGES, 1919 TO 1923.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Oodnadatta.	Federal Capital Territory.	Northern Territory.	

WORKING EXPENSES PER AVERAGE MILE WORKED.

	£	£	£	£	£
1919	232	233	261	254	235
1920	243	235	162	245	241
1921	284	361	133	139	288
1922	243	371	265	133	266
1923	238	373	322	156	266

WORKING EXPENSES PER TRAIN-MILE RUN.

	d.	d.	d.	d.	d.
1919	158.74	120.52	304.55	145.99	145.00
1920	152.96	102.41	192.40	193.34	138.07
1921	151.54	129.30	148.59	382.87	147.67
1922	130.14	175.36	248.55	395.73	151.20
1923	133.60	141.04	357.85	357.11	142.83

(iii) *Classification and Percentages.* The subjoined table shows the distribution of working expenses among four chief heads of expenditure for the years 1919 to 1923, together with their percentages on the total working expenses which are given in 10 (i) hereinbefore :—

RAILWAYS, FEDERAL.—DISTRIBUTION OF WORKING EXPENSES, 1919 TO 1923.

Year ended 30th June.	Railway.								Total.	
	Trans-Australian.		Oodnadatta.		Federal Capital Territory.		Northern Territory.		Total.	Per Cent.
	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.		

MAINTENANCE.

	£	%	£	%	£	%	£	%	£	%
1919 ..	71,309	29.23	45,284	40.87	601	46.86	21,500	42.48	138,694	34.06
1920 ..	72,197	28.20	43,967	39.19	553	69.04	20,664	42.51	137,381	32.89
1921 ..	99,559	33.38	57,920	33.57	254	38.73	13,236	48.04	170,969	34.27
1922 ..	75,941	29.73	78,780	44.42	736	56.27	14,683	55.38	170,140	36.94
1923 ..	72,822	29.10	83,014	46.59	810	51.01	16,350	52.77	172,995	37.52

LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.

	£	%	£	%	£	%	£	%	£	%
1919 ..	118,163	48.43	52,377	47.03	351	27.25	20,796	41.09	191,687	47.07
1920 ..	119,753	46.77	53,437	47.63	196	24.47	19,841	40.81	193,227	46.27
1921 ..	128,680	43.15	94,381	54.70	340	51.91	9,269	33.64	232,670	46.63
1922 ..	112,317	43.97	79,640	44.90	508	38.84	4,848	18.29	197,313	42.84
1923 ..	110,652	44.21	73,476	41.24	721	45.40	7,528	24.30	192,377	41.73

TRAFFIC EXPENSES.

	£	%	£	%	£	%	£	%	£	%
1919 ..	47,572	19.50	11,471	10.30	336	26.09	7,104	14.03	66,483	16.32
1920 ..	54,606	21.33	12,803	11.41	52	6.49	6,881	14.15	74,342	17.80
1921 ..	41,294	13.85	17,656	10.23	61	9.31	4,129	14.99	63,140	12.65
1922 ..	38,416	15.04	16,609	9.36	64	4.89	6,248	23.57	61,337	13.31
1923 ..	37,139	14.84	18,589	10.43	57	3.59	6,481	20.92	62,266	13.51

OTHER CHARGES.

	£	%	£	%	£	%	£	%	£	%
1919 ..	6,944	2.84	2,230	2.00	..	..	1,217	2.40	10,391	2.55
1920 ..	9,471	3.70	1,985	1.77	..	..	1,231	2.53	12,687	3.04
1921 ..	28,676	9.62	2,595	1.50	..	..	917	3.33	32,188	6.45
1922 ..	28,760	11.26	2,340	1.32	..	..	732	2.76	31,832	6.91
1923 ..	29,667	11.85	3,102	1.74	..	..	625	2.01	33,394	7.24

11. *Passenger Journeys, and Tonnage of Goods and Live Stock.*—(i) *General.* In the next table particulars are given of the passenger journeys, and tonnage of goods and live stock carried on the Federal railways during the years 1919 to 1923 :—

RAILWAYS, FEDERAL.—TRAFFIC, 1919 TO 1923.

Year ended 30th June.	Railway.				Total.
	Trans-Australian.	Oodnadatta.	Federal Capital Territory.	Northern Territory.	

PASSENGER JOURNEYS.

	No.	No.	No.	No.	No.
1919 ..	23,942	51,516	93	5,842	81,393
1920 ..	22,968	55,742	..	4,818	83,528
1921 ..	29,686	69,407	..	3,704	102,797
1922 ..	28,003	64,477	..	3,343	95,823
1923 ..	32,914	67,311	..	3,063	103,288

TONNAGE OF GOODS AND LIVE STOCK CARRIED.

	tons.	tons.	tons.	tons.	tons.
1919 ..	116,971	57,565	4,385	35,124	214,045
1920 ..	53,722	94,892	4,691	23,122	176,427
1921 ..	20,089	87,879	6,913	3,610	118,491
1922 ..	20,780	76,089	9,817	2,251	108,937
1923 ..	33,252	72,392	14,702	2,954	123,300

(ii) *Passenger Mileage Summary.* The appended table gives particulars of "Passenger-Mileage" on each of the Federal Railways for the year 1922-23 :—

RAILWAYS, FEDERAL.—PASSENGER-MILES SUMMARY, 1922-23.

Railway.	Passenger Train Mileage.	Number of Passenger Journeys.	Total " Passenger-Miles."	Amount	Average Number of Passengers carried per Train Mile.	Average Mileage per Passenger Journey.	Average Earnings per " Passenger-Mile."	Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
				Received from Passengers.					
				£		Miles.	d.	£ s. d.	
Trans-Australian	364,861	32,914	omitted.	115,557	69	767	1.10	3 10 5	24,008
Oodnadatta	45,730	67,311	25,243	14,032	57	37	1.34	0 4 2	5,274
Federal Capital Territory									
Northern Territory	5,503	3,063	258	2,191	47	84	2 04	0 14 4	1,296

(iii) *Ton-Mileage Summary.* Particulars of ton-mileage are shown hereunder in respect of each of the Federal Railways for the year 1922-23 :—

RAILWAYS, FEDERAL.—"TON-MILEAGE" SUMMARY, 1922-23.

Railway.	Goods Train Mileage.	Total Tons Carried.	Total " Ton-Miles."	Goods	Average Freight-paying Load per Train Mile.	Average Haul per ton.	Earnings per " Ton-Mile."	Density of Traffic per Average Mile Worked.
				Earnings.				
				£		Miles.	d.	
Trans-Australian	84,748	33,252	omitted.	5,743	68	173	1.30	5,462
Oodnadatta	257,457	72,392	9,604	87,552	37	133	2.19	26,093
Federal Capital Territory	1,055	14,702	74	2,819	68	5	9.20	14,879
Northern Territory	15,320	2,954	414	7,163	27	140	4.16	2,082

12. *Passenger Fares, Goods Rates, and Parcel Rates.*—(i) *Passenger Fares.* In the following table the fares for certain specified distances on the Trans-Australian, Oodnadatta, and Northern Territory railways are set out :—

RAILWAYS, FEDERAL.—PASSENGER MILEAGE RATES, 1923.

Single Fare for a Journey of—	Trans-Australian Railway.					Oodnadatta Railway.				Northern Territory Railway.			
	First Class.		Second Class.			First Class.		Second Class.		First Class.		Second Class.	
	Fare.	Average per Passenger-Mile.	Fare.	Average per Passenger-Mile.	Average per Passenger-Mile.	Fare.	Average per Passenger-Mile.	Fare.	Average per Passenger-Mile.	Fare.	Average per Passenger-Mile.	Fare.	Average per Passenger-Mile.
50	9 7	2.30	6 5	1.54	9 9	2.34	6 7	1.58	11 6	2.76	7 8	1.84	
100	19 2	2.30	12 9	1.53	19 9	2.37	13 3	1.59	22 11	2.75	15 3	1.83	
200	38 4	2.30	25 7	1.54	39 3	2.36	26 0	1.56	45 10	2.75	30 7	1.83	
300	57 6	2.30	38 4	1.53	58 6	2.34	39 3	1.57	..	..	..	..
400	64 7	1.84	43 1	1.29	78 0	2.34	52 0	1.56	..	..	..	..
500	77 1	1.85	51 5	1.23	..	..	..	..	..	..	..	..
600	89 7	1.79	59 9	1.20	..	..	..	..	..	..	..	..
700	102 1	1.75	68 1	1.17	..	..	..	..	..	..	..	..
800	110 5	1.66	73 8	1.11	..	..	..	..	..	..	..	..
900	117 9	1.57	78 6	1.05	..	..	..	..	..	..	..	..
1,000	122 11	1.48	81 11	0.98	..	..	..	..	..	..	..	..
1,051	125 0	1.43	83 4	0.95	..	..	..	..	..	..	..	..

In the case of the Trans-Australian railway, through passengers have to pay for sleeping berths and meals in addition to the ordinary fares. For the first class sleeping-berths the charge is twelve shillings and sixpence for a night or part of a night, the corresponding charge for the second class being eight shillings. There is a fixed scale of charges made in respect of the meals served to other than through passengers between Port Augusta and Kalgoorlie. It will be observed that both the first and second class fares on the Trans-Australian railway have a constant rate for distances up to 300

miles and then have a tapering character beyond that distance; while those for the Oodnadatta and the Northern Territory railways are practically uniform for all distances.

(ii) *Agricultural Produce and Ordinary Goods Rates.* The rates for agricultural produce and ordinary goods on the Trans-Australian and Northern Territory railways are set out in the following tables :—

RAILWAYS, FEDERAL.—RATES FOR AGRICULTURAL PRODUCE, 1923.

For a haul of—	Northern Territory Railway.		Trans-Australian Railway.		For a haul of—	Trans-Australian Railway, <i>contd.</i>	
	Rate per Ton in Truck Loads.	Average per Ton-Mile.	Rate per Ton in Truck Loads.	Average per Ton-Mile.		Rate per Ton in Truck Loads.	Average per Ton-Mile.
50 miles ..	<i>s. d.</i> 8 5	<i>d.</i> 2.02	<i>s. d.</i> 6 3	<i>d.</i> 1.50	600 miles ..	<i>s. d.</i> 38 4	<i>d.</i> 0.77
100 " ..	13 8	1.64	10 1	1.21	700 " ..	42 6	0.78
200 " ..	24 1	1.44	17 9	1.07	800 " ..	46 8	0.70
300 " ..	..	..	24 11	0.99	900 " ..	50 5	0.67
400 " ..	..	..	27 6	0.83	1,000 " ..	53 0	0.65
500 " ..	..	..	33 4	0.80	1,051 " ..	55 0	0.63

RAILWAYS, FEDERAL.—RATES FOR ORDINARY GOODS, 1923.

For a Haul of—	Northern Territory Railway.				Trans-Australian Railway.				For a Haul of—	Trans-Australian Railway, <i>contd.</i>			
	Class of Freight.				Class of Freight.					Class of Freight.			
	Highest.		Lowest.		Highest.		Lowest.			Highest.		Lowest.	
	Rate per Ton.	Average per Ton-Mile.	Rate per Ton.	Average per Ton-Mile.	Rate per Ton.	Average per Ton-Mile.	Rate per Ton.	Average per Ton-Mile.		Rate per Ton.	Average per Ton-Mile.	Rate per Ton.	Average per Ton-Mile.
Miles.	<i>s. d.</i>	<i>d.</i>	<i>s. d.</i>	<i>d.</i>	<i>s. d.</i>	<i>d.</i>	<i>s. d.</i>	<i>d.</i>	Miles.	<i>s. d.</i>	<i>d.</i>	<i>s. d.</i>	<i>d.</i>
50	49 3	11.82	8 5	2.02	36 2	8.68	6 3	1.50	600	223 9	4.48	38 4	0.77
100	89 11	10.79	13 8	1.54	66 2	7.94	10 1	1.21	700.	239 5	4.10	42 6	0.73
200	165 6	9.93	24 1	1.45	122 5	7.34	17 9	1.07	800	255 0	3.83	46 8	0.70
300	..	..	..	..	164 6	6.58	24 11	0.99	900	269 1	3.59	50 5	0.67
400	..	..	..	..	172 2	5.17	27 6	0.83	1,000	281 7	3.38	53 9	0.65
500	..	..	..	..	201 4	4.83	33 4	0.80	1,051	287 6	3.28	55 0	0.63

In the above tables it will be seen that the average rates per ton-mile are of a tapering character.

(iii) *Parcel Rates.* On the Trans-Australian railway, parcels weighing between 85 and 112 lbs. are taken by passenger train 500 miles for thirteen shillings and threepence.

13. *Rolling Stock, 1923.*—The following table shows the numbers of locomotives and rolling stock in use on the Federal railways, classified according to gauge :—

RAILWAYS, FEDERAL.—LOCOMOTIVES AND ROLLING STOCK, 1923.

Railway.	Gauge.			Total.	Gauge.			Total.	Gauge.			Total.
	4 ft. 8½ in.	3 ft. 6 in.			4 ft. 8½ in.	3 ft. 6 in.			4 ft. 8½ in.	3 ft. 6 in.		
	LOCOMOTIVES.				COACHING STOCK.				STOCK OTHER THAN COACHING.			
Trans-Australian	68	1	69	48	..	48	736	31	767			
Northern Territory	..	13	13	..	9	9	..	302	302			
o Total	68	14	82	48	9	57	736	333	1,069			

The Oodnadatta and Federal Capital Territory Railways are worked by the South Australian and New South Wales Government Railways Departments respectively, which use their own rolling stock.

(ii) *Particulars for Quinquennium 1919-23.* The following table shows the number of accidents in each of the years 1919 to 1923 :—

RAILWAYS, FEDERAL.—ACCIDENTS, 1919 TO 1923.

Railway.	Number of Persons—									
	Killed.					Injured.				
	1919.	1920.	1921.	1922.	1923.	1919.	1920.	1921.	1922.	1923.
Trans-Australian ..	1	3	..	..	1	10	6	3	8	14
Oodnadatta ..	..	..	..	..	..	8	12	6	8	7
Federal Capital Territory ..	..	..	..	..	..	..	..	..	..	..
Northern Territory ..	..	..	3	..	..	..	3	1	1	1
Total ..	1	3	3	..	1	18	21	10	17	22

§ 3. State Railways.

1. *Administration and Control of State Railways.*—The policy of Government control of the railways has been adopted in each State, and earlier issues of the Year Book (see No. 6, p. 693) contain a description of the methods adopted by the various State Governments in the control and management of their railways.

2. *Mileage Open, 1919 to 1923.*—The following table shows the length of State railways open for traffic on the 30th June in the years 1919 to 1923 :—

RAILWAYS, STATE.—MILEAGE OPEN FOR TRAFFIC, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1919	4,825	4,190	5,469	2,290	3,538	601	20,913
1920	5,015	4,214	5,685	2,333	3,538	629	21,414
1921	5,043	4,267	5,752	2,333	3,538	630	21,563
1922	5,116	4,317	5,799	2,357	3,538	637	21,764
1923	5,318	4,333	5,906	2,373	3,555	663	22,148

A graph indicating the mileage open in Australia at the end of each of the years 1870 to 1923 accompanies this chapter.

The following statement shows the actual mileage opened for traffic in the year 1923, and also the annual average increase in mileage opened since 1913 in each State :—

RAILWAYS, STATE.—MILEAGE OPENED ANNUALLY.

Mileage.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total all States.
Mileage opened during 1922-23	201.71	16.49	106.08	15.88	16.61	26.58	383.35
Average annual mileage increase for 10 years to 30th June, 1923 ..	138.8	68.6	152.5	68.3	70.1	15.5	513.8

(i) *New South Wales.* During the year ended 30th June, 1923, the extensions from Coffs Harbour to Glenreagh (27.80 miles); Canowindra to Eugowra (26.21 miles); Barmedman to Rankin's Springs (71.69 miles); Westmead to Castle Hill (6.73 miles). Urunga to Raleigh (3.43 miles); and from Griffith to Hillston (66.70 miles) were opened for traffic. A few small readjustments of actual mileage due to remeasurement on existing lines were made, reducing the mileage opened by 0.85 miles.

(ii) *Victoria.* The following lines were opened for traffic during 1922-23:—Won Wron to Woodside (9.68 miles) and from Colac to Alvie (9.65 miles). Owing to the whole system being remeasured the existing mileage was reduced by 2.84 miles—the net increase for the year being 16.49 miles.

(iii) *Queensland.* The increase of 106.08 miles in the mileage opened for traffic in 1922-23 was due to the opening of the following lines:—Kalbar to Mt. Edwards (10.39 miles); Murgon to Proston (26.18 miles); 5 miles 37 chains to Owen's Creek (0.65 miles); Merinda to Collinsville (48.69 miles); and Innisfail to El Arish (20.28 miles.) Certain minor readjustments to the mileage of existing lines reduced the mileage by 0.11 miles.

(iv) *South Australia.* A line from Long Plains to Bowmans (15.88 miles) was opened for traffic during the year.

(v) *Western Australia.* A line from Waroona to Lake Clifton (16.61 miles) was opened during the year.

(vi) *Tasmania.* During the year the line from Myalla to Wiltshire (27.16 miles) was opened for traffic, and several adjustments decreased the existing mileage by 0.58 miles, making a total net increase of 26.58 miles.

3. *Length and Gauge of Railway Systems in each State.*—In all the States the Government railways are grouped, for the convenience of administration and management, into several divisions or systems. A summary showing concisely the gauge and length of the main and branch lines included in each division or system of the different States for the year ended 30th June, 1923, is given in the Transport and Communication Bulletin No. 15 issued by this Bureau.

4. *Average Mileage Worked and Train-Miles Run.*—The total mileage open for traffic at the end of each financial year has been given previously, but, in considering the returns relating to revenue and expenditure and other matters, it is desirable to know the average number of miles actually worked during each year. The next table shows the average number of miles worked and the total number of train-miles run by the Government railways of each State during the years 1919 to 1923 inclusive:—

RAILWAYS, STATE.—MILEAGE WORKED AND MILES RUN, 1919 TO 1923.

Year ended 30th June.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
AVERAGE MILEAGE WORKED.							
1919 ..	4,737	4,159	5,324	2,285	3,507	599	20,611
1920 ..	4,966	4,194	5,635	2,316	3,538	635	21,284
1921 ..	5,019	4,237	5,733	2,333	3,538	637	21,497
1922 ..	5,077	4,279	5,784	2,344	3,538	635	21,657
1923 ..	5,197	4,314	5,868	2,359	3,552	663	21,953
TRAIN-MILES RUN.							
1919 ..	19,935,202	13,081,655	9,942,744	5,412,924	4,256,627	1,107,890	53,687,042
1920 ..	22,834,889	15,022,465	10,443,619	5,192,038	4,851,446	1,266,625	59,611,082
1921 ..	22,792,053	15,533,556	10,735,723	5,712,491	4,918,113	1,387,417	61,079,353
1922 ..	21,887,065	15,856,815	9,634,532	5,629,957	4,564,631	1,433,099	59,006,089
1923 ..	21,693,861	16,394,239	10,917,534	6,206,256	4,505,299	1,434,816	61,152,055

In some years the average mileage worked in Tasmania is greater than the mileage open owing to the Railway Department having running powers over certain private lines.

5. Lines under Construction, and Lines Authorized, 1923.—(i) *General*. The following statement gives particulars up to the 30th June, 1923, of the mileage of State railways (a) under construction, and (b) authorized for construction but not commenced :—

**RAILWAYS, STATE.—MILEAGE UNDER CONSTRUCTION AND AUTHORIZED,
30th JUNE, 1923.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	All States.
Mileage under construction	430.19	72.00	6574.00	100.12	132.50	9.25	1,318.06
Mileage authorized but not commenced	209.84	262.75	1,178.00	33.75	103.50	..	1,787.84

(a) Exclusive of 155.70 miles on which work has been suspended.

(b) Exclusive of 130 miles on which work has been suspended.

(c) Exclusive of 87.75 miles on which work has been suspended.

(ii) *Lines under Construction*. In spite of the great extensions of State railways since the year 1875, there are still, in some of the States, immense areas of country which are as yet practically undeveloped, and in which little in the nature of permanent settlement has been accomplished. The general policy of the States is to extend the existing lines inland, in the form of light railways, as settlement increases, and although it is true that lines which were not likely to be commercially successful in the immediate future have been constructed from time to time for the purpose of encouraging settlement, the general principle that the railways should be self-supporting is kept in view.

(a) *New South Wales*. The total mileage under construction was 430.19 miles, consisting of the following lines :—Molong to Dubbo (80.15 miles); Binnaway to Werris Creek (91.04 miles); Coonabarabran to Burren Junction (95.35 miles); Gilmore to Batlow (21.53 miles); Glenreagh to Dorriggo (42.95 miles); Regent's Park to Cabramatta and Enfield (8.90 miles); Macksville to Urunga (17.28 miles); Tarana to Oberon (14.74 miles); Sydenham to Botany (5.20 miles); The Rock to Pulletop (26.12 miles); and Roslyn to Taralga (15.83 miles). Work on the City and Suburban Electric Railway (11.09 miles) was recommenced after being shut down for four and a half years.

A line from Trida to Menindie (155.70 miles) has been commenced, but work was suspended at 30th June, 1923.

(b) *Victoria*. In this State 72 miles of 5 ft. 3 in. gauge lines are being constructed, viz. :—Red Cliffs to Millewa North (35 miles); Annuello to Bumbang (20 miles); and from Kerang to Gonn's Crossing (17 miles).

(c) *Queensland*. In previous issues of the Year Book details were given of the scheme of railway construction under the provisions of the North Coast Railway Act 1910 (see Year Book No. 15, p. 551). On the 30th June, 1923, the following lines, of an aggregate length of 574 miles, were under construction :—Northern Division (North Coast Railway)—El Arish to Cardwell (24 miles); Lilypond to Cardwell (28 miles); Farleigh to Proserpine (68 miles); Central Division—Many Peaks to Monto (45 miles); Rannes to Monto (106 miles); Baralaba to Castle Creek (53 miles); and Longreach to Winton (110 miles); Southern Division—Mundubbera to Monto (65 miles); Windaera Branch (12 miles); and Tara towards Surat (50 miles). The following lines are partially constructed, but work thereon is temporarily suspended :—Wallaville to Kalliwa (18 miles); Yaraka to Powell's Creek (27 miles); Dajarra to Moonah Creek (41 miles); Mt. Molloy Extension (7 miles); and Winton to 37-Mile (37 miles); a total of 130 miles.

(d) *South Australia.* In this State the lines under construction on the 30th June, 1923, were as follows:—Wandana to Penong (54.00 miles), and Bowmans to Redhill (46.12 miles), an aggregate distance of 100.12 miles.

(e) *Western Australia.* The following lines were in course of construction by the Public Works Department on the 30th June, 1923:—Esperance northward (60 miles). Mt. Marshall Extension (32.50 miles), and from Busselton to Margaret River (40 miles). a total of 120.75 miles. The construction of the lines from Narembeen to Merredin (53.25 miles, and Dwarda to Narrogin (33.50 miles) are at present in abeyance.

(f) *Tasmania.* At 30th June, 1923, the following lines were under construction:—Melrose Extension (4.75 miles) and Preolenna Extension (4.50 miles); a total of 9.25 miles.

(iii) *Lines Authorized for Construction.* (a) *New South Wales.* At the 30th June, 1923, the following lines had been authorized for construction but not commenced:—Gilgandra to Collie (21.51 miles); Grafton to South Grafton, with bridge over Clarence River (2.34 miles); Ballina to Buyong (15.20 miles); Bankstown to Regent's Park (2.35 miles); Camurra to Boggabilla (70 miles); Ungarie to Naradhan (37 miles); Uranquinty towards Moon's Siding (28.44 miles); and Wyalong to Condobolin (33 miles); a total distance of 209.84 miles.

(b) *Victoria.* The following lines were authorized, but construction had not been commenced up to the end of June, 1923:—5 ft. 3 in. gauge: Port Fairy to Yambuk (11.50 miles); Hopetoun to Patchewollock (27.25 miles); Moama to Balranald (120 miles); Gonn Crossing to Stony Crossing (44 miles); Euston Extension (30 miles); Mildura to Murray River (10 miles); and Gol Gol Extension (20 miles); an aggregate of 262.75 miles.

(c) *Queensland.* In addition to the new lines upon which work has been commenced, Parliament has authorized the construction of the following parts of the Great Western Railway: Section A, from Quilpie to Eromanga (120 miles); Section B, from Powell's Creek (224 miles); Section C, from 37-Mile to Springvale (324 miles); and Section D, from Moonah Creek (217 miles). The following lines were also authorized for construction: Branch to Windera (12 miles); Inglewood to Texas and Silverspur (44 miles); Mount Edwards to Maryvale (28 miles); Lanefield to Rosevale (17 miles); Gatton to Mount Sylvia (11 miles); Juandah to Taroom (42 miles); Dirranbandi extension (52 miles); Yarraman to Nanango (16 miles); Brooloo to Kenilworth (10 miles); Dobbyn to Myally Creek (50 miles); Peeramon towards Boonjee (11 miles); a total of 1,178 miles.

(d) *South Australia.* Parliament has authorized the construction of lines on the 5-ft. 3-in. gauge from Paringa to Renmark, a distance of 2.50 miles; on the 3-ft. 6-in. gauge from Kielpa to Mangalo Hall (26.25 miles); and from Kowulka to Sec. 2, Hundred of Kevin (5 miles). The conversion of certain 3-ft. 6-in. gauge lines in the north-west of the State to 5-ft. 3-in. gauge has also been authorized. About 175 miles of line are involved in this scheme.

(e) *Western Australia.* The following lines were authorized for construction up to the 30th June, 1923:—Piawing northwards (24 miles); Bridgetown—Jarnadup Ext. (44.50 miles); and Albury to Denmark (35 miles); a distance of 103.50 miles.

(f) *Tasmania.* There were no new railways authorized on which work had not been commenced at 30th June, 1923.

6. *Cost of Construction and Equipment.*—(i) *General.* The total cost of construction and equipment of the State railways at the 30th June, 1923, amounted to £242,142,140, or to an average cost of £10,933 per mile open for traffic. Particulars of the capital expenditure incurred on lines open for traffic are given in the following table:—

RAILWAYS, STATE.—MILEAGE AND COST TO 30th JUNE, 1923.

State.	Length of Line Open (Route).	Total Cost of Construction and Equipment.	Average Cost per Mile Open.	Cost per Head of Population.	Mileage per 1,000 of Population.
	Miles.	£	£	£	Miles.
New South Wales (a) ..	5,317.79	87,713,871	16,494	40.06	2.42
Victoria ..	4,333.35	(b) 64,615,435	(b) 14,883	40.19	2.69
Queensland ..	5,905.41	44,823,991	7,590	55.63	7.33
South Australia (a) ..	2,373.09	(c) 20,234,003	(c) 8,527	39.16	4.59
Western Australia (a)	3,554.84	18,555,115	5,219	53.30	10.21
Tasmania ..	663.38	6,199,725	9,346	28.99	3.10
All States ..	22,147.86	242,142,140	10,933	42.62	3.89

(a) Exclusive of Federal railways.

(b) Exclusive of cost of line from Murrayville to South Australian border (12.53 miles).

(c) Exclusive of cost of line from Mount Gambier to Victorian border (11.67 miles).

The lowest average cost (£5,219) per mile open is in Western Australia, and the highest (£16,494) in New South Wales, as compared with an average of £10,933 for all States. There were few costly engineering difficulties in Western Australia, and the fact that contractors were permitted to carry traffic during the term of their contracts considerably reduced expenditure, particularly in respect of all goldfield contracts.

In the above table the figures relating to cost of construction and equipment do not include the discounts and flotation charges on loans allocated to the railways. This will explain the reason for the differences between the amounts shown above for Queensland, South Australia, and Western Australia and those shown in the Railway Reports for these States.

(ii) *Variations of Cost per mile.* The average cost per mile open of certain sections of line (exclusive of equipment) ranges from £51,955 to as low as £1,287.

(iii) *Capital Cost, All Lines.* The increase in the total capital cost of construction and equipment of Government railways for each year from 1919 to 1923 is shown in the following table :—

RAILWAYS, STATE.—CAPITAL COST OF LINES OPEN, 1919 TO 1923.

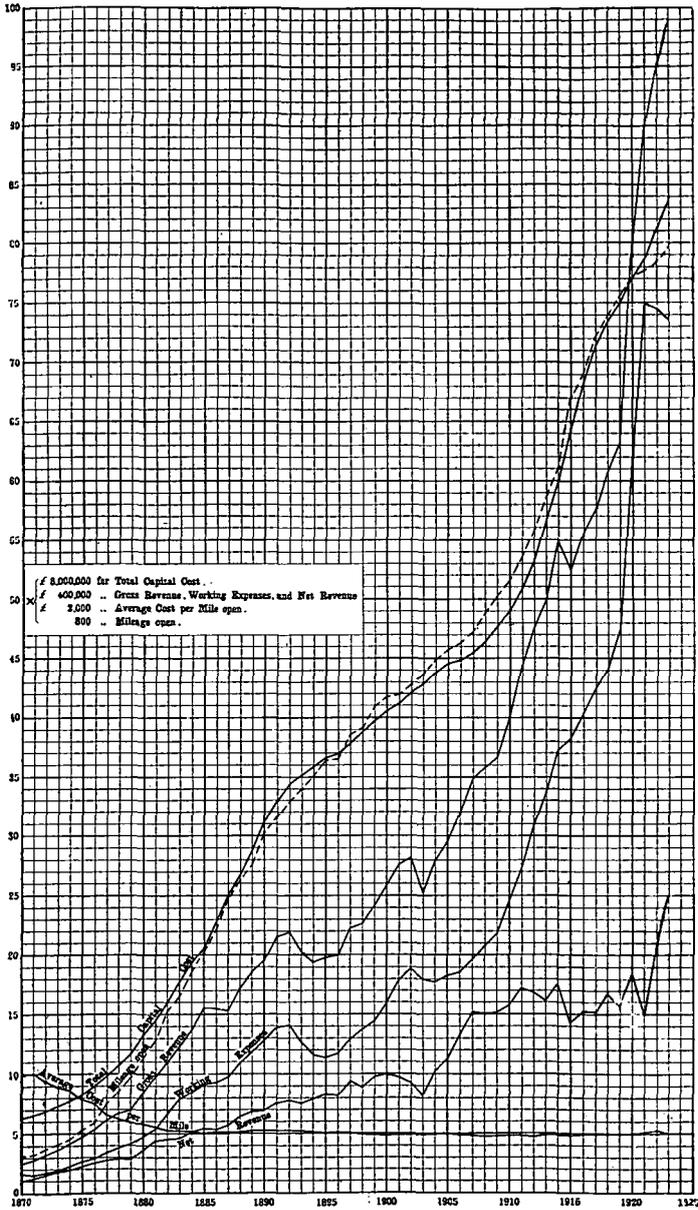
Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL COST OF LINES OPEN.							
1919 ..	£ 76,601,591	£ 57,403,576	£ 38,244,494	£ 118,649,979	£ 17,995,941	£ 5,076,014	(a, b) £ 213,971,595
1920 ..	79,818,917	58,287,897	40,005,868	119,105,510	18,062,354	5,240,276	(a, b) 220,020,822
1921 ..	80,756,194	59,798,696	41,368,640	119,270,704	18,169,980	5,383,192	(a, b) 224,747,406
1922 ..	83,789,871	62,941,364	42,519,012	119,742,821	18,330,557	5,753,381	(a, b) 233,077,006
1923 ..	87,713,871	64,615,435	44,823,991	120,234,003	18,555,115	6,199,725	(a, b) 242,142,140
COST PER MILE OPEN.							
1919 ..	15,877	(a) 13,743	6,992	(b) 8,186	5,086	8,438	(a, b) 10,243
1920 ..	15,815	(a) 13,832	7,037	(b) 8,188	5,105	8,344	(a, b) 10,275
1921 ..	16,014	(a) 14,016	7,192	(b) 8,259	5,135	8,547	(a, b) 10,495
1922 ..	16,378	(a) 14,560	7,332	(b) 8,376	5,181	9,035	(a, b) 10,707
1923 ..	16,494	(a) 14,883	7,590	(b) 8,527	5,219	9,346	(a, b) 10,933

(a) Exclusive of cost of line from Murrayville to South Australian border (12.53 miles).

(b) Exclusive of cost of line from Mount Gambier to Victorian border (11.67 miles).

(iv) *Loan Expenditure.* The subjoined table shows the total loan expenditure on Government railways (including lines both open and unopen) in each State, except Tasmania, and on Government railways and tramways in the latter State for the years 1919 to 1923 :—

FINANCIAL POSITION OF THE GOVERNMENT RAILWAYS OF AUSTRALIA, 1870 TO 1923.



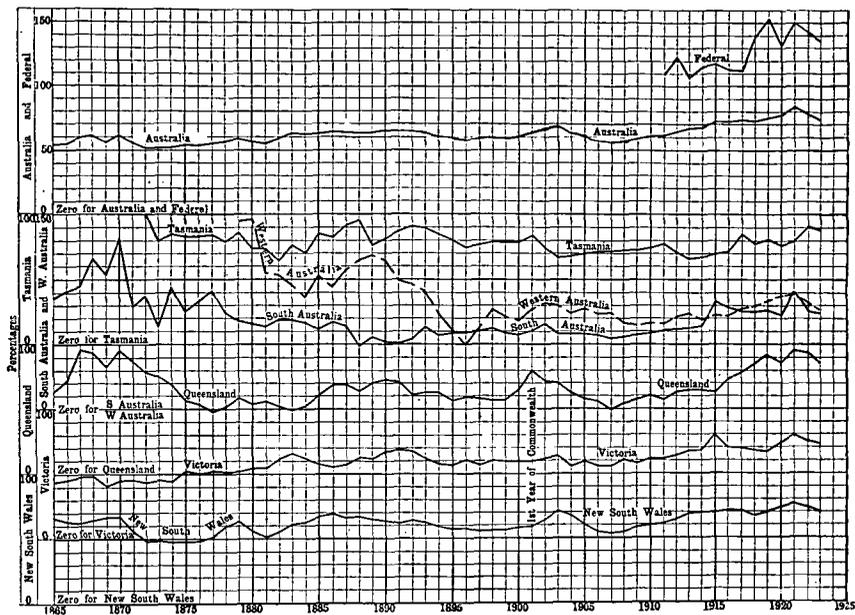
(See page 317.)

EXPLANATION.—The base of each small square represents throughout one year. The significance of the vertical height of each square varies according to the nature of the several curves.

In the curve for the total capital cost, the vertical side of each square represents £3,000,000.

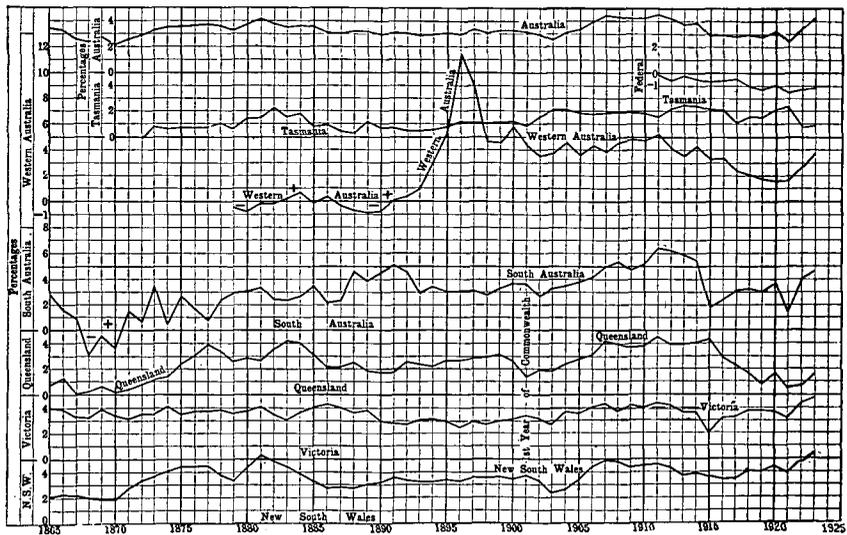
In the curves for (i) gross revenue, (ii) working expenses, and (iii) net revenue, the vertical height of each small square represents £400,000. For the curve of average cost per mile open, the vertical side of each small square represents £2,000. The mileage open is shown by a dotted curve, the vertical side of each square representing 300 miles.

PERCENTAGES OF WORKING EXPENSES ON GROSS REVENUE OF GOVERNMENT RAILWAYS, 1865 TO 1923.



EXPLANATION.—The base of each small square represents throughout one year. The vertical side of a small square denotes throughout 10 per cent., the heavy zero lines being different for each State and Australia, with, however, two exceptions, the zero lines for South Australia and Western Australia being identical, as is also the case with the zero line for Australia and Federal.

PERCENTAGES OF NET REVENUE ON CAPITAL COST OF GOVERNMENT RAILWAYS, 1865 TO 1923.



EXPLANATION.—The base of each small square represents throughout one year. The vertical side of a small square denotes 1 per cent., the thick zero lines, however, for each State and Australia being different, but the zero line for Federal is the same as that for Australia.

Where the curve for any State falls below that State's zero line, loss is indicated, the working expenses having exceeded the gross revenue.

RAILWAYS, STATE.—LOAN EXPENDITURE, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	All States.
	£	£	£	£	£	£	£
1919 ..	1,441,105	878,384	1,416,302	324,041	154,720	39,165	4,253,717
1920 ..	2,387,303	982,182	2,356,498	236,925	93,676	91,221	6,147,805
1921 ..	3,598,351	1,685,329	1,760,932	252,097	145,724	254,079	7,696,512
1922 ..	4,399,725	3,478,021	1,226,280	572,482	323,296	490,990	10,490,794
1923 ..	4,177,273	1,674,643	2,134,162	659,120	519,557	254,120	9,418,875

(a) Including tramways.

The following statement shows the total loan expenditure on railways to the 30th June, 1923 :—

RAILWAYS, STATE.—TOTAL LOAN EXPENDITURE TO 30th JUNE, 1923.

State ..	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania. a	All States.
Expenditure	£	£	£	£	£	£	£
	96,065,477	63,371,086	47,868,192	22,683,533	18,429,575	6,596,175	255,014,038

(a) Including tramways.

7. Gross Revenue.—(i) *General.* The following table shows the total revenue from all sources, the revenue per average mile worked, and the revenue per train-mile run during each financial year from 1919 to 1923 inclusive :—

RAILWAYS, STATE.—GROSS REVENUE, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
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TOTAL GROSS REVENUE.

	£	£	£	£	£	£	£
1919 ..	9,958,173	6,432,277	3,984,597	2,391,409	1,872,897	401,364	25,040,717
1920 ..	13,083,847	8,224,972	4,960,150	2,726,540	2,291,876	509,177	31,793,582
1921 ..	14,267,205	9,795,763	5,279,412	2,942,028	2,720,032	600,045	35,604,485
1922 ..	15,213,019	10,791,082	5,154,530	3,297,347	2,827,856	588,297	37,872,131
1923 ..	15,221,333	11,347,057	5,420,400	3,710,922	2,915,985	572,417	39,188,114

GROSS REVENUE PER AVERAGE MILE WORKED.

	£	£	£	£	£	£	£
1919 ..	2,102	1,547	748	1,047	534	670	1,215
1920 ..	2,635	1,961	880	1,177	648	797	1,494
1921 ..	2,843	2,312	921	1,261	768	942	1,656
1922 ..	2,996	2,522	891	1,406	799	927	1,749
1923 ..	2,929	2,630	924	1,573	821	863	1,785

GROSS REVENUE PER TRAIN-MILE RUN.

	d.	d.	d.	d.	d.	d.	d.
1919 ..	119.88	118.46	96.18	106.03	105.60	86.95	111.94
1920 ..	137.51	131.40	113.99	126.03	113.38	95.91	127.80
1921 ..	150.23	151.35	118.02	123.60	132.74	102.79	139.90
1922 ..	166.82	163.33	128.40	140.56	148.68	98.51	150.04
1923 ..	168.39	166.11	119.15	143.50	155.34	95.74	153.80

The amounts of revenue earned per average mile worked and per train-mile run in respect of (a) coaching and (b) goods and live stock traffic, separately, are given elsewhere.

(ii) *Coaching, Goods, and Miscellaneous Receipts.* (a) *Totals.* The gross revenue is composed of (a) receipts from coaching traffic, including the carriage of mails, horses, parcels, etc., by passenger trains; (b) receipts from the carriage of goods and live stock; and (c) rents and miscellaneous items. The subjoined table shows the gross revenue for 1919 to 1923, classified according to the three chief sources of receipts. The total of the three items specified has already been given in the preceding paragraph.

RAILWAYS, STATE.—COACHING, GOODS, ETC., RECEIPTS, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
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COACHING TRAFFIC RECEIPTS.

	£	£	£	£	£	£	£
1919 ..	3,978,180	3,241,194	1,392,476	807,747	637,851	188,329	10,245,777
1920 ..	5,714,131	4,205,420	1,833,349	1,130,659	764,872	236,763	13,885,194
1921 ..	6,384,031	4,897,258	1,885,677	1,185,878	911,007	270,635	15,534,486
1922 ..	6,636,530	5,376,620	1,898,050	1,240,354	973,153	263,340	16,388,047
1923 ..	6,694,353	5,664,738	2,008,282	1,270,590	972,318	262,373	16,872,654

GOODS AND LIVE STOCK TRAFFIC RECEIPTS.

1919 ..	5,583,982	2,957,789	2,483,698	1,536,209	1,127,539	203,412	13,892,629
1920 ..	6,807,792	3,721,122	3,000,829	1,556,224	1,394,908	261,657	16,742,532
1921 ..	7,270,856	4,411,276	3,267,289	1,719,556	1,637,979	320,798	18,627,754
1922 ..	7,953,909	4,815,056	3,105,485	2,000,716	1,688,482	312,890	19,876,538
1923 ..	7,868,769	4,953,192	3,290,471	2,378,034	1,768,211	294,831	20,553,508

MISCELLANEOUS RECEIPTS.

1919 ..	396,011	233,294	108,423	47,453	107,507	9,623	902,311
1920 ..	561,924	298,430	125,972	39,657	132,096	7,757	1,165,836
1921 ..	612,318	487,229	126,446	36,594	171,046	8,612	1,442,245
1922 ..	622,580	599,406	150,995	56,277	166,221	12,067	1,607,546
1923 ..	658,211	729,127	121,647	62,298	175,456	15,213	1,761,952

(1) *New South Wales.* The increase in revenue over 1922 was considerably less than anticipated. Owing to drought large numbers of starving stock and considerable quantities of fodder were carried at reduced rates.

(2) *Victoria.* The expansion of traffic due to electrification increased business on the suburban lines, while the heavy increase in the carriage of live stock together with the greater receipts for the sale of electrical power were responsible for the rise of £555,975 over the receipts for the previous year.

(3) *Queensland.* The greater volume of goods and live stock traffic was the chief source of the increased revenue for the year.

(4) *South Australia.* The heavier traffic in minerals during the year was principally responsible for the increased revenue.

(5) *Western Australia.* Practically all sources of revenue with the exception of that from the carriage of mails and passengers showed increases over the previous year, the most noteworthy being in goods and mineral traffic.

(6) *Tasmania.* The falling off in the revenue during the year from the carriage of minerals was partly responsible for the smaller returns.

(b) *Percentages.* The following table shows for the two years 1921-22 and 1922-23 the percentage which each class of receipts bears to the total gross revenue :—

RAILWAYS, STATE.—PERCENTAGES OF RECEIPTS, 1922 AND 1923.

State.	1922.			1923.		
	Coaching.	Goods and Live Stock.	Miscellaneous.	Coaching.	Goods and Live Stock.	Miscellaneous.
	%	%	%	%	%	%
New South Wales ..	43.63	52.28	4.09	43.98	51.69	4.33
Victoria ..	49.83	44.62	5.55	49.92	43.65	6.43
Queensland ..	36.82	60.25	2.93	37.05	60.71	2.24
South Australia ..	37.62	60.67	1.71	34.24	64.08	1.68
Western Australia ..	34.41	59.71	5.88	33.35	60.64	6.01
Tasmania ..	44.76	53.19	2.05	45.83	51.51	2.66
All States ..	43.27	52.48	4.25	43.05	52.45	4.50

(c) *Averages for Coaching Traffic Receipts.* The subjoined table shows the receipts from coaching traffic per average mile of line worked, and per passenger-train-mile, in each State for the year ended the 30th June, 1923 :—

RAILWAYS, STATE.—COACHING TRAFFIC RECEIPTS, AVERAGES, 1923.

State.	Number of Passenger-Train-Miles.	Coaching Traffic Receipts.		
		Gross.	Per Average Mile Worked.	Per Passenger-Train-Mile.
	No.	£	£	d.
New South Wales ..	11,822,488	6,694,353	1,288	135.89
Victoria ..	10,625,918	5,664,738	1,313	127.94
Queensland ..	3,954,281	2,008,282	342	121.88
South Australia ..	2,832,652	1,270,590	539	107.65
Western Australia ..	1,846,008	972,318	274	126.41
Tasmania ..	691,733	262,373	395	91.02
All States ..	31,773,080	16,872,654	769	127.44

(d) *Averages for Goods and Live Stock Traffic.* The following table shows the gross receipts from goods and live stock traffic per mile worked, per goods-train-mile, and per ton carried, for the year ended the 30th June, 1923 :—

RAILWAYS, STATE.—GOODS AND LIVE-STOCK TRAFFIC RECEIPTS, AVERAGES, 1923.

State.	Number of Goods-Train-Miles.	Goods and Live-Stock Tonnage.	Goods and Live-Stock Traffic Receipts.			
			Gross.	Per Average Mile Worked.	Per Goods-Train-Mile.	Per Ton Carried.
	No.	Tons.	£	£	d.	d.
New South Wales ..	9,871,373	13,801,310	7,868,769	1,514	191.31	136.83
Victoria ..	5,768,321	7,517,216	4,953,192	1,148	206.08	158.13
Queensland ..	6,963,303	4,208,989	3,290,471	561	113.40	187.62
South Australia ..	3,373,604	3,283,594	2,378,034	1,008	169.17	173.81
Western Australia ..	2,659,291	2,624,320	1,768,211	498	159.57	161.70
Tasmania ..	743,083	568,346	294,831	444	95.22	124.50
All States ..	29,378,975	32,003,775	20,553,508	936	167.90	154.13

8. Working Expenses.—(i) *General.* In order to make an adequate comparison of the working expenses, allowance should be made for the variation of gauges and of physical and traffic conditions, not only on the railways of the different States, but also on different portions of the same system. Where traffic is light, the percentage of working expenses is naturally greater than where traffic is heavy; and this is especially true in Australia, where ton-mile rates are in many cases based on a tapering principle—i.e., a lower rate per ton-mile is charged upon merchandise from remote interior districts—and where on many of the lines there is but little back loading.

The following table shows the total annual expenditure and the percentage of the total of these expenses upon the corresponding gross revenues in each State for each year 1919 to 1923 :—

RAILWAYS, STATE.—WORKING EXPENSES, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL WORKING EXPENSES.							
	£	£	£	£	£	£	£
1919	6,904,450	4,279,663	3,690,445	1,829,634	1,567,591	324,595	18,596,378
1920	9,570,983	6,058,912	4,323,392	2,007,361	2,000,473	390,191	24,351,312
1921	11,032,677	7,835,756	5,048,498	2,655,465	2,422,004	476,187	29,470,587
1922	11,116,302	8,026,665	4,810,362	2,537,110	2,328,843	538,066	29,357,348
1923	10,649,974	8,181,926	4,714,262	2,781,547	2,210,348	514,350	29,052,407
PERCENTAGE OF WORKING EXPENSES ON GROSS REVENUE.							
	%	%	%	%	%	%	%
1919	69.33	66.53	92.62	76.51	83.70	80.87	74.26
1920	73.15	73.66	87.16	73.62	87.29	77.08	76.59
1921	77.33	79.99	95.63	90.26	89.04	79.35	82.77
1922	73.07	74.38	93.32	76.94	82.35	91.46	77.52
1923	69.97	72.11	86.97	74.96	75.80	89.86	74.14

(a) *New South Wales.* The decrease in working expenses over 1921–22 was due to the reduction in the basic wage and the partial restoration of the 48 hour week. These decreases were off-set to a certain extent by the increased mileage open and the drought conditions prevailing.

(b) *Victoria.* The increase in working expenses over 1921–22 was due to the larger expenditure incurred in connexion with the maintenance of way and works, and maintenance of rolling stock and in the electrical engineering branch. The considerable decrease in the expenditure on locomotive power is attributable to the electrification of the suburban railways.

(c) *Queensland.* Reductions in salaries, saving in fuel costs owing to the opening of the railway to Bowen coalfields, and economies effected by improved loading systems were responsible for the decrease in expenditure compared with the previous year.

(d) *South Australia.* The growth in working expenses arose in connexion with the Rolling Stock and the Transportation and Traffic Branches and was due to the increase of 576,299 in the number of train-miles run.

(e) *Western Australia.* A fairly general decrease was recorded, except in the case of pensions and gratuities, the decline being due to improved methods in train loading and in other directions. The train mileage decreased by 59,322 miles.

(f) *Tasmania.* The working expenses of practically all branches showed a general decrease.

(g) *All States.* In each State the percentages of the working expenses on the gross earnings during the last five years generally reached the maximum in 1921–22.

The variation in the percentage of working expenses on the gross revenue in each State for the years 1865 to 1923 is illustrated in the graph which accompanies this chapter.

(ii) *Averages.* The following table shows the working expenses per average mile worked and per train-mile run in each State for the years 1919 to 1923 :—

RAILWAYS, STATE.—WORKING EXPENSES, AVERAGES, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
WORKING EXPENSES PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1919	1,457	1,029	693	801	447	542	902
1920	1,927	1,445	767	867	565	614	1,144
1921	2,198	1,849	881	1,138	684	748	1,371
1922	2,189	1,876	832	1,082	658	848	1,356
1923	2,049	1,896	803	1,179	622	775	1,323
WORKING EXPENSES PER TRAIN-MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1919	83.12	78.82	89.08	81.12	88.39	70.32	83.13
1920	100.59	96.80	99.35	92.79	98.96	73.93	98.04
1921	116.17	118.21	112.86	111.56	118.19	82.37	115.10
1922	121.89	121.49	119.83	108.15	122.45	90.11	119.41
1923	117.82	119.78	103.63	107.56	117.75	86.03	114.02

The working expenses per average mile worked for all States for the year 1923 increased by £421 over the year 1919, but at the same time it must be taken into consideration that the gross revenue shows a still greater increase, viz., £570. The working expenses per train-mile run increased during the same period by 30.89d., while the gross revenue rose by 41.86d.

(iii) *Distribution.* The subjoined table shows the distribution of working expenses, under four chief heads of expenditure, for the years 1919 to 1923 :—

RAILWAYS, STATE.—DISTRIBUTION OF WORKING EXPENSES, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
MAINTENANCE.							
	£	£	£	£	£	£	£
1919	1,126,118	870,123	904,199	338,785	411,986	87,902	3,739,113
1920	1,589,472	1,238,030	988,881	350,953	485,647	100,276	4,803,259
1921	1,808,531	1,576,857	1,153,095	526,120	561,845	122,349	5,748,797
1922	1,940,794	1,708,539	1,162,367	400,541	557,091	152,168	5,921,500
1923	1,891,238	1,761,951	1,103,893	414,395	513,790	144,973	5,830,235
LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.							
1919	3,277,623	2,019,967	1,650,263	981,646	639,333	149,260	8,768,092
1920	4,603,775	2,785,614	2,000,901	1,101,629	927,139	185,576	11,604,634
1921	5,466,880	3,541,967	2,374,560	1,414,866	1,095,300	229,154	14,122,727
1922	5,474,485	3,426,370	2,165,438	1,417,305	1,074,460	239,158	13,797,216
1923	5,247,950	3,482,711	2,120,267	1,579,432	1,042,751	228,308	13,701,449
TRAFFIC EXPENSES.							
1919	1,927,612	1,257,685	1,067,667	459,147	418,050	72,514	5,202,675
1920	2,535,813	1,820,588	1,251,192	495,700	529,802	87,786	6,720,881
1921	3,027,041	2,246,443	1,428,008	651,579	688,077	109,521	8,150,669
1922	2,993,601	2,395,694	1,387,425	660,202	621,058	125,038	8,183,018
1923	2,806,970	2,399,867	1,400,869	722,641	592,445	117,607	8,040,399
OTHER CHARGES.							
1919	573,097	131,888	68,316	50,056	48,222	14,919	886,498
1920	841,923	164,680	82,418	59,079	57,885	16,553	1,222,538
1921	730,225	470,489	92,835	62,900	76,782	15,163	1,448,394
1922	707,422	496,062	95,132	59,062	76,234	21,702	1,455,614
1923	703,791	537,397	89,233	65,079	61,362	23,462	1,480,324

In New South Wales and Victoria the expenditure in connexion with refreshment rooms is included in "Other Charges" for the whole five years in the case of the former State, and from 1920 inclusive in the case of Victoria.

9. *Net Revenue.*—(i) *Net Revenue and Percentage on Capital Cost.* The following table shows the net sums available to meet interest charges, also the percentage of such sums upon the capital cost of construction and equipment of lines opened for traffic in each State for the years 1919 to 1923 :—

RAILWAYS, STATE.—NET REVENUE AND PERCENTAGE OF NET REVENUE ON CAPITAL COST OF LINES OPEN, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
NET REVENUE.							
	£	£	£	£	£	£	£
1919	3,053,723	2,152,814	294,152	561,775	305,306	76,769	6,444,339
1920	3,512,863	2,166,060	636,758	719,180	291,403	115,086	7,442,250
1921	3,234,528	1,980,007	230,914	286,563	298,028	123,858	6,133,898
1922	4,096,717	2,764,417	344,168	760,237	499,013	50,231	8,514,783
1923	4,571,359	3,165,131	703,138	929,375	705,637	58,067	10,135,707
PERCENTAGE OF NET REVENUE ON CAPITAL EXPENDITURE.							
	%	%	%	%	%	%	%
1919	3.99	3.75	0.77	3.01	1.70	1.51	3.01
1920	4.43	3.72	1.59	3.76	1.61	2.21	3.38
1921	3.93	3.27	0.56	1.48	1.64	2.30	2.72
1922	4.89	4.39	0.81	3.85	2.72	0.87	3.65
1923	5.21	4.90	1.58	4.59	3.80	0.94	4.19

These figures are also represented in the graphs which accompany this chapter.

The percentage of net revenue on capital expenditure for all States during the past five years reached its maximum during the year 1922–23, with a return of 4.19. This was, however, insufficient to meet interest payable, for which particulars are included in the following sub-section.

(ii) *Net Revenue Averages.* Tables showing the gross earnings and the working expenses per average mile worked and per train-mile run have been given previously. The net earnings, i.e., the excess of gross earnings over working expenses per average mile worked and per train-mile run are shown in the following table :—

RAILWAYS, STATE.—NET REVENUE AVERAGES, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
NET REVENUE PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1919	645	518	55	246	87	128	313
1920	708	516	113	311	82	183	350
1921	645	463	40	123	84	194	286
1922	807	646	59	324	141	79	393
1923	880	734	121	394	199	88	462
NET REVENUE PER TRAIN-MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1919	36.76	39.64	7.10	24.91	17.21	16.63	28.81
1920	36.92	34.61	14.63	33.24	14.42	21.97	29.96
1921	34.06	29.56	5.16	12.04	14.55	21.42	23.95
1922	44.93	41.84	8.57	32.41	26.23	8.41	30.63
1923	50.57	46.33	15.52	35.94	37.59	9.71	39.78

The substantial increases in the net revenue per average mile worked and per train-mile run are due to the causes mentioned in dealing with the increased gross revenue and decreased working expenses.

10. Profit or Loss.—The net revenue after payment of working expenses is shown in the previous sub-section. The following table shows the amount of interest payable on expenditure from loans on the construction and equipment of the railways, the actual profit or loss after deducting working expenses and interest and all other charges from the gross revenue, and the percentage of such profit or loss on the total capital cost of construction and equipment:—

RAILWAYS, STATE.—PROFIT OR LOSS, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
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AMOUNT OF INTEREST ON RAILWAY LOAN EXPENDITURE.

	£	£	£	£	£	£	£
1919	3,265,540	2,157,798	1,617,404	747,671	665,100	186,402	8,639,915
1920	3,641,988	2,225,881	1,723,760	789,362	690,618	197,587	9,269,196
1921	3,811,560	2,401,132	1,811,974	847,867	716,398	205,765	9,794,696
1922	4,217,881	2,580,001	1,924,375	905,319	756,737	228,483	10,612,801
1923	4,487,303	2,937,709	1,998,694	923,606	763,244	255,007	11,370,563

PROFIT OR LOSS AFTER PAYMENT OF WORKING EXPENSES, INTEREST, AND OTHER CHARGES.

	£	£	£	£	£	£	£
1919	- 211,817	- 5,184	- 1,323,252	- 185,896	- 359,794	- 109,633	- 2,195,576
1920	- 129,125	- 59,821	- 1,087,001	- 70,132	- 399,215	- 81,601	- 1,826,945
1921	- 577,032	- 441,125	- 1,581,060	- 561,304	- 418,370	- 81,907	- 3,660,798
1922	- 121,164	+ 184,416	- 1,580,207	- 145,032	- 257,724	- 178,257	- 2,098,018
1923	+ 84,056	+ 227,422	- 1,292,556	+ 5,769	- 62,607	- 196,940	- 1,234,856

PERCENTAGE OF PROFIT OR LOSS ON CAPITAL COST OF CONSTRUCTION AND EQUIPMENT.

	%	%	%	%	%	%	%
1919	-0.28	-0.01	-3.46	-1.00	-2.00	-2.16	-1.03
1920	-0.16	-0.10	-2.71	-0.36	-2.21	-1.55	-0.83
1921	-0.70	-0.74	-3.82	-2.91	-2.30	-1.52	-1.62
1922	-0.15	+0.29	-3.72	-0.74	-1.41	-3.10	-0.90
1923	+0.10	+0.35	-2.88	+0.03	-0.34	-3.18	-0.51

— Indicates a loss.

The losses during the last five years in all the States are due to the causes to which allusion has already been made in the remarks as to increases in the working expenses. It will be observed in the preceding table that the interest charges in 1923 were £2,730,648 higher than they were in 1919, in which year the rate was 4.04 per cent. as against 4.70 per cent. in 1923.

11. Traffic.—(i) *General.* Reference has already been made to the difference in the traffic conditions on many of the lines. These conditions differ not only in the several States, but also on different lines in the same States, and apply to both passenger and goods traffic. By far the greater part of the population of Australia is confined to a fringe of country near the coast, more especially in the eastern and southern districts. A large proportion of the railway traffic between the chief centres of population is therefore carried over lines in the neighbourhood of the coast, and is thus, in some cases, open to sea-borne competition. On most of the lines extending into the interior traffic is light, as the density of population diminishes rapidly as the coastal regions are left behind and there is a corresponding diminution in the volume of traffic, while, in comparison with other more settled countries, there is but little back-loading.

The following table gives particulars for the years 1919 to 1923 :—

RAILWAYS, STATE.—TRAFFIC, 1919 TO 1923.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
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NUMBER OF PASSENGER JOURNEYS.

1919 ..	98,668,768	111,904,786	26,414,817	20,176,544	17,325,424	1,889,102	276,279,441
1920 ..	114,654,660	134,012,162	28,177,817	22,852,116	18,411,281	2,267,856	320,375,842
1921 ..	120,735,140	134,045,688	27,735,179	23,787,884	17,732,571	2,687,837	326,724,294
1922 ..	121,298,861	142,456,924	27,155,606	23,316,141	17,895,509	2,757,702	334,880,743
1923 ..	123,714,619	155,957,240	28,358,170	24,475,170	17,830,292	2,884,210	353,219,701

PER 100 OF MEAN POPULATION.

1919 ..	5.107	7.821	3.804	4.527	5.527	904	5.492
1920 ..	5.651	8.907	3.837	4.835	5.512	1,042	6.054
1921 ..	5.732	8.720	3.627	4.782	5.322	1,260	5.992
1922 ..	5.645	9.067	3.469	4.606	5.272	1,283	6.020
1923 ..	5.648	9.700	3.533	4.730	5.120	1,339	6.216

PER AVERAGE MILE OF LINE WORKED.

1919 ..	20,808	26,907	4,961	8,830	4,940	3,154	13,404
1920 ..	23,087	31,953	5,003	9,867	5,203	3,570	15,052
1921 ..	24,058	31,639	4,838	10,195	5,012	4,220	15,199
1922 ..	23,892	33,290	4,695	9,945	5,059	4,345	15,462
1923 ..	23,805	36,151	4,833	10,375	5,020	4,350	16,090

TONNAGE OF GOODS AND LIVE STOCK CARRIED.

1919 ..	12,714,012	6,515,470	3,783,334	2,618,510	2,379,403	472,926	28,483,655
1920 ..	13,293,528	7,770,694	3,790,881	2,578,908	2,613,606	575,169	30,622,786
1921 ..	15,563,131	7,572,993	3,867,650	2,682,218	2,604,068	672,127	32,962,187
1922 ..	14,197,055	7,491,031	3,732,413	2,827,681	2,548,258	621,751	31,418,189
1923 ..	13,801,310	7,517,216	4,208,989	3,283,594	2,624,320	568,346	32,003,775

PER 100 OF MEAN POPULATION.

1919 ..	659	455	545	587	759	226	566
1920 ..	655	516	516	546	782	264	579
1921 ..	739	493	506	539	782	315	605
1922 ..	661	477	477	559	751	289	565
1923 ..	630	467	524	635	754	264	563

PER AVERAGE MILE OF LINE WORKED.

1919 ..	2,684	1,567	711	1,146	678	790	1,382
1920 ..	2,676	1,852	672	1,113	738	905	1,438
1921 ..	3,101	1,787	675	1,150	736	1,055	1,533
1922 ..	2,796	1,751	645	1,206	720	980	1,451
1923 ..	2,656	1,743	717	1,391	739	857	1,458

(ii) *Metropolitan and Country Passenger Traffic and Revenue.* A further indication of the difference in passenger traffic conditions is obtained from a comparison of the volume of metropolitan, suburban, and country traffic in each State. Particulars were available for the first time in 1923 for all States.

**RAILWAYS, STATE.—METROPOLITAN, SUBURBAN, AND COUNTRY
PASSENGER TRAFFIC AND RECEIPTS, 1922-23.**

Particulars.	Number of Passenger Journeys.			Revenue.		
	Metropolitan.	Country.	Total.	Metropolitan.	Country.	Total.
				£	£	£
N.S.W. ..	a 113,017,247	10,697,392	123,714,639	2,249,703	3,754,999	6,004,702
Victoria ..	b 145,910,182	10,047,058	155,957,240	2,399,451	2,695,144	5,094,595
Queensland ..	21,675,874	6,682,296	28,358,170	367,641	1,295,262	1,662,903
S. Australia ..	c 22,373,991	2,101,179	24,475,170	411,244	665,542	1,076,786
W. Australia	15,051,679	2,778,613	17,830,292	285,883	548,488	834,371
Tasmania ..	d 1,792,230	1,091,980	2,884,210	23,871	204,587	228,458
Total	319,821,203	33,398,518	353,219,721	5,737,793	9,164,022	14,901,815

(a) Within 34 miles of Sydney and Newcastle, including the Richmond line. (b) Within 20 miles of Melbourne. (c) Within 25 miles of Adelaide. (d) Within 10 miles of Hobart.

Although the number of passenger journeys recorded in the metropolitan area in Victoria is considerably greater than in New South Wales, it must be borne in mind that in the latter State other transport facilities, viz., tramways, motor-omnibuses, and ferries, are more extensively used.

(iii) *Electrification of Melbourne Suburban Railways.* Electrification of the Melbourne Suburban Railways was completed in April, 1923. The scheme comprised the electrification of 143 route-miles of steam-operated railway, including sidings, and the conversion and construction of the necessary rolling stock. Particulars of the lines concerned were given in Year Book No. 15, p. 564.

(iv) *Country Lines.* As the traffic on main country lines develops, it is intended to convert to electric traction busy sections which are within reasonable distance of a cheap power supply, and investigations are being made in order to determine which lines offer prospects of financial success.

(v) *Goods Traffic.* (a) *Classification.* The differing conditions of the traffic in each State might also, to some extent, be analysed by an examination of the tonnage of various classes of commodities carried, and of the revenue derived therefrom. Comparative particulars regarding the quantities of some of the leading classes of commodities carried are available for all the States, and the following table shows the number of tons of various representative commodities carried, with the percentage of each class on the total for the financial year 1922-23 :—

RAILWAYS, STATE.—CLASSIFICATION OF COMMODITIES CARRIED, 1922-23.

State.	Minerals.	Fire-wood.	Grain and Flour.	Hay, Straw, and Chaff.	Wool.	Live Stock.	All other Commodities.	Total.
TONS CARRIED.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	8,340,206	185,815	c 827,775	484,980	124,033	736,895	2,901,696	13,801,310
Victoria ..	61,620,958	614,080	1,181,081	376,214	76,295	574,205	3,074,383	7,517,216
Queensland ..	1,131,608	266,125	d 48,057	f 450,042	64,432	396,679	1,854,046	4,208,989
South Australia	1,389,334	195,761	537,265	92,197	30,571	156,693	881,773	3,233,594
Western Australia	619,019	439,865	457,682	111,500	16,134	90,207	889,913	2,624,320
Tasmania ..	a 106,246	58,564	e 119,702	54,361	2,594	21,549	205,330	568,346
All States ..	13,407,371	1,760,210	3,169,562	1,569,294	314,059	1,976,228	9,807,051	32,003,775

PERCENTAGE ON TOTAL TONNAGE CARRIED.

	%	%	%	%	%	%	%	%
New South Wales	61.88	1.35	6.00	3.51	0.90	5.34	21.02	100.00
Victoria ..	21.56	8.17	15.71	5.00	1.01	7.64	40.91	100.00
Queensland ..	26.89	6.32	1.09	10.69	1.53	9.43	44.05	100.00
South Australia	42.31	5.96	16.36	2.81	0.93	4.78	26.85	100.00
Western Australia	23.59	16.76	17.44	4.25	0.61	3.44	33.91	100.00
Tasmania ..	18.70	10.30	21.06	9.56	0.46	3.79	36.13	100.00
All States ..	41.90	5.50	9.90	4.90	0.98	6.17	30.65	100.00

(a) Exclusive of departmental coal hitherto included. (b) Coal, stone, gravel, and sand. (c) Up journey only (to coast). (d) Flour only. (e) Fruit and agricultural produce. (f) Sugar-cane.

(b) *Revenue.* Corresponding information regarding the revenue derived from each class of commodity mentioned above is not generally available in a comparable form. In this connexion it may be stated that the following resolution was passed at the Inter-State Conference of Railway Commissioners held in Melbourne in May, 1909:—"That in view of the variations in the character and classification of the goods traffic in the different States, the sub-divisions of tonnage carried and revenue in each State shall be those which best suit local conditions." The following table, however, shows the revenue derived from goods and live stock traffic during 1922-23 according to a classification which has been adopted by all States:—

RAILWAYS, STATE.—GOODS, etc., TRAFFIC—REVENUE, 1922-23.

Class.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
	£	£	£	£	£	£	£
General merchandise	4,361,189	3,539,473	2,048,896	1,156,210	1,182,080	241,021	12,528,869
Wheat ..	(a)	461,512	(a)	202,486	188,911	(a)	852,909
Wool ..	541,998	177,207	370,157	59,775	48,561	4,851	1,202,549
Live stock	1,462,727	653,229	541,151	209,766	134,616	19,481	3,020,970
Minerals—							
Coal, coke, and shale	1,186,322	120,928	196,072	145,725	114,750	(b) 17,143	1,780,940
Others	316,533	843	134,193	604,072	99,293	(c) 12,335	1,167,271
Total ..	7,868,769	4,953,192	3,290,471	2,378,034	1,768,211	294,831	20,553,508

(a) Not available. (b) Native coal. (c) Minerals other than native coal.

(vi) *Parcels Traffic.* In Victoria three electric motor coaches have been constructed and put into operation for the transfer of parcels from the central stations to suburban stations, and also to convey luggage and parcels between the two main terminal stations. These coaches, which run to a fixed schedule, are the nucleus of a fleet which will eventually separate the whole of the parcels traffic from the passenger traffic on the suburban system.

12. *Passenger-Mileage and Ton-Mileage.*—(i) *General.* In earlier issues of the Year Book reference has been made to the resolution on the subject of passenger-mileage and ton-mileage statistics passed at the Inter-State Conference of Railway Commissioners

held in Melbourne in May, 1909; and to the Report [Cd. 4697] on the same subject by a Committee appointed by the President of the Board of Trade in the United Kingdom (see Year Book No. 10, p. 654).

(ii) *Passenger-Miles.* The subjoined table gives particulars of passenger-mileage in respect of the States of New South Wales, Victoria, South Australia, and Tasmania for the years 1918-19 to 1922-23. The average number of passengers carried per "train" is obtained by dividing the number of "passenger-miles" by the number of "passenger-train-miles." Similarly, the "density of traffic" is obtained by dividing the number of "passenger-miles" by the "average miles worked."

RAILWAYS, STATE.—SUMMARY OF "PASSENGER-MILES," 1919 TO 1923.

Year ended 30th June—	Passenger-Train-Mileage.	Number of Passenger Journeys.	Total Passenger-Miles.	Amount Received from Passengers.	Average Number of Passengers carried per Train.	Average Mileage per Passenger Journey.	Average Earnings per Passenger-Mile.	Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
	Miles. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	No.	Miles.	d.	d.	No.
NEW SOUTH WALES.									
1919	9,689	98,569	1,367,691	3,533,869	144	13.88	0.62	8.60	238,725
1920	11,136	114,655	1,632,627	5,137,247	151	14.24	0.74	10.75	328,761
1921	11,301	120,735	1,620,857	5,736,256	147	13.42	0.85	11.57	322,976
1922	11,379	121,299	1,610,619	5,934,616	145	13.27	0.88	11.74	320,936
1923	11,822	123,715	1,679,903	6,004,702	142	13.58	0.86	11.65	323,260
VICTORIA.									
1919	5,308	111,905	1,012,955	2,894,409	131	9.05	0.69	6.21	243,557
1920	6,655	134,012	1,239,022	3,780,251	148	9.25	0.73	6.77	295,427
1921	8,822	134,046	1,205,052	4,398,124	138	8.99	0.88	7.87	284,412
1922	9,865	142,457	1,231,823	4,814,820	125	8.65	0.94	8.11	287,777
1923	10,626	155,957	1,332,694	5,094,595	125	8.54	0.92	7.84	308,892
SOUTH AUSTRALIA.									
1919	2,644	20,177	238,845	703,748	90	11.84	0.71	8.37	104,527
1920	2,576	22,852	305,834	979,596	119	13.38	0.77	10.29	132,052
1921	2,815	23,788	280,904	1,019,480	100	11.81	0.87	10.29	120,438
1922	2,749	23,330	268,558	1,045,530	102	11.51	0.93	10.76	115,110
1923	2,833	24,481	282,387	1,078,155	100	11.54	0.92	10.57	119,718
TASMANIA.									
1919	448	1,889	39,961	167,035	89	21.15	1.00	21.22	67,713
1920	472	2,268	46,015	209,866	97	20.29	1.09	22.21	72,465
1921	494	2,688	50,263	238,719	102	18.70	1.14	21.31	78,905
1922	662	2,758	46,550	233,608	70	16.88	1.15	20.33	73,336
1923	692	2,884	46,032	228,458	67	15.96	1.19	19.01	69,388

The difference in the number of passenger journeys given in this table and that in connexion with traffic in respect of the State of South Australia is accounted for by the fact that the latter table is compiled from the receipts from passenger traffic while the former is based on the passenger traffic carried.

(iii) *Ton-Miles.* Particulars regarding total "ton-miles" are given in the following table for each of the years 1918-19 to 1922-23 in respect of all States with the exception of Queensland :—

RAILWAYS, STATE.—SUMMARY OF "TON-MILES," 1919 TO 1923.

Year ended the 30th June	Goods-Train-Mileage.	Total Tons Carried.	Total "Ton-miles."	Earnings.	Average Freight-paying Load carried per "Train."	Average haul per Ton.	Earnings per "Ton-mile."	Density of Traffic per Average Mile Worked.
	No. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	Tons.	Miles.	d.	Tons.
NEW SOUTH WALES.								
1919	10,246	12,469	1,237,806	4,889,343	121	99.27	0.95	261,306
1920	11,698	13,010	1,394,099	6,106,563	119	107.15	1.05	280,729
1921	11,491	15,262	1,418,386	6,501,914	123	92.94	1.10	282,631
1922	10,508	14,197	1,365,961	7,953,910	154	96.21	1.38	269,049
1923	9,871	13,567	1,166,238	7,868,769	160	85.96	1.60	224,417
VICTORIA.								
1919	5,308	6,515	487,083	2,957,789	92	74.76	1.46	117,115
1920	6,655	7,771	631,374	3,721,122	95	81.25	1.41	150,542
1921	6,711	7,573	727,930	4,411,276	137	96.12	1.45	171,803
1922	5,992	7,491	684,887	4,815,056	143	91.43	1.69	160,058
1923	5,768	7,517	673,904	4,953,192	145	89.65	1.76	156,198
SOUTH AUSTRALIA.								
1919	2,769	2,619	263,984	1,536,209	95	100.81	1.40	115,529
1920	2,616	2,579	196,534	1,556,224	75	76.21	1.90	84,859
1921	2,897	2,682	217,879	1,719,556	75	81.23	1.81	93,383
1922	2,881	2,828	284,269	2,000,716	99	100.53	1.68	121,253
1923	3,374	3,284	368,525	2,378,035	113	112.23	1.55	156,241
WESTERN AUSTRALIA.								
1919	2,485	2,379	173,283	1,127,539	70	72.83	1.56	49,411
1920	2,873	2,614	207,384	1,394,908	72	79.34	1.61	58,616
1921	2,865	2,604	200,379	1,637,979	70	76.95	1.96	56,633
1922	2,689	2,548	208,347	1,688,482	77	81.76	1.95	58,894
1923	2,659	2,624	210,151	1,768,211	93	80.08	2.02	59,164
TASMANIA.								
1919	660	456	23,745	190,524	36	52.12	1.93	39,641
1920	794	553	30,967	234,147	39	56.01	1.81	48,767
1921	893	650	33,638	302,594	38	51.78	2.15	52,807
1922	771	602	30,850	295,480	40	51.28	2.29	48,602
1923	743	547	27,297	275,968	37	49.29	2.42	41,147

In New South Wales the tonnage carried is exclusive of coal, on which shunting and haulage charges only have been collected, and terminal charges have also been disregarded, but in the cases of South Australia and Tasmania such charges are included.

13. Passenger Fares and Goods Rates.—(i) *General*. Fares and rates are changed from time to time to suit the varying necessities of the railways, but as traffic develops and revenue increases they are in many cases reduced to an extent consistent with the direct payment by the customers of the railways of the cost of working and interest charges. When drought conditions prevail, special concessions are made in the rates for the carriage of fodder and water and for the transfer of starving stock to other areas.

(ii) *Passenger Fares*. Two classes are provided for passenger traffic, and the fares charged may be grouped as follows:—(a) Fares between specified stations (including suburban fares). (b) Fares computed according to mileage rates. (c) Return, periodical and excursion fares. (d) Special fares for working men, school pupils, and others. Fares in class (a) are issued at rates lower than the ordinary mileage rates. Fares in class (b) are charged between stations not included in class (a).

The following table shows the passenger fares for different distances charged in each State between stations for which specific fares are not fixed:—

RAILWAYS, STATE.—ORDINARY PASSENGER MILEAGE RATES, 1923.

State.	For a Journey of—											
	50 Miles.		100 Miles.		200 Miles.		300 Miles.		400 Miles.		500 Miles.	
	First Class.	Second Class.	First Class.	Second Class.	First Class.	Second Class.	First Class.	Second Class.	First Class.	Second Class.	First Class.	Second Class.
New South Wales	<i>s.</i> 11. 0	<i>s.</i> 7. 2	<i>s.</i> 22. 0	<i>s.</i> 14. 7	<i>s.</i> 43. 11	<i>s.</i> 27. 3	<i>s.</i> 65. 4	<i>s.</i> 39. 9	<i>s.</i> 80. 10	<i>s.</i> 50. 9	<i>s.</i> 101. 6	<i>s.</i> 57. 10
Victoria ..	9. 9	6. 6	18. 11	12. 7	37. 9	25. 2	52. 9	35. 2	64. 0	42. 8	75. 3	50. 1
Queensland ..	9. 4	6. 3	17. 0	11. 0	32. 0	20. 6	46. 0	28. 9	59. 0	36. 0	71. 0	43. 0
South Australia	9. 9	6. 7	19. 9	13. 3	39. 3	26. 0	58. 6	39. 3	78. 0	52. 0	97. 6	65. 3
Western Australia	8. 4	5. 3	16. 8	10. 5	33. 4	20. 10	50. 0	31. 3	66. 8	41. 8	83. 4	52. 1
Tasmania ..	10. 6	6. 9	20. 9	13. 9	41. 0	27. 6	61. 3	41. 0	..	..	..	..
Average ..	9. 9	6. 5	19. 2	12. 7	37. 10	24. 6	55. 8	35. 10	70. 11	44. 7	85. 9	53. 8
Average per passenger-mile	<i>d.</i> 2.34	<i>d.</i> 1.54	<i>d.</i> 2.30	<i>d.</i> 1.51	<i>d.</i> 2.27	<i>d.</i> 1.47	<i>d.</i> 2.23	<i>d.</i> 1.43	<i>d.</i> 2.13	<i>d.</i> 1.34	<i>d.</i> 2.46	<i>d.</i> 1.29

The above rates, which were in force on the 30th June, 1923, were not changed during the year ending on that date.

(iii) *Parcel Rates*. Parcels may be transmitted by passenger train at rates based upon weight and distance carried. The charges vary slightly in the different States. In New South Wales they range from fivepence for a parcel not exceeding 3 lbs. for any distance up to 25 miles to eighteen shillings and eightpence for a parcel weighing from 85 lbs. to 112 lbs. for a distance of 500 miles. In Victoria the charge for a parcel weighing from 84 lbs. to 112 lbs. for a distance of 450 miles is sixteen shillings and elevenpence. The rate in Queensland for a parcel weighing from 85 lbs. to 112 lbs. for 500 miles is sixteen shillings and threepence; in South Australia for 550 miles seventeen shillings and fourpence; in Western Australia for a parcel weighing from 99 lbs. to 112 lbs. for 500 miles fifteen shillings and sixpence; and in Tasmania for a distance of 250 miles the rate is eight shillings.

(iv) *Goods Rates*. (a) *General*. The rates charged for the conveyance of goods and merchandise may be divided into three classes, viz.:—(a) Mileage rates, (b) District or "development" rates, and (c) Commodity rates. In each of the States there is a number—ranging from nine in Victoria to fifteen in Tasmania—of different classes of freight. Most of the mileage rates are based upon a tapering principle, i.e., a lower charge per ton-mile is made for a long haul than for a short haul; but for some classes of freight there is a fixed rate per mile irrespective of distance. District rates are charged between specified stations, and are somewhat lower than the mileage rates. In addition to the ordinary classification of freights under class (a), certain commodities, such as wool, grain, agricultural produce, and crude ores, are given under class (c) special rates, lower than the mileage rates.

The rates in force in June, 1923, did not vary from those for June, 1922, except in South Australia, where the rate quoted is for wheat and products thereof. Previously the rates specified were for grain other than wheat.

14. Rolling Stock, 1923.—The following table shows the rolling stock in use at the 30th June, 1923, classified according to gauge:—

RAILWAYS, STATE.—ROLLING STOCK, 1923.

State.	Gauge.					Total.
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft. 0 in.	

LOCOMOTIVES.

New South Wales	..	1,341	..	..	..	1,341
Victoria	781	..	..	17	..	798
Queensland	..	..	690	..	8	698
South Australia..	261	..	233	..	..	494
Western Australia	..	..	421	..	..	421
Tasmania	..	..	89	..	7	96
All States ..	1,042	1,341	1,433	17	15	3,848

COACHING STOCK.

	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	With Motors.			Ordinary.	With Motors.
New South Wales	..	..	2,186	2	..	..	..	..	2,186	2
Victoria	2,165	364	..	..	..	..	55	..	2,220	364
Queensland	..	..	..	..	1,061	17	..	10	1,071	17
South Australia..	500	1	..	..	223	2	..	..	723	3
Western Australia	..	..	..	..	482	3	..	..	482	3
Tasmania	..	..	..	..	227	2	..	6	233	2
All States ..	2,665	365	2,186	2	1,993	24	55	16	6,915	391

STOCK OTHER THAN COACHING.

New South Wales	..	23,483	..	..	..	23,483
Victoria	19,695	..	..	243	..	19,938
Queensland	..	..	14,922	..	254	15,176
South Australia..	4,285	..	5,548	..	..	9,833
Western Australia	..	..	10,163	..	..	10,163
Tasmania	..	..	1,703	..	77	1,780
All States ..	23,980	23,483	32,336	243	331	80,373

Prior to the issue of Year Book No. 16 (1921-22) the particulars of rolling stock were classified under the headings of "Locomotives," "Passenger Vehicles," and "Vehicles other than Passenger." The present classification has been adopted by all States with the exception of Queensland.

15. Employees.—The following table gives the number of railway employees in each year from 1919 to 1923 inclusive, classified according to (a) salaried staff, and (b) wages staff :—

RAILWAYS, STATE.—EMPLOYEES, 1919 TO 1923.

State.	At 30th June—									
	1919.		1920.		1921.		1922.		1923.	
	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.
New South Wales	a4,937	a29,776	4,913	a29,807	5,088	32,470	5,302	36,018	5,356	34,274
Victoria ..	b2,525	b17,285	2,727	21,824	2,738	24,411	3,097	23,791	4,052	22,668
Queensland ..	3,296	11,222	3,239	10,692	3,121	11,237	3,458	14,862	3,250	17,621
South Australia ..	a1,075	a8,570	1,004	8,122	1,038	8,392	1,116	8,448	1,108	8,429
Western Australia ..	1,037	6,057	1,115	6,553	1,187	6,896	1,175	6,330	1,180	6,259
Tasmania ..	199	1,240	210	1,330	205	1,454	215	1,491	216	1,842
All States ..	13,069	74,150	13,208	78,328	13,377	84,860	14,363	90,940	15,162	91,093

(a) Including those absent on military or naval service. (b) Excluding those absent on active service.

In the period under review the totals of salaried and wages staffs rose from 87,219 in 1919 to 106,255 in 1923, an increase of nearly 22 per cent.

16. Accidents.—(i) *Classification.* The following classification of accidents which occurred through the movement of rolling stock was adopted by each State in 1921–22, and particulars for the year 1922–23 in accordance therewith are given hereunder :—

RAILWAYS, STATE.—ACCIDENTS, 1923.

Particulars.	N.S.W.		Vic.		Q'land.		S. Aust.		W. Aust.		Tas.		All States.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers—														
Through causes beyond their own control ..	..	22	..	5	..	18	1	59	..	11	..	..	1	115
Through contributory negligence ..	..	..	..	6	..	10	..	2	..	5	..	..	..	23
Solely through their own negligence ..	10	145	6	134	..	42	3	81	2	44	..	5	21	451
Employees in the execution of their duty—														
Through causes beyond their own control ..	..	16	1	33	2	271	2	51	2	26	..	7	7	404
Through contributory negligence ..	..	63	2	34	1	117	..	3	..	27	..	11	3	255
Solely through their own negligence ..	9	189	7	116	1	61	2	32	1	11	1	8	21	397
Employees proceeding to or from their duty within Railway boundaries ..	1	4	1	2	..	3	1	6	..	..	..	..	3	15
Persons killed or injured at crossings ..	3	9	11	11	3	3	5	20	6	4	..	1	28	48
Trespassers ..	19	7	20	10	7	27	2	..	2	5	..	1	50	50
Miscellaneous ..	3	63	3	21	3	11	..	8	1	14	..	1	10	118
Total ..	45	493	51	372	17	563	16	262	14	147	1	34	144	1,876
Number of passengers killed or injured through causes beyond their own control, per million carried ..	..	.178	..	.032	..	.614	.040	2.410	..	.617	..	..	..	.326

(ii) *Particulars for Quinquennium.* The subjoined table gives particulars of the number of persons killed and injured through train accidents and the movement of rolling stock on the Government railways in each State for each of the years 1919 to 1923 inclusive :—

RAILWAYS, STATE.—ACCIDENTS, 1919 TO 1923.

State.	In year ended 30th June—									
	1919.		1920.		1921.		1922.		1923.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales	44	690	70	751	68	554	67	467	45	498
Victoria ..	52	510	38	451	41	507	58	408	51	372
Queensland ..	28	162	20	694	20	905	18	564	17	563
South Australia ..	22	193	13	157	12	174	6	192	16	262
Western Australia	20	140	30	127	13	134	15	107	14	147
Tasmania ..	4	7	3	31	..	47	2	34	1	34
All States ..	170	1,702	174	2,211	159	2,411	166	1,772	144	1,876

§ 4. Government Railways Generally.

1. *Summary, Federal and State Government Railways.*—In the following table a summary is given of the working of all Federal and State Government railways for the year ended 30th June, 1923 :—

RAILWAYS, FEDERAL AND STATE.—SUMMARY, 1923.

Particulars.	Federal Railways.	State Railways.	Total for Australia.
Total mileage open Miles	1,733.02	22,147.86	23,880.88
Average miles open during the year "	1,733	21,953	23,686
Total train mileage "	774,684	61,152,055	61,926,739
Total cost of construction of lines open £	11,384,379	a242,142,140	253,526,519
Cost per mile £	6,569	a10,933	10,616
Gross revenue £	336,413	39,188,114	39,524,527
Working expenses £	461,033	29,052,407	29,513,440
Percentage of working expenses on gross revenue %	137.04	74.14	74.67
Net revenue £	— 124,620	10,135,707	10,011,087
Interest payable £	231,221	11,370,563	11,601,784
Number of passenger journeys No.	103,288	353,219,701	353,322,989
Tonnage of goods and live stock carried Tons	123,300	32,003,775	32,127,075
Number of employees at 30th June, 1923—			
Salaried No.	166	15,162	15,328
Wages "	923	91,093	92,016
Number of persons killed and injured during the year through train accidents and movement of rolling stock—			
Killed "	1	144	145
Injured "	22	1,876	1,898

(a) Exclusive of cost of lines from Mount Gambier to Victorian border, and from Murrayville to Victorian border.

NOTE.—(—) Denotes a loss on working.

A graph which accompanies this chapter illustrates the total capital cost, mileage open, average cost per mile open, gross revenue, working expenses, and net revenue for each of the years 1870 to 1923.

2. **Government Railway Facilities.**—The population per mile of line open for general traffic in respect of the States' railways for each State has been given previously. The following table gives the mileage of all Government railways, and the mileage per 1,000 of population :—

RAILWAYS, FEDERAL AND STATE.—MILEAGE AND POPULATION, 1923.

State or Territory.	Length of Line Open (Route).			Mileage per 1,000 of Population.
	State.	Federal.	Total.	
	Miles.	Miles.	Miles.	Miles.
New South Wales	5,317.79	..	5,317.79	2.43
Victoria	4,333.35	..	4,333.35	2.70
Queensland	5,905.41	..	5,905.41	7.33
South Australia	2,373.09	1,075.41	3,448.50	6.67
Western Australia	3,554.84	453.99	4,008.83	11.52
Tasmania	663.38	..	663.38	3.10
Federal Capital Territory .. ..	..	4.94	4.94	1.52
Northern Territory .. ..	..	198.68	198.68	54.45
Australia	22,147.86	1,733.02	23,880.88	4.20

3. **Mileage Open for Traffic.**—(i) *Route Mileage.* The Government railway route mileages open for traffic, classified according to gauge, as at the 30th June in each of the years 1920 to 1923 are set out in the following table, which gives also the percentages of each mileage on the total on the mainland—the figures for Tasmania being shown separately, as in the case of the table hereinafter relating to rolling stock :—

RAILWAYS, FEDERAL AND STATE.—ROUTE MILEAGE, 1920 TO 1923.

Gauge.	At 30th June—							
	1920.		1921.		1922.		1923.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
Mainland—								
5 ft. 3 in. ..	5,215.70	23.16	5,268.28	23.24	5,342.60	23.37	5,375.09	23.15
4 ft. 8½ in. ..	6,032.05	26.79	6,059.66	26.74	6,132.96	26.83	6,334.67	27.28
3 ft. 6 in. ..	11,118.81	49.38	11,185.41	49.36	11,233.01	49.14	11,355.71	48.91
2 ft. 6 in. ..	121.90	0.54	121.90	0.53	121.90	0.53	121.77	0.53
2 ft. 0 in. ..	30.26	0.13	30.26	0.13	30.26	0.13	30.26	0.13
Total ..	22,518.72	100.00	22,665.51	100.00	22,860.73	100.00	23,217.50	100.00
Tasmania—								
3 ft. 6 in. ..	605.12	..	606.26	..	611.97	..	638.55	..
2 ft. 0 in. ..	23.58	..	23.58	..	24.83	..	24.83	..
Grand Total	23,147.42	..	23,295.35	..	23,497.53	..	23,880.88	..

In the four years from 1920 to 1923 the 5-ft. 3-in. gauge percentage has not changed materially, but, while the 4-ft. 8½-in. gauge has risen by 0.49, the 3-ft. 6-in. gauge has fallen by a similar percentage.

(ii) *Track Mileage.* The following table gives the track mileages of all Government railways and sidings, exclusive of Tasmania, for the years ended 30th June, 1920 to 1923, classified according to gauge, together with the percentages of each mileage on the total:—

RAILWAYS, FEDERAL AND STATE.—TRACK MILEAGE (a), 1920 TO 1923.

Gauge.	At 30th June—							
	1920.		1921.		1922.		1923.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
5 ft. 3 in. ..	6,650.84	24.71	6,671.62	24.67	6,756.56	24.81	6,930.03	25.03
4 ft. 8½ in. ..	7,794.49	28.96	7,827.13	28.96	7,923.12	29.08	8,177.04	29.54
3 ft. 6 in. ..	12,302.01	45.71	12,376.10	45.77	12,398.50	45.51	12,412.02	44.83
2 ft. 6 in. ..	131.04	0.49	131.07	0.48	131.09	0.48	131.54	0.48
2 ft. 0 in. ..	34.00	0.13	34.00	0.12	34.00	0.12	34.00	0.12
Total ..	26,912.38	100.00	27,039.92	100.00	27,243.27	100.00	27,684.63	100.00

(a) Exclusive of Tasmania.

4. **Rolling Stock.**—The numbers of the rolling stock employed on both the Federal and State Government railways are set out hereunder, classified according to gauge, as at the 30th June, 1923, together with the percentage of the numbers for each gauge on the total for the mainland. The figures for Tasmania are shown separately from those for the mainland.

RAILWAYS, FEDERAL AND STATE.—ROLLING STOCK, 1923.

Gauge.	Locomotives.		Coaching Stock.						Vehicles other than Coaching.	
			Ordinary.		With Motors.		Total.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Mainland—										
5 ft. 3 in. ..	1,042	27.18	2,665	39.54	365	93.83	3,030	42.51	23,980	30.10
4 ft. 8½ in. ..	1,409	36.75	2,234	33.15	2	0.51	2,236	31.37	24,219	30.40
3 ft. 6 in. ..	1,358	35.42	1,775	26.34	22	5.66	1,797	25.21	30,966	38.87
2 ft. 6 in. ..	17	0.44	55	0.82	..	..	55	0.77	243	0.31
2 ft. 0 in. ..	8	0.21	10	0.15	..	..	10	0.14	254	0.32
Total ..	3,834	100.00	6,739	100.00	389	100.00	7,128	100.00	79,662	100.00
Tasmania—										
3 ft. 6 in. ..	89	..	227	..	2	..	229	..	1,703	..
2 ft. 0 in. ..	7	..	6	..	..	..	6	..	77	..
Grand Total	3,930	..	6,972	..	391	..	7,363	..	81,442	..

The present classification was adopted by the Conference of Railways Commissioners in 1921.

§ 5. Private Railways.

1. **Classification.**—A list of private railways, including those open to the public for general traffic and for special purposes, is given in "Transport and Communication Bulletin, No. 15," but, owing to limitations of space, it is not possible to include the information in this volume.

2. **Total Mileage Open, 1922-23.**—As stated in a previous page, a number of private railway lines have from time to time been constructed in Australia. Most of these lines, however, have been laid down for the purpose of hauling timber, sugar-cane, coal, or other minerals, and they are not generally used for the conveyance of passengers or for public traffic. In many cases the lines are practically unballasted and easily removable, and they run through bush country in connexion with the timber and sugar-milling industries, and for conveying firewood for mining purposes. Private railways referred to herein include (a) lines open to the public for general passenger and goods traffic; and (b) branch lines from Government railways and other lines which are used for special purposes and which are of a permanent description. Other lines are referred to in the part of this chapter dealing with Tramways (see C. *Tramways*).

The following table gives particulars of private railways open for traffic for general and special purposes during 1922-23. A classification of these lines according to gauge has already been given in § 1.

RAILWAYS, PRIVATE.—MILEAGE OPEN, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
For general traffic	188.38	24.94	280.31	33.80	278.35	194.90	1,000.68
For special purposes	183.01	35.19	994.38	21.10	557.75	38.08	1,829.51
Total	371.39	60.13	1,274.69	54.90	836.10	232.98	2,830.19

3. **Lines Open for General Traffic.**—The following statement shows, in tabular form, for each State the particulars of the operations of private railways open for general traffic for the year 1923. More detailed information regarding these lines will be found in "Transport and Communication Bulletin No. 15," published by this Bureau.

RAILWAYS, PRIVATE.—SUMMARY, 1922-23.

State.	Companies from which returns were received.	Miles Open (Route).	Train-Miles.	Capital Cost.	Gross Revenue.	Working Expenses.	Rolling Stock.			Passenger Journeys.	Tons of Goods, etc.	No. of Employees.
							Locos.	Coaches.	Other Vehicles.			
	No.	Miles.	No.	£	£	£	No.	No.	No.	No.	Tons.	No.
New South Wales	10	188.38	612,926	2,614,458	3,847,2	266,169	59	45	880	1,653,152	1,145,747	724
Victoria	2	24.94	28,466	86,744	14,954	10,302	4	4	42	31,039	89,752	25
Queensland	15	280.31	59,484	6407,635	38,900	22,581	16	21	271	101,284	1,042,626	81
South Australia	1	33.80	23,475	(a)	(a)	(a)	7	3	165	364	103,145	31
West Australia	1	278.35	240,331	2,061,789	143,932	75,292	18	20	400	54,909	110,183	220
Tasmania	6	194.90	155,704	1,230,389	97,213	72,195	26	18	430	56,441	142,172	261
All States	35	1,000.68	1,120,389	6,401,015 (b)	693,561 (b)	446,632	130	111	2,188	1,897,189	1,711,425	1,342

(a) Not available.

(b) Incomplete.

The particulars given in the table are incomplete in respect of the States of New South Wales, Queensland, South Australia, and Tasmania. In New South Wales and Queensland several of these lines, although owned by private companies, are operated by the Government Railway Departments, and Government rolling stock is used thereon.

§ 6. Comparative Railway Statistics, Various Countries.

A table has been given showing the railway facilities in 1922-23 in the States, in the Northern Territory, and in the Commonwealth, the railway mileage open for traffic being compared both with the area and population.

In the table below, comparative railway statistics of a like character are given in respect of the principal countries of the world at certain dates. The dates have been so chosen as to bring into relation the latest accurate figures for both population and railway mileage.

RAILWAYS, VARIOUS COUNTRIES.—MILEAGE, POPULATION, AND AREA.

Country.	Year.	Miles of Railway.	Population.	Area in Square Miles.	Miles of Railway.	
					Per 1,000 of Population.	Per 1,000 Sq. Miles of Territory.
Europe—						
United Kingdom ..	1920	23,734	47,307,601	121,633	0.50	195.12
Belgium ..	1919	4,649	7,478,840	11,752	0.62	395.59
Denmark ..	1920	2,662	3,289,195	17,144	0.81	155.27
France ..	1922	25,766	39,209,518	212,659	0.66	121.16
Germany ..	1920	35,677	59,858,284	182,271	0.60	195.74
Greece ..	1920	1,470	5,536,375	41,933	0.27	35.06
Italy ..	1921	10,290	38,835,941	110,632	0.26	93.01
Netherlands ..	1921	2,377	6,977,430	12,582	0.34	188.92
Norway ..	1921	2,141	2,649,775	124,964	0.81	17.13
Portugal ..	1920	2,128	6,041,000	35,490	0.35	59.96
Spain ..	1920	9,504	21,347,335	194,800	0.45	48.79
Sweden ..	1921	9,417	5,954,316	173,035	1.58	54.42
Switzerland ..	1920	3,915	3,880,320	15,976	1.01	245.06
Asia—						
India ..	1922	37,266	318,942,480	1,802,629	0.12	20.67
Japan ..	1922	6,728	76,987,469	260,738	0.08	25.80
Africa—						
Egypt ..	1922	3,040	13,551,000	350,000	0.22	8.69
Union of South Africa	1922	10,056	7,055,158	473,089	1.43	21.26
America, North and Central—						
Canada ..	1922	41,498	8,966,834	3,729,665	4.63	11.13
Mexico ..	1920	10,754	13,887,080	767,198	0.77	14.02
United States ..	1920	254,845	105,710,620	3,026,789	2.41	84.19
America, South—						
Argentina ..	1922	21,935	8,750,000	1,153,119	2.51	19.02
Brazil ..	1920	17,213	30,635,605	3,275,510	0.56	5.26
Chile ..	1920	5,403	3,754,723	289,829	1.44	18.64
Australasia—						
Australia ..	1923	26,711	5,749,807	2,974,581	4.65	8.98
New Zealand ..	1923	3,188	1,289,221	103,861	2.47	30.69

It will be seen from the above table that per 1,000 of population Australia had the greatest mileage (in 1923), 4.65 miles; the next in magnitude being Canada (1922), with 4.63 miles, Argentina (1922), with 2.51 miles, New Zealand (1923), with 2.47 miles, and United States (1920), with 2.41 miles.

The least mileage per 1,000 of population is shown in the case of Japan (1922), with 0.08 mile, followed by India (1922), with 0.12 mile.

With regard to the mileage per 1,000 square miles of territory, Belgium (1919) with 395.59 miles was easily first, followed by Switzerland (in 1920) with 245.06 miles, Germany (in 1920) with 195.74 miles, the United Kingdom (in 1920) with 195.12 miles, Netherlands (in 1921) with 188.92 miles, and Denmark (in 1920) with 155.27 miles.

The least mileage open per 1,000 square miles is that of Brazil (in 1920) with 5.26 miles.

C. TRAMWAYS.

1. Systems in Operation.—(i) *General.* Tramway systems are in operation in all the States, and in recent years considerable progress has been made in the adoption of electrical traction, the benefit of which is now enjoyed by a number of the larger towns.

In many parts of Australia private lines used for special purposes in connexion with the timber, mining, sugar, or other industries are often called tramways, but they are really private railways, and the traffic on them has nothing in common with that of the street tramways for the conveyance of passengers, which are dealt with in the present paragraph.

(ii) *Total Mileage Open and Classification of Lines.* The following tables show the total mileage of tramway lines open for general passenger traffic for the year 1922-23, and also in Australia as a whole for the years 1918-19 to 1922-23, classified (a) according to the nature of the authority by which the lines are controlled; (b) according to the motive power utilized, and (c) according to gauge:—

TRAMWAYS.—ROUTE MILEAGE OPEN, 1922-23.

Nature of Motive Power, and Gauge.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total Australia.
GOVERNMENT.							
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Electric	158.99	79.10	(a)42.60	..	30.38	..	311.07
Steam	65.91	..	..	..	17.75	..	83.66
Cable .. ..	..	45.90	..	..	..	..	45.90
Horse .. ..	..	0.63	..	..	7.39	..	8.02
Total	224.90	125.63	42.60	..	55.52	..	448.65
MUNICIPAL.							
Electric .. ..	..	..	..	71.71	8.61	26.28	106.60
Steam .. ..	..	..	6.65	..	..	..	6.65
Total .. ..	..	..	6.65	71.71	8.61	26.28	113.25
PRIVATE.							
Electric .. ..	..	27.69	..	..	14.82	..	42.51
Steam	3.50	..	..	..	..	..	3.50
Total	3.50	27.69	..	..	14.82	..	46.01
ALL CONTROLLING AUTHORITIES.							
Electric	158.99	106.79	42.60	71.71	53.81	26.28	460.18
Steam	69.41	..	6.65	..	17.75	..	93.81
Cable .. ..	..	45.90	..	..	..	..	45.90
Horse .. ..	..	0.63	..	..	7.39	..	8.02
Total	228.40	153.32	49.25	71.71	78.95	26.28	607.91
ACCORDING TO GAUGE.							
Gauge—							
5 ft. 3 in. ..	..	5.18	..	..	..	..	5.18
4 ft. 8½ in. ..	228.40	148.14	42.60	71.71	..	..	490.85
3 ft. 6 in. ..	..	..	6.65	..	61.57	26.28	94.50
2 ft. 0 in. ..	..	..	..	..	17.38	..	17.38
Total	228.40	153.32	49.25	71.71	78.95	26.28	607.91

(a) Mileage as at 31st December, 1922. Transferred from a Private Company on 1st January, 1923.

TRAMWAYS.—ROUTE MILEAGE OPEN, AUSTRALIA, 1918-19 TO 1922-23.

Nature of Motive Power, Controlling Authority, and Gauge.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
ACCORDING TO MOTIVE POWER.					
	Miles.	Miles.	Miles.	Miles.	Miles.
Electric	430.87	443.03	445.10	456.37	460.18
Steam	99.39	98.86	97.73	98.38	93.81
Cable	45.92	45.90	45.90	45.90	45.90
Horse	3.88	5.29	8.03	7.79	8.02
Total	580.06	593.08	596.76	608.44	607.91
ACCORDING TO CONTROLLING AUTHORITY.					
Government	325.23	393.60	397.98	403.75	448.65
Municipal	159.17	103.82	104.19	110.57	113.25
Private	95.66	95.66	94.59	94.12	46.01
Total	580.06	593.08	596.76	608.44	607.91
ACCORDING TO GAUGE.					
Gauge—					
5 ft. 3 in.	5.16	5.16	5.16	5.16	5.18
4 ft. 8½ in.	473.28	484.57	486.42	495.70	490.85
3 ft. 6 in.	84.47	86.20	88.03	90.67	94.50
2 ft. 0 in.	17.15	17.15	17.15	16.91	17.38
Total	580.06	593.08	596.76	608.44	607.91

The mileage of electric tramways has steadily increased during the period dealt with above. It may be noted that the transfer in 1920 from municipal to Government control of the principal Melbourne and suburban systems was responsible for the increase in Government-controlled mileage in that year. On 1st January, 1923, the tramways formerly owned by a private company were taken over by the Queensland Government.

(iii.) *Cost of Construction and Equipment.* The table hereunder shows, as far as information is available, the total cost of construction and equipment of all tramways to the 30th June, 1923, classified according to the nature of the motive power and the controlling authority.

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1922-23.

Nature of Motor Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
GOVERNMENT.							
Electric	£ 8,680,161	£ 2,460,672	£ 2,164,127	£ ..	£ 850,965	£ ..	£ 13,631,925
Steam ..	1,294,870	..	..	..	72,329	..	1,367,199
Cable ..	..	2,357,751	..	..	..	..	2,357,751
Horse ..	..	4,000	..	..	15,899	..	19,899
Total ..	9,975,031	4,822,423	2,164,127	..	939,193	..	17,376,774
MUNICIPAL.							
Electric	..	..	..	2,512,048	133,811	517,983	3,163,842
Steam	..	..	53,129	..	..	..	53,129
Total	..	..	53,129	2,512,048	133,811	517,983	3,216,971

(a) For year 1921.

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1922-23—*continued.*

Nature of Motor Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
PRIVATE.							
Electric	£ ..	£ 334,875	£ ..	£ ..	£ 457,318	£ ..	£ 792,193
Steam ..	(a) ..	..	..	..	..	..	(a)
Total ..	(a)	334,875	..	..	457,318	..	(b) 792,193
ALL CONTROLLING AUTHORITIES.							
Electric	8,680,161	2,795,547	1,640,127	2,512,048	1,442,094	517,983	17,587,960
Steam ..	61,294,870	..	58,129	..	72,329	..	61,420,328
Cable ...	..	2,357,751	..	..	..	..	2,357,751
Horse ..	..	4,000	..	..	15,899	..	19,899
Total ..	69,975,031	5,157,298	1,693,256	2,512,048	1,530,322	517,983	621,385,938

(a) Not available.

(b) Incomplete.

2. New South Wales.—(i) *Government Tramways.* (a) *General.* The tramways, with but few comparatively unimportant exceptions, are the property of the Government, and are under the control of the Railway Commissioners. In Sydney and suburbs the Government tramways are divided into distinct systems. There were in June, 1923, seven such systems in operation within the metropolitan area, five of which are operated by electricity and two by steam.

(b) *Particulars of Working.* The subjoined statement gives particulars of the working of the electric and steam tramways in Sydney, and of other tramways under Government control in 1922-23 :—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—RETURNS FOR 1922-23.

Line.	Mileage Open for Traffic.		Total Cost of Construction and Equipment. (a)	Gross Revenue.	Working Expenses.	Net Earnings. (b)	In-terest.	Profit or Loss. (a)	Per-centage of Working Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost. (b)
	Route.	Track.								
	Miles.	Miles.	£	£	£	£	£	£	%	%
Sydney and Suburban—Electric	158.99	283.23	8,680,161	3,375,923	2,759,914	616,009	436,842	179,167	81.75	+ 7.09
Steam	8.19	9.62	53,820	24,189	37,792	— 13,603	2,774	— 16,377	153.23	— 25.27
Total	167.18	292.90	8,733,981	3,400,112	2,797,706	602,406	439,616	162,790	82.28	+ 6.90
Parramatta—Steam	2.12	2.12	23,345	10,285	14,798	— 4,513	1,652	— 6,165	143.87	— 1.93
Sutherland to Cronulla—Steam	7.40	7.40	52,255	19,543	24,167	— 4,624	2,696	— 7,320	123.66	— 8.85
Newcastle—Steam	34.09	44.67	1,037,685	145,168	220,759	— 75,591	49,729	— 125,320	152.07	— 7.28
East to West Maitland—Steam	4.06	4.06	35,215	8,060	9,571	— 1,511	1,817	— 3,328	118.74	— 4.30
Broken Hill—Steam	10.05	11.44	92,550	14,946	25,305	— 10,359	4,764	— 15,123	169.30	— 11.19
Total	224.90	332.59	9,975,031	3,598,114	3,092,306	505,808	500,274	5,534	85.94	+ 5.07

(a) Includes Stores Advance Account.

(b) + indicates a profit ; — indicates a loss.

(c) *Capital Cost.* The capital cost shown in the preceding table was made up as follows:—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—CAPITAL COST, 1923.

Permanent Way.	Rolling Stock.	Power-houses, Sub-stations, and Plant.	Machinery.	Work-shops.	Furniture.	Store Advances Account.	Total.
£	£	£	£	£	£	£	£
5,119,459	2,069,241	2,042,774	195,369	258,796	2,392	287,000	9,975,031

The average cost per mile open was £22,763 for permanent way and £21,590 for all other charges, making a total of £44,353 per mile.

During the year 1922–23, one new extension, 0.20 miles in length, was opened for traffic.

(d) *Summary, Government Tramways.* The following table gives a summary of the operations of all Government tramways for the years 1919 to 1923:—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Mileage Open for Traffic. (Route.)	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. '000	No.
1919 ..	225.54	8,568,138a	2,237,701	1,850,724	386,977	368,529	82.71	4.52	268,798	9,028
1920 ..	225.81	8,768,548a	2,831,797	2,486,121	395,676	404,125	86.27	4.51	324,885	8,970
1921 ..	227.29	9,060,757a	3,471,737	2,943,251	528,486	421,814	84.78	5.83	337,600	9,018
1922 ..	229.26	9,505,732a	3,610,135	3,015,616	594,519	467,328	83.53	6.26	330,939	9,734
1923 ..	224.90	9,975,031a	3,508,114	3,092,306	505,808	500,274	85.04	5.08	331,002	9,897

(a) £47,455 of this sum has been paid from the Consolidated Revenue, and no interest is payable thereon.

The net result in 1923, after providing for all working expenses and £500,274 for interest on the capital invested, was a profit of £5,534 as compared with a profit of £127,191 in the preceding year. During the year 1922–23, 331,001,822 passengers were carried, an increase of 63,255 as compared with the previous year.

(e) *Sydney Tramways.* Official Year Book No. 15, p. 539, gives a short account of the progress of the Sydney Tramway System. Owing to limitations of space this information cannot be repeated, but the subjoined table shows certain important particulars for the years 1919 to 1923 inclusive.

ELECTRIC TRAMWAYS.—SYDNEY.—SUMMARY, 1919 TO 1923.

Particulars.	Year ended 30th June—				
	1919.	1920.	1921.	1922.	1923.
Mileage open for traffic—					
Route miles		154.56	156.81	158.78	158.99
Track miles	274.75	276.00	278.75	283.07	283.28
Total cost of construction and equipment £	7,779,227	7,842,549	8,009,611	8,342,096	8,680,161
Current used for traction purposes kilowatt hours	83,780,703	92,074,950	97,193,560	99,477,210	88,655,678
Tram miles run No.	23,298,238	25,394,701	27,112,029	27,768,543	28,592,113
Passengers carried No.	250,706,503	304,986,683	315,847,363	310,037,935	312,930,225
Gross revenue £	2,063,055	2,676,748	3,216,358	3,353,768	3,375,923
Working expenses £	1,673,536	2,246,674	2,649,132	2,700,686	2,759,914
Net revenue £	389,519	430,074	567,226	653,082	616,009
Percentage of working expenses on gross revenue %	81.12	83.93	82.36	80.53	81.75
Cars in use	1,393	1,394	1,414	1,427	1,531
Persons employed	8,610	8,440	8,352	9,177	9,150

The current for the operation of the City and Suburban tramways is generated at the power-houses at Ultimo and White Bay, erected at a total cost of £2,042,774, including the cost of the sub-stations and plant. The total output of the power-houses, for both lighting and traction purposes, during the year 1922-23 was 136,576,711 kilowatt-hours, of which the direct-current supply numbered 64,353.

(ii) *Private Tramways.* A private steam tramway passes through the township of Parramatta. Commencing at the park gates, it runs as far as the Duck River, a distance of $3\frac{1}{2}$ miles, where it connects with the Parramatta River steamers which convey passengers and goods to and from Sydney. This line, which has a gauge of 4 ft. $8\frac{1}{2}$ in., was opened for traffic in 1883. In 1923 the number of tram-miles run was 18,200, and the number of passengers conveyed 115,003.

3. *Victoria.*—(i) *General.* In Melbourne there are several tramway systems carried on under the control of various authorities, the most important being the cable and electric systems worked by the Melbourne and Metropolitan Tramway Board, to which reference will be made further on. There were also, at 30th June, 1923, two lines of electric tramways, viz. :—(a) St. Kilda to Brighton, and (b) Sandringham to Black Rock, both of which belong to and are operated by the Railway Commissioners; In addition there are systems of electric tramways at Ballarat, Bendigo, and Geelong, constructed and run by private companies.

Numerous tramways have been constructed for special purposes in various parts of the State under the provisions of the Tramway Act 1890. These, however, are of the nature of the private railways referred to in sub-section 1 hereof. A tramway to the Zoological Gardens, with horse traction, is operated by the Melbourne and Metropolitan Tramways Board. The rolling stock and car barn were destroyed by fire in November, 1923, and at the present time this line is not in operation.

(ii) *Melbourne and Metropolitan Tramways Board.* (a) *General.* A short account of the formation of the Melbourne Tramway and Omnibus Company, and of the Tramway Board, will be found in earlier issues of this work.

(b) *Cable and Horse Tramways.* (1) *Services.* The complete system consists of 45.90 miles of double track connecting the City of Melbourne with the nearer suburbs, and 0.63 miles of horse tramway at Royal Park. The gauge of track is 4 ft. $8\frac{1}{2}$ in.

(2) *Particulars of Working.* A summary for the years 1919 to 1923 is given hereunder :—

CABLE TRAMWAYS.—MELBOURNE.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Mileage Open (Route).			Mileage Run during Year.			Number of Passengers Carried.		
	Cable.	Horse.	Total.	Tram.			Tram.		
				Cable.	Horse.	Total.	Cable.	Horse.	Total.
Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	No.	No.	No.	
1919(a) ..	43.68	0.63	44.31	13,138,992	10,645	13,149,637	118,043,604	259,177	118,302,781
1920(b) ..	45.90	0.63	46.53	13,424,488	10,648	13,435,136	133,378,390	296,651	133,675,041
1921 ..	45.90	0.63	46.53	14,058,575	10,406	14,068,981	148,755,005	293,676	149,048,681
1922 ..	45.90	0.63	46.53	14,624,684	10,134	14,634,818	150,962,255	239,508	151,201,763
1923 ..	45.90	0.63	46.53	14,832,416	9,808	14,842,224	155,617,351	202,802	155,820,153

Year ended 30th June—	Traffic Revenue.			Working Expenses.			Percentage of Working Expenses on Revenue.	No. of Employees at end of Year.
	Tram.		Total.	Tram.		Total.		
	Cable.	Horse.		Cable.	Horse.			
£	£	£	£	£	£	%	No.	
1919(a) ..	945,286	513	945,799	577,736	1,154	578,890	61.21	2,400
1920(b) ..	1,075,236	606	1,075,842	722,482	1,564	724,046	67.30	2,786
1921 ..	1,146,955	792	1,147,747	843,333	1,100	844,433	73.60	2,836
1922 ..	1,232,415	916	1,233,331	943,415	1,184	944,599	76.59	2,864
1923 ..	1,260,043	869	1,260,912	923,564	1,225	924,789	73.34	3,035

(a) Exclusive of Northcote Cable Tramway.
2nd February, 1920, to 30th June, 1920.

(b) Inclusive of Northcote Cable Tramway from

(c) *Electric Tramways. (1) Services Operated.* The system controlled by the Melbourne and Metropolitan Tramway Board at 30th June, 1923, consisted of six services, viz., (a) The Prahran and Malvern Tramways; (b) The Hawthorn Tramways; (c) The Melbourne, Brunswick and Coburg Tramways; (d) The Fitzroy, Northcote and Preston Tramways; (e) The Footscray Tramways; and (f) the North Melbourne—Essendon Tramway, all of 4 ft. 8½ in. gauge. The last-mentioned tramway was purchased from a private company and operated by the Tramway Board as from 1st August 1922.

(2) *Particulars of Working.* A summary of operations for the year 1922–23 is given hereunder:—

MELBOURNE TRAMWAY BOARD.—ELECTRIC SERVICES.—OPERATIONS, 1922–23.

Year.	Mileage. (Route.)	Total Cost of Construction and Equipment	Current used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit.
	Miles.	£	Kilowatt-hours.	No.	No.	No.	£	£	£
1922–23	71.51	2,185,275	15,863,159	6,742,428	70,811,393	661,486	503,166	80,129	78,191

(3) *Future Development.* A comprehensive construction scheme has been prepared for submission to Parliament in connexion with the extension of existing lines, the linking-up of lines already constructed in different suburbs, and the opening up of new routes. The total mileage involved in this scheme is 10.40 miles (route).

(iii) *Other Government Tramways.* The Victorian Railway Department owns and operates two lines of electric street railways, viz., St. Kilda to Brighton (5.18 miles of 5 ft. 3 in. gauge) and Sandringham to Black Rock (2.41 miles of 4 ft. 8½ in. gauge), a total route mileage of 7.59 miles.

Particulars of the operations of these tramways for the years 1918–19 to 1922–23 are contained in the tables hereunder.

ELECTRIC TRAMWAY.—ST. KILDA—BRIGHTON.—1919 TO 1923.

Year ended 30th June—	Total Cost of Construction and Equipment.	Current used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses	Interest.	Net Profit or Loss.
	£	Kilowatt-hours.	No.	No.	£	£	£	£
1919 ..	(a) 164,347	932,010	527,305	4,945,627	40,048	27,207	6,574	6,267
1920 ..	150,123	1,381,821	551,307	6,805,892	50,494	42,813	6,005	1,676
1921 ..	153,581	1,487,928	552,772	5,572,454	47,005	63,921	6,143	— 23,059
1922 ..	172,661	1,550,469	538,495	5,488,034	55,372	51,501	6,906	— 3,035
1923 ..	188,423	1,377,116	504,098	5,750,912	54,194	42,598	8,893	2,703

(a) Inclusive of cost of Rolling Stock for Sandringham—Black Rock electric street railway. (—) Indicates loss.

ELECTRIC TRAMWAY.—SANDRINGHAM—BLACK ROCK.—1919 TO 1923.

Year ended 30th June—	Total Cost of Construction.	Current used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses	Interest.	Net Profit or Loss.
	£	Kilowatt-hours.	No.	No.	£	£	£	£
1919(a) ..	(b) 42,706	38,650	29,008	616,746	3,751	1,792	529	1,430
1920 ..	67,910	161,370	113,405	2,433,162	11,597	7,898	2,316	1,383
1921 ..	69,973	172,920	121,575	1,232,796	9,140	8,802	2,399	— 2,061
1922 ..	72,735	231,600	127,348	1,278,571	11,398	9,844	2,909	— 1,355
1923 ..	86,974	245,130	125,274	1,411,885	12,531	9,607	4,783	— 1,859

(a) Period, 11th March to 30th June. (b) Exclusive of Rolling Stock. (—) Indicates loss.

(iv) *Private Tramways.* Two systems of tramways are owned and operated by private companies, viz., Ballarat and Bendigo (21.25 miles) and Geelong (6.44 miles); giving a total route mileage of 27.69 miles. Electrical traction is used on each of these lines which are constructed to the 4 ft. 8½ in. gauge.

(v) *Summary for all Electric Tramways.* The following table gives particulars of the working of all electric tramways in Victoria for each year from 1919 to 1923 inclusive :—

ELECTRIC TRAMWAYS.—VICTORIA.—SUMMARY, 1919 TO 1923.

Year ended 30th June—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1919	94.58	2,027,057	13,955,124	6,832,873	60,753,278	463,320	344,220	274	1,318
1920	105.26	2,442,746	15,758,101	7,302,713	74,359,826	553,507	418,462	294	1,554
1921	105.26	2,528,665	17,618,387	8,102,393	79,807,665	647,067	539,652	302	1,795
1922	109.50	2,675,023	18,755,105	8,471,039	82,444,219	790,494	585,434	309	1,836
1923	106.79	2,795,547	19,114,007	8,585,756	86,027,005	816,984	624,852	310	2,190

4. *Queensland.*—(i) *General.* The electric tramways in the city and suburbs of Brisbane were controlled by a private company, with head office in London, until the 31st December, 1922, on which date they were purchased by the Queensland Government which, under the provisions of the Brisbane Tramway Trust Act 1922, appointed a Trust to control and operate the system. The total length of the Brisbane tramways was 42.60 route miles at the end of the year 1923. A steam tramway having a length of 6.65 route miles is in operation at Rockhampton.

(ii) *Brisbane Electric Tramways.* These tramways are run on the overhead trolley system, the voltage of the line current being 550. Cost of construction and equipment to the end of the year 1921 (the latest available) was £1,640,127, the gauge of line being 4 ft. 8½ in. The following table gives a summary for the calendar years 1918 to 1922 :—

ELECTRIC TRAMWAYS.—BRISBANE.—SUMMARY, 1918 TO 1922.

Year ended 31st Dec.—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1918	41.58	1,435,414	9,453,441	4,379,679	57,456,832	412,569	264,858	173	1,103
1919	42.60	1,435,414	10,309,249	4,600,482	61,415,350	445,333	295,697	174	1,078
1920	42.60	1,435,414	11,000,875	4,934,043	69,236,690	527,264	387,456	178	1,130
1921	42.60	1,640,127	11,413,745	4,994,357	68,056,309	544,823	411,180	178	1,142
1922	42.60	1,640,127	12,143,194	5,102,527	71,529,033	575,088	446,472	181	1,179

(a) To 31st December, 1917.

(b) To 31st December, 1921.

(iii) *Rockhampton Municipal Tramway.* This tramway was opened for traffic in 1909, the motive power being steam. The length of line is 6.65 route miles, and the gauge 3 ft. 6 in. The capital cost to 31st December, 1922, was £53,129. During the year 1,686,143 passengers were carried, the revenue being £16,150 and working expenses £16,412. The number of the staff at the end of year was 46.

(iv) *Sugar-Mill Tramways.* In various parts of Queensland there are tramways used in connexion with the sugar-milling industry, chiefly for the purpose of hauling cane. Some of these lines are of a permanent nature, running through sugar-cane plantations, while others are portable lines running to various farms. Particulars of these lines are given in Transport and Communication Bulletin No. 15, but lack of space precludes the publication of such information in this volume.

5. *South Australia.*—(i) *Electric Tramways.* The tramways in Adelaide and suburbs are controlled by a Municipal Tramways Trust created in 1907. Prior to this year, the system was run with horse-traction by several private companies. Electric traction was inaugurated in 1909, and at the 31st July, 1923, the Tramways Trust operated a total route mileage of 71.71 miles of 4 ft. 8½ in. gauge. A summary for the years 1919 to 1923 is given in the subjoined table :—

ELECTRIC TRAMWAYS.—ADELAIDE.—SUMMARY, 1919 TO 1923.

Year ended 31st July—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1919	65.66	1,789,487	10,730,307	5,176,264	45,882,376	423,477	284,993	185	1,337
1920	66.03	1,793,298	11,261,046	5,407,654	50,815,848	505,303	339,166	190	1,270
1921	66.40	1,890,067	12,096,515	5,785,148	55,323,737	555,421	392,824	190	1,264
1922	69.45	2,190,147	12,542,540	5,960,082	56,787,339	580,505	405,230	198	1,287
1923	71.71	2,512,048	13,700,385	6,155,033	59,618,362	612,839	430,474	218	1,422

(ii) *Horse Tramways.* There are also 19.86 miles of Government horse-tramways in country districts, worked in connexion with the railway system, of which 17.36 miles are used for passenger service, and 2.50 miles for special purposes.

6. *Western Australia.*—(i) *Government Tramways.* (a) *General.* Apart from the electric tramways, there are several Government tramways, with a total length of 25.14 miles. The lines are under the control of the Department of the North-West, and the most important is that between Roebourne and Cossack, constructed on a 2-ft. gauge, with a length of 12.50 miles, and worked by steam. The remaining 12.64 miles are made up of several short lengths worked by steam or horses in connexion with the jetties at certain ports, and providing communication between the jetties and the goods sheds or warehouses.

(b) *Steam and Horse Tramways.* The capital cost of the Government steam or horse tramways up to the 30th June, 1923, was £88,228, the gross revenue for 1922–23 being £5,840, and the working expenses £2,030.

(c) *Perth Electric Tramways.* These tramways were opened for traffic by a private company on the 24th September, 1899, and the system was subsequently extended to many of the suburbs. Control was taken over by the Government on the 1st July, 1913, and the tramways are now worked in conjunction with the Government railways. The gauge of line is 3 ft. 6 in. The following table shows particulars of working for the year ended 30th June, 1923 :—

ELECTRIC TRAMWAYS.—PERTH.—1923.

Mileage.	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
30.38	850,965	7,285,200	2,770,518	25,993,983	262,689	213,928	103	551

(ii) *Private Tramways.* Electric tramways with a route mileage at 31st August, 1923, of 8.61 miles, and controlled by the municipal authorities, are in operation in Fremantle. In Kalgoorlie and Boulder a private company controls the electric tramways, and at the end of 1923 the length of line was 14.82 miles (route). All the foregoing lines are of 3 ft. 6 in. gauge.

(iii) *Summary, all Electric Tramways.* The subjoined table gives a summary for all electric tramway systems in the State for the years 1919 to 1923 :—

ELECTRIC TRAMWAYS.—WESTERN AUSTRALIA.—SUMMARY, 1919 TO 1923.

Year.	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1919	50.22	1,150,018	5,922,421	2,951,653	20,954,579	209,664	170,261	130	545
1920	50.66	1,175,597	7,724,522	3,612,417	27,322,826	278,117	221,045	136	629
1921	50.90	1,227,304	8,412,175	3,472,632	33,377,124	313,195	276,607	136	728
1922	50.38	1,364,177	8,745,935	3,540,886	32,954,755	338,353	277,971	160	826
1923	53.81	1,442,094	9,326,907	3,637,126	33,838,351	350,412	281,566	166	722

7. Tasmania.—(i) *Electric Tramways.* In Hobart there is a system of electric tramways consisting of 16.14 route miles of 3 ft. 6 in. gauge controlled by the Hobart Municipal Council. The Launceston City Council operates tramways in Launceston having a length of 10.14 route miles of 3 ft. 6 in. gauge.

The following table gives a summary of the working of the two systems for the years 1919 to 1923 :—

ELECTRIC TRAMWAYS.—TASMANIA.—SUMMARY, 1919 TO 1923.

Year.	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1919	23.25	400,375	2,398,717	1,215,663	10,070,263	97,459	63,561	60	288
1920	23.13	413,080	2,192,420	1,257,911	11,961,256	112,023	83,385	63	362
1921	23.13	443,872	2,610,504	1,428,696	14,766,819	142,500	108,684	67	428
1922	25.64	490,476	2,697,680	1,504,634	15,315,969	155,129	122,622	68	448
1923	26.28	517,983	3,447,310	1,747,974	16,499,999	177,057	132,011	74	438

(ii) *Other Tramways.* There are several lines of privately-owned steam tramways. These are dealt with in § 5, Private Railways, as they do not come within the category of street tramways for the conveyance of passengers.

8. Electric Tramways, Australia.—(i) *Summary for 1923.* The subjoined table gives details regarding all electric tramways in Australia. The returns for tramways in Hobart, in Ballarat and Bendigo, in Kalgoorlie, and in Brisbane are for the calendar year 1923 ; for other tramways they refer generally to the financial year 1922–23.

ELECTRIC TRAMWAYS.—AUSTRALIA.—SUMMARY, 1922–23.

State.	Mileage open for Traffic (Route).	Cost of Construction and Equipment.	Current used for Traction purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Percentage of Working Expenses on Gross Revenue.	Cars, Motors and Trailers.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	%	No.	No.
N.S.W. . .	158.99	3,680,161	88,655,678	28,562,113	312,930,225	3,375,923	2,759,914	81.75	1,531	9,150
Victoria . .	108.79	2,795,547	19,114,007	8,585,756	86,027,005	816,984	624,852	78.48	310	2,190
Q'land . . .	42.60	1,640,127	12,143,194	5,102,527	71,529,033	575,088	446,472	77.64	185	1,179
S. Aust. . .	71.71	2,512,048	13,700,385	6,155,033	59,648,362	612,839	430,474	70.24	218	1,422
W. Aust. . .	53.81	1,442,094	9,326,907	3,637,126	33,838,351	350,412	281,566	80.35	166	722
Tasmania	26.28	517,983	3,447,310	1,747,974	16,499,999	177,057	132,011	74.56	74	438
All States	460.18	17,587,960	146,387,481	53,790,529	580,472,975	5,908,303	4,675,289	79.13	2,487	15,101

(a) To 31st December, 1921.

The percentage of working expenses on gross revenue for all electric tramways in Australia was 79.13, ranging from 70.24 in the case of South Australia to 81.75 in the case of New South Wales.

(ii) *Summary for Years 1919 to 1923.* The following table gives particulars of the operations of electric tramways in Australia for the years 1919 to 1923 :—

ELECTRIC TRAMWAYS.—AUSTRALIA.—1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
Mileage open for Traffic (Route) Miles.	430.87	443.03	445.10	456.35	460.18
Total Cost of Construction and Equipment	£ 14,581,578	15,110,405	15,239,646	16,703,046	17,587,960
Current used for Traction Purposes	Kil. hrs. 127,094,621	140,011,914	149,344,886	154,361,664	146,387,481
Tram-miles run	No. 44,075,173	47,909,439	50,895,255	52,347,711	53,790,529
Passengers carried	449,782,349	538,683,129	567,179,017	569,067,250	580,472,975
Gross Revenue	£ 3,707,307	4,652,962	5,419,369	5,703,337	5,908,303
Working Expenses	£ 2,832,268	3,696,188	4,378,079	4,538,415	4,675,289
Percentage of Working Expenses on Gross Revenue	£ 76.40	79.44	80.78	78.33	79.13
Cars, Motors and Trailers	No. 2,216	2,255	2,287	2,348	2,457
Persons Employed	13,171	13,385	13,709	14,753	15,101

During the five years included in the above table the percentage of working expenses on the gross revenue of all electric tramways in Australia reached a maximum of 80.78 in 1921 and a minimum of 76.40 in 1919, the average over the whole period being 79.24.

D. AIRCRAFT.

1. *General.*—A short review of the progress of civil aviation in Australia up to the date of foundation of the Department of Civil Aviation was given in *Official Year-Book*, No. 16, pp., 334–5, but limitations of space preclude its repetition in the present volume.

2. *Foundation of Civil Aviation Department.*—In December, 1920, the Commonwealth Parliament passed the Air Navigation Act, the objects of which were:—(i) To carry out the provisions of the Convention on Air Navigation, signed in Paris on the 13th October, 1919. (ii) To apply the principles of the Convention not only to international flying, but to internal flying in Australia, and generally to legislate by regulation on the subject matter.

Regulations were drawn up under this Act to provide, *inter alia*, for the registration and periodical inspection of aircraft, licensing of aerodromes, examination and licensing of personnel engaged in flying and in upkeep of machines, prohibition of trick flying, rules of the air, etc. Penalties are prescribed for breaches of these regulations.

The date of commencement of the Act was fixed by proclamation as the 28th March, 1921, and the Regulations, issued in the previous month, came into force on the same date.

A Controller of Civil Aviation was appointed on the 16th December, 1920, to administer the Act and Regulations.

3. *Activities of Civil Aviation Department.*—(i) *Aerodromes and Landing Grounds.* Amongst the earliest activities were the acquisition and preparation of civil aviation landing grounds, which have been established over the following approved routes:—(a) Perth to Derby (1,442 miles); (b) Adelaide to Sydney (760 miles); (c) Sydney to Brisbane (550 miles); and (d) Charleville to Cloncurry (Queensland), (580 miles).

Landing facilities on the direct route from Melbourne to Charleville, via Cootamundra, Narromine, Bourke, and Cunnamulla (924 miles), are in preparation.

Preliminary surveys of the following routes also have been made, but no expenditure has yet been incurred in the preparation of landing grounds in connexion therewith:—(a) Melbourne to Perth (2,000 miles); (b) Adelaide to Port Lincoln, via Yorke Peninsula (for seaplanes), (200 miles); (c) Melbourne to Hay (New South Wales), (340 miles); and (d) Derby to Wyndham, via Hall's Creek (600 miles).

The Royal Australian Air Force surveyed and prepared for use a service route from Cloncurry to Port Darwin, via Camooweal, Anthony's Lagoon, and Newcastle Waters (1,250 miles).

Up to the present 87 landing grounds have been acquired or leased, and prepared for civil aviation purposes.

(ii) *Aerial Services.*—(a) *General.* It was considered that the granting of contracts for aerial services over approved routes was likely to afford the greatest assistance in the development of civil aviation in Australia. The hope was expressed that under such arrangements post-war types of machines would be introduced, and from the flying and ground personnel necessary for the maintenance of the services a technical reserve would be created, available for air defence in case of war. The services over the routes at present in operation afford a regular and speedy means of transport and delivery of mails, and are greatly appreciated by the residents of the districts served.

The Department provides landing-grounds over the subsidized routes, but the contractor must provide hangars and workshops at specified points, a nominal rental being charged by the Department for the use of the area occupied. All contracts provide for a service once weekly in each direction. Provision is made for the deduction of a proportion of the subsidy in the event of failure to complete any flights. The contractor must carry up to 100 lbs. of mail free on each trip, and letters for transmission by aerial mail are charged an extra 3d. per $\frac{1}{2}$ ounce. The extra amount so received by the Postmaster-General's Department, less any additional expenditure incurred by that Department in the handling of the aerial mails, is paid to the Defence Department as a credit to revenue. All pilots and mechanics employed on these services must join the Air Force Reserve when the Reserve is constituted.

(b) *Aerial Mail Services.* Up to the present tenders have been accepted for the following:—

(1) *Geraldton to Derby, Western Australia.*

This service, covering a distance of 1,200 miles, is carried out by the Western Australian Airways Limited. Landing places for mails are—Geraldton, Carnarvon, Onslow, Roebourne, Port Hedland, Broome, and Derby. The first contract was for a period of twelve months from the 5th December, 1921, and the amount of subsidy, £25,000, but a fresh contract was let to the same Company for the maintenance of the service for a further twelve months to the 5th December, 1923, with a similar subsidy. The contract was renewed for three years on the 5th December, 1923, and contains provision for the following extensions of the original service:—South—from Geraldton to Perth (250 miles), and North-east—from Derby to Wyndham (600 miles).

The extended service from Perth to Derby, the subsidy for which is at the rate of £30,000 per annum, was inaugurated on the 17th January, 1924, and the machines now fly 2,884 miles each week, leaving Perth on Thursdays, and returning on Tuesdays. With the exception of a serious accident at its inception, this service has been carried on successfully, and the facilities it has provided have been readily availed of by the residents. The number of letters carried during the first month's operations was 577, but it has now increased to about 15,000 per month.

(2) *Charleville to Cloncurry, Queensland.*

This service is operated by the Queensland and Northern Territory Aerial Services Limited. The route covers 560 miles, and links up the western terminals of three main railway lines in Western Queensland, viz., Charleville, Longreach, and Cloncurry. The landing places for mails are—Charleville, Tambo, Blackall, Longreach, Winton, McKinlay, and Cloncurry.

The original contract provided for a weekly (return) service for twelve months from the 2nd November, 1922, with a subsidy of £12,000. The agreement was renewed for a further twelve months from the 2nd November, 1923, at the same subsidy.

The service has been maintained successfully, and is greatly appreciated by residents of Western Queensland, who previously had to rely on horse or motor conveyance for their transport between the above-named rail heads.

(3) *Adelaide—Sydney, and Sydney—Brisbane Services.*

Contracts were accepted in 1921 for the maintenance of weekly return aerial services between Adelaide and Sydney, 760 miles, and Sydney and Brisbane, 550 miles, for a period of twelve months, with subsidies of £17,500 and £11,000 respectively. The successful tenderers were the Larkin Aircraft Supply Company Limited, for the former service, and Mr. F. L. Roberts for the latter. The 18th April, 1922, was fixed as the latest date for inauguration of the services. Approval was subsequently given for the assignment of Mr. Roberts' contract to the Larkin Aircraft Supply Company Limited.

Owing to various causes, delays occurred in the commencement of the services, but it is hoped that very shortly a through service— in each direction—will be in operation between Adelaide and Brisbane, via Mildura, ~~Wagga~~ Narrandera, Cootamundra, Sydney, Newcastle, Grafton, and Ballina.

From 2nd June, 1924, the contractors were permitted to maintain an interim service, once weekly in each direction (for mails only) between Sydney and Adelaide, with their reserve machines..

(4) *Future Services.*

The following proposals have been submitted to the Department, but as sufficient funds have not been made available for further development, no action is being taken at the present juncture :—

- (a) Townsville, Queensland, and Rabaul, Territory of New Guinea.
- (b) Brisbane and Charleville, linking Brisbane with the Charleville-Cloncurry Service.
- (c) Adelaide and Port Lincoln (Eyre's Peninsula).
- (d) Oodnadatta and Alice Springs, South Australia.

4. **Training of Air Pilots.**—Four civilian cadets have graduated as pilots as the result of their training at No. 1 Station, R.A.A.F. (1923 Course), and the results obtained by them in the various subjects of instruction have been communicated to the operating companies, with a view to their employment as pilots when vacancies occur.

Three additional civilian cadet-pupils commenced their training on 29th January, 1924 (1924 Course). These cadets are nominated in the first instance by the Controller of Civil Aviation, and receive pay whilst undergoing training for a period of about twelve months. Their pay, uniform, cost of training, etc., is borne from Royal Australian Air Force Funds.

Qualified pilots who are employed or about to be employed in commercial aviation enterprises are accepted on the recommendation of the Controller of Civil Aviation for short refresher courses of flying instruction at the Flying Training School, Point Cook. No charge is made for this refresher instruction, the cost of which is also borne by Royal Australian Force Funds.

5. **Statistical Summary.**—The collection and compilation of aircraft statistics were undertaken by the Commonwealth Bureau of Census and Statistics on the 1st July, 1922. The subjoined table gives a summary of operations for the year ended 30th June, 1923 :—

AIRCRAFT.—SUMMARY, YEAR ENDED 30th JUNE, 1923.

Particulars.	State in which Aeroplanes are Located.					Total.
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	
Companies or persons owning aircraft .. No.	12	9	5	1	2	29
Aeroplanes .. No.	19	20	9	1	8	57
Staff employed(a)—						
Certificated pilots .. No.	5	12	4	..	5	26
Others .. No.	5	21	6	..	17	49
Flights carried out .. No.	927	2,169	762	6	863	4,727
Hours flown ..	286 h. 05m.	610 h. 48 m.	776 h. 35 m.	5 h. 30 m.	1592 h. 55 m.	3,271 h. 53 m.
Approx. mileage .. miles	18,606	43,377	55,561	360	126,207	244,111
Passengers carried—						
Paying .. No.	1,251	1,421	211	..	394	3,277
Non-paying .. No.	205	687	185	3	632	1,712
Total .. No.	1,456	2,108	396	3	1,026	4,989
Goods, weight carried lbs.	156	40	6,196	..	5,425	11,817
Mails, letters carried No.	..	..	(b) 8,811	..	109,999	(c) 118,810
Accidents involving						
Injuries to personnel No.	..	1	..	..	2	3
Damage to aircraft No.	5	3	2	1	5	16
Injuries—						
Killed—						
Passengers .. No.	..	..	..	..	1	1
Injured—						
Staff .. No.	..	3	..	..	1	4

(a) Monthly average. (b) For eight months only. (c) Includes Queensland for eight months only.

6. **Customs Regulations.** During the 1923 session of the Commonwealth Parliament an Act to amend the Customs Act 1901-1922 was passed for the purpose of treating aircraft in the same manner as merchant shipping in regard to Customs entries and clearances.

E. MOTOR VEHICLES.

1. **Registration.**—The arrangements for the registration of motor-vehicles and the licensing of drivers and riders thereof are not uniform throughout Australia. Particulars regarding methods of registration, licences, fees payable, etc., in each State were given in Official Year Book No. 16, pp. 337-340, but limits of space preclude the repetition of this information in the present volume.

2. **Public Vehicles.**—In all the capital cities of the States and in many of the most important provincial centres taxi-cabs and other vehicles ply for hire under licence granted either by the Commissioner of Police or the Local Government authority concerned. In addition, there is a considerable number of motor-omnibuses operating between the capital cities and their suburbs. As most of these omnibuses are independently controlled by a number of individuals or small companies, it has not been possible to obtain complete data in respect of their operations.

3. **Motor-Vehicles Registered, etc.**—Particulars of the registration of motor-vehicles, etc., for the year 1922-23 are contained in the subjoined table :—

MOTOR VEHICLES.—SUMMARY, 1922-23.

State.	Motor Vehicles Registered.				Drivers' and Riders' Licences issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.		Vehicle Registrations and Motor Tax.	Drivers' and Riders' Licences.	Total.
	No.	No.	No.	No.		£	£	£
New South Wales ..	39,695	13,184	7,156	60,035	91,377	234,559	23,451	258,010
Victoria ..	36,773	14,864	3,000	54,637	57,371	151,566	7,171	158,737
Queensland ..	14,537	2,630	(b) 959	18,126	7,819	64,370	2,825	67,195
South Australia ..	17,323	8,251	1,800	27,379	33,230	75,920	6,726	82,646
Western Australia ..	(a) 4,532	(a) 1,695	(a) 323	(a) 6,550	11,168	28,494	2,792	31,286
Tasmania ..	3,776	2,016	(c) 189	5,981	7,333	20,274	1,270	21,544
Northern Territory ..	17	9	11	37	78	15	14	29
All States ..	116,658	42,649	13,438	172,745 122,649	208,376	575,198	44,249	619,447

(a) Includes particulars for year 1921-22 in respect of area outside Metropolitan Traffic District.

(b) Vehicles with one or more solid rubber tyres ; other commercial vehicles included with motor cars.

(c) Vehicles using solid rubber tyres only.

130,096

4. **Comparative Motor Vehicle Statistics, 1923.**—The following statement, which has been extracted from the issue of the "Automotive Industries" of 21st February, 1924, shows the number of motor cars and trucks, and motor-cycles in several of the most important countries of the world. The figures are in some instances approximate, being based on estimates supplied by Trade Commissioners or representative motor trade organizations in the various countries.

COMPARATIVE MOTOR VEHICLE STATISTICS, 1923.

Country.	Date.	Motor Cars and Trucks.	Motor Cycles.
Australia	June, 1923 ..	130,096	42,649
Argentina	Jan., 1924 ..	100,000	2,000
Belgium	Nov., 1923 ..	61,300	35,700
Brazil	Jan., 1924 ..	32,000	650
Canada	" " ..	642,571	23,400
Cuba	" " ..	30,000	350
Denmark	" " ..	25,400	16,500
France	" " ..	460,000	84,732
Germany	July, 1923 ..	152,068	59,409
India	Mar., 1923 ..	48,629	15,517
Italy	June, 1923 ..	82,357	50,000
Mexico	Jan., 1924 ..	30,000	500
Netherlands	Oct., 1923 ..	18,489	26,208
New Zealand	Jan., 1924 ..	44,864	12,000
British South Africa	" " ..	40,200	14,000
Spain	June, 1923 ..	60,194	7,000
Sweden	Sept., 1923 ..	36,625	19,296
United Kingdom	Aug., 1923 ..	655,318	430,138
United States of America	Jan., 1924 ..	15,222,658	176,630

The estimated total number of motor-vehicles in 1923, as disclosed by the publication referred to, was 18,241,477 cars and trucks, and 1,079,981 motor-cycles.

The figures quoted for Australia have been compiled from data supplied by the responsible registration authorities in the several States, and differ slightly from those contained in "Automotive Industries."

F. POSTS, TELEGRAPHS AND TELEPHONES.

§ 1. Posts.

1. The Commonwealth Postal Department.—In previous issues of the Year Book some account was given of the procedure in connexion with the transfer to the Federal Government of the postal, telegraphic, and telephonic facilities of the separate States. (See Year Book No. 15, p. 601.)

Under the provisions of the Commonwealth Post and Telegraph Act 1901 the Commonwealth Postal Department was placed under the control of a Postmaster-General, a responsible Minister with Cabinet rank, and of a Secretary having chief control of the Department under the Postmaster-General, whilst a principal officer in each State was provided for under the style of Deputy Postmaster-General.

2. Postal Matter Dealt With.—(i) *Australia*. The following table gives a summary of the postal matter dealt with in Australia during the five years 1919 to 1923. Although mail matter posted in Australia for delivery therein is necessarily handled at least twice, only the numbers dispatched are included in the table following, which consequently gives the number of distinct articles handled.

POSTAL MATTER DEALT WITH.—AUSTRALIA, 1918-19 TO 1922-23.

Year ended 30th June—	Letters and Post-cards.		Newspapers.		Packets.		Parcels.		Registered Articles.	
	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.

POSTED WITHIN AUSTRALIA FOR DELIVERY THEREIN.

1919 ..	485,452	96,502	122,116	24,275	39,039	7,760	4,863	967	4,741	942
1920 ..	526,261	100,297	119,448	22,765	38,140	7,269	5,434	1,036	5,313	1,013
1921 ..	512,021	94,603	117,824	21,770	47,567	8,789	6,633	1,226	5,664	1,046
1922 ..	507,239	91,099	126,165	22,659	56,622	10,169	8,234	1,488	5,516	991
1923 ..	535,596	94,161	138,137	23,934	73,267	12,881	9,158	1,610	5,766	1,014

OVERSEA RECEIVED.

1919 ..	38,708	7,695	7,194	1,430	2,582	513	428	85	510	101
1920 ..	36,493	6,955	7,799	1,486	2,119	404	339	65	425	81
1921 ..	35,804	6,615	8,931	1,650	2,440	451	371	69	415	77
1922 ..	30,912	5,552	9,770	1,755	2,674	480	339	61	410	74
1923 ..	32,961	5,795	10,274	1,806	2,891	508	437	77	453	79

OVERSEA DISPATCHED.

1919 ..	29,550	5,874	7,360	1,463	1,907	379	770	153	281	56
1920 ..	20,705	3,946	3,838	731	1,495	285	163	31	270	51
1921 ..	21,519	3,976	4,128	763	1,402	259	188	35	305	57
1922 ..	23,822	4,278	4,542	816	1,299	233	176	32	286	51
1923 ..	25,722	4,522	4,734	832	1,671	294	183	32	303	53

TOTAL POSTAL MATTER DEALT WITH BY THE COMMONWEALTH POSTAL DEPARTMENT.

1919 ..	553,710	110,071	136,670	27,168	43,528	8,652	6,061	1,205	5,532	1,099
1920 ..	583,459	111,198	131,085	24,982	41,754	7,958	5,936	1,132	6,008	1,145
1921 ..	569,344	105,194	130,883	24,183	51,409	9,499	7,192	1,330	6,384	1,180
1922 ..	561,973	100,929	140,477	25,230	60,595	10,882	8,799	1,581	6,212	1,116
1923 ..	594,279	104,478	151,145	26,572	77,829	13,683	9,778	1,719	6,522	1,146

(ii) *States.* The next table shows separately for each State the postal matter dealt with in 1922-23 under the classification adopted in the preceding paragraph, with the exception of registered articles, which are dealt with separately hereinafter. The returns given for South Australia in this and all succeeding tables include those for the Northern Territory, while the returns for the Federal Capital Territory are included in those for New South Wales.

POSTAL MATTER DEALT WITH.—STATES, 1922-23.

State.	Letters and Post-cards.		Newspapers.		Packets.		Parcels.	
	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.

POSTED FOR DELIVERY WITHIN AUSTRALIA.

New South Wales	224,765	102,509	60,827	27,741	28,546	13,019	4,018	1,832
Victoria ..	157,552	98,005	33,120	20,602	11,947	7,431	2,072	1,288
Queensland ..	60,395	74,965	21,537	26,733	14,406	17,881	1,678	2,083
South Australia	40,711	78,240	8,335	16,018	11,875	22,822	683	1,313
Western Australia	28,557	82,032	5,407	15,531	4,582	13,162	523	1,502
Tasmania ..	23,616	110,469	6,911	32,327	1,911	8,938	184	858
Australia ..	535,596	94,161	136,137	23,934	73,267	12,881	9,158	1,610

OVERSEA RECEIVED.

New South Wales	11,830	5,395	3,285	1,498	637	290	161	73
Victoria ..	14,103	8,772	2,775	1,726	589	366	123	76
Queensland ..	2,767	3,434	2,210	2,743	605	751	80	99
South Australia	1,425	2,738	484	930	295	567	28	54
Western Australia	2,004	5,755	1,176	3,377	502	1,441	32	91
Tasmania ..	832	3,893	344	1,609	263	1,231	13	64
Australia ..	32,961	5,795	10,274	1,806	2,891	508	437	77

OVERSEA DISPATCHED.

New South Wales	15,180	6,923	2,536	1,156	1,114	508	94	43
Victoria ..	5,246	3,263	1,368	851	310	192	54	33
Queensland ..	1,797	2,230	369	457	90	112	14	17
South Australia	798	1,534	178	342	78	150	8	15
Western Australia	1,408	4,046	168	484	34	97	11	32
Tasmania ..	1,293	6,047	115	537	45	210	2	11
Australia ..	25,722	4,522	4,734	832	1,671	294	183	32

3. *Postal Facilities.*—(i) *Relation to Area and Population.* The subjoined statement shows the number of post and receiving offices, the area in square miles and the number of inhabitants to each post office (including receiving offices) in each State and in Australia at the end of the year 1922-23. In order to judge clearly the relative postal facilities provided in each State, the area of country to each office, as well as the number of inhabitants per office, should be taken into account.

**POSTAL FACILITIES.—RELATION TO AREA AND POPULATION,
30th JUNE, 1923.**

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
Number of post and receiving offices	2,599	2,595	1,245	804	732	519	8,494
Number of square miles of territory to each office in State	119	34	488	1,124	1,333	50	350
Number of inhabitants to each office	843	619	647	647	475	412	669
Number of inhabitants per 100 square miles	706	1,829	120	57	35	815	191

(ii) *Number of Offices.* The following table shows the numbers of post and receiving offices in each year from 1918-19 to 1922-23 inclusive :—

POST AND RECEIVING OFFICES AT 30th JUNE, 1919 TO 1923.

State.	Year ended 30th June—									
	1919.		1920.		1921.		1922.		1923.	
	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.
New South Wales ..	2,037	562	2,034	559	2,031	578	2,032	556	2,040	559
Victoria ..	1,715	854	1,707	829	1,712	864	1,721	855	1,736	859
Queensland ..	640	643	645	627	658	604	665	576	678	567
South Australia ..	666	125	674	118	670	127	666	139	667	137
Western Australia ..	402	201	402	209	405	222	414	254	426	306
Tasmania ..	406	83	405	83	409	89	413	90	413	106
Australia ..	5,866	2,468	5,867	2,425	5,885	2,484	5,911	2,470	5,960	2,534

(iii) *Employees and Mail Contractors.* The number of employees and mail contractors in the Central Office and in each of the States is given in the appended table :—

POSTAL EMPLOYEES AND MAIL CONTRACTORS, 1919 TO 1923.

State.	Year ended 30th June—									
	1919.		1920.		1921.		1922.		1923.	
	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.
Central Office ..	84	..	83	..	(a)139	..	87	..	95	..
New South Wales ..	11,732	1,964	11,334	1,912	11,669	2,046	12,451	2,087	13,255	1,732
Victoria ..	8,499	1,112	7,962	1,089	8,117	1,091	8,553	1,095	9,148	1,124
Queensland ..	4,289	787	4,778	723	4,728	750	4,792	766	4,978	810
South Australia ..	2,768	350	2,679	427	2,826	439	2,585	441	2,227	432
Western Australia ..	2,258	264	2,110	286	2,111	302	2,200	338	2,450	339
Tasmania ..	1,173	227	1,156	227	1,220	223	1,229	236	1,321	202
Australia ..	30,803	4,704	30,102	4,664	30,810	4,851	32,207	4,963	34,474	4,629

(a) Includes "radio staff."

4. *Rates of Postage.*—(i) *General.* Under the provisions of the Postal Rates Act of 1910, which became operative from 1st May, 1911, the rates of postage were made uniform in all States. An amendment to this Act operative from the 1st October, 1923

provided for the rates quoted hereunder for mail matter posted in Australia for internal delivery and for despatch overseas in respect of the various classes of mail matter. (a) First-class mail matter consists of letters, lettercards, and post-cards. (b) Second-class mail matter—Commercial and printed papers; patterns, samples, and merchandise; books, and catalogues. (c) Third-class mail matter—Newspapers registered for transmission as such, and magazines. (d) Fourth-class mail matter—Parcels forwarded by parcels post and articles irregularly posted as second-class matter and which are officially treated as parcels.

(ii) *Postal Rates.* (a) *First, Second, and Third-class Mail Matter.* The tabular statement hereunder gives the postage rates for first, second, and third-class mail matter posted in Australia for inland delivery and for dispatch overseas:—

POSTAL RATES, 1923.

Postal Article.	Rates of Postage.		
	For Inland Delivery.	For Dispatch Overseas.	
		British Empire.	Foreign Countries.
Letters	1½d. per ounce	1½d. per ounce	First ounce 3d., additional ounce 1½d.
Lettercards	1½d. each	1½d. each	3d. each
Postcards	1d. each	1d. each	1½d. each
Commercial Papers ..	1d. per 2 ounces	New Zealand and Fiji, 1d. per 2 ounces; other parts, 1d. per 2 ounces (minimum 3d.)	1d. per 2 ounces (minimum 3d.)
Printed Papers ..	1d. per 4 ounces	1d. per 4 ounces	1d. per 2 ounces
Patterns and Samples	1d. per 2 ounces	1d. per 2 ounces	1d. per 2 ounces (minimum 2d.)
Merchandise ..	1d. per 2 ounces	New Zealand and Fiji, 1d. per 2 ounces; other parts at parcel rates	Parcel rates
Newspapers printed and published in Australia	For each newspaper (a) 1d. per 10 ounces	New Zealand and Fiji(a), 1d. per 10 ounces United Kingdom— (i) Via France(a), 1d. per 4 ounces, 1½d. for 4 to 10 ounces, 1d. for each additional 4 ounces (ii) Wholly by sea, each newspaper exceeding 8 ounces, 1½d. every 16 ounces (iii) Via America, 1d. per 4 ounces (iv) Other parts, 1d. per 4 ounces	United States of America, each newspaper, 1d. per 4 ounces; other countries, 1d. per 2 ounces
Newspapers printed and published outside Australia	1d. per 4 ounces	1d. per 4 ounces	1d. per 2 ounces
Magazines and Books printed in Australia	1d. per 8 ounces	} 1d. per 4 ounces	1d. per 2 ounces
Magazines and Books printed outside Australia	1d. per 4 ounces		
Catalogues wholly set up and printed in Australia	1d. per 4 ounces	.. .. .	..

(a) Provided that the postage on a package containing more than one newspaper shall not be higher than that chargeable on a package of printed papers of the same weight.

(b) *Fourth-class Mail Matter.* Parcels may not exceed 11 lbs. in weight, 3 ft. 6 in. in length, or 6 feet in length and girth combined. The rate for the inland postage of parcels is 6d. up to 1 lb., and then 3d. for every additional pound. For Inter-State, New Zealand, Fiji, and Papua the rate is 8d. up to 1 lb., and then 6d. per lb., and for transmission to the United Kingdom the rate is 1s. 4d. up to 1 lb., and 6d. for every additional pound. Various rates are charged for the conveyance of parcels to other parts of the world.

5. *Registered Letters, Packets, etc.*—(i) *General.* Under section 38 of the *Post and Telegraph Act 1901*, provision is made for the registration of any letter, packet, or newspaper upon payment of a fee of 3d., and any person who sends a registered article by post may obtain an acknowledgment of its due receipt by the person to whom it is addressed by paying an additional fee of 3d. in advance at the time of registration.

(ii) *Number of Registered Articles.* The subjoined table shows the number of registered articles posted in each State, classified according to the places to which they were dispatched for delivery, also the number of registered articles received in each State from overseas during the year 1922-23 :—

REGISTERED ARTICLES POSTED AND RECEIVED, 1922-23.

State.	Posted in each State for Delivery within Australia.		Posted in each State for Delivery Overseas.		Total Posted.		Received in each State from Overseas.	
	Number (<small>'000 omitted</small>).	Per 1,000 of Population.	Number (<small>'000 omitted</small>).	Per 1,000 of Population.	Number (<small>'000 omitted</small>).	Per 1,000 of Population.	Number (<small>'000 omitted</small>).	Per 1,000 of Population.
New South Wales ..	2,093	954	135	62	2,228	1,016	194	88
Victoria ..	1,566	974	82	51	1,648	1,025	133	83
Queensland ..	890	1,105	37	45	927	1,150	43	54
South Australia ..	511	982	20	38	531	1,020	31	59
Western Australia ..	448	1,286	24	68	472	1,355	43	124
Tasmania ..	258	1,207	5	22	263	1,229	9	45
Australia ..	5,766	1,014	303	53	6,069	1,067	453	79

6. *Value-Payable Parcel and Letter Post.*—(i) *General.* The Postal Department undertakes to deliver registered articles sent by parcel post within Australia, or between Papua and Australia, to recover from the addressee on delivery a specified sum of money fixed by the sender, and to remit the sum to the sender by money order for which the usual commission is charged. The object of the system is to meet the requirements of persons who wish to pay at the time of receipt for articles sent to them, and also to meet the requirements of traders and others who do not wish their goods to be delivered except on payment. In addition to the ordinary postage, commission on the value of the articles transmitted at the rate of 2d. on sums not exceeding 10s., and 1d. for each additional 5s. or part thereof, must be prepaid by postage stamps affixed to the articles, distinct from the postage, and marked "commission." The registration fee (3d.) and the proper postage must also be prepaid. If the addressee refuse delivery, the parcel is returned to the sender free of charge. Any article that can be sent by parcel-post may be transmitted as a value-payable parcel. Letters may also be sent as value-payable parcels, if prepaid at the letter rate of postage and handed to the parcels clerk, in the same manner as in the case of parcels.

(ii) *Summary of Business.* The next statement gives particulars of the number and value of parcels sent through the Value-Payable Post in each State during the years 1919 to 1923 :—

VALUE-PAYABLE PARCELS POST.—SUMMARY, 1919 TO 1923.

Year ended 30th June—		N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF PARCELS POSTED.								
		No.	No.	No.	No.	No.	No.	No.
1919	..	28,544	1,579	68,601	588	24,211	22	123,545
1920	..	38,713	2,134	94,733	666	29,628	76	165,950
1921	..	53,829	3,192	120,045	689	36,125	155	214,035
1922	..	93,621	4,092	171,848	606	48,187	111	318,465
1923	..	134,703	5,329	207,162	1,604	56,572	113	405,483

VALUE-PAYABLE PARCELS POST.—SUMMARY, 1919 TO 1923—*continued.*

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE COLLECTED.							
	£	£	£	£	£	£	£
1919	54,876	3,003	98,882	1,492	38,244	72	196,569
1920	85,055	3,804	137,976	2,555	46,964	336	276,690
1921	124,502	6,105	177,662	2,027	57,170	711	368,177
1922	172,258	8,086	238,047	1,694	81,370	444	501,899
1923	237,209	10,826	279,508	2,485	87,508	439	617,975
REVENUE, INCLUDING POSTAGE, COMMISSION ON VALUE, REGISTRATION AND MONEY ORDER COMMISSION.							
	£	£	£	£	£	£	£
1919	3,917	223	9,637	82	3,275	4	17,138
1920	5,435	331	13,076	106	4,000	15	22,963
1921	8,502	446	16,102	103	4,966	32	30,151
1922	12,144	549	22,214	177	6,259	47	41,390
1923	18,586	667	29,602	248	7,365	52	56,520

The number of parcels forwarded in Queensland is in excess of the combined transactions of all the other States, chiefly owing to the fact that the system has been established in that State for some years, but was only extended to the whole Commonwealth with the advent of Federal control of the post office. The system has also found favour for a number of years in Western Australia, and continues to make marked progress in New South Wales, but the amount of business transacted in South Australia and Tasmania remains negligible. The Victorian business has more than trebled itself during the period under review.

The average value collected in each of the States for the year 1922–23 was New South Wales £1 15s. 3d., Victoria £2 0s. 5d., Queensland £1 7s. 0d., South Australia £1 11s. 0d., Western Australia £1 10s. 11d., Tasmania £3 17s. 8d., and for Australia £1 10s. 6d.

7. *Sea-borne Mail Services.*—(i) *Summary.* In previous issues of this work statements regarding the development of the principal sea-borne mail services were included, but owing to the restrictions of space this information cannot be repeated. The following tabular summary, however, contains the latest available information in respect of sea-borne mail services :—

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES, 1924.

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
1. To and from Ports in New South Wales—			
(I) NORTHERN PORTS—			
(a) North Coast S.N. Co.	Once weekly	Sydney and Clarence River, Byron Bay, and Richmond River	Poundage rates
(b) " "	Fortnightly	Sydney and South Solitary Island	" "
(II) SOUTH COAST PORTS—			
Illawarra and S. Coast S.N. Co.	Fortnightly	Sydney, Montague Island	" "
2. To and from Northern Ports of Queensland—			
(a) Australasian United Steam Navigation Co. Limited	Weekly	From Townsville to Cooktown via Lucinda, Mourilyan, Cairns, and Port Douglas	Subsidized by agreement dated 6th Dec., 1923, for one year at subsidy of £10,742, exclusive of Port and Light dues
(b) John Burke and Sons ..	Ten trips a year	Brisbane, Townsville, Cairns, Cooktown, Thursday Island, Normanston and Burketown	Subsidized from 18th November, 1921. Amount of subsidy, £2,000 per annum
(c) Other steamers ..	Irregularly	Various	Poundage rates

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES—*continued.*

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
3. To and from Ports in South Australia—			
(a) Coast Steamship Co. Ltd.	Weekly	Port Adelaide and Kingscote	Subsidized to 31st December, 1925. Amount of subsidy, (a) £900; (b) £400; (c) £500; (d) £400
(b) " " "	Twice a week	Port Adelaide and Edithburgh	
(c) " " "	"	Port Adelaide and Stansbury	
(d) " " "	"	Port Adelaide and Port Vincent	
(e) Adelaide Steamship Co. . .	Weekly	Port Adelaide and Port Lincoln	Subsidized for three years from 1st January, 1923. Amount of subsidy, £3,000
(f) Adelaide Steam Tug Co. . .	As required	Port Pirie and Whyalla	Subsidized without agreement. Amount of subsidy, £120
4. Western Australia—			
(i) TO AND FROM PORTS ON N.W. COAST—			
(a) State Steamship Service	Monthly . .	Fremantle and Derby . .	Subsidized by agreement dated 28th February, 1913, for three years. Later extended to a date three months after expiration of war. Subsequently extended for indefinite period. Amount of subsidy, £5,500
(b) " " "	Once each sixty days	Fremantle and Darwin	
(c) West Australian S.N. Co.	About fortnightly	Fremantle and Singapore, via N.W. Ports	Poundage rates
(d) Aus'n. United S. Navigation Co., State S.S. Co. and Melbourne S.S. Coy.	Irregularly, during the cattle season	Fremantle, Derby, and Wyndham	" "
(ii) TO AND FROM PORTS ON S. COAST—			
(a) State Steamship Service	Fortnightly	Albany and Esperance . .	Subsidized by agreement for three years, dating from 1st July, 1921. Amount of subsidy, £1,500
(b) " " "	Quarterly	Albany and Eucla, via intermediate ports	
5. Tasmania—			
(a) Tasmanian Steamers Pty. Ltd.	Three times a week summer; twice a week winter	Melbourne and Launceston	Subsidy, £30,000 per annum from 1st May, 1921, under contract for twelve months, and thereafter terminable on twelve months' notice by either party to the agreement
(b) " " "	Twice a week	Melbourne and Burnie	
(c) Union S.S. Co. and Huddart Parker Ltd.	Irregularly	Sydney, Hobart, and Wellington	Poundage rates
(d) Union Steamship Co. . .	"	Sydney, Launceston, and Devonport	" "
(e) Shipping and Trading Agency Pty. Ltd.	"	Launceston	" "
(f) " " "	"	Melbourne, Burnie, etc.	" "
(g) Huon Channel and Peninsular Co.	Twice a week	Hobart and Kelly's Point, via Pearson's Point	Subsidized by agreement dated 1st January, 1922, for three years. Amount of subsidy, £50 per annum
(h) Tasmanian Government Shipping Department	Every two weeks	Launceston and Furneaux group of islands	Subsidized by agreement dated 1st January, 1922, for three years. Amount of subsidy, £350 per annum
(i) " " "	Fortnightly	Launceston and Currie, King Island	Subsidized by agreement dated 1st January, 1922, for three years. Amount of subsidy, £400 per annum
(j) Holyman Bros. Pty. Ltd.	Weekly . .	Burnie and Melbourne, via Fraser River and King Island	Poundage rates

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES—*continued.*

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
6. <i>To and from Northern Territory—</i>			
(a) Burns, Philp and Co. . .	Monthly . .	To and from Adelaide and Sydney, via Queensland ports	Poundage rates
(b) State Steamship Service of Western Australia	Once each sixty days	Fremantle and Darwin	See Item 4 (b)
7. <i>To and from New Zealand—</i>			
(a) Conjointly by Union S.S. Co. and Huddart, Parker Ltd.	Weekly	Sydney and Wellington, Sydney and Auckland	Poundage rates
(b) Other steamers . .	Irregularly, when convenient	Sydney, Wellington, Auckland, Lyttelton, and other Ports	" "
(c) " " . .	About every three weeks	Melbourne, Wellington, or Bluff	" "
8. <i>Pacific Islands—</i>			
(a) Burns, Philp and Co. . .	Every five weeks	Sydney to Lord Howe and Norfolk Islands and New Hebrides	Subsidized by Commonwealth
(b) " " . .	Irregularly	Sydney to Nauru and Ocean Islands, Gilbert and Ellice Groups	" "
(c) " " . .	"	Sydney to Marshall Islands	" "
(d) " " . .	Monthly	Sydney to Papua and Rabaul, via Queensland Ports	" "
(e) " " . .	Every three weeks	Sydney to Rabaul . .	" "
(f) " " . .	Twice in six weeks	Sydney to Solomon Islands, via Queensland Ports	" "
9. <i>New Caledonia and New Hebrides—</i>			
(a) Messageries Maritimes . .	Monthly	Sydney and Noumea and to Vila (New Hebrides)	Postal Union rates
(b) Other steamers . .	About twice a month	Sydney and Noumea . .	Poundage rates
10. <i>Fiji, Friendly Islands, and Samoa—</i>			
(a) Union S.S. Co . .	Every four weeks	Sydney and Suva . .	" "
(b) " " . .	"	Sydney, Suva, Tonga, and Samoa	" "
(c) A.U.S.N. Co. . .	"	Sydney and Suva . .	" "
11. <i>To Eastern Ports—</i>			
(a) Burns, Philp and Co. . .	Monthly	Melbourne and Sydney to Java and Singapore, via Queensland Ports and Darwin	Subsidized by Commonwealth Govt. Mails at poundage rates
(b) China Navigation, Eastern and Ausn., and China Australian Line	About once a month	Melbourne and Sydney to Hong Kong, Manila, etc., via Queensland Ports	Poundage rates
(c) Nippon Yusen Kaisha . .	Every four weeks	Melbourne and Sydney to Manila, China, and Japan, via Queensland Ports	Postal Union rates
(d) Royal Dutch Packet S.N. Co.	Monthly	Melbourne to Java and Singapore, via Sydney and Queensland Ports	Poundage rates
(e) Various other steamers	About monthly	Sydney or Newcastle and ports in Borneo, Java, Sumatra, and Malay Peninsula	" "
(f) W.A.S.N. Co. . .	About fortnightly	W.A. Ports, Java, and Singapore	" "
(g) Commonwealth Government line of steamers	Monthly	Sydney, Melbourne, Adelaide, Fremantle, Java, and Singapore	" "
12. <i>South Africa—</i>			
White Star, P. and O. Branch Service, and other Companies	Irregularly	Sydney, Melbourne, Adelaide, and Fremantle to Durban and Capetown	" "

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES—*continued.*

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
13. <i>To and from Europe, via Suez—</i> (a) Orient Steam Navigation Co.	Every four weeks	Brisbane, Sydney, Melbourne, Adelaide, Fremantle, and London, via Suez	Subsidy, £130,000. Commenced 20th September, 1921. Terminable on twelve months' notice by either party
(b) Peninsular and Oriental S.N. Co. Ltd.	Every four weeks	Sydney, Melbourne, Adelaide, Fremantle, and London, via Suez	Postal Union rates
14. <i>To and from Europe, via Vancouver—</i> (a) Union Steamship Co. . .	Every four weeks	Sydney and Vancouver, B.C., via Auckland, Fiji, Honolulu	Poundage rates
15. <i>To and from Europe, via San Francisco—</i> (a) Union Steamship Company	Twice in nine weeks	Sydney, Wellington, Raratonga, Tahiti, and San Francisco	Subsidized by New Zealand Govt. Mails from Aust. at Postal Union rates
(b) Oceanic Steamship Co. . .	"	Sydney, Pago Pago (Samoa), Honolulu, and San Francisco	Poundage rates
16. <i>North America—</i> (a) Various steamers . .	Irregularly	Sydney or Newcastle to San Francisco	" "
(b) " " . .	"	Sydney to Guaymas (Mexico)	" "
(c) Union S.S. Co. . .	Twice in nine weeks	Sydney, Wellington, Tahiti, and San Francisco	" "
(d) " " . .	Every four weeks	Sydney, Auckland, Fiji, Honolulu, and Vancouver	" "
(e) Oceanic S.S. Co. . .	Twice in nine weeks	Sydney, Pago Pago (Samoa), and San Francisco	" "
17. <i>South America—</i> (a) { Oceanic S.S. Co. } { Union S.S. Co. }	Twice a month	Sydney, via San Francisco to ports in Chile, Brazil, Peru, Uruguay, and Argentina	" "
(b) Various other steamers	Irregularly	Via Newcastle and Sydney to various ports	" "

(a) Carries also mails to Canada and United States.

(ii) *Average and Fastest Time of Mails to and from London.* (a) *Via Suez Canal.* During the European war steamers of the Orient S.N. Co. were diverted from the Suez Canal to the Cape route, but the former route has since been resumed by that company and by the Peninsular and Oriental S.N. Co.

In the 1921 mail contracts, Fremantle was made the mail port in Australia, and letters arriving from the United Kingdom are now landed there instead of as formerly at Adelaide. By this arrangement a saving of approximately 67 hours is effected. A service equal to that of pre-war days is not yet available, but a regular fortnightly service is assured, however, under the terms of contracts entered into between the Commonwealth Government and the Orient Steam Navigation Company, and between the Imperial Government and the Peninsular and Oriental Company. Particulars of these contracts, which date from September, 1921, will be found in Year Book No. 15.

An arrangement was made towards the end of 1923 by the above-mentioned companies to increase the speed of their vessels, so as to enable the mails to reach Fremantle from London two days earlier, viz., on Tuesdays instead of Thursdays, and for those for London to leave Fremantle on Mondays instead of the previous Fridays.

The subjoined table shows the average and the fastest times occupied in the conveyance of mails from London to Fremantle and vice versa during the year 1922-23 :—

AVERAGE AND FASTEST TIME.—MAILS VIA SUEZ CANAL, LONDON TO FREMANTLE, AND VICE VERSA, DURING 1922-23.

Period.	London to Fremantle.				Fremantle to London.			
	Average Time.		Fastest Time.		Average Time.		Fastest Time.	
	Days.	Hours.	Days.	Hours.	Days.	Hours.	Days.	Hours.
19.10.22 to 18.10.23 incl. ..	27	15½	27	12	28	19	28	—
19.10.23 to 30.12.23 ..	25	23	25	12	26	21	26	—

(b) *Via America.* The average and fastest times occupied in the conveyance of mails between London and Sydney via America during 1922-23 were :—

AVERAGE AND FASTEST TIME.—MAILS VIA AMERICA, DURING 1922-23.

Service.	Average Time.		Fastest Time.	
	Days.	Hours.	Days.	Hours.
London to Sydney { via Vancouver	39	—	39	—
{ via San Francisco (Oceanic)	43	5½	35	—
Sydney to London { via Vancouver	39	7	37	—
{ via San Francisco (Oceanic)	34	21½	31	—

(iii) *Amount of Mail Subsidies Paid.* The following table shows the amounts of subsidies paid by the Commonwealth Postal Department for ocean and coastal mail services during the year ended 30th June, 1923 :—

MAIL SUBSIDIES.—OCEAN AND COASTAL SERVICES, 1922-23.

Service.	Orient S. N. Co.	Queensland Ports.	South Australian Ports.	Western Australian Ports.	Tasmanian Ports.
Annual subsidy	£ 129,600	£ 25,107	£ 5,320	£ 6,875	£ 30,750

During the year 1922-23 the amount paid for conveyance of mails at poundage rates by non-contract vessels was £35,244 ; by road services, £592,510 ; and by railway services, £332,446. The total expenditure in 1923 on the carriage of mails, as disclosed by the Profit and Loss Account, amounted to £1,159,699.

8. *Transactions of the Dead Letter Offices.*—(i) *General.* Under sections 45 to 53 of the Post and Telegraph Act 1901, the Postmaster-General may cause to be opened all unclaimed and undelivered postal articles originally posted within Australia which have been returned from the places to which they were forwarded. Every unclaimed letter and postal article must be kept for the prescribed period at the office to which it has been

transmitted for delivery, and must then be sent to the General Post Office. Letters and packets originally posted overseas are returned to the proper authorities in the country of origin, or if originally posted in Australia are returned to the General Post Office in the State where posted. Unclaimed or undelivered newspapers may be forthwith sold, destroyed, or used for any public purpose. Opened postal articles not containing valuables are returned to the writer or sender if his name and address can be ascertained, but may otherwise be destroyed forthwith. As regards an opened letter or packet containing valuable or saleable enclosures, a list and memorandum of the contents are kept, and a notice is sent to the person to whom the letter or packet is addressed if he be known, or otherwise to the writer or sender thereof if he be known. Upon application within three months of the date of such notice the letter or packet may be claimed by the addressee, or, failing him, by the writer or sender. If unclaimed within three months, the letter and contents may be destroyed or sold, and the proceeds paid into the Consolidated Revenue Fund.

(ii) *Summary.* The following table shows the number of letters, postcards and letter-cards, and packets and circulars, including Inland, Inter-State, and International, dealt with by the Dead Letter Offices in 1922–23, and the methods adopted in the disposal thereof.

DEAD LETTER OFFICES—SUMMARY, 1922–23.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
LETTERS, POSTCARDS, AND LETTERCARDS.							
Returned direct to writers or delivered	653,439	352,807	183,330	86,181	142,632	53,178	1,471,567
Destroyed in accordance with Act	90,438	51,306	16,945	13,257	10,272	8,832	191,050
Returned to other States or Countries as unclaimed	109,499	61,032	40,732	20,748	24,087	13,530	269,028
Total	853,376	465,145	241,007	120,186	176,901	75,540	1,932,245
PACKETS AND CIRCULARS.							
Returned direct to writers or delivered	755,842	225,651	94,932	62,306	76,380	8,022	1,223,133
Destroyed in accordance with Act	146,886	131,751	29,194	47,235	299	..	355,165
Returned to other States or Countries as unclaimed	14,267	20,117	40,198	12,732	5,419	10,326	103,059
Total	916,795	377,519	164,324	122,273	82,098	18,348	1,681,357
Grand total (letters, packets, etc.)	1,770,171	842,664	405,331	242,459	259,089	93,888	3,613,602

During the year 1922–23 money and valuables to the amount of £142,116 were found in undeliverable postal articles, while 19,885 postal articles were posted without address, including 348 which contained money and valuables to the extent of £2,075.

9. Money Orders and Postal Notes.—(i) *General.* The issue of money orders and postal notes is regulated by sections 74 to 79 of the Post and Telegraph Act 1901. A money order may be issued for payment of sums up to £20 within Australia, and not exceeding £40 (in some cases £30, £20, or £10) in places abroad. A postal note, which is payable only within Australia and in Papua, cannot be issued for a larger sum than twenty shillings. Money orders are sent direct from Australia to the United Kingdom, and to most of the British colonies and possessions, to the British Solomon Islands Protectorate and the Gilbert and Ellice Islands Protectorate, to Italy, to Norway, and to the United States of America. Money orders payable in Japan and China are sent via Hong Kong; orders payable in other countries, with a few exceptions, are sent through the General Post Office in London, where new orders are issued and forwarded to the addresses of the payees, less twopence for each £1 or fraction of £1, with a minimum charge of fourpence. To secure payment of the full amount of the original order to the payee this extra commission must be paid by the sender.

(ii) *Rates of Commission on Money Orders.* The rates of commission chargeable for the issue of money orders are as follows :—

RATES OF COMMISSION, MONEY ORDERS.

Orders Payable in—	Rates of Commission.
Australia	6d. for each £5 or fraction of £5.
New Zealand	3d. for each £1 or fraction of £1, with minimum of 6d.
Papua, Rabaul (New Guinea), Nauru, Fiji, New Caledonia	4d. for each £1, or fraction of £1, with minimum of 6d.
United Kingdom, Canada, Union of South Africa, India, Ceylon, Dutch East Indies, Egypt, Federated Malay States, Gilbert and Ellice Islands, Hong Kong, Italy, Mauritius, North Borneo, Norway, Solomon Islands, Straits Settlements, Tonga United States of America (including Hawaii)	4d. for each £1, or fraction of £1 for first £6 and 3d. for each additional £1 or fraction of £1, with minimum of 9d.
Philippine Islands	9d. for each 5s. or fraction of 5s.

(iii) *Telegraph Money Orders.* Remittances may also be made by telegraph to and from money order offices in Australia which are also telegraph or telephone offices, and to New Zealand. The charge for a telegraph money order is the cost of the telegram of advice in addition to the ordinary commission. Where payment is to be made within Australia the remitter must also send a telegram advising the transmission of the money, which telegram must be produced by the payee when applying for payment. In the case of New Zealand a second telegram is not required, but an additional charge of sixpence is made by the Department to cover the cost of notifying the payee.

A telegraph money order service between the United Kingdom and Australia via the Pacific Cable was inaugurated on 31st July, 1921, by agreement between the London Postal Authorities, the Commonwealth Postal Department, and the Pacific Cable Board. Under the arrangement made, a telegraph money order may be drawn by the United Kingdom on any money order office in Australia whether it is a telegraph or telephone office or not, while a telegraph money order may be drawn by Australia on any place whatsoever in the United Kingdom. An order may not be issued for a sum in excess of the maximum for a single money order to and from the United Kingdom, viz., £40.

(iv) *Rates of Poundage on Postal Notes.* The values of the notes issued have been so arranged that any sum of shillings and sixpences up to £1 can be remitted by not more than two of these notes. The poundage or commission charged on notes of different denominations is as follows :—

POUNDRAGE RATES, POSTAL NOTES.

Denomination of Note ..	6d. to 1s. 6d.	2s. to 4s. 6d.	5s.	5s. 6d.	7s. 6d.	10s. to 20s.
Poundage charged ..	½d.	1d.	1½d.	1½d.	2d.	3d.

(v) *Value of Orders Issued and Paid and of Notes Sold, 1922-23.* The following table shows the value of money orders issued and paid, and of postal notes sold in each State and in Australia during the year 1922-23, together with the amount of commission on money orders and poundage on postal notes received by the Postal Department.

MONEY ORDERS AND POSTAL NOTES.—SUMMARY, 1922-23.

State.	Value of Money Orders Issued.	Value of Money Orders Paid.	Net Money Order Commission Received.	Value of Postal Notes Sold.	Poundage Received on Postal Notes.
	£	£	£	£	£
New South Wales ..	6,218,071	6,301,904	42,549	1,701,819	33,112
Victoria ..	2,771,531	2,909,516	19,330	1,240,935	24,575
Queensland ..	2,397,033	2,085,691	17,405	550,292	10,606
South Australia ..	862,653	778,737	6,115	279,955	5,679
Western Australia ..	1,331,958	1,154,112	9,224	261,924	5,053
Tasmania ..	539,444	475,761	3,520	124,610	2,518
Australia ..	14,120,690	13,705,721	98,143	4,159,535	81,543

The figures in the foregoing table show a general increase over the corresponding particulars for the year 1921-22.

(vi) *Money Orders and Postal Notes—Summary, Australia, 1919 to 1923.* The following table shows the total number and value of money orders and postal notes issued and paid in Australia from 1918-19 to 1922-23 :—

MONEY ORDERS AND POSTAL NOTES.—SUMMARY, AUSTRALIA,
1918-19 TO 1922-23.

Year ended 30th June.	Money Orders.				Postal Notes.			
	Issued.		Paid.		Issued.		Paid.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	No. (,000).	£ (,000).	No. (,000).	£ (,000).	No. (,000).	£ (,000).	No. (,000).	£ (,000).
1919 ..	2,300	11,697	2,214	11,370	9,830	3,277	9,775	3,244
1920 ..	2,352	12,382	2,258	12,094	10,163	3,389	10,127	3,409
1921 ..	2,543	13,675	2,439	13,181	10,849	3,674	10,821	3,671
1922 ..	2,761	13,803	2,632	13,412	11,631	3,968	11,522	3,909
1923 ..	2,873	14,121	2,724	13,706	12,512	4,160	12,455	4,148

(vii) *Classification of Money Orders Issued and Paid. (a) Orders Issued.* The following table shows the number and value of money orders issued in each State during the year 1922-23, classified according to the country where payable :—

MONEY ORDERS ISSUED.—COUNTRY WHERE PAYABLE, 1922-23.

State in which Issued.	Where Payable.				Total.	
	In Australia.	In New Zealand.	In the United K'dom.	In Other Countries.		
NUMBER.						
New South Wales ..	1,165,211		10,748	74,067	14,187	1,264,213
Victoria ..	496,526		6,172	48,190	11,198	562,086
Queensland ..	455,746		1,770	27,491	9,356	494,363
South Australia ..	161,456		999	15,562	3,988	182,005
Western Australia ..	228,714		1,058	20,666	3,807	254,245
Tasmania ..	107,990		1,672	5,346	1,137	116,145
Australia ..	2,615,643		22,419	191,322	43,673	2,873,057
VALUE.						
New South Wales ..	£ 5,856,365	£ 50,515	£ 229,419	£ 81,772	£ 6,218,071	
Victoria ..	2,548,961	27,573	145,212	49,785	2,771,531	
Queensland ..	2,224,397	7,972	78,721	85,943	2,397,033	
South Australia ..	790,547	4,390	49,728	17,988	862,653	
Western Australia ..	1,245,950	4,723	62,154	19,131	1,331,958	
Tasmania ..	515,953	7,637	12,613	3,241	539,444	
Australia ..	13,182,173	102,810	577,847	257,860	14,120,690	

(b) *Orders Paid.* The next table gives the number and value of money orders paid in each State during the year 1922-23, classified according to the country where issued:—

MONEY ORDERS PAID.—COUNTRY OF ISSUE, 1922-23.

State in which Paid.	Where Issued.				Total.
	In Australia.	In New Zealand.	In the United K'dom.	In Other Countries.	
NUMBER.					
New South Wales ..	1,191,127	32,981	16,651	9,808	1,250,567
Victoria ..	526,099	17,913	9,975	4,434	558,421
Queensland ..	425,989	2,989	5,166	2,429	436,573
South Australia ..	154,268	1,279	2,931	945	159,423
Western Australia ..	211,585	1,981	4,814	1,250	219,630
Tasmania ..	93,036	3,286	1,462	1,625	99,409
Australia ..	2,602,104	60,429	40,999	20,491	2,724,023
VALUE.					
	£	£	£	£	£
New South Wales ..	6,040,792	140,683	81,710	38,719	6,301,904
Victoria ..	2,784,578	60,749	48,353	15,836	2,909,516
Queensland ..	2,040,365	14,721	23,292	7,313	2,085,691
South Australia ..	758,191	5,075	11,506	3,965	778,737
Western Australia ..	1,119,037	6,559	23,564	4,952	1,154,112
Tasmania ..	456,858	9,550	5,713	3,640	475,761
Australia ..	13,199,821	237,337	194,138	74,425	13,705,721

In the above tables money orders payable or issued in foreign countries which have been sent from or to Australia through the General Post Office at London are included in those payable or issued in the United Kingdom.

(viii) *Classification of Postal Notes Paid.* The subjoined table shows the number and value of postal notes paid during the year 1922-23, classified according to the State in which they were issued.

Particulars regarding the total number and value of postal notes issued and paid in each of the last five years have been given previously.

POSTAL NOTES PAID.—STATE OF ISSUE, 1922-23.

Particulars.	Postal Notes Paid in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
NUMBER.							
Issued in same State ..	3,468,970	2,456,462	1,284,658	578,422	605,329	288,141	8,681,982
Issued in other States ..	475,727	353,203	599,842	61,732	27,392	2,254,665	3,772,561
Total ..	3,944,697	2,809,665	1,884,500	640,154	632,721	2,542,806	12,454,543
VALUE.							
	£	£	£	£	£	£	£
Issued in same State ..	1,331,512	379,054	450,029	193,302	228,162	91,834	3,173,893
Issued in other States ..	177,183	134,432	135,374	25,397	11,210	490,283	973,879
Total ..	1,508,695	1,013,486	585,403	218,699	239,372	582,117	4,147,772

The number and value of postal notes paid in Australia during the year showed an increase of 8.09 and 6.12 per cent. respectively over the corresponding figures for the year 1921-22.

10. **Gross Revenue, Postmaster-General's Department.**—(i) *Total.* The following table shows the gross revenue of the Postmaster-General's Department for the years ended 30th June, 1919 to 1923 inclusive, under three heads, viz., the Postal, the Telegraph, and the Telephone branches. In the Postal branch is included the revenue derived from money-order commissions, poundage on postal notes, private boxes and bags, and miscellaneous sources. The following figures and also those for expenditure are supplied by the Treasury, and represent the actual collections and payments for the periods mentioned:—

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT., 1919 TO 1923.

Year ended 30th June—	Postal Branch.	Telegraph Branch.	Telephone Branch.	Total.
	£	£	£	£
1919	3,129,932	1,103,664	1,876,929	6,110,525
1920	3,310,778	1,274,527	2,159,450	6,744,755
1921	4,574,618	(a)1,381,974	2,431,981	8,388,573
1922	5,194,523	(b)1,401,583	2,724,554	9,320,660
1923	5,395,829	(c)1,413,375	2,983,069	9,792,273

(a) Includes £12,052 radio receipts.

(b) Includes £25,998 radio receipts.

(c) Includes £7,711 radio receipts.

As compared with the corresponding figures for the previous year, an increase of 5.06 per cent. is shown. The figures for the Postal, Telegraph, and Telephone Branches increased by 3.88, 0.84 and 9.49 per cent. respectively.

(ii) *Analysis for States.* The following table gives an analysis of the actual collections of the Postal Department in each State and in Australia during the year ended 30th June, 1923:—

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT., ANALYSIS 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Postage	1,914,210	1,417,267	716,277	413,644	277,872	168,892	4,913,162
Telegraphs (ordinary) ..	499,042	301,898	225,914	207,717	121,077	50,016	1,405,664
Telegraphs (radio) ..	1,045	2,094	2,623	558	1,206	185	7,711
Telephones	1,173,123	846,610	404,982	306,658	165,927	85,769	2,983,089
Money order commission ..	75,834	42,837	28,529	11,893	14,277	6,201	179,571
Poundage on postal notes							
Private boxes and bags ..	16,267	8,908	9,062	5,334	2,973	1,908	44,542
Miscellaneous	90,734	78,837	35,630	19,680	24,298	9,575	258,554
Total	3,770,255	2,698,251	1,423,017	970,484	607,630	322,636	9,792,273

Increased revenue derived from Postage (£230,197) and Telephones (£258,515) contributed the major portion of the increase of £671,613 over the total for 1921-22.

11. **Expenditure, Postmaster-General's Department.**—(i) *Total.* The next table gives the actual payments made as shown by records kept for Treasury purposes in respect of the Postal Department for each of the years ended 30th June, 1919 to 1923 inclusive. The figures given include certain items of expenditure, such as rent, repairs and maintenance of buildings, fittings and furniture, sanitation, water supply, new buildings and additions and interest on transferred properties.

EXPENDITURE, POSTMASTER-GENERAL'S DEPT., 1919 TO 1923.

Expenditure.	Year ended 30th June—				
	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Total	5,826,049	6,649,432	8,268,725	10,026,593	10,752,373

(ii) *Distribution.* The following table shows, as far as possible, the distribution of expenditure on various items in each State during the year ended 30th June, 1923. The table must not be regarded as a statement of the working expenses of the Department, since items relating to new works, interest, etc., are included therein.

EXPENDITURE, POSTMASTER-GENERAL'S DEPT.—DISTRIBUTION, 1922-23.

Particulars.	Central Office.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Salaries and contingencies—	£	£	£	£	£	£	£	£
Salaries ..	33,519	1,852,679	1,198,504	640,477	421,209	367,913	156,584	4,670,975
Conveyance of mails ..	..	416,102	205,687	213,524	81,348	75,156	38,230	1,030,047
Contingencies ..	3,317	606,381	369,157	373,038	165,722	109,589	81,038	1,703,242
Cables ..	3,985	..	..	..	..	..	..	3,985
Ocean mails ..	129,600	..	..	..	..	..	..	129,600
Miscellaneous ..	964	16,598	21,697	4,416	4,152	2,596	919	51,342
Pensions and retiring allowances ..	..	31,002	45,309	256	..	7,490	..	84,057
Rent, repairs, maintenance ..	132	55,039	25,279	19,050	10,533	10,090	2,064	122,187
Supervision of works ..	..	470	344	171	111	74	47	1,217
Proportion of Audit Office expenses ..	..	3,973	2,905	1,444	944	627	400	10,293
Unforeseen expenditure ..	..	34	26	7	4	3	2	76
New works—								
Telegraph and telephone ..	1,557	839,238	559,128	300,861	251,914	175,587	45,370	2,173,655
New buildings, etc. ..	..	198,661	26,219	9,514	3,453	94,443	4,403	336,693
Interest on transferred properties ..	..	80,292	42,493	32,151	12,208	19,169	7,109	193,422
Other ..	236,582	..	..	..	..	..	..	236,582
Total ..	409,656	4,100,469	2,496,838	1,594,909	951,598	862,737	336,166	10,752,373

(a) Particulars of apportionment to each State not available.

Compared with the total for the preceding year the expenditure for 1922-23 rose by £775,780, or 7.8 per cent., the principal increases being in salaries, with £405,000, and new works, £722,000, in excess of the figures for 1921-22.

12. **Balance Sheet of the Postmaster-General's Department.**—(i) *General.* The first complete balance sheet and profit and loss account of the Postmaster-General's Department was presented in November, 1913, for the year ending 30th June, 1913.

PROFITS, POSTMASTER-GENERAL'S DEPT., 1919 TO 1923.

Items.	Year ended 30th June—				
	1919(a).	1920(a).	1921.	1922.	1923.
	£	£	£	£	£
Total earnings ..	6,158,571	6,732,096	8,511,494	9,347,656	9,898,158
Total working expenses ..	5,043,891	5,633,752	6,724,543	7,103,536	7,651,864
Surplus ..	1,114,680	1,098,344	1,786,951	2,244,120	2,246,294
Interest on capital ..	590,035	610,390	643,183	703,039	780,235
Total surplus ..	524,645	487,954	1,143,768	1,541,081	1,466,059

(a) Excluding Wireless Telegraphy Branch, which was transferred to the Department of the Navy as from 1st July, 1915.

As will be seen from the figures of the General Profit and Loss Account above, the year 1922-23, after providing for depreciation, pensions and retiring allowances, closed with a surplus of £2,246,294. From this amount £780,235, interest on capital, was deducted, leaving a profit of £1,466,059, or £75,022 less than that of 1921-22.

(ii) *Results for each State.* The next table gives the results for each State during the five years 1918-19 to 1922-23 :—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPT., STATES, 1919 TO 1923.

State.	Year ended 30th June—				
	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
New South Wales ..	(+) 155,159	(+) 95,285	(+) 334,395	(+) 508,474	(+) 487,835
Victoria ..	(+) 254,013	(+) 259,507	(+) 516,860	(+) 644,824	(+) 608,203
Queensland ..	(+) 60,103	(+) 61,311	(+) 143,844	(+) 186,185	(+) 168,172
South Australia ..	(+) 132,772	(+) 151,984	(+) 189,936	(+) 218,528	(+) 226,155
Western Australia ..	(-) 81,460	(-) 81,391	(-) 62,397	(-) 30,764	(-) 22,638
Tasmania ..	(+) 4,058	(+) 1,258	(+) 21,130	(+) 13,834	(-) 1,668
Australia ..	(+) 524,645	(+) 487,954	(+) 1,143,768	(+) 1,541,081	(+) 1,466,059

(+) Denotes profit. (-) Denotes loss.

(iii) *Profit or Loss of Branches.* The following table shows the profit or loss on the various branches during the five years 1918-19 to 1922-23 :—

PROFIT OR LOSS, BRANCHES, POSTMASTER-GENERAL'S DEPT., 1919 TO 1923.

Year ended 30th June—	Postal.		Telegraph.		Telephone.		All Branches.	
	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.
	£	£	£	£	£	£	£	£
1919	239,337	..	63,133	..	222,175	..	524,645
1920	81,217	..	95,636	..	311,101	..	487,954
1921	929,605	8,312	..	..	222,475	..	1,143,768
1922	1,258,286	..	1,809	..	280,986	..	1,541,081
1923	1,365,064	78,460	..	..	179,455	..	1,466,059

In the period of five years covered by the foregoing table it will be observed that in only two instances (Telegraph Branch in 1921 and 1923) was there a loss.

§ 2. Telegraphs.

1. *General.*—A review of the development of the Electric Telegraph Services in Australia was given in a previous issue of this work (see Year Book No. 15), but limitations of space preclude the repetition of this information in the present issue.

2. *Telegraph Offices, Length of Lines and Wire.*—(i) *Summary for Australia.* The following table shows the number of telegraph offices and the length of telegraph lines and of telegraph wire available for use in Australia in each year from 1919 to 1923.

TELEGRAPHS.—AUSTRALIA, SUMMARY, 30th JUNE, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
Number of offices	6,219	6,251	6,366	6,641	6,987
Length of wire (miles)—					
Telegraph purposes only	63,148	63,458	63,295	62,781	62,619
Telegraph and telephone purposes ..	78,004	79,930	82,234	84,855	91,461
Length of Line (miles)—					
Conductors in Morse cable	2,153	2,152	2,133	2,139	2,139
Conductors in submarine cable	1,705	1,736	1,851	2,067	2,193
Pole routes (miles)	60,275	60,693	60,580	62,489	66,648

(ii) *Particulars for each State.* The following table gives corresponding particulars for each State for the year 1922–23 :—

TELEGRAPHS.—STATES, SUMMARY, 30th JUNE, 1923.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W.Aust.	Tas.	Aus- tralia.
Number of offices	2,411	1,858	958	632	642	486	6,987
Length of wire (miles)—							
Telegraph purposes only	21,544	6,183	13,793	11,951	9,012	136	62,619
Telegraph and Telephone purposes	32,564	19,298	17,238	7,856	8,968	5,537	91,461
Length of line (miles)—							
Conductors in Morse cable	722	1,058	324	..	21	14	2,139
Conductors in submarine cable (statute miles)	1,571	440	56	71	5	50	2,193
Pole routes (miles)	26,486	9,099	11,232	8,052	8,764	3,015	66,648

It will be noticed that 154,080 miles of wire are available for telegraph purposes, of which 91,461 miles are also used for telephone purposes.

These figures show a decrease of 162 and an increase of 6,606 miles respectively over the corresponding mileages for the previous year.

3. **Number of Telegrams Dispatched.**—(i) *Total for Australia.* The following table shows the number of telegrams dispatched to destinations within Australia in each of the years 1919 to 1923.

TELEGRAMS DISPATCHED.—AUSTRALIA, 1919 TO 1923.

Telegrams.	Year ended 30th June—				
	1919.	1920.	1921.	1922.	1923.
Number(a)	15,461,034	17,934,998	16,723,111	15,796,022	15,828,629

(a) Including interstate cablegrams.

(ii) *Totals for each State.* The following table shows the number of telegrams dispatched in each State in 1922–23 for delivery in that State, the number dispatched in each State for delivery in other States, and the total number of telegrams—exclusive of cablegrams for places outside Australia—dispatched in each State :—

TELEGRAMS DISPATCHED.—STATES, 1922-23.

State, etc.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
Inland ..	4,086,632	2,687,030	2,046,184	1,011,913	1,324,556	341,983	11,498,298
Interstate (a) ..	1,364,699	1,227,522	664,902	494,604	346,553	232,051	4,330,331
Total ..	5,451,331	3,914,552	2,711,086	1,506,517	1,671,109	574,034	15,828,629

(a) Including interstate cablegrams.

The figures in the foregoing table show a small increase in the total volume of telegraph business as compared with the corresponding figures for the previous financial year.

4. Rates for Transmission of Telegrams.—The original rates for the transmission of telegrams within Australia were fixed by section 7 of the Post and Telegraph Rates Act 1902, and came into force on the 1st November, 1902. Under this Act "ordinary" and "press" telegrams are charged different rates. "Press" telegrams are defined to mean those the text of which consists of political, commercial, etc., information, and of news intended for publication in a newspaper. The telegram must be sent by an authorized correspondent, and must be addressed to a registered newspaper or recognized news agency. The charges imposed by the amending Act which came into operation on 1st October, 1920, are given in the appended statements.

TRANSMISSION CHARGES.—ORDINARY TELEGRAMS.

Particulars.	Town and Suburban, within prescribed limits, or within 15 miles from the sending station.	Other Places within the State, except Town and Suburban.	Interstate.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Including address and signature—			
Not exceeding 16 words	0 9	1 0	1 4
Each additional word	0 1	0 1	0 1

Double the foregoing rates are imposed for the transmission of telegrams on Sunday, Christmas Day, and Good Friday, also between the hours of 8 p.m. and 9 a.m., and for telegrams lodged for "urgent" transmission.

The charges for press telegrams are given hereunder :—

TRANSMISSION CHARGES.—PRESS TELEGRAMS.

Particulars.	Within any State.	Interstate.	Relating to Parliamentary, Executive, Departmental, and other Commonwealth Proceedings as may be prescribed.(a)
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
Not exceeding 25 words	0 8	1 4	1 4
From 26 to 50 words	0 11	1 10	1 8
From 51 to 100 words	1 9	3 6	2 0
Every additional 50 words	0 8	1 4	0 8

(a) Within Australia.

5. Letter-telegrams.—Letter-telegrams are accepted at any hour at telegraph offices which are open for business after 7 p.m., subject to the condition that delivery is effected by posting at the letter-telegram office of destination. The rates charged

throughout Australia are one shilling and threepence for the first 30 words, and one halfpenny for each additional word, double these rates being charged on Sundays. On the 1st April, 1923, the service applied to 101 offices.

6. **Wireless Telegraphy and Telephony.**—(i) *General.* In Year Book No. 15 a résumé was given of the activities in Australia in connexion with wireless telegraphy and telephony. Since the publication of that issue, the Radio Service which had hitherto been administered under the Wireless Telegraphy Act 1905 by the Postmaster-General's Department—with the exception of the period September, 1915, to June, 1920, during which it was controlled by the Navy Department—was placed under the Prime Minister's Department as the Wireless Branch from 1st December, 1922, on which date the Wireless Telegraphy Regulations 1922 became operative.

On 1st March, 1923, the Wireless Branch was re-transferred to the Postmaster-General's Department, under the control of the Chief Manager of Telegraphs and Wireless.

The Radio Stations handed over to the control of Amalgamated Wireless (Australia) Ltd. in accordance with the agreement of 28th March, 1922 (see Year Book No. 15, 1922, pp. 628-9), are situated in Sydney, Melbourne, Brisbane, Cooktown, Rockhampton, Thursday Island, Townsville, Adelaide, Broome, Esperance, Geraldton, Perth, Wyndham, Flinders Island, Hobart, King Island, Darwin, Port Moresby, and Samarai, all formerly under the control of the Postmaster-General's Department, and Aitape, Kavieng, Kieta, Madang, Manus, Morobe, and Rabaul, previously under the control of the Administrator of the Territory of New Guinea.

Radio-telegraphic stations have been erected at Suva, Ocean Island, Tulagi, and Vila under the control of the High Commissioner of the Pacific, while the New Zealand Government has erected high-power stations at Awanui (Auckland), Awarua (Bluff), and Apia (Samoa), and low-power stations at Auckland, Chatham Islands, Raratonga (Cook Islands), and Wellington.

The following rates per word are applicable to radio-telegrams transmitted either way :—Between any telegraph office in Australia and Australian or New Zealand ships, 6d., allocated as follows: Coast station 3d., ship station 2d., landline 1d. : British and foreign ships, 11d., allocated : Coast station 6d., ship station 4d., landline 1d. Between Australia and Port Moresby or Samarai the rate is 6d., and between the mainland and Flinders Island, King Island, or Maria Island, 2d. Between Australia and Rabaul, 6d., other late German New Guinea stations, 1s. ; Nauru and Ocean Islands and Tulagi, 1s. 7d. ; Willis Island, 3d. ; and Caroline Islands, 1s. 7d.

(ii) *Licence Fees.* The Regulations provide for the issue of the following licences, for which the respective fees per annum, payable in advance, are as shown, viz. :—(a) Coast Station, £1 ; (b) Ship Station, £1 ; (c) Land Station, £1 ; (d) Broadcasting Station, £15 ; (e) Broadcasting (receiving) Station, 10s. ; (f) Dealers Licences, £1 ; (g) Experimental Station (i) Transmitting and Receiving, £1, (ii) Receiving only, 10s. ; (h) Portable Station, £1 ; (i) Aircraft Station, £1. Licences remain valid for a period of twelve months from date of issue, but may be renewed from time to time.

(iii) *Licences Issued.* The following table shows the number of each class of licence in force at 31st December, 1922 ; 30th June, and 31st December, 1923.

WIRELESS LICENCES, 1922 and 1923.

Station Licence.	At—		
	31st Dec., 1922.	30th June, 1923.	31st Dec., 1923.
Coast	28	27	27
Ship	128	133	140
Land .. .. .	..	..	3
Broadcasting .. .. .	..	..	6
„ (Receiving) .. .. .	..	..	100
„ Dealers .. .. .	..	..	330
Experimental—			
Transmitting and Receiving	32	140	278
Receiving only	724	1,800	4,864
Portable .. .. .	..	..	10
Aircraft .. .. .	..	..	..
Total	912	2,100	5,758

Licences previously issued by the Minister for the Navy under the Naval Defence Act 1910-1918, or by the Postmaster-General under the Act, and which were in force on 1st December, 1922, are not prejudiced by these Regulations.

(iv) *Unauthorized Stations.* In order that an adequate check may be kept on unauthorized stations, dealers in wireless apparatus or accessories are compelled to keep a register and record therein all sales of wireless telegraphy or telephony apparatus; such register must be made available for inspection at any time. It is provided in the Regulations that no person or firm shall sell or supply apparatus or accessories to any person unless that person is the holder of, or is about to obtain, a licence.

(v) *Proficiency Certificates.* Proficiency certificates for wireless operators and watchers are issued by the Minister to individuals who pass the specified tests. Fees of 10s. and 5s. respectively are imposed on candidates for either class of certificate on each occasion when they sit for examination.

Every ship-station and coast-station, in respect of which a licence is issued, must be operated by a person holding a certificate of proficiency.

At 31st December, 1923, 802 first-class and 29 second-class proficiency certificates in addition to 28 watchers' certificates had been issued.

7. **Revenue and Expenditure.**—Particulars as to the revenue from the telegraph systems for the years 1918-19 to 1922-23 were given in earlier pages.

§ 3. Submarine Cables.

1. **First Cable Communication with the Old World.**—In earlier issues of the Year Book will be found a detailed account of the connexion of Australia with the old world by means of submarine cables. (See No. 6, p. 770.)

2. **The Tasmania-Victoria Cables.**—On the 28th February, 1908, the Postmaster-General entered into an agreement with Messrs. Siemens Brothers and Company Ltd., of London, for the manufacture and laying of two submarine cables between Tasmania and Victoria, the contract price being £52,447. The cables were taken over on the 24th March, 1909, and opened to the public on the 1st May, 1909, the day following the expiration of the agreement with the Eastern Extension Company. Their aggregate length is approximately 350 nautical miles of main cable, and 20 nautical miles each of intermediate and shore-end cable, making a total of 390 nautical miles.

3. **The Eastern Extension Company's Cables.**—In addition to the first Tasmania-Victoria cable and the original cable from Darwin (see Year Book No. 6, p. 770), the Eastern Extension Company has constructed several other cables connecting with various places in Australia., viz., Darwin to Banjoewangie (two lines); Fremantle to Durban; Fremantle to Adelaide; Java to Cocos Island, which provides another route between Australia and South Africa; and a cable partly owned by this Company connecting the Darwin-Singapore cable with London *via* Hong Kong, Shanghai, Possiet Bay (Pacific Russia), Libau (Latvia), and Newbiggin (London).

4. **The Pacific Cable.**—(i) *Cable Lines.* The Pacific Cable lines are controlled by the Pacific Cable Board, consisting of three representatives of the Imperial Government, two each from Canada, and Australia, and one from New Zealand. The main cable route known as the "All Red" runs from Southport in Queensland to Bamfield in British Columbia, thence overland to Montreal. From this point messages are transmitted across the Atlantic over the cables of the Anglo-American and Commercial Companies, or, if so desired, the Marconi Wireless System between Canada and the

United Kingdom may be availed of for either homeward or outward messages at a reduction of twopence on the through cable rate of three shillings per word. Cable stations are established at Norfolk Island, Fiji, and Fanning Island. A branch cable approximately 600 miles long runs from Norfolk Island to Doubtless Bay, North Island of New Zealand.

The assent of each of the Governments interested was obtained for the duplication of the system south of Fiji, and a contract for the submarine cables was placed with the Telegraph Construction and Maintenance Company, of Greenwich, and the laying of the Sydney-Southport cable was completed on 11th July, 1923, and the Auckland-Suva cable on 12th August, 1923. There has been, however, a delay in the delivery of the land cables and some essential apparatus, in consequence of which the new cables are not yet available for traffic.

During the year 1922-23 the cables worked without interruption, and no repairs were necessary.

(ii) *Financial Summary.* The receipts for the year exceeded the ordinary expenses by £256,299. After payment of the annuity of £77,545 in respect of interest and repayment of the capital of £2,000,000, and of the annuity of £9,150 to the Renewal Fund for interest and Sinking Fund on £177,254 borrowed from the fund for the purposes of the Auckland-Sydney cable, there remained a surplus of £169,603, which, in view of the question of the duplication of the northern cables, was employed to strengthen the Reserve and Renewal Fund. The following table shows particulars of the revenue, expenditure, total profit, and the proportion thereof payable to Australia for the years ended 31st March, 1919 to 1923.

PACIFIC CABLE—FINANCIAL SUMMARY, 1919 TO 1923.

Year ended 31st March—	Revenue.	Expenditure (including Annuities and Renewal Fund).	Profit.	Australian Proportion of Profit.
	£	£	£	£
1919 ..	564,097	554,516	9,581	3,193
1920 ..	664,986	654,552	10,434	3,478
1921 ..	633,343	629,866	3,477	1,159
1922 ..	528,428	507,666	20,762	6,921
1923 ..	529,228	529,228	..	..

5. *New Zealand Cables.*—A submarine cable, 1,191 miles in length, from New Zealand to Australia, was laid in 1876. The Australian shore-end of the cable is at Botany Bay, while the New Zealand terminus is at Wakapuaka near Nelson in the Middle Island, from which place another cable, 109 miles in length, is laid to Wanganui, in the North Island. For a period of ten years after its opening the cable was subsidized by the New South Wales and New Zealand Governments, the total contributions amounting to £10,000 a year. During 1911 a scheme for providing a second cable between New Zealand and Australia (Auckland to Sydney) was adopted by the various Governments concerned, and the laying of the new cable was completed on the 24th December, 1912, the cable being opened for traffic on the 31st December, 1912.

6. *The New Caledonia Cable.*—In April, 1892, a French Company, known as the *Compagnie Française des Câbles Télégraphiques*, entered into an agreement with the French, the New South Wales, and the Queensland Governments to lay a submarine cable between New Caledonia and Queensland in return for guarantees by the French Government to the extent of £8,000, and by the Governments of New South Wales and Queensland to the amount of £2,000 each annually for a period of 30 years. The cable

was opened for use in October, 1893, the Australian shore-end being at Burnett Heads, near Bundaberg. The guarantees of the Governments of New South Wales and Queensland have since been transferred to the Commonwealth Government.

7. Lengths of Cable Routes.—The following table gives the lengths of various cable routes :—

LENGTHS OF CABLE ROUTES.

Via Darwin.			Via South Africa.		
	Miles.			Miles.	
Adelaide to Darwin	2,134		Perth to Mauritius	4,417	
Darwin to Banjoewangie	1,150		Mauritius to Durban	1,785	
Banjoewangie to London	9,841		Durban to Cape Town	800	
			Cape Town to Madeira	5,715	
			Madeira to Penzance	1,341	
			Penzance to London	260	
Total	13,125		Total	14,319	
Via Vancouver.			Via Russia.		
	Miles.			Miles.	
Southport (Queensland) to Norfolk Island	963		Sydney to Darwin	2,992	
Norfolk Island to Suva (Fiji)	1,129		Darwin to Hong Kong	4,237	
Suva to Fanning Island	2,351		Hong Kong to Possiet Bay	2,647	
Fanning Island to Bamfield (Canada)	3,980		Possiet Bay to Libau	6,399	
Across Canada	3,450		Libau to Newbiggin (England)	1,657	
Canada to Ireland	2,450				
Total	14,323		Total	17,932	

8. Number of Cablegrams Received and Dispatched.—(i) *Australia.* The subjoined table shows the number of cablegrams received and dispatched in Australia from 1920-21 to 1922-23 :—

CABLEGRAMS.—AUSTRALIA, 1920-21 TO 1922-23.

Cablegrams.	Cablegrams Received.			Cablegrams Dispatched.			Total Cablegrams Received and Dispatched.		
	1920-21.	1921-22.	1922-23.	1920-21.	1921-22.	1922-23.	1920-21.	1921-22.	1922-23.
Number ..	477,137	499,104	533,977	473,533	499,634	539,926	950,670	993,738	1,073,903

(ii) *States.* The number of cablegrams received and dispatched in each State during the year 1922-23 is given hereunder :—

CABLEGRAMS.—STATES, 1922-23.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(a)	Australia.
Number received ..	282,953	175,429	22,020	25,173	21,228	7,174	533,977
Number dispatched ..	272,989	180,311	25,326	28,228	24,927	8,145	539,926
Total ..	555,942	355,740	47,346	53,401	46,155	15,319	1,073,903

(a) Exclusive of interstate cablegrams, which are included with interstate telegrams.

9. Cable Rates.—(i) *Ordinary Cablegrams*. The rates per word for ordinary cablegrams to some of the most important countries as at the 27th March, 1923, are shown in the appended statement:—

CABLE RATES, 1923.

Country.	Route and Rate per Word.	
	Via Pacific.	Via Eastern.
Europe—		
Great Britain (a), Belgium, France, Germany, Holland, Jugo-Slavia, Switzerland	3/-	3/-
Other European countries	3/6 to 4/6	3/- to 3/6
Asia—		
China	6/11 to 7/1½	2/6 to 2/11
India .. .. .	..	2/6
Japan	7/4½	3/5
Netherlands East Indies	6/10	2/6
Philippine Islands .. .. .	..	2/6 to 3/3
Straits Settlements .. .. .	..	2/6
Other Asiatic Countries	4/4 to 7/4½	2/6 to 5/11
Africa—		
Egypt .. .. .	..	3/5 and 3/6
Mauritius .. .. .	..	2/5
Portuguese East Africa .. .. .	..	2/5 to 2/8
South African Union .. .. .	..	2/2 and 2/3
Sierra Leone .. .. .	..	4/8 to 4/11
Other African countries .. .. .	..	2/5 to 7/3
North America—		
Alaska	3/7	5/7
Canada	2/4 to 3/6	..
Newfoundland	2/7½	..
United States	2/4 to 2/8	4/- to 4/6
Central America	2/8 to 4/10½	4/4 to 6/7
West Indies	3/- to 8/1½	4/8 to 10/-
South America—		
Argentine	4/9	4/9
Brazil	4/7 to 7/3	4/7 to 8/7
Other	4/7 to 8/1½	4/9 to 9/7
New Zealand and Pacific Islands—		
Fanning Island	2/-	..
Fiji	8d. to 11d.	8d. to 11d.
New Zealand	4½d.	4½d.
New Caledonia	9d. (b)	..
Norfolk Island	3d.	..
Ocean Island (via Suva-radio)	1/8	1/8
Sandwich Islands	3/4½ to 4/-	5/5 to 6/-

(a) Pacific-Marconi 2s. 10d. per word.

(b) Via Queensland.

(ii) *Deferred Cablegrams*. Under this system a reduction of 50 per cent. in the ordinary cable charges is made, provided the message is written in plain language, and conveys no other meaning than that which appears on the face of it. Messages can only be transmitted after non-urgent private cablegrams and press cablegrams. Those which have

not reached their destination within a period of 24 hours from the time of handing in are transmitted in turn with cablegrams charged full rate. They may be sent via the Pacific or Eastern routes to nearly all countries to which the ordinary rate exceeds tenpence per word. This service, together with that of the week-end cable letters, has affected the ordinary cable business to a large extent. Deferred press cablegrams subject to a delay of eighteen hours may be exchanged between Australia and the United Kingdom at the rate of fourpence halfpenny per word, and between Australia and Vancouver at the rate of twopence halfpenny per word.

(iii) *Week-end Cable Letters.* Week-end cable letters may be exchanged between Australia and the United Kingdom, British North America, and Fanning Island at the rates indicated hereunder. Under this arrangement, messages written in plain language may be lodged at any post office in Australia or the United Kingdom in time to reach the forwarding cable office by post or telegraph by midnight on Saturday. The messages, which are deliverable by post on Tuesday morning, are charged at the rate of ninepence per word, plus ordinary telegraph rate, if forwarded by land telegraph in either the country of dispatch or destination.

The rates to the countries named, including the United Kingdom, are as follows :—

RATES FOR WEEK-END CABLE LETTERS.

Country.	Rate per Word.	Minimum Charge per Telegram. (20 Words.)
United Kingdom	9d.	15/-
Canada (ordinary rate 2s. 4d.)	7d.	11/8
Other parts of Canada	8d. to 10d.	12/11 to 16/8
Newfoundland	8½d.	13/9
Fanning Island	6d.	10/-

(iv) *Rates to New Zealand.* As a result of the completion of the New Zealand branch of the Pacific cable in 1902, the rates charged for cablegrams between Australia and New Zealand, except to and from Tasmania, were uniformly reduced to fourpence halfpenny a word. Between New Zealand and Tasmania the charge was fixed at fivepence halfpenny a word, but it has since been reduced to fourpence halfpenny. The charge for ordinary cablegrams from New Zealand to Great Britain was reduced from the 1st June, 1902, from five shillings and twopence to three shillings and fourpence a word, and has since been further reduced to three shillings a word.

10. *Cable Subsidies Paid.*—The following table shows the amount of subsidy paid in each of the years 1919 to 1923 :—

CABLE SUBSIDIES, 1919 TO 1923.

Subsidies.	Year ended 30th June—				
	1919.	1920.	1921.	1922.	1923.
Amount .. £	3,756	3,797	3,749	3,840	3,985

As the agreement in connexion with the Tasmanian cable expired in 1909, and as new cables were laid by the Commonwealth Government, the guarantees were, in the course of the year 1910, reduced to those in connexion with the New Caledonia and Pacific cables. From 1915–16 onwards the only cable subsidy paid by Australia was in respect of the New Caledonian cable guarantee.

§ 4. Telephones.

1. Telephone Services.—(i) *Mileage, etc., Australia.* The following table shows the mileage of lines, etc., for telephone purposes, giving trunk lines separately, on 30th June, 1922 and 1923 :—

TELEPHONE LINES—AUSTRALIA, 30th JUNE, 1922 AND 1923.

Particulars.	1922.	1923.
Ordinary Lines—		
Conduits duct miles	2,926	3,146
Conductors in aerial cables loop mileage	35,627	34,986
Conductors in underground cables "	260,349	312,224
Conductors in cables for junction circuits "	43,193	49,493
Open conductors single wire mileage	205,354	221,832
Trunk Lines—		
Telephone trunk lines only miles	33,175	40,851
Telegraph and telephone purposes "	84,855	91,461

(ii) *Summary for States.* Particulars relating to the telephone service in each State for the years ended 30th June, 1921 to 1923 will be found in the following table :—

TELEPHONE SERVICES.—SUMMARY, 1921 TO 1923.

Particulars.	Year (30th June.)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
No. of Exchanges ..	1921	921	750	398	218	122	144	2,553
	1922	960	814	421	221	133	154	2,703
	1923	1,026	708	448	241	169	233	2,825
No. of Telephone Offices (Including Exchanges)	1921	2,142	1,609	756	481	335	416	5,739
	1922	2,185	1,678	798	513	390	428	5,992
	1923	2,274	1,739	902	572	461	454	6,402
No. of lines connected ..	1921	74,490	52,791	23,855	15,984	10,438	5,805	183,383
	1922	80,042	55,986	25,575	17,402	10,624	6,257	195,886
	1923	87,352	61,201	27,612	19,306	11,590	6,917	213,978
No. of instruments connected	1921	96,710	72,088	29,637	21,480	13,412	7,180	240,507
	1922	104,108	77,744	31,878	23,248	13,748	7,751	258,477
	1923	113,645	84,452	34,634	25,663	14,793	8,516	281,703
(a) No. of subscribers' instruments	1921	93,467	70,319	28,392	20,705	12,827	6,854	232,564
	1922	100,747	75,914	30,561	22,421	13,151	7,418	250,212
	1923	110,200	82,508	33,241	24,832	14,144	8,024	272,949
(b) No. of public telephones	1921	1,693	1,410	835	473	355	206	4,972
	1922	1,787	1,469	888	523	368	213	5,248
	1923	1,815	1,480	942	567	407	373	5,584
c) No. of other local instruments	1921	1,550	359	410	302	230	120	2,971
	1922	1,574	361	429	304	229	120	3,017
	1923	1,630	404	451	264	242	119	3,170
Instruments per 100 of population	1921	4.60	4.69	3.85	4.28	4.03	3.39	4.41
	1922	4.84	4.95	4.06	4.57	4.05	3.63	4.67
	1923	5.19	5.28	4.35	5.00	4.25	3.98	4.94
Earnings	1921	£ 964,981	£ 695,409	£ 339,116	£ 235,289	£ 142,906	£ 73,300	£ 2,450,981
	1922	1,086,908	777,388	375,541	271,881	154,799	79,548	2,746,065
	1923	1,184,035	850,182	411,523	304,061	166,338	87,268	3,003,407
Working expenses ..	1921	788,671	443,522	243,135	150,960	122,896	59,438	1,808,622
	1922	856,255	479,304	281,414	170,360	133,048	71,150	1,991,531
	1923	959,836	574,487	326,389	197,520	141,958	83,352	2,283,542
Percentage of working expenses on earnings	1921	81.73	63.78	71.70	64.16	86.00	81.09	73.79
	1922	78.78	61.66	74.93	62.66	85.95	89.44	72.52
	1923	81.06	67.57	79.31	64.96	85.34	95.51	76.03

In Australia there were 213,978 telephone lines connected to 2,825 exchanges at 30th June, 1923, an increase of 13,092 and 122 respectively over the corresponding figures for the preceding year.

(iii) *Subscribers' Lines and Calling Rates.* The next table gives the number of subscribers' lines and the daily calling rate at central, suburban, and country telephone exchanges in the several States for the year 1922-23 :—

TELEPHONES.—SUBSCRIBERS' LINES AND DAILY CALLING RATE, 1922-1923.

State.	Central Exchanges.		Suburban Exchanges.		Country Exchanges.		Total.	
	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.
New South Wales	10,915	7.70	39,814	2.90	33,631	1.50	84,360	2.96
Victoria	10,838	8.85	27,820	3.02	21,073	1.52	59,731	3.82
Queensland	7,291	7.69	4,083	3.16	15,830	2.61	27,204	4.05
South Australia	7,297	7.90	6,035	4.80	5,792	1.60	19,124	5.01
Western Australia	4,297	6.34	2,536	4.27	4,381	2.34	11,214	4.30
Tasmania	2,362	4.39	319	2.16	4,128	1.60	6,809	2.59
Australia	43,000	7.70	80,607	3.34	81,835	1.76	208,442	3.60

A comparison of the daily calling rates for each class of exchange shows that Victoria registered the greatest number per line at central exchanges, South Australia at suburban exchanges, and Queensland at country exchanges. Taking the figures for Australia, it will be observed that the average number of calls per line at central exchanges was more than double the number registered at suburban exchanges, while the average for suburban exchanges was slightly less than double the number shown for country exchanges.

(iv) *Trunk Line Calls and Revenue.* In the following table the number of telephone trunk line calls recorded, the amount of revenue received, and the average revenue per call are shown for each of the States for the years 1920-21 to 1922-23 :—

TELEPHONES.—TRUNK LINE CALLS AND REVENUE FOR THE YEARS 1920-21 TO 1922-23.

Particulars.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
Total Calls for Year—	No.	No.	No.	No.	No.	No.	No.
1920-21	5,042,929	3,363,971	2,130,234	1,148,882	525,642	699,298	12,910,956
1921-22	5,267,870	3,699,176	2,307,804	1,350,946	582,340	760,033	13,968,169
1922-23	5,985,820	4,000,672	2,616,344	1,587,645	707,159	849,197	15,746,837
Total Revenue for Year—	£	£	£	£	£	£	£
1920-21	178,704	124,721	102,748	52,162	24,938	23,508	506,781
1921-22	197,295	138,643	112,396	64,973	26,911	24,921	565,139
1922-23	220,458	157,062	128,364	73,601	33,363	28,368	641,216
Average Revenue per Call—	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
1920-21	8.50	8.89	11.57	10.89	11.38	8.07	9.42
1921-22	8.98	8.99	11.69	11.54	11.09	7.87	9.71
1922-23	8.84	9.42	11.77	11.13	11.32	8.02	9.77

The rapid growth in connexion with subscribers' services in bringing about increased trunk line traffic. Extensive works are in progress to meet the growing demand and to improve the trunk line system generally.

2. *Telephone Rates.*—(i) *Ground Rent and Local Calls.* On the 10th December, 1915, revised charges for telephone services came into operation. Under the new scale, ground rent for telephones is calculated on the number of subscribers connected with the exchange or network, instead of being based on the total population residing within the telephone network, as formerly. The smallest and greatest rental charges remain the same as under the old system, but between these a more gradual scale was introduced.

Previously the charge for calls made by a subscriber was at the rate of two calls for one penny up to 2,000 calls per half-year; above that number, three calls for one penny. This charge was increased to one penny per call, without any progressive reduction. At the same time, the public telephone charge per call was increased from one penny to twopence. On the 1st October, 1920, telephone charges were again increased, and the rates in the following table are now in force:—

TELEPHONES, AUSTRALIA.—RENTAL CHARGES, 1st MAY, 1924.

Exchanges or Networks with Subscribers' Lines Connected, as shown hereunder.	Radius of Network with Main Exchange as Centre.	Annual Ground Rent, within Two-mile Radius.		
		For an Exclusive Service.	For each Subscriber or Instrument on a Two-party Service.	For each Subscriber or Instrument on a Three or more party Service.
	Miles.	£ s. d.	£ s. d.	£ s. d.
From 1 to 300	5	3 0 0	2 10 0	2 0 0
„ 301 to 600	5	3 5 0	2 10 0	2 0 0
„ 601 to 1,500	5	4 7 6	3 7 6	2 15 0
„ 1,501 to 4,000	10	4 12 6	3 15 0	3 2 6
4,001 and upwards	10	5 0 0	3 15 0	3 2 6

It is provided that for each effective call originating from a subscriber's instrument the charge shall be one penny in respect of exchanges or networks with 600 subscribers or less, and one penny farthing in respect of exchanges or networks with more than 600 subscribers.

In the near future telephone subscribers will be permitted to make calls at the local call fee rate to their correspondents on exchanges within a five mile radius of the exchange to which they are connected instead of being charged trunk line fees as at present. This concession will benefit numerous subscribers, particularly those in country districts.

(ii) *Trunk Line Calls.*—In some country areas the mileage of wire, etc., utilized between certain points is greatly in excess of the distance in a direct line. The existing trunk line tariff hereunder bases the charge on the length of circuit occupied for the connexion. It is intended to introduce a new system whereby payment for trunk line calls will be made on the basis of distance in a straight line, irrespective of the route followed in establishing the connexion, thus eliminating existing anomalies in the rates.

TELEPHONES, AUSTRALIA.—TRUNK LINE CHARGES, 1st MAY, 1924.

Period.	Distance not exceeding—											
	Miles.											
	10.	20.	30.	50.	75.	100.	150.	200.	300.	400.	600.	800.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Between 8 a.m. and 7 p.m.—												
First three minutes	0 2	0 4	0 6	0 8	1 0	1 4	1 10	2 4	3 4	4 4	5 0	5 8
Every additional three minutes	0 2	0 4	0 6	0 6	0 9	1 0	1 4	1 9	2 6	3 3	3 9	4 3
Between 7 p.m. and 8 a.m.—												
First three minutes	0 2	0 4	0 4	0 4	0 6	0 8	0 11	1 2	1 8	2 2	2 6	2 10
Every additional three minutes	0 2	0 3	0 4	0 4	0 5	0 6	0 8	0 11	1 3	1 8	1 11	2 2

3. Revenue from Telephones.—Particulars regarding the revenue from telephone services are included in the paragraph dealing with the revenue of the Postmaster-General's Department.

CHAPTER VIII.

FINANCE.

A. COMMONWEALTH FINANCE.

§ 1. General.

1. **Financial Provisions of the Constitution.**—The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth are contained in Chapter IV., "Finance and Trade," being sections 81 to 105 of the Constitution Act. Two other sections which have a most important bearing on questions of Commonwealth finance are sections 69 and 51.

Section 69 provides for the transfer to the Commonwealth from the States of certain specified departments, while section 51, in outlining the powers of the Federal Parliament, implies the transfer or creation of various other departments. Section 87 deals with the financial relations between the Commonwealth and the States. These matters have been treated in some detail in previous issues of the Official Year Book up to and including No. 12, and further reference to them will not be made here.

The Commonwealth Treasury issues annually a document entitled "The Treasurer's Statement of Receipts and Expenditure during the year ended 30th June," with which is incorporated the report of the Commonwealth Auditor-General for the year. This series of annual statements is the authority for the majority of the tables given herein.

2. **Accounts of Commonwealth Government.**—The Commonwealth Government, like the States Governments, bases its accounts mainly upon three funds, the Consolidated Revenue Fund, the Trust Fund, and the Loan Fund. The last mentioned fund came into existence in the financial year 1911-12, but on the outbreak of war it became so important that it is now treated in two parts—a General Loan Fund mainly for purposes of Public Works, and a War Loan Fund for purely military purposes. The accounts of these funds are now so interwoven that a proper conspectus of the Commonwealth Accounts can hardly be obtained by an analysis of each of them singly. Two tables are therefore appended, showing receipts and disbursements from all sources for the last five years. The different funds will then be treated in detail in the subsequent paragraphs.

COMMONWEALTH RECEIPTS, 1918-19 TO 1922-23.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Consolidated Revenue	44,716,918	52,783,102	65,517,603	64,897,046	64,720,635
Trust Funds in aid of Revenue .. .	3,925,820	3,523,057	5,724,806	6,618,327	6,408,424
Total	48,642,738	56,306,159	71,242,414	71,515,373	71,129,059
General Loan Fund	1,429,891.	1,286,786	4,101,726	12,253,610	11,184,162
War Loan Fund	57,637,507	27,125,203	33,064,475	14,452,902	36,784
Unexpended Balance from previous years	23,500,774	18,945,392	..	6,205,030	8,889,188
Total	81,138,281	46,070,595	33,064,475	20,657,932	8,925,967
Grand Total	131,210,910	103,663,540	108,408,615	104,426,915	91,239,188

COMMONWEALTH EXPENDITURE, 1918-19 TO 1922-23.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Expenditure from Consolidated Revenue	34,786,107	40,337,804	52,059,118	51,453,087	50,108,510
Balance paid into Trust Funds	3,476,478	5,724,806	6,618,327	6,408,424	7,428,574
Expenditure from Trust Funds	3,879,241	3,523,057	5,724,806	6,618,327	6,408,424
Unexpended Balance from Trust Funds	46,579	..	..	..	..
Subsidy to States	6,454,333	6,720,492	6,840,163	7,035,535	7,185,551
Total	48,642,738	56,806,159	71,242,414	71,515,373	71,129,059
General Loan Fund Expenditure	1,429,891	1,286,786	4,101,726	12,253,610	9,627,084
Unexpended Balance of General Loan Expenditure .. .. .	..	..	..	..	1,557,078
Total	1,429,891	1,286,786	4,101,726	12,253,610	11,184,162
War Expenditure from War Loan Fund	62,192,889	46,070,595	26,859,445	11,768,749	4,628,979
Unexpended Balance from War Loan Fund	18,945,392	..	6,205,030	8,889,183	4,296,988
Total	81,138,281	46,070,595	33,064,475	20,657,932	8,925,967
Grand Total	131,210,910	103,663,540	108,408,615	104,426,915	91,239,188

§ 2. Consolidated Revenue Fund.

Division I.—Nature of Fund.

The provisions made for the formation of a Commonwealth Consolidated Revenue Fund, and the means to be adopted for operating on that fund, are contained in sections 81, 82, and 83 of the Constitution. In section 81 it is provided that "All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund, to be appropriated for the purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this Constitution." A strictly literal interpretation of this section would appear to require all loan and trust moneys received by the Commonwealth Executive to be paid to Consolidated Revenue. It is, however, held by Quick and Garran, in their "Annotated Constitution," that the "generic word *moneys* must be controlled by the preceding specific word *revenues*, and limited to moneys in the nature of revenue." This is the view of the matter which has been adopted by the Commonwealth Treasury in the preparation of its accounts. At present, certain moneys received by the Commonwealth, which are not of the nature of revenue, are paid to Trust Account, and other moneys are paid to Loan Account. As regards expenditure from the Consolidated Revenue Fund, section 82 provides that the costs, charges, and expenses incident to the collection, management, and receipt of the Consolidated Revenue Fund should form the first charge thereon, while section 83 stipulates that "no money shall be drawn from the Treasury of the Commonwealth except under appropriation made by law." Such appropriations are either special, and as such are provided for by means of a permanent Act, or annual, and provided for in an annual Appropriation Act.

Division II.—Revenue.

1. Total.—The consolidated revenue of the Commonwealth, which in 1901-2, the first complete financial year under the new régime, amounted to £11,296,985, had, in 1922-23, reached a total of £64,720,635, an increase in the period of £53,423,650.

Particulars concerning the total amount of revenue collected by the Commonwealth Government from 1st July, 1918, to 30th June, 1923, are contained in the following table:—

COMMONWEALTH CONSOLIDATED REVENUE, 1918-19 TO 1922-23.

Revenue.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Total ..	44,716,918	52,783,102	65,517,608	64,897,046	64,720,635

The great increase in recent years is due to the large expansion in taxation, which is considered in detail in a later sub-section.

2. Revenue per Head.—The table hereunder gives particulars of the amount of revenue from various sources per head of population for the last five years:—

COMMONWEALTH CONSOLIDATED REVENUE PER HEAD, 1918-19 TO 1922-23.

Source of Revenue.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Taxation	6 9 4	7 17 10	9 13 9	9 0 4	8 17 1
Public Works and Services	1 16 0	1 8 7	1 13 4	1 14 8	1 14 9
Other Receipts	0 10 8	0 12 7	0 15 1	1 0 7	0 17 11
Total	8 16 0	9 19 0	12 2 2	11 15 7	11 9 9

3. Sources of Revenue.—(i) *General.* The following table furnishes details of the revenue from each source during the years 1918-19 to 1922-23:—

COMMONWEALTH CONSOLIDATED REVENUE—SOURCES, 1918-19 TO 1922-23.

Source.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Taxation—					
Customs	11,605,410	13,705,220	21,731,210	17,328,810	22,597,306
Excise	5,821,560	7,869,939	10,078,696	10,302,049	10,274,823
Land Tax	2,109,171	2,110,306	2,155,699	2,284,040	2,018,876
Estate Duty	923,908	1,441,819	1,179,513	991,378	1,172,955
Income Tax	10,376,456	12,848,123	14,351,403	16,790,682	12,904,518
Entertainments Tax	358,126	557,911	649,823	675,675	629,892
War Time Profits Tax	1,206,538	2,569,012	2,083,139	1,306,708	286,757
War Postage	463,317	745,962	197,928	..	..
Total	32,864,486	41,847,692	52,427,421	49,678,842	49,885,017
Public Works and Services—					
Postal	6,110,522	6,744,755	8,388,569	9,320,654	9,792,273
Railways	196,988	265,918	235,387	217,301	230,126
Commonwealth Steamers	1,015,762	..	137,959	..	..
Detained Enemy Vessels	1,671,905	344,411	131,763	..	..
Other	156,321	218,209	141,418	4,094	14,340
Total	9,151,498	7,573,293	9,035,096	9,542,049	10,036,749
Other Revenue—					
Interest, Discount, etc.	1,479,426	1,589,347	1,996,012	2,361,137	2,574,962
Coinage	125,634	76,439	106,373	178,439	137,696
Defence	262,786	183,227	185,649	150,297	223,402
Quarantine	44,118	62,053	42,972	42,639	41,388
Territories, (a)	97,873	65,206	97,575	77,844	28,189
Patents, etc.	23,623	34,067	40,639	41,393	40,491
Lighthouses	125,231	153,992	180,105	171,967	173,383
Pension Contributions	51,763	57,642	54,632	57,489	58,205
Defence Trust Account	185,082	270,504	116,329	203,085	102,419
Unexpended Balances of London Orders	185,746	708,264	696,095	..	..
Net Profit on Australian Note Issue .. .. .	..	..	394,016	1,261,482	1,072,893
Miscellaneous	119,652	161,376	162,694	1,130,383	345,861
Total	2,700,934	3,362,117	4,055,091	5,676,155	4,798,899
Grand Total	44,716,918	52,783,102	65,517,608	64,897,046	64,720,635

(a) Exclusive of Railways, and other items which appear elsewhere under their appropriate headings.

The revenue from taxation reached its highest point in 1920-21 with upwards of £52,400,000. The total taxation for 1921-22 was nearly £3,000,000 less than that for 1920-21, while that for 1922-23 was slightly above the total for 1921-22. The postal receipts have shown a consistent upward tendency, and there was also a large addition to the revenue in several years by the operations of the Commonwealth steamers, detained enemy vessels, and other activities. During the last two financial years, however, the operations of the shipping line have resulted in a deficit. The large amount for 1921-22, under the head of "Miscellaneous," includes £835,000, payment on account of the Army of Occupation.

(ii) *Taxation.*—(a) *Customs Revenue.* Particulars for the five years 1918-19 to 1922-23 are furnished in the following table:—

COMMONWEALTH CUSTOMS REVENUE, 1918-19 TO 1922-23.

Classes.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Stimulants	1,455,667	1,880,531	1,773,103	1,981,882	2,294,264
Narcotics	1,268,357	1,590,450	1,533,860	1,619,916	1,699,023
Sugar	107,965	(a) 7,229	3,193	9,991	10,723
Agricultural products	515,236	726,360	819,842	951,816	1,156,209
Apparel and textiles ..	3,422,371	3,444,292	6,195,545	4,514,541	5,825,461
Metals and machinery	1,603,767	2,165,221	4,728,937	3,324,601	3,732,677
Oils, paints, etc. ..	319,043	311,022	542,619	409,768	563,257
Earthenware, etc. ..	248,664	280,064	643,731	503,941	557,017
Drugs and chemicals ..	219,532	289,437	420,327	395,777	536,975
Wood, wicker and cane	214,715	274,500	540,638	552,842	1,054,543
Jewellery, etc. ..	334,986	413,134	704,749	525,207	723,180
Leather, etc. ..	466,589	576,106	690,455	482,389	1,131,572
Paper and stationery ..	506,662	467,623	1,091,173	633,261	746,906
Vehicles	337,334	625,498	1,033,006	718,080	1,553,355
Musical instruments ..	110,850	142,082	239,822	170,859	248,467
Miscellaneous articles	425,349	477,612	718,752	480,461	706,572
Other receipts	48,323	48,517	51,458	52,978	57,105
Total Customs ..	11,605,410	13,705,220	21,731,210	17,328,310	22,597,306

(a) Debit.

The receipts from this source in 1920-21 were abnormally high owing to the fulfilment of large numbers of contracts from abroad before the anticipated time. The large increase in 1922-23 over previous years may be ascribed to the increase in imports due to a considerable extent to heavy borrowings abroad by the Commonwealth and State Governments.

(b) *Excise Revenue.* Particulars concerning the amount of Excise collected under each head during each of the years ending 30th June, 1919, to 1923, are given hereunder:—

COMMONWEALTH EXCISE REVENUE, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Beer	2,862,760	3,702,442	5,439,339	5,473,220	5,498,800
Spirits	1,098,440	1,609,065	1,558,766	1,510,432	1,617,975
Tobacco	1,847,661	2,545,214	3,055,308	3,288,852	3,124,926
Licences	12,699	12,598	12,569	12,716	12,780
Starch .. ..	..	20	12,714	16,829	20,342
Total Excise ..	5,821,560	7,869,339	10,078,696	10,302,049	10,274,823

Comparing the Excise collections for 1922-23 with those for 1918-19, it will be seen that the revenue from beer nearly doubled in the period under review, while that from tobacco has increased by nearly 70 per cent. The large increase in every item in the last four years is due to the operation of increased excise duties which came into force on 25th September, 1918.

(c) *Land Tax.* Details in regard to rates of tax, etc., will be found in Official Year Book No. 14 at the end of Section XX.

A table is appended showing the actual amounts received by the Treasury for five years. The yield of the tax has been remarkably constant for many years. The decrease of £265,164 in 1922-23 is due mainly to the abolition during the year of the additional 20 per cent. tax which was imposed under Act No. 30 of 1918.

COMMONWEALTH LAND TAX COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales ..	822,880	955,935	933,649	1,015,851	900,330
Victoria	885,084	818,769	865,001	910,764	748,016
Queensland	141,121	112,064	85,978	95,763	70,398
South Australia ..	153,789	118,318	166,260	174,983	181,893
Western Australia ..	64,378	60,613	63,349	45,820	80,952
Tasmania	41,918	44,607	41,462	40,859	37,287
Total	2,109,170	2,110,306	2,155,699	2,284,040	2,018,876

(d) *Estate Duty.* Collections from this source for the five years, 1918 to 1923, are given hereunder :—

COMMONWEALTH ESTATE DUTY COLLECTIONS, 1918-19 TO 1922-23.

Year.	N.S.W.	Vic. (b)	Q'land.	S. Aust.(a)	W. Aust.	Tas.	Total.
	£	£	£	£	£	£	£
1918-19 ..	307,499	377,872	56,909	131,488	28,638	21,502	923,908
1919-20 ..	399,896	700,629	60,670	144,077	99,826	36,720	1,441,818
1920-21 ..	385,070	432,281	98,054	171,450	76,516	16,142	1,179,513
1921-22 ..	363,731	372,126	97,785	82,698	39,865	35,173	991,378
1922-23 ..	483,616	397,489	100,158	132,833	41,455	17,384	1,172,935

(a) Including Northern Territory.

(b) Including Central Office.

(e) *Income Tax.* The first Commonwealth Income Tax was levied during the financial year 1915-16. The legislation on the subject comprises the Income Tax Assessment Act No. 34 of 1915, and subsequent amending Acts. Full details as to the original Acts are to be found in Commonwealth Official Year Book No. 9. The result of the last five years' collections was as follows :—

COMMONWEALTH INCOME TAX COLLECTIONS, 1918-19 TO 1922-23.

States.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales ..	3,674,633	4,291,947	4,920,154	5,273,221	4,274,432
Victoria (a)	3,966,829	5,325,003	5,867,958	7,312,618	5,525,429
Queensland	1,206,051	1,446,503	1,269,242	1,547,138	1,209,829
South Australia ..	803,950	906,837	1,382,029	1,494,210	1,072,821
Western Australia ..	487,842	558,026	557,277	692,339	524,781
Tasmania	234,066	318,051	350,382	463,421	292,641
Northern Territory ..	3,085	1,757	4,366	7,735	4,585
Total	10,376,456	12,848,124	14,351,408	16,790,682	12,904,518

(a) Including Central Office.

The steady rise from 1918-19 to 1921-22 was due in part to increases in the rates of tax, and in part to the increase in money incomes associated with rising prices. The large decrease in the collection for 1922-23 is accounted for mainly by the raising of the exemption to £200, the introduction of the averaging system, the reduction of rates under Act No. 38 of 1922, and the decision to exempt bonus shares not paid out of current profits for all previous years.

Agreements between the Commonwealth and all the States except Western Australia were made in 1923 with respect to the collection of Commonwealth Income Tax. These agreements came into operation in the cases of New South Wales, Victoria and South Australia on 1st July, 1923, Tasmania on 10th October, and Queensland on 31st October, 1923.

It is provided in each agreement that the Commonwealth Tax and the State Tax shall be collected by an officer acting for the Commonwealth and State, the Commonwealth appointing the State Commissioner as Deputy Commissioner for the State under the Income Tax Assessment Act of the Commonwealth.

Provisions are included relating to the transfer of officers, the accounting of receipts and for the division of expenses. A joint form of Income Tax return is to be used in cases where the income is derived only in one State.

The respective agreements are to remain in operation for a period of five years and thereafter until the expiration of not less than six calendar months upon notice being given in writing by either party to the agreement.

In Western Australia an arrangement was made previously by which the Commonwealth undertakes the collection of the State Income Tax.

(f) *Entertainments Tax.* The rate of Entertainments Tax, according to Amending Act No. 15 of 1922 which came into force on the 2nd October, 1922, is as follows:—For tickets of 1s., 1d.; exceeding 1s., 1d. for the first shilling, and $\frac{3}{4}$ d. for every subsequent sixpence or part of sixpence. The collections for the last five years are given hereunder.

The decrease of £45,873 for 1922-23 as compared with 1921-22 is explained by the exclusion from taxation as from the 2nd October 1922, of amounts for admission under one shilling.

COMMONWEALTH ENTERTAINMENTS TAX COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales	136,932	234,327	272,373	276,786	256,755
Victoria	110,815	176,411	203,781	222,210	208,240
Queensland	45,930	62,671	75,332	75,048	66,512
South Australia	27,534	38,990	42,210	45,925	45,015
Western Australia	27,934	34,210	39,716	38,420	37,605
Tasmania	8,680	10,993	16,266	17,193	15,589
Northern Territory	301	309	150	93	86
Total	358,126	557,911	649,828	675,675	629,802

(g) *War-Time Profits Tax.* This tax came into force on the 22nd September, 1917. It provides for a tax on the amount by which the profits made in the war-time financial year (1st July to 30th June following), exceeds the pre-war standard of profits, which may be either:—(a) the average profits of two of the three years before 4th August, 1917, or (b) 10 per cent. on the capital employed in the business. The tax in respect of profits derived in the financial year 1st July, 1915, to 30th June, 1916, was 50 per cent., and in all subsequent years 75 per cent. The collections for the last five years are given in the accompanying table. The original section 2 of the War Time Profits Tax Assessment Act stated that this Act would apply to the profits of any business arising up to 30th

June next after the Declaration of Peace in connexion with the late war. Subsequent to the signing of the armistice, on 11th November, 1918, the section was amended to accord with that intention, and thus fixed the final application of the Act to profits arising during the year ended 30th June, 1919. The figures for subsequent years represent delayed collections under this Act.

COMMONWEALTH WAR-TIME PROFITS TAX COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales	524,658	880,442	784,339	376,480	43,524
Victoria (a)	364,572	1,066,161	930,927	687,211	168,255
Queensland	125,329	230,283	122,728	83,892	70,402
South Australia	137,641	243,527	144,198	86,603	Dr. 15,302
Western Australia	15,940	105,517	85,255	44,351	15,377
Tasmania	38,398	43,083	15,692	28,172	4,501
Total	1,206,538	2,569,013	2,083,139	1,306,709	286,757

(a) Including Central Office. (b) Including Northern Territory, £2,365.

(h) *War Postage.* This was a new source of revenue derived from an additional halfpenny rate imposed on postages from the 28th October, 1918. The amount credited to "War Postage" is the excess over the normal increase of revenue from postage. The amount collected for the balance of the financial year 1918-19 was £463,317, and in 1919-20 it was £745,962. In 1920-21 it fell to £197,928, as credits under this head of revenue ceased on 1st October, 1920.

(iii) *Public Works and Services.*—(a) *Postal Revenue.* Particulars concerning this branch of revenue for each of the financial years from 1918-19 to 1922-23 are contained in the following table:—

COMMONWEALTH POSTAL REVENUE, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Private boxes and bags ..	35,672	37,188	40,044	42,606	44,542
Commission—					
Money orders and postal notes	133,955	147,175	169,256	172,861	179,571
Telegraphs	1,103,664	1,274,527	1,369,922	1,375,584	1,405,664
Telephones	1,876,928	2,159,449	2,431,980	2,724,552	2,983,069
Postage	2,726,524	2,874,730	4,142,781	4,682,964	4,913,162
Radio Receipts	(a)	(a)	12,052	25,995	7,711
Miscellaneous	233,779	251,686	222,534	296,092	258,554
Total	6,110,522	6,744,755	8,388,569	9,320,654	9,792,273

(a) Credited to Navy Revenue.

The item "Miscellaneous" includes a subsidy from the Commonwealth Bank for the conduct of Savings Bank business, the mail transit rates, and certain allowances.

(b) *Railway Revenue.* The Commonwealth Government is responsible for four lines, the Kalgoorlie-Port Augusta, the Port Augusta-Oodnadatta, the Darwin-Katherine River, and the Federal Capital Territory line. The appended table shows the amounts paid into the credit of the Consolidated Revenue Fund on account of each of these railways for the past five years. Under an arrangement which came into effect on 1st

January, 1914, the Port Augusta—Oodnadatta Railway is worked by the South Australian Government, and the Commonwealth Government receives the profit, if any, on the working, or pays the deficiency. Since 1914 there has always been a deficiency, which is met by a payment from the Commonwealth Government.

COMMONWEALTH RAILWAY REVENUE, 1918-19 TO 1922-23.

Railway.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Kalgoorlie-Port Augusta ..	150,856	233,564	221,386	201,084	215,368
Port Augusta-Oodnadatta ..	..	..	..	..	..
Darwin-Katherine River ..	45,725	31,783	12,761	14,370	14,768
Federal Capital Territory ..	407	571	1,240	1,847	(a)
Total	196,988	265,918	235,387	217,301	230,136

(a) Not available.

(c) *Commonwealth Steamships.* About the end of June, 1916, the Commonwealth Government announced that owing to the difficulty of obtaining tonnage and to increasing freight charges it had purchased fifteen steamers to insure to producers, as far as possible, the transport of their produce. The price given was rather more than £2,000,000, the capital cost brought forward from 30th June, 1917, being £2,080,656. The profits for the year 1916-17 amounted to £327,336, and for the year 1917-18 to £576,164, a total of £903,500. Out of this amount the sum of £880,000 was, with the approval of the Treasurer, transferred in 1917-18 from the Trust Account to Consolidated Revenue. The Consolidated Revenue benefited further in 1918-19, the surplus earnings being £1,015,762. In the years 1919 to 1921 there was not a sufficient balance in the Trust Account to allow of a transfer to Consolidated Revenue, these transfers being taken from Cash Balances and not from Revenue Account Balances, as disclosed by the Profit and Loss and Balance-sheet Statements of the line. For the year 1921-22, the earnings including those of the detained enemy vessels were £2,274,204, and the expenditure £2,795,241, leaving a loss of £521,037 on the year's operations.

(d) *Other Public Works and Services.* The most important items in 1918-19 were "Profit under Wool Tops Agreement" £141,008, and "Profit on charter of vessels" £15,000. In 1919-20 they were "Profit under Cornsacks Distribution Account" £130,472, and "Profit under Wool Tops Agreement" £78,273. In 1922-23 they were "Profit under Wool Tops Agreement" *Dr.* £29,926, and Sale of Dyes, £13,851.

(iv) *Other Sources of Revenue.* (a) *Interest, Discount, etc.* The most important investments of the Commonwealth Government from which interest is derived are—Loans to States, General Trust Funds, Loans to the London Market, Fixed Deposits with the Commonwealth and other Banks, and certain advances and overdrafts. In 1919-20, the main receipts from this source were—Interest on Loans and Advances to States, £967,538; Interest on Bank Deposits, £210,873; and Interest on General Trust Funds, £176,701. In 1920-21 they were Interest on Loans and Advances to States, £1,482,569; Interest on General Trust Fund Investments, £243,115; and Interest on Bank Deposits, £165,000. In 1922-23 they included Interest on Loans and Advances to States, £2,102,618; Interest on General Trust Fund Investments, £216,276; Interest on Bank Deposits, £109,970; and Interest, Nauru Island Agreement, £120,128.

(b) *Coinage.* The Commonwealth Revenue under this head is derived from profit on coin issued, and for 1922-23 was made up of £115,403 for silver and £22,293 for bronze.

(c) *Defence.* The income from this source (which is derived from both Defence and Navy Offices) is mainly derived from sales of material and stores supplied, forfeitures, fines, costs, etc. In 1922-23, £119,889 was contributed by the Defence Department, and £103,513 by the Navy Office.

(d) *Patents, etc.* This heading includes Patents, Trade Marks, Copyright and Designs. In 1922-23, £29,873 was obtained from Patents, and £10,618 from Trade Marks, Copyright and Designs.

(e) *Defence Trust Account.* This is credited with receipts from Parliamentary appropriations, and from the Departments and the public for work done and material supplied. In the year 1922–23 the total receipts amounted to £429,089, and the expenditure to £326,870, leaving a balance of £102,419.

(f) *Unexpended Balance of London Orders.* The largely increased amount for the two years 1919–20 and 1920–21 is due to an amendment by the Treasury of the London Account Regulations, which superseded the system of charging votes upon the remittance of amounts from the Commonwealth, and made such charge only when payment in London was actually completed. This necessitated the closing of the Trust Account for London Liabilities, and the transfer of unexpended balances to the revenue. There were no unexpended balances in 1921–22 and 1922–23.

(g) *Miscellaneous.* This includes several items which are either small in themselves, or not included under separate headings, as they are virtually non-recurring. Thus in 1922–23 there was a payment into revenue of £168,709 on account of Sugar—Interest on Overdraft.

Division III.—Expenditure.

1. *Nature of Commonwealth Expenditure.*—The disbursements by the Commonwealth Government of the revenue collected by it fell naturally, under the “book-keeping”* system, into three classes, viz. :—

- (a) Expenditure on transferred services.
- (b) Expenditure on new services.
- (c) Payment to States of surplus revenue.

Of these three, only the first two were actual expenditure, the last being merely a transfer, the actual expenditure being incurred by the States. In accordance with the provisions of the Constitution, the expenditure on transferred services was, under the “book-keeping” system, debited to the several States in respect of which such expenditure was incurred, while the expenditure on new services was distributed *per capita*. Surplus Commonwealth revenue was paid to the States monthly. During the earlier years of Federation, viz., until the end of the year 1903–4, new works, etc., for transferred departments were treated as transferred expenditure, and were charged to the States on whose behalf the expenditure had been incurred. In subsequent years all such expenditure was regarded as expenditure on new services, and distributed amongst the States *per capita*. Under the arrangement, which superseded the “book-keeping” system, a specific subsidy of 25s. per head of population is made annually by the Commonwealth to the States, and there is no further debiting of expenditure to the several States.

2. *Total Expenditure.*—The total expenditure by the Commonwealth Government and the expenditure per head of population during the period 1918–19 to 1922–23 are shown in the following table :—

COMMONWEALTH EXPENDITURE, 1918–19 TO 1922–23.(a)

Particulars.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
Total	£ 45,119,680	£ 50,581,353	£ 64,624,087	£ 65,106,949	£ 63,700,485
Per head	£ s. d. 8 17 6	£ s. d. 9 10 8	£ s. d. 11 18 10	£ s. d. 11 16 3	£ s. d. 11 6 1

(a) Including expenditure from Trust Funds and subsidies to States.

The largely increased expenditure in recent years is due partly to Old-age and Invalid Pensions, but mainly to the expenditure from Revenue upon War Services and to the general rise in prices.

* For an exposition of the “book-keeping system” see Commonwealth Year Book No. 6, page 780.

3. Details of Expenditure from Consolidated Revenue.—(i) *General.* The following table gives details of the expenditure from Consolidated Revenue during the last five years. The amounts quoted for each Department represent the expenditure on behalf of that Department :—

**COMMONWEALTH EXPENDITURE—CONSOLIDATED REVENUE,
1918-19 TO 1922-23.**

Heads of Expenditure.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Cost of Departments—					
Governor-General	23,875	27,215	30,707	27,897	28,045
Parliament	245,713	348,415	323,359	346,192	446,464
Prime Minister	231,173	312,408	434,939	733,528	908,527
Attorney-General	94,686	111,007	132,446	148,045	162,797
Treasury	5,101,820	5,829,504	6,664,051	6,984,277	7,180,785
Trade and Customs	817,505	992,142	964,993	889,121	2,243,809
Defence	3,056,747	2,912,639	4,184,719	4,456,198	3,785,582
Postmaster-General	5,449,722	6,136,920	7,305,243	8,188,686	8,242,025
Home and Territories	489,163	478,281	746,569	695,708	526,033
Works and Railways	683,874	714,196	698,392	609,327	1,127,806
Health .. .. .	..	..	..	172,227	155,912
Total	16,194,278	17,862,727	21,485,418	23,251,206	24,807,285
Miscellaneous—					
New Works	405,656	335,154	2,098,203	2,571,794	720,927
War Services	21,255,101	24,751,731	33,239,063	31,337,164	30,100,472
Subsidies to States	6,454,333	6,720,492	6,840,163	7,035,535	7,185,551
Interest—State Loans Act	810,312	911,250	911,250	911,250	886,250
Total	28,925,402	32,718,627	43,138,669	41,855,743	38,893,200
Grand Total	45,119,680	50,581,354	64,624,087	65,106,949	63,700,485

The figures for the Treasury Department in this table are much larger than those shown in previous issues of this Year Book. This is due to the fact that amounts paid in Pensions from the Trust Fund have been included above in the Treasury.

Some account of the items included under the above general heads is furnished in the succeeding sub-sections.

(ii) *Cost of Departments—(a) Governor-General.* Section 30 of the Constitution enacts that, until the Commonwealth Parliament otherwise provides, there shall be payable out of the Consolidated Revenue Fund for the salary of the Governor-General an annual sum of ten thousand pounds, and a proviso is made that the salary of the Governor-General shall not be altered during his continuance in office. The total expenditure in connexion with the Governor-General and establishment for the five years 1918-19 to 1922-23 is as follows :—

**EXPENDITURE.—GOVERNOR-GENERAL AND ESTABLISHMENT,
1918-19 TO 1922-23.**

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Salary	10,000	10,000	10,000	10,000	10,000
Governor-General's Establishment	4,390	9,243	13,127	11,708	11,046
Contingencies (a)	9,485	7,972	7,374	6,189	6,999
Interest on Commonwealth Treasury Bills .. .. .	..	..	206	..	..
Total	23,875	27,215	30,707	27,897	28,045

(a) Represents official services outside the Governor-General's personal interests, and carried out in the main at the instance of the Government.

(b) *Parliament.* Under this head have been grouped all the items of expenditure connected with the Parliamentary government of the Commonwealth for the five years 1918-19 to 1922-23.

EXPENDITURE.—COMMONWEALTH PARLIAMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Salaries of Ministers	15,300	15,231	15,368	15,300	14,598
Allowances to Senators	20,760	22,376	34,710	34,916	34,790
Allowances to Members of House of Representatives	42,261	40,993	69,133	69,395	65,275
Officers, staff, contingencies, etc. ..	37,584	40,182	51,661	63,253	61,484
Repairs, maintenance, etc.	1,568	1,663	1,686	2,529	1,800
Printing	26,863	21,347	23,810	24,912	23,108
Travelling expenses of Members and others	8,913	9,379	11,996	12,262	29,300
Insurance	342	342	342	342	342
Electoral Office	53,159	60,677	70,200	72,816	78,706
Election expenses	2,459	98,110	3,037	5,201	89,808
Administration of Electoral Act	31,460	33,859	28,477	42,548	44,703
Miscellaneous	5,044	4,256	12,939	2,718	2,550
Total	245,713	348,415	323,359	346,192	446,464

In section 66 of the Constitution, provision is made for payment out of the Consolidated Revenue Fund of the Commonwealth, for the salaries of Ministers of State, of an annual sum which, until Parliament otherwise provides, shall not exceed £12,000. This was modified in 1915-16, when the Minister of the Navy was given separate Cabinet rank. Allowances to senators and members of the House of Representatives are also provided for in the Constitution, section 48 of which specifies that until Parliament otherwise provides, each such allowance shall consist of £400 a year reckoned from the day on which the member takes his seat. During the second session of the Parliament in 1907 an Act was passed raising the annual allowance from £400 to £600, such increase to date from 1st July, 1907. In 1920, the salaries of members of both Houses were further increased to £1,000 per annum.

(c) *Prime Minister's Department.* This department was created during the financial year 1911-12. In addition to the Prime Minister's Office it includes the Audit Office taken from the Treasury, the Executive Council taken from the External Affairs Department, the Public Service Commissioner's Office taken from the Home Affairs Department, and Commonwealth Shipbuilding. In 1916-17 it assumed control of the High Commissioner's Office in London, which was detached from the old External Affairs Department when the latter was merged in the Home and Territories Department. It has recently enlarged its activities by administering the affairs of the Mandated Territory of Nauru. The expenditure for the last five years is shown in the following table:—

EXPENDITURE.—PRIME MINISTER'S DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Salaries, contingencies, etc.	33,328	29,125	32,876	38,191	38,896
Executive Council	177	210	250	165	..
Audit Office	25,486	27,745	32,211	34,689	34,754
Rent, repairs, etc.	7,028	6,997	7,214	9,021	7,710
Public Service Commissioner's Office ..	23,129	26,757	30,546	34,960	33,745
High Commissioner's Office, London ..	57,106	66,037	75,764	69,417	59,024
Australian Commissioner's Office, New York .. ..	..	15,727	12,215	9,353	6,466
Interest on Commonwealth Securities	25,781	27,464	21,620	204,316	439,054
Sinking Fund on Commonwealth Securities	2,433	2,433	433	550	31,013
Mail Service to Pacific Islands	28,800	21,600	43,501	49,167	46,805
Contribution to Secretariat, League of Nations .. ..	..	..	68,350	40,984	37,470
Immigration .. ..	..	..	..	72,175	69,560
Interest on Transferred Properties .. ..	..	..	..	30,370	30,370
Miscellaneous	27,905	88,313	109,959	140,170	73,660
Total	231,173	312,408	434,939	733,528	908,527

The "Miscellaneous" vote for 1919-20 included £32,979 as a grant for the relief of distress caused by the maritime strike; £17,301 for the expenses incurred during the visit of the Prince of Wales; £10,994 for the Basic Wage Commission; and £10,000 as a reward to Sir Ross Smith. In 1920-21 the largest single item was one of £50,371, representing the balance of the expenses of the visit of the Prince of Wales. The remaining items included £10,881 for Basic Wage Commission; £5,418 for Conferences on Coal Industry disputes; £5,802 for Commonwealth representation at Geneva Conference; and £4,000 for Imperial Mineral Resources Bureau Grant. In 1921-22 it included £49,070 for relief of distress in Europe, and £32,500 as payment to the South African Government on account of wheat.

The agreement with the Amalgamated Wireless Limited for the upkeep of Coastal Stations accounted for £47,330 of the "Miscellaneous" vote in 1922-23.

(d) *Attorney-General's Department.* The extra expenditure connected with this Department of late years has been caused in large measure by the extension of the Federal High Court, and an increase in the item "Patents, Trade Marks, etc." Details for the five years 1918-19 to 1922-23 are furnished hereunder:—

EXPENDITURE.—ATTORNEY-GENERAL'S DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Attorney-General's Office	11,510	14,492	15,558	18,358	20,010
Crown Solicitor's Office	12,943	16,042	17,879	18,248	18,829
Salaries of Justices of High Court	21,500	22,448	21,556	21,500	21,500
High Court expenses	8,837	11,922	12,925	12,276	13,957
Court of Conciliation and Arbitration	6,242	7,650	9,112	4,949	11,182
Rent, repairs, etc.	4,839	4,733	5,889	8,200	12,797
Patents, Trade Marks, etc.	23,875	32,321	42,389	43,602	43,973
Investigation Branch .. ..	..	..	4,244	7,496	7,904
Public Service Arbitrator's Office .. ..	..	..	1,036	4,524	3,604
Miscellaneous	4,940	1,399	1,858	8,892	9,041
Total	94,686	111,007	132,446	148,045	162,797

(e) *Treasurer's Department.*—The sub-departments under the control of the Commonwealth Treasurer are the Treasury, the Pensions Department, the Taxation Office, the Supply and Tender Board and Superannuation. Details of the expenditure of this Department for the last five years are given in the following table:—

EXPENDITURE.—TREASURER'S DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Treasury	32,072	48,393	61,139	56,084	50,698
Taxation Office	311,330	375,710	513,422	592,149	576,424
Pensions Office	61,406	73,509	85,016	88,687	84,535
Maternity Allowance Office	11,209	12,708	15,902	15,143	15,764
Coinage	18,411	18,956	33,981	50,785	31,979
Rent, Repairs, etc.	18,715	25,676	28,090	33,002	29,426
Interest on Commonwealth Securities .. ..	..	..	41,223	..	..
Miscellaneous	93,597	29,132	34,277	77,693	(b) 279,508
Departmental Expenditure	546,740	584,084	813,050	913,543	1,068,334
Invalid and Old-age Pensions (a)	3,879,240	4,546,880	5,074,336	5,290,056	5,337,936
Maternity Allowance	620,080	625,865	700,760	690,700	688,435
Maintenance of persons in charitable institutions	55,760	72,675	75,905	89,978	86,080
Total	5,101,820	5,829,504	6,664,051	6,984,277	7,180,785

(a) Including the following amounts spent from Trust Funds:—In 1918-19, £3,879,241; in 1919-20, £3,850,425; in 1920-21, £2,900,000; in 1921-22, £4,417,704; and in 1922-23, £3,204,212; (b) Including Taxation Officers' Compensation, £200,000.

The increase in the departmental expenditure is largely on account of the Taxation Office. The "Miscellaneous" vote for 1918-19 included £78,344, temporary credits under certain Trust Fund accounts. For 1921-22 it included a loan of £25,000 to the Returned Soldiers' Woollen Company, and £11,034 for the Royal Commission on Taxation. For 1922-23 it included a loan of £25,000 to the Returned Soldiers' Woollen Company and £200,000, Taxation Officers' Compensation.

(f) *Trade and Customs.* Under this head have been included the expenditure of all the sub-departments under the control of the Minister of Trade and Customs, as well as the amounts payable as sugar and other bounties and the expenses in connexion therewith. The administration of Patents, Trade Marks, and Copyright is now entrusted to the Attorney-General's Department, and that of Quarantine to the new Department of Health. Particulars for the five years 1918-19 to 1922-23 are given in the following table:—

EXPENDITURE.—TRADE AND CUSTOMS DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Chief Office	29,404	37,362	43,861	68,677	70,037
Customs (ordinary)	350,253	399,534	460,187	477,566	439,462
Navigation	211	1,479	8,100	18,188	25,426
Analyst	4,804	5,637	5,663	5,794	5,829
Audit (proportion)	4,617	5,538	7,940	6,869	9,371
Quarantine	150,820	100,030	100,583	..	..
Pensions and retiring allowances ..	17,213	17,186	16,803	16,946	18,736
Rents, repairs, etc.	18,066	20,933	24,386	23,089	21,445
Sugar and other bounties	30,460	16,292	24,406	29,793	192,114
Inter-State Commission	12,007	10,545	3,650	..	..
Lighthouses	137,364	147,349	168,314	160,518	162,946
Interest on transferred properties	43,951	77,795	71,469	42,497	47,162
Interest on Commonwealth securities	2,200	3,267	3,501	1,741	4,943
Bureau of Commerce and Industry ..	..	3,774	5,160	5,000	4,659
Institute of Science and Industry ..	13,131	13,109	16,042	17,201	22,591
Miscellaneous	3,004	132,312	4,928	15,242	1,219,088
Total	817,505	992,142	964,993	889,121	2,243,809

The large "Miscellaneous" vote in 1919-20 is due to an item of £130,036 paid to the Australian Wheat Board as profit on cornsacks, while that in 1922-23 includes Loans for purchase of Wire Netting, £250,000, and Losses and Advances on Fruit Pools, £863,000.

(g) *Defence.* The expenditure in connexion with Defence, which in 1901-2 amounted to £861,218, had by 1922-23 grown to £3,785,582. Expenditure on the Air Service is included for the first time in 1920-21. Particulars for the last five years are as follows:—

EXPENDITURE.—DEFENCE, COMMONWEALTH, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Chief Office	86,832	108,429	125,491	150,384	89,732
Military	1,153,036	914,089	1,276,531	1,386,042	1,230,378
Naval	1,506,897	1,562,029	2,367,748	2,198,268	1,942,227
Air Services .. .. .	..	..	62,888	155,282	179,337
Audit (proportion)	10,118	16,104	17,298	15,032	14,374
Pensions and retiring allowances	1,392	1,202	2,162	2,633	2,921
Rents, Repairs, etc.	79,222	78,461	108,728	107,312	92,894
Interest on transferred properties	136,699	130,471	122,325	93,586	97,112
Interest on Commonwealth securities	48,440	71,005	71,433	18,776	84,756
Miscellaneous	34,111	30,849	30,115	328,883	51,851
Total	3,056,747	2,912,639	4,184,719	4,456,198	3,785,582

The large sum under "Miscellaneous" for 1921-22 includes £300,000 for compensation under the Defence Retirement Act.

(h) *Postmaster-General's Department.* Details of the expenditure of this Department for the last five years are given in the table hereunder :—

EXPENDITURE.—POSTAL DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Chief Office	23,189	25,842	30,949	33,954	37,800
Postal Department (ordinary)	5,015,429	5,681,340	6,844,979	7,722,459	7,556,391
Audit (proportion)	2,888	6,224	8,182	8,927	10,293
Pensions and retiring allowances	64,720	67,842	75,057	81,171	84,057
Rents, repairs, etc.	60,756	62,415	86,824	101,047	123,405
Interest on transferred properties	210,908	214,815	186,070	186,752	193,103
Interest on Commonwealth Securities	46,420	52,832	49,562	19,516	90,421
Sinking Fund on Commonwealth Securities	16,271	16,271	16,193	16,193	23,218
Miscellaneous	9,141	9,389	7,427	18,667	123,337
Total	5,449,722	6,136,920	7,305,243	8,188,686	8,242,025

The "Miscellaneous" item for 1922-23 includes £47,330 for upkeep of coastal wireless stations.

(i) *Home and Territories.* Under this Department, created in the financial year 1916-17, is placed the bulk of the old External Affairs Department (after the removal of the London office), the Census and Statistics, and Meteorological Offices, taken from the old Home Affairs Department, and the Mandated Territory of New Guinea. The Darwin-Katherine River Railway is administered by the Works and Railways Department.

EXPENDITURE.—HOME AND TERRITORIES DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Chief Office	16,156	18,528	21,756	21,594	21,141
Census and Statistics	16,248	16,795	17,713	18,936	20,438
Meteorological Branch	28,209	29,706	84,923	88,932	80,911
Lands and Survey	15,935	17,280	22,236	22,226	15,124
Papua	51,260	51,492	62,656	179,245	80,894
Rents, repairs, etc.	14,905	13,207	16,380	15,941	23,128
Northern Territory	213,649	186,782	232,011	193,950	195,886
Federal Capital Territory	24,142	25,482	26,828	32,741	..
Norfolk Island	3,000	3,000	3,000	3,000	3,500
Interest on Commonwealth Securities (a)	84,881	91,572	54,032	34,280	46,843
Sinking Fund, Commonwealth Securities (a)	5,853	5,853	2,612	2,535	4,346
Miscellaneous	14,925	18,584	202,422	82,328	33,822
Total	489,163	478,281	746,569	695,708	526,033

(a) Includes Northern Territory.

The large "Miscellaneous" item in 1920-21 includes £149,150 special expenditure on the Census of 1921.

(j) *Works and Railways Department.* The extension of Commonwealth Works and Railways led, in 1916-17, to the separation of these branches from the former Home Affairs Department and the constitution of a separate Department which also administers the railways which were formerly under the control of the former External Affairs Department. The expenditure for the last five years was as follows:—

EXPENDITURE.—WORKS AND RAILWAYS DEPARTMENT, 1918-19 TO 1922-23.

Details.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Chief Office	36,594	39,770	45,317	31,724	32,939
Kalgoorlie-Port Augusta Railway	237,204	264,798	292,168	255,776	249,289
Port Augusta-Oodnadatta Rail- way, and Northern Territory Railways	162,077	159,456	156,900	180,034	183,293
Interest on transferred properties	403	403	374	374	..
Interest on Commonwealth Se- curities	226,083	232,948	174,002	100,408	127,717
Sinking Fund on Commonwealth Securities	11,957	11,957	13,200	13,200	16,178
Rent, repairs, etc.	2,957	3,286	4,670	4,544	5,526
Royal Commission—Unification of Gauge .. .. .	..	..	6,287	9,229	449
Main Roads Development .. .. .	..	..	..	..	500,000
Miscellaneous	6,599	1,578	5,474	14,038	11,915
Total	683,874	714,196	698,392	609,327	1,127,306

(k) *Health Department.* This department came into existence in the financial year 1921-22. Details of expenditure are as follow:—

EXPENDITURE.—HEALTH DEPARTMENT, 1921-22 and 1922-23.

Details.	1921-22.	1922-23.
	£	£
Central Administration	9,601	8,486
Salaries, Contingencies, etc.	134,934	114,429
Interest on Treasury Bills	87	965
Interest on Transferred Properties.. .. .	6,909	7,979
Rent and Repairs	10,065	14,858
Miscellaneous	10,631	9,195
Total	172,227	155,912

(iii) *Miscellaneous.* (a) *New Works.* Particulars of the expenditure on new works, etc., during the last five years are given in the following table :—

EXPENDITURE ON NEW WORKS, 1918-19 TO 1922-23.

Department.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Parliament .. .. .	..	..	700	2,086	..
Prime Minister .. .. .	..	..	1,653	1,029	143
Treasury	609	1	5,832	54,242	..
Trade and Customs	38,542	12,104	28,103	7,249	3,609
Defence	97,018	116,663	1,097,062	1,507,758	460,734
Postmaster-General	239,643	184,788	940,917	940,114	221,709
Home and Territories	22,156	21,439	23,564	31,463	13,885
Works and Railways	7,688	159	372	109	..
Health .. .. .	..	..	..	27,744	20,847
Total	405,656	335,154	2,098,203	2,571,794	720,927

(b) *War Services.* Full details concerning the expenditure from Consolidated Revenue upon War and Repatriation will be found in a later sub-section.

(c) *Interest—State Loans Act.* The amount of £886,250 is the interest on the sum of £16,750,000 borrowed by the Commonwealth in London and advanced to the States (except New South Wales). Of this amount £4,000,000 carried interest at 4 per cent., and £12,750,000 at 5½ per cent.

Division IV.—Subsidy Paid to States.

I. *Payments to the Several States.*—The following table furnishes particulars of the subsidies paid to the States on account of each of the financial years 1918-19 to 1922-23 :—

COMMONWEALTH SUBSIDY PAID TO STATES, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales	2,380,139	2,472,717	2,533,234	2,632,036	2,690,198
Victoria	1,764,239	1,847,085	1,878,449	1,918,967	1,969,772
Queensland	856,300	895,454	912,628	952,728	978,673
South Australia	549,593	578,094	588,603	621,862	635,833
Western Australia	556,505	569,512	564,735	554,704	554,828
Tasmania	347,557	357,630	362,514	355,238	356,247
Total	6,454,333	6,720,492	6,840,163	7,035,535	7,185,551

The amounts of subsidy given in the table are based upon an annual payment of £1 5s. per capita, with special concessions to Western Australia and Tasmania, and are in accordance with the provisions of the "Commonwealth Surplus Revenue Act" passed in 1910 which came into effect on the 1st July of that year for a period of ten years, subject to revision on the expiration thereof. This period expired on the 30th June, 1920, and it was then possible for Parliament to extend the Act for a further period, or to enter into new financial relations with the States. The "per capita" payment has been continued provisionally up to the present time.

§ 3. Trust Fund and Miscellaneous.

1. **Trust Accounts.**—The Trust Fund credit balance on 30th June, 1923, amounted to £17,569,701, as compared with £13,740,016 for the corresponding date in the year ending 30th June, 1922. Details concerning the most important trust accounts are contained in the following table :—

COMMONWEALTH TRUST FUND AT 30th JUNE, 1923.

Trust Accounts.	Balance at 30th June, 1923.	Trust Accounts.	Balance at 30th June, 1923.
	£		£
Australian Notes and Bond Printing ..	47,799	Northern Territory	121,473
Australian Soldiers' Repatriation ..	457,000	Other Trust Moneys	714,092
Australian Soldiers Repatriation Con- tribution	155,584	Port Augusta Railway Sinking Fund	6,669
Australian War Records Publications ..	17,789	Public Trustee	215,098
Cockatoo Island Dockyard	245,809	Railway Plant and Stores Suspense	84,746
Commonwealth Government Ships ..	Dr. 3,893	Railway Provision Stores	12,006
Defence—Clothing Material	174,224	Ships Insurance	36,994
Compensation	3,297	Small Arms Ammunition Factory ..	13,300
Small Arms	26,832	State Loans Expenses Suspense ..	59,437
Small Arms Ammunition	192,773	Superannuation Fund	123,758
Stores London Liabilities	562,471	Suspense	7,869
Deferred Pay	372,770	Taxation Officers' Compensation ..	200,000
Fruit Pools	307,249	Treaty of Peace—Clearing Office Account	52,353
General Average Deposits	11,767	Liquidation Account	167,084
Insurance Lost Enemy Vessels	446,904	Unclaimed Militia Pay	19,530
International Postal and Money Order	155,709	War Loan Securities Repurchase ..	918,173
Invalid and Old-age Pensions	3,714,287	War Pensions	3,714,287
Loans Sinking Fund	2,150,253	War Savings Certificates Interest ..	187,105
Loans—Wire Netting	250,000	War Service Homes Insurance ..	44,472
London Loans Expense Suspense ..	213,100	Williamstown Dockyard	16,995
Main Roads Development	500,000	Miscellaneous	139,455
Money Order	678,000		
New Guinea Agency	30,093	Total	17,569,701

2. **London Flotations on behalf of States.**—Act No. 17 of 1916 authorized the Treasurer to borrow £8,940,000 in the United Kingdom, and Act No. 16 of 1917 to raise £8,000,000, also to lend the amount to the several States, other than New South Wales, and, pending the borrowing of the money, to advance the amounts set forth in the Acts out of loans made by the Government of the United Kingdom to the Commonwealth. In pursuance of these Acts, £16,750,000 was distributed to the States up to 30th June, 1923. The money was allocated as follows :—

COMMONWEALTH LOANS RAISED IN LONDON ON BEHALF OF STATES AS AT 30th JUNE, 1923.

State.	Amount.
	£
Victoria	1,954,000
Queensland	5,462,500
South Australia	4,116,000
Western Australia	4,150,500
Tasmania	1,067,000
Total	16,750,000

In addition to these amounts, the Commonwealth Government has made further advances to the States for various purposes which are set out as follows, the amounts representing what was outstanding at 30th June, 1923 :—

ADVANCES TO STATES AT 30th JUNE, 1923.

Advances to—	Amounts.	Total.
	£	£
Government of New South Wales—		
Settling returned soldiers	9,806,601	
Silos for wheat storage	1,000,000	10,806,601
Government of Victoria—		
Settling returned soldiers	11,799,840	
Providing employment	92,000	
Advances for Immigration	75,000	11,966,840
Government of Queensland—		
Settling returned soldiers	2,762,653	
Providing employment	400,000	
Forestry	71,132	3,233,785
Government of South Australia—		
Settling returned soldiers	2,833,380	
Providing employment	28,796	2,862,176
Government of Western Australia—		
Settling returned soldiers	4,831,722	
Advances for Immigration	250,000	5,081,722
Government of Tasmania—		
Settling returned soldiers	2,110,972	2,110,972
Total .. ..	..	36,062,096

3. Surplus Revenue.—Until the end of 1906–7, the balance of the Consolidated Revenue Fund was paid to the States. From 1907–8 until the abolition of the book-keeping provisions of the Constitution the States received only three-fourths of the net Customs and Excise Revenue, and the balance of the Consolidated Revenue Fund was transferred to the Invalid and Old-age Pensions Trust Account and the Naval Defence Trust Account to provide for expenditure in subsequent years. A statement of surpluses and deficiencies for the past five years is appended hereto.

COMMONWEALTH SURPLUS REVENUE, 1918–19 TO 1922–23.

Year.	Surplus.	Deficiency.	Accumulated Surplus at end of Year.
	£	£	£
1918–19 .. .. .	..	402,763	3,523,057
1919–20	2,201,749	..	5,724,806
1920–21	893,521	..	6,618,327
1921–22 .. .. .	..	209,903	6,408,424
1922–23	1,020,150	..	7,428,574

§ 4. Commonwealth Loan Funds and Public Debt.

1. General.—Although it was not until 1915 that the Federal Government came into the loan market as a borrower, there had previously existed a Commonwealth Public Debt which included several items, such as the balance of the debt taken over from South Australia and the money owing to the States for transferred properties. The debt still

includes the items mentioned, in addition to the General Loan Fund, the loans for military purposes, etc. In view of the large expansion of the Public Debt, and its present importance in Commonwealth public finance, the different items are treated seriatim in the following sub-sections.

2. Loans taken over from South Australia.—The first portions of the debt were contracted at the beginning of 1911, when the Commonwealth assumed responsibility for the payment of interest on transferred properties (further dealt with in sub-section 4) and also for the administration and the liabilities of the Northern Territory and the Port Augusta-Oodnadatta Railway. At 30th June, 1911, the debt on account of the former was £3,657,836, and on account of the latter, £2,274,486—a total of £5,932,322. As the securities fall in they are redeemed by the Commonwealth Government, the money required being taken from the Loan Fund. The item is thus constantly diminishing, and on 30th June, 1923, stood at £3,902,914, of which £2,209,169 was on account of the Northern Territory, and £1,693,745 on account of the railway.

3. Loan Fund for Public Works, etc.—Up to 1911 the Commonwealth Government had met its Public Works expenditure out of revenue. In that year, however, in view of the heavy prospective cost of the Transcontinental Railway and the Federal Capital Territory, it was decided to institute a Loan Fund similar to those of the States. The initiation of this Fund was greatly assisted by the fact that the Treasury at that time held a large quantity of gold, principally on behalf of the Australian Notes Account. Up to 30th June, 1914, the money required for loan expenditure was obtained mainly from this source at 3½ per cent., and inscribed stock of an equivalent value was created. Since the outbreak of war, the money required for the Loan Fund has been mainly obtained by the issue of Treasury Bills. The details of the expenditure for the last five years are given in the following table:—

COMMONWEALTH LOAN EXPENDITURE FOR WORKS, 1918 TO 1923.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Railways Construction—					
Trans-Australian Railway	156,187	138,164	76,009	69,072	82,500
Northern Territory	1,226c	2,539	1,654	6,436	7,651
Other	2,193	91c	4,258	8,946	12,997
Loan Redemption—					
Northern Territory	339,408	..	223,814	..	..
Papua—Railways and Wharves .. ..	..	..	20,000	15,700	47,720
Posts and Telegraphs—					
Purchase of land	1,692	596c	920	7,706	138,875
Construction of conduits, etc.	116,760	305,538	9c	795,085	2,059,523
Acquisition of land (a)—					
London	46,120	58,611	55,727	18,651	6,921
Perth	18,291	23,073	21,644	45,000	90,239
Federal Capital Territory	1,395	11,968	83,232	148,425	351,041
Elsewhere (b)	67,488	37,375	5,474	32,757	4,968
Defence Machinery; Dockyards, Cockatoo Island; Naval Bases, etc.	510,278	282,044	305,721	159,769	43,569
Ship Construction .. ..	..	..	2,999,630	3,369,118	1,815,713
General Arsenal; Small Arms, etc.; Cordite	58,761	350,616	153,083	181,095	27,525
Lighthouses	16,115	26,795	29,746	14,556	10,400
Contribution under River Murray Waters Act	55,760	39,241	56,722	112,372	176,921
Acetate of Lime Factory	18,001	..	2,420	..	..
Plant and Stores Suspense Account .. ..	..	..	..	..	..
Wireless Telegraphy	22,668	11,509	..	..	..
Immigration .. ..	..	..	..	133,848	199,483
Construction of Roads .. ..	..	..	..	..	217,944
Miscellaneous .. ..	..	..	61,681	127,967	86,962
Total	1,429,891	1,286,786	4,101,726	5,246,503d	5,383,949e

(a) Including cost of erection of buildings. (b) Excluding purchases for Posts and Telegraphs.
(c) Credited by repayment. (d) In addition, £7,007,107 was carried to General Loan Fund Redemption Account from which £6,185,028 was spent in redeeming Treasury Bills. (e) In addition, £243,135 was spent in redeeming Treasury Bills, and £4,000,000 for redemption of loans raised in London for the States.

4. **Properties Transferred from States.**—At the time of Federation, when the Commonwealth took over the control of a great many departments which had previously been administered by the States, a large amount of property was handed over to the Commonwealth Government. A valuation was made, with results set out in detail in Official Year Book No. 14, page 694, and the Commonwealth now pays interest to the States on account of all the transferred properties.

Since the valuation some transfers and retransfers have been made. The estimated value of the transferred properties for the last five years is given in the table in sub-section 7 hereinafter.

5. **War Loan from the Imperial Government.**—On the outbreak of the European war in 1914, the Commonwealth Government obtained a loan from the Imperial Government for the purpose of financing the prospective large military expenditure. At first, the arrangement was that the Imperial Government should advance the sum of £18,000,000 in twelve monthly instalments of £1,500,000 each. It was soon found, however, that this would be insufficient, and the Imperial Government made a fresh advance of £6,500,000, also to be paid in monthly instalments. A third loan of £25,000,000 was subsequently negotiated, of which £12,000,000 was received by 30th June, 1916, and £11,000,000 in 1916-17. In addition to this capital indebtedness, a further sum of £42,696,500 was due to the British Government for the maintenance of Australian troops.

The last item of nearly £43,000,000 remained unfunded until early in 1921. An arrangement was then concluded with the Imperial Government, by means of which almost the entire debt (nearly £92,500,000) was consolidated. The Commonwealth Government undertook to extinguish the debt by annual payments of approximately £5,550,000, spread over about 35 years, the payment representing 6 per cent. of the original debt. This provides for interest at nearly 5 per cent., and a sinking fund of a little more than 1 per cent., and may be regarded as a very satisfactory arrangement for the Commonwealth, since it entails only a moderate rate of interest, and provides for the ultimate extinction of nearly one-fourth of the National War Debt. The amount outstanding on 30th June, 1923, was £90,388,604, which will diminish steadily year by year owing to the operation of the sinking fund.

6. **Flotation of War Loans in Australia.**—In addition to the advances from the Imperial Government, the Commonwealth Government has raised large amounts of money for the prosecution of the war by direct application to the investing public of Australia.

Full details of the seven War Loans and the first Peace Loan are given in Official Year Book No. 14. In the financial year 1920-21 a second Peace Loan was floated with a currency of 10½ years and a rate of interest of 6 per cent. In the financial year 1921-22 a third Peace Loan was floated with a currency of 9½ years and a rate of interest of 6 per cent. It was issued at 96 and matures with the second Peace Loan on the 15th December, 1930. Totals for the ten issues are given in the tables hereunder. The first table refers to the gross total :—

COMMONWEALTH WAR LOANS LOCALLY RAISED.—TOTAL TO 30th JUNE, 1923.

Local Loans.	Number of Subscribers.			Amount Subscribed.		
	Inscribed Stock.	Treasury Bonds.	Total.	Inscribed Stock.	Treasury Bonds.	Total.
	No.	No.	No.	£	£	£
Total	123,683	710,069	833,752	132,601,940	117,570,500	250,172,440

The next table shows the net proceeds of the loans.

**COMMONWEALTH LOANS LOCALLY RAISED.—NET PROCEEDS TO 30th
JUNE, 1923.**

Local Loans.	Deductions.			Net Proceeds of Loan.
	Accrued Interest.	Flotation Expenses.	Total.	
Total	£ 2,800,642	£ 761,174	£ 3,561,816	£ 246,610,624

7. **Commonwealth Public Debt.**—(i) *Total Debt.* Separate consideration has already been given to the items composing the Public Debt. The table appended shows the debt of the Commonwealth (apart from the States) at yearly intervals since 1919.

COMMONWEALTH PUBLIC DEBT AS AT 30th JUNE, 1919 TO 1923.

Details.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Balance of loans taken over from South Australia—					
(a) On account of Northern Terri- tory	2,433,108	2,433,108	2,209,294	2,209,294	2,209,169
(b) On account of Oodnadatta rail- way	1,759,003	1,759,003	1,759,003	1,742,452	1,693,745
Value of properties transferred by States	11,202,619	11,440,462	11,536,139	11,186,169	11,042,987
Inscribed Stock	4,580,000	4,580,000	8,764,716	23,764,716	23,764,716
Treasury Bills	7,670,881	9,815,600	8,094,153	2,843,125	2,843,125
War Loan from British Government	49,082,059	49,082,059	92,480,156	91,453,288	90,388,004
Commonwealth Internal Loans	184,437,870	207,184,380	232,319,660	241,879,840	241,746,090
Accrued Deferred Pay, A.I.F.	5,500,000	260,000	14,720		
Loans raised on behalf of States	16,750,000	16,750,000	16,750,000	16,750,000	16,750,000
Gratuities		30,000,000	25,279,925	23,088,153	19,508,481
Miscellaneous	42,355,207	48,005,293	2,012,258	1,153,472	1,049,399
Total	325,770,747	381,309,905	401,720,024	416,070,509	410,996,316
Commonwealth Debt <i>per capita</i>	£63 7 6	£71 19 0	£73 12 9	£74 14 6	£72 5 2

It will be noticed that the amount of the Commonwealth Internal Loans falls somewhat short of the totals of the ten issues in the table immediately preceding the above. This is owing to the fact that stock to a considerable amount has been presented as payment of Estate Duty, and cancelled, the payments being accepted in accordance with the provisions of section 5 of the Commonwealth Inscribed Stock Act 1915. The amount of £241,746,090 is the balance of the ten issues. To this must be added £1,037,044 raised by the sale of War Savings Certificates, and £12,355 by the sale of War Savings Stamps. The item "Miscellaneous" in the year 1922-23 is made up of the last two amounts.

(ii) *Place of Flotation.* The loans taken over from South Australia, which constituted the first portion of the Federal Public Debt, included both London and Australian securities. The presence in the Treasury of a large holding of gold, and the moderate rate of interest ruling on gilt-edged securities, made the conditions in 1911 and for some little time afterwards very favourable for the flotation of local loans. London securities were redeemed as they fell due, and replaced by the 3½ per cent. stock of the Loan Fund. Consequently, up to 1914 the amount of the securities repayable in London fell steadily, and the amount repayable in Australia rose rapidly. In 1915 the military loan from the Imperial Government caused a sharp rise in the amount of the securities repayable in London, which was maintained in the two following years. This was, however, more than offset by the flotation of the local war loans. The appended table gives particulars

of Commonwealth loans which have been floated in London and Australia respectively during the last five years. A separate column is devoted to the cost of the transferred properties, which, for obvious reasons, it is impossible to allocate.

COMMONWEALTH PUBLIC DEBT.—PLACE OF FLOTATION, 1919 TO 1923.

At 30th June—	Payable in—		Value of Transferred Properties.	Total.
	London.	Australia.		
	£	£	£	£
1919	106,123,102	208,445,026	11,202,619	325,770,747
1920	111,680,602	258,188,841	11,440,462	381,309,905
1921	117,322,199	272,861,686	11,536,139	401,720,024
1922	131,278,780	273,605,560	11,186,169	416,070,509
1923	126,165,389	273,787,939	11,042,988	410,996,316

(iii) *Amount of Debt at Various Rates of Interest.* When the first debt was taken over from South Australia, it consisted mainly of securities varying from 3 per cent. to 4 per cent., the average rate of interest for the first year being £3 12s. 4d. For the first three years the increase in the debt was due almost entirely to the expansion of the 3½ per cent. stock of the Loan Fund, consequently the average rate of interest fell steadily, until on 30th June, 1914, it stood at £3 11s. 10d. Then came the loans for military purposes, and the fall in the average rate was ultimately converted into a rise which was steadily maintained until at 30th June, 1922, the average rate stood at £4 19s. 9d. At the 30th June, however, the average rate had fallen to £4 19s. 3d. per cent.

The accompanying table gives particulars of rates of interest for the five financial years ended 30th June, 1923 :—

COMMONWEALTH PUBLIC DEBT.—RATES OF INTEREST, 1919 TO 1923.

Rates of Interest.	At 30th June—				
	1919.	1920.	1921.	1922.	1923.
%	£	£	£	£	£
3	35,063	35,063	35,063	35,063	35,060
3½	17,217,534	17,455,377	15,469,528	15,119,558	14,976,377
£3/12/3	720,411	720,411	720,411	703,860	655,153
3¾	1,054,600	1,054,600	833,870	833,870	833,745
4	9,881,161	12,025,880	8,304,433	5,053,405	9,053,405
4½	192,766,897	192,130,633	126,769,038	122,093,692	120,835,510
£4/18/4 .. ..	.. ..	.. ..	92,480,156	91,453,288	90,388,604
5	87,345,081	111,137,941	64,576,210	61,280,220	67,298,328
5½	4,000,000	34,000,000	29,279,925	27,088,153	19,508,481
5¾	12,750,000	12,750,000	12,750,000	12,750,000	12,750,000
5¾ .. ..	.. ..	.. ..	2,000,000	.. ..	.. ..
6 .. ..	.. ..	.. ..	48,501,390	79,659,400	74,661,653
Total	325,770,747	381,309,905	401,720,024	416,070,509	410,996,316
Average rate of interest	£4/12/2	£4/13/7	£4/17/11	£4/19/9	£4/19/3]

(iv) *Amount of Interest Payable.* A table is appended showing the amounts payable as interest on the Commonwealth Public Debt as at 30th June in the years 1919 to 1923 inclusive. The rapid increase is due not only to the great expansion of the War Loan Fund, but also to the high rate of interest on recent loans.

COMMONWEALTH PUBLIC DEBT.—INTEREST PAYABLE, AS AT 30th JUNE.

Year.				Interest Payable.
				£
1919	..	..	..	15,017,497
1920	..	..	..	17,847,623
1921	..	..	..	19,668,320
1922	..	..	..	20,751,516
1923	..	..	..	20,468,766

(v) *Dates of Maturity.* The dates of maturity of the several portions of the Commonwealth debt are shown hereunder. The Commonwealth Government has refrained from issuing interminable stock, although as regards about 6 per cent of the debt no definite date of maturity had been assigned on 30th June, 1923. It will be noticed that about £212,000,000 falls due in the space of five years, 1923 to 1927, the bulk of this being represented by the balance of the first eight internal loans.

COMMONWEALTH PUBLIC DEBT.—DUE DATES OF AMOUNTS OUTSTANDING ON 30th JUNE, 1923.(a)

Due Dates.				Amounts.	Due Dates.				Amounts.
				£					£
1923	..	..	..	39,282,705	1937	..	..	..	1,200
1924	..	..	..	14,580,783	1938	..	..	..	18,376
1925	..	..	..	72,422,700	1939	..	..	..	151,448
1926	..	..	..	157,139	1941	..	..	..	15,000,000
1927	..	..	..	83,713,737	1945	..	..	..	5,000,000
1928	..	..	..	54,750	1972	..	..	..	3,764,716
1930	..	..	..	60,412,600	Indefinite	..	..	..	24,968,773
1933	..	..	..	39,387	Annual Repayments	..	..	..	90,388,604
1935	..	..	..	46,342					
1936	..	..	..	993,056	Total	..	..	..	410,996,316

(a) Those loans in the case of which the Government has the option of redemption during a specified period have been in each case classified according to the latest date of maturity.

The graphs accompanying this chapter illustrate the rise in the revenue, public debt and taxation of the Commonwealth and States since 1902, the year 1901-2 being the first complete financial year since Federation.

(vi) *Sinking Fund.* The Commonwealth Government has established a sinking fund against most of the securities which constitute its public debt. Part of the inscribed stock issued for works purposes carries a sinking fund of 5 per cent., and the remainder one of $\frac{1}{2}$ per cent. The internal issues carry sinking funds, partly of $\frac{1}{2}$ per cent., and

partly of 1 per cent. The War Savings Certificates carry a sinking fund of $\frac{1}{2}$ per cent., and the Northern Territory and Port Augusta-Oodnadatta Railway loans one of $\frac{1}{4}$ per cent. These sinking funds are invested partly in Treasury Bills, partly in Commonwealth Inscribed Stock, and partly in Bonds (War Issues).

(vii) *National Debt Sinking Fund.* This fund was created by virtue of the *National Debt Sinking Fund Act 1923*, No. 5 of 1923, which was assented to on the 11th August, 1923. Provision is made therein for the merging of the Loans Sinking Fund, the Northern Territory Sinking Fund, and the Port Augusta Railway Sinking Fund into the National Debt Sinking Fund, the *Loans Sinking Fund Act* of 1918 being repealed. This Act also provides for the payment annually to the Fund of the sum of £1,250,000 for the payment thereto of a sum equal to 10 shillings per cent. of the net debt created, also a sum equal to £5 per cent. of debt redeemed and cancelled by the Commission in pursuance of the Act. In addition, there is to be paid to the Fund repayments of advances from Loan Fund made to States and to Territories under the authority of the Commonwealth; of advances for the erection of wheat silos; of advances under the Nauru Island agreement; of advances for such purposes as are prescribed; of purchase money and repayments of advances under the War Service Homes Act; and unexpended balances of the Loan Fund. The provision as to the payment of £5 per cent. to the Fund does not, however, apply to these repayments, purchase money, and unexpended balances. The Fund also benefits by half the net profits derived by the Commonwealth Bank of Australia on or after the first day of July, 1923, in place of the payment hitherto, made to the Bank Redemption Fund.

The National Debt Commission was created for the purpose of taking general control of all Sinking Fund moneys, and of deciding when and how these moneys shall be invested or used for the redemption of the debt. The situation of the Sinking Funds, as at 30th June, 1923, is set out in the accompanying table:—

COMMONWEALTH PUBLIC DEBT.—SINKING FUNDS, 1919 TO 1923.

At 30th June—	Total Accumulation to date.	Total Securities Cancelled to date.	Balance Available.
	£	£	£
1919 ..	3,740,824	1,636,621	2,104,203
1920 ..	5,139,281	2,969,980	2,169,301
1921 ..	8,391,349	7,386,822	1,004,527
1922 ..	10,292,881	9,335,129	957,752
1923 ..	11,756,992	9,606,739	2,150,253

The Imperial Government loan comes in a different category from the others since it is being liquidated by the funding arrangement described in detail on a previous page.

§ 5. Cost of War and Repatriation.

1. *General.*—In view of the importance of the subject, a further reference is here made to the cost of the war. The general policy of the Commonwealth Government has been to pay from Consolidated Revenue all recurring charges for interest, sinking fund, pensions, and other charges consequent upon the war, and part of the expense of repatriation. On the other hand, the whole direct cost of the war and the larger proportion of the cost

of repatriation have been paid from loans. The total cost from both sources to the 30th June, 1923, is set out in the following table :—

COST OF WAR SERVICES TO 30th JUNE, 1923.

Year.	From Revenue. (a)	From War Loan Fund.	Total.
	£	£	£
1914-15	486,244	14,471,117	14,957,361
1915-16	3,460,093	37,423,568	40,883,661
1916-17	7,740,629	53,114,237	60,854,866
1917-18	10,864,054	55,095,109	65,959,163
1918-19	20,982,493	62,192,889	83,175,382
1919-20	24,608,457	45,385,587	69,994,044
1920-21	33,285,706	24,148,501	57,434,207
1921-22	31,330,552	7,576,977	38,907,529
1922-23	30,099,428	1,762,694	31,862,122
Total Expenditure ..	162,857,656	301,170,679	464,028,335
Indebtedness to the Government of the United Kingdom for payments made, services rendered, and goods supplied during the war ..			41,306,545
War Gratuity Paid in Cash			13,778,131
Total			519,113,011

(a) Including the amounts spent from Trust Fund War Pensions Account.

2. **Expenditure from Revenue.**—The following table gives the details of the war expenditure from revenue for the last five years :—

WAR SERVICES EXPENDITURE FROM REVENUE, 1918-19 TO 1922-23.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Interest	13,517,461	14,461,902	16,445,068	18,075,693	18,299,978
Sinking Fund	1,200,713	1,312,812	3,168,820	3,070,000	2,401,934
War Pensions	4,827,368	6,032,270	7,389,739	7,028,379	7,134,967
Repatriation of Soldiers and War Service Homes	1,397,618	2,732,346	3,867,707	2,239,754	1,794,105
Expeditionary Forces	(a)	(a)	(a)	200,000	(a)
Transport Services	(a)	(a)	698,052	157,884	(a)
Loan Conversion Expenses .. .. .	..	..	..	..	183,635
Other War Expenditure payable out of Revenue	39,333	69,127	(b) 1,716,320	628,842	184,809
Total	20,982,493	24,608,457	33,285,706	31,330,552	30,099,423

(a) Paid from War Loan Fund. (b) Including £857,932 to make good deficiency in War Loan Fund.

3. Expenditure from War Loan Fund.—The following table gives the details of the war expenditure from loans, showing the expenditure on account of each Department, etc. :—

EXPENDITURE FROM WAR LOAN FUND, 1918-19 TO 1922-23.

Department, Etc.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Defence and Navy	56,628,912	21,559,812	599,419	(a) 311,530	179,149
Treasury	5,314,153	15,379,318	15,330,885	6,648,039	1,249,968
Prime Minister	120,863	140,713	1,678,775	(a) 11,221	(a) 94,548
Trade and Customs	39,141	(a) 41,680	(a) 54,602	(a) 158	(a) 23,239
Repatriation	85,362	8,090,614	6,593,924	1,247,466	480,620
Home and Territories	4,458	36,531	7,200	4,381	(a) 889
Works and Railways .. .. .	..	220,279	(a) 7,100	..	(a) 58,367
Total War and Repatriation Expenditure	62,192,889	45,385,587	24,148,501	7,576,977	1,762,694
Redemptions—					
Gratuity Bonds cashed .. .. .	..	685,008	8,035,066	2,191,772	2,866,285
Treasury Bills .. .. .	..	..	..	2,000,000	..
Total Expenditure from War Loan Fund	62,192,889	46,070,595	32,183,567	11,768,749	4,628,979

(a) Repayment.

The large sums debited to the Treasury are mainly on account of advances to the States, and the money has been spent partly in settling soldiers on the land, and partly in providing reserve employment through Local Government Bodies. The expenditure under the heading "Repatriation" was incurred under the working of the War Service Homes Act of 1918.

§ 6. Old-age and Invalid Pensions.

1. General.—In previous issues of this work an account was given of the introduction of the old-age pension system into Australia, together with a detailed description of the Commonwealth Invalid and Old-age Pensions Act of 1908 which became operative on 1st July, 1909. (See Year Books, Nos. 3 to 8.) An amendment of this Act, assented to on 30th September, 1916, made a very important alteration. Section 24 originally enacted that the pension "shall not exceed the rate of twenty-six pounds per annum in any event, nor shall it be at such a rate as will make the pensioner's income, together with pension, exceed fifty-two pounds per annum." It was amended (a) by omitting the words "twenty-six pounds," and inserting in their stead the words "thirty-two pounds ten shillings", and (b) by omitting the words "fifty-two pounds" and inserting in their stead the words "fifty-eight pounds ten shillings." Section 26 originally enacted that if an applicant for pension was in receipt of board or lodging, the actual or estimated value or cost thereof should be counted as income, to an extent not exceeding five shillings per week. This was amended by omitting the words "five shillings" and inserting in their stead the words "seven shillings and sixpence."

In 1919 the Act was again amended, and the rate of pension raised to £39 per annum and the maximum amount allowable to £65 per annum. The estimated value of board and lodging was raised to 10s. per week.

In 1920 special provision was made for a permanently blind person, by which the amount of pension may be at such a rate (not exceeding £39) per annum, as will make his income, together with the pension, equal to an amount not exceeding £221 per annum or such other amount as is declared to be a basic wage.

A further amending Act in 1923 raised the rate of pension to £45 10s. per annum and the maximum amount allowable to £78 per annum.

2. Old-age Pensions.—(i) *Summary, 1923.* Details regarding Old-age Pensions as at 30th June, 1923, are as follows:—

OLD-AGE PENSIONS.—SUMMARY, 1923.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Claims examined during year ended 30th June, 1923 ..	5,596	3,447	1,882	1,045	898	589	13,457
Claims rejected	582	336	344	64	92	42	1,460
Claims granted	5,014	3,111	1,538	981	806	547	11,997
Transfers from other States	618	523	206	219	137	117	1,820
Existing 30th June, 1922 ..	40,065	30,958	13,478	10,014	5,316	5,265	105,096
	45,697	34,592	15,222	11,214	6,259	5,929	118,913
Deduct—							
Deaths	2,810	2,319	984	702	347	346	7,508
Cancellations and transfers to other States ..	1,667	1,025	426	346	313	239	4,016
	4,477	3,344	1,410	1,048	660	585	11,524
Old-age Pensions existing on 30th June, 1923 ..	41,220	31,248	13,812	10,166	5,599	5,344	107,389

(ii) *Sexes of Pensioners.*—Of the 107,389 persons in receipt of pensions at 30th June, 1923, 42,585 (or 40 per cent.) were males, and 64,804 (or 60 per cent.) were females. Details for the several States are as follows:—

OLD-AGE PENSIONS.—SEXES OF PENSIONERS, 1923.

State.	Males.	Females.	Total.	(a) Masculinity.
New South Wales	17,016	24,204	41,220	-17.44
Victoria	11,728	19,520	31,248	-24.94
Queensland	5,877	7,935	13,812	-14.90
South Australia	3,667	6,499	10,166	-27.86
Western Australia	2,365	3,234	5,599	-15.52
Tasmania	1,932	3,412	5,344	-27.69
Total	42,585	64,804	107,389	-20.69

(a) Excess of males over females in each 100 of total pensioners.

(iii) *Ages and Conjugal Condition of Pensioners.* The recorded ages of the 11,997 persons to whom pensions were granted during the year 1922-23 varied considerably, ranging from 2,205 at age 60 to one at age 96. Particulars for quinquennial age-groups are as follows :—

OLD-AGE PENSIONS GRANTED 1922-23.—AGES AND CONJUGAL CONDITION OF PENSIONERS,

Age Groups.	Males.				Females.				Grand Total.
	Single.	Married.	Widowed.	Total.	Single.	Married.	Widowed.	Total.	
60-64 ..	223	532	165	925	468	2,034	1,715	4,217	5,142
65-69 ..	879	1,914	689	3,482	121	555	445	1,121	4,603
70-74 ..	237	531	236	1,004	42	198	191	431	1,435
75-79 ..	59	159	102	320	15	77	153	245	565
80-84 ..	11	48	32	91	4	18	60	82	173
85-89 ..	4	14	22	40	2	2	23	27	67
90 and above ..	1	3	2	6	..	..	6	6	12
Total ..	1,419	3,201	1,248	5,868	652	2,884	2,593	6,129	11,997

3. Invalid Pensions.—(i) *Summary, 1923.* Details as at 30th June, 1923, are given hereunder :—

INVALID PENSIONS.—SUMMARY, 1923.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
Claims examined during year ended 30th June, 1923 ..	2,662	1,731	1,021	410	576	330	6,730
Claims rejected	821	356	334	90	259	99	1,959
Claims granted	1,841	1,375	687	320	317	231	4,771
Transfers from other States ..	153	100	63	41	23	15	395
Existing 30th June, 1922 ..	15,897	11,444	5,152	2,499	2,022	2,005	39,019
	17,891	12,919	5,902	2,860	2,362	2,251	44,185
Deduct—							
Deaths	780	779	324	132	165	107	2,287
Cancellations and Transfers to other States ..	759	433	219	135	134	154	1,834
	1,539	1,212	543	267	299	261	4,121
Invalid Pensions existing 30th June, 1923	16,352	11,707	5,359	2,593	2,063	1,990	40,064

(ii) *Sexes of Pensioners.* Of the 40,064 persons in receipt of invalid pensions on 30th June, 1923, 18,451, or 46 per cent., were males, and 21,613, or 54 per cent., were females. Details for the several States are as follows:—

INVALID PENSIONS.—SEXES OF PENSIONERS, 1923.

State.	Males.	Females.	Total.	(a) Masculinity.
New South Wales	7,357	8,995	16,352	- 10.02
Victoria	5,569	6,138	11,707	- 4.86
Queensland	2,654	2,705	5,359	- 0.95
South Australia	957	1,636	2,593	-26.19
Western Australia	1,037	1,026	2,063	0.53
Tasmania	877	1,113	1,990	-11.86
Total	18,451	21,613	40,064	- 7.89

(a) Excess of males over females in each 100 of total pensioners. It will be noted that all States except Western Australia show an excess of females.

(iii) *Ages and Conjugal Condition of Pensioners, 1923.* The recorded ages of the 4,771 persons to whom invalid pensions were granted during the period under review varied from 16 to 79. The following table gives particulars for those up to age 20, and in decennial age-groups after age 20:—

INVALID PENSIONS.—AGES AND CONJUGAL CONDITION OF PENSIONERS, 1923.

Age Groups.	Males.				Females.				Grand Total.
	Single.	Married.	Widowed.	Total.	Single.	Married.	Widowed.	Total.	
16-19	225	..	..	225	224	..	..	224	449
20-29	210	39	1	250	307	20	6	333	583
30-39	120	190	5	315	173	71	57	301	616
40-49	138	329	19	486	163	133	123	419	905
50-59	267	652	98	1,017	171	345	372	888	1,905
60-69	43	92	30	165	13	37	48	98	263
70-79	6	19	8	33	3	6	8	17	50
Total	1,009	1,321	161	2,491	1,054	612	614	2,280	4,771

4. *Cost of Administration.*—Under the State régime the cost of administration differed considerably in the several States, and for 1908-9 represented in New South Wales 4.17 per cent. of the amount actually paid in pensions. In Victoria for the same year the corresponding percentage was 0.70. During the year 1922-23 the total cost to the Commonwealth of administering the Old-age and Invalid Pensions Department was

£87,910, or about 1.6 per cent of the amount actually paid in pensions. Details concerning the cost of administration for 1922-23 are as follows:—

OLD-AGE AND INVALID PENSIONS.—COST OF ADMINISTRATION, 1922-23.

Heading.	Amount.
	£
Salaries	35,785
Temporary assistance	1,601
Payments to State Governments and payment of commission to Postmaster-General's Department, at 11s. 6d. per £100 paid	34,046
Postage and telegrams	5,138
Other expenses	11,340
Total	87,910

The actual sum disbursed in Old-age and Invalid Pensions in the financial year 1922-23, apart from the cost of administration, was £5,337,936.

5. Summary.—The following table gives detailed statistical information concerning the working of the Act for the last five years:—

OLD-AGE AND INVALID PENSIONS.—SUMMARY, AUSTRALIA, 1919 TO 1923.

Financial Year ended 30th June—	Number of Pensioners.			Amount Paid in Pensions.	Amount Paid to Asylums for Maintenance of Pensioners.	Total Payment to Pensioners and Asylums.	Cost of Administration.	Cost of Administration per £100 paid to Pensioners and Asylums.	Average Fortnightly Pension on last day of Financial Year.
	Old-age.	Invalid.	Total.						
				£	£	£	£	£ s. d.	s. d.
1919	95,969	31,999	127,968	3,880,865	55,750	3,936,615	63,280	1 12 2	24 2
1920	99,170	35,231	134,401	4,411,629	72,675	4,484,304	74,120	1 13 1	29 1
1921	102,415	37,981	140,396	5,074,336	75,905	5,150,241	88,271	1 14 3	28 9
1922	105,096	39,019	144,115	5,290,056	89,978	5,380,034	93,608	1 14 10	28 9
1923	107,389	40,064	147,453	5,337,936	86,080	5,423,016	87,910	1 12 5	28 9

§ 7. Maternity Allowance.

During the session of 1912 the Federal Parliament passed an Act (assented to on 10th October, 1912) providing for the payment of maternity allowances. The scope and main provisions of the Act are given in Year Book No. 14, p. 1047. The most important conditions are that the sum of five pounds is payable in the case of each confinement resulting in the birth of a viable child whether such child was born alive or dead. The mother must be a native of the Commonwealth, or intend to settle permanently therein. No payment is made in the case of an aboriginal or an Asiatic.

The following table gives a summary in connexion with the working of the Maternity Allowance Act for the years 1919 to 1923:—

MATERNITY ALLOWANCE.—SUMMARY, 1919 TO 1923.

Year.	Claims Paid.	Claims Rejected.	Amount Paid.	Cost of Administration.	Cost per £100 of allowance paid.
			£	£	£ s. d.
1918-19 ..	124,016	510	620,080	11,369	1 16 8
1919-20 ..	125,173	621	625,865	12,785	2 0 10
1920-21 ..	140,152	622	700,760	16,173	2 6 2
1921-22 ..	138,140	520	690,700	15,441	2 4 9
1922-23 ..	137,687	421	688,435	16,008	2 6 6

§ 8. War Pensions.

1. **General.**—An Act for the provision of war pensions was passed in 1914 and amended in 1915 and 1916. Its scope can be determined by the following extract from section 3. "Upon the death or incapacity of any member of the forces whose death or incapacity results, or has resulted, from his employment in connexion with warlike operations in which His Majesty is, or has since the commencement of the present state of war been engaged, the Commonwealth shall, subject to this Act, be liable to pay to the member or his dependents, or both, as the case may be, pensions in accordance with this Act." Full details as to rates of pension, etc., are given in the chapter "Defence."

2. **Number of Pensioners.**—The following table shows the number of pensioners and the places where payments were made at the 30th June, 1923 :—

WAR PENSIONS.—NUMBER OF PENSIONERS, 1923.

Where Paid.	Incapacitated Members of the Forces.	Dependents of—		Total.
		Deceased Members.	Incapacitated Members.	
London	1,512	4,575	3,203	9,290
South Africa	55	51	61	167
New Zealand	250	259	230	739
Other Overseas	25	7	16	48
New South Wales	24,951	12,623	33,993	71,567
Victoria	24,686	14,327	39,069	78,082
Queensland	8,314	4,001	11,642	23,957
South Australia	4,089	3,956	6,296	14,341
Western Australia	7,721	3,945	12,212	23,878
Tasmania	3,089	1,891	5,106	10,086
Total	74,692	45,635	111,828	232,155

3. **Expenditure on War Pensions, 1923.**—The expenditure on war pensions for the year ended 30th June, 1923, is given in the table hereunder :—

WAR PENSIONS.—EXPENDITURE, 1922-23.

Where Paid.	Amount.	Where Paid.	Amount.
	£		£
New South Wales	2,418,636	Tasmania	294,638
Victoria	2,174,189	London and elsewhere	310,038
Queensland	784,744		
South Australia	437,848		
Western Australia	714,874	Total	7,134,967

4. **Cost of Administration.**—The cost of administration in 1922–23 was £149,584, made up as follows :—

WAR PENSIONS.—COST OF ADMINISTRATION, 1922-23.

Items.	Total.
	£
Salaries	65,207
Temporary assistance	9,290
Medical examinations	7,376
Services of Registrars, Police, and Postal Officials	42,627
London Office	6,787
Miscellaneous	18,297
Total	149,584

§ 9. Commonwealth Public Service Superannuation Fund.

This Fund which was inaugurated on the 20th November, 1922, is maintained by contributions of employees of the Commonwealth Public Service and by payments from the Consolidated Revenue—the latter being made when the officers retire on pension.

The unit of pension is £26 per annum, and the number of units in respect of which an employee can contribute bears relation to the salary in accordance with the scale set out in Section 13 of the *Superannuation Act 1922*, the minimum pension being two units or £52 per annum, and the maximum 16 units or £416 per annum. The rates of contribution depend on the age at which the employee commences to contribute, a special concession being made in respect of employees in the service at the commencement of the Act who were then upwards of 30 years of age.

The pension is payable when the employee reaches 65 years of age, or is retired through physical or mental incapacity at an earlier age. Provision is, however, made for retirement at an earlier age than 65 under special conditions as to contribution. The widow of a contributor or pensioner receives one-half of the pension to which her husband was entitled and a pension of £13 per annum in respect of each child under 16 years of age.

The number of contributors to the fund at 30th June, 1923, was 26,876, viz., 23,536 males and 3,340 females, and the average number of units contributed for was 3.4, representing a pension of £88 8s. per annum.

From the 5th January, 1923 (the date on which contributions to the Fund commenced) to the 30th June, 1923, receipts were £139,892, of which £128,138 represented employees' contributions and £10,280 from the Consolidated Revenue. Payments amounted to £11,134 including £10,613 paid in pensions. Of the balance of £128,758 which remained on hand on the 30th June, 1923, £126,488 was invested in Commonwealth Inscribed Stock.

Pensions in force on the 30th June, 1923, numbered 299 with an annual liability of £18,154, of which £17,538 represents the share payable from the Consolidated Revenue.

B. STATE FINANCE.

§ 1. General.

1. **Functions of State Governments.**—In comparing the financial returns of the States allowance must be made for the various functions discharged by the respective Governments, and for local conditions in each case. Direct comparisons of expenditure

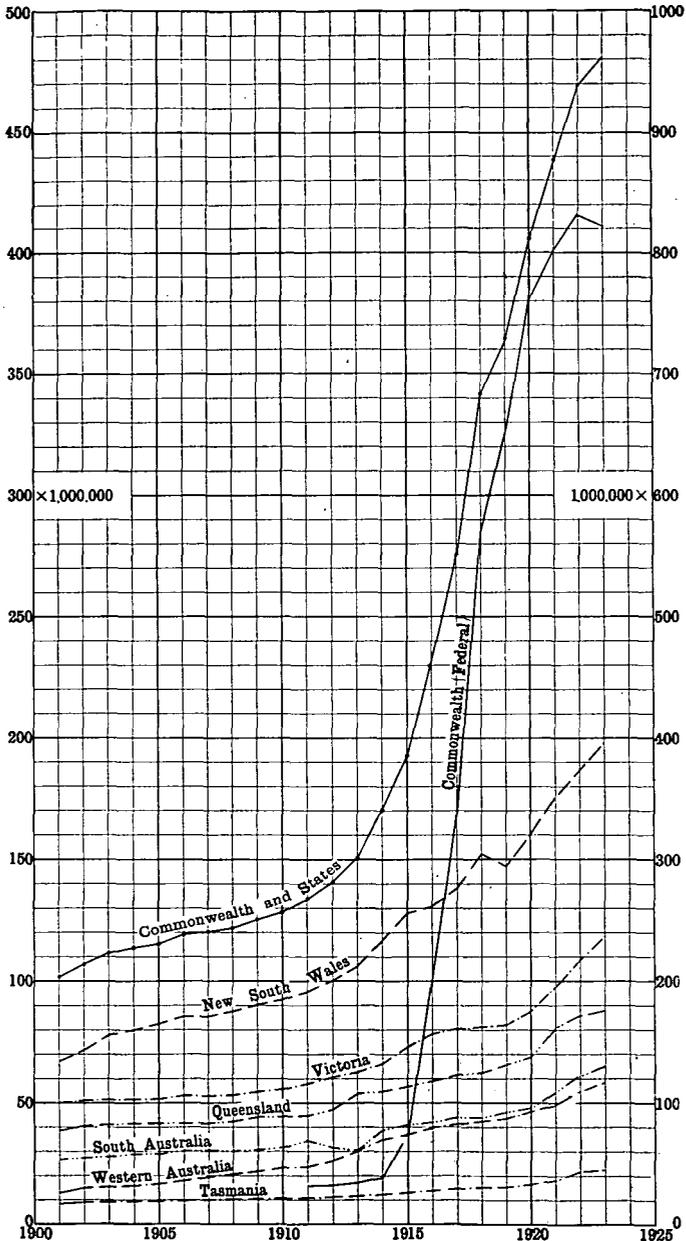
are difficult, owing to the fact that functions which in one State are assumed by the Central Government are in another relegated to local governing bodies, and that costly developmental work may, under certain conditions, be not only economically justifiable, but may be essential to progress, while parsimonious expenditure may be an economic blunder. A large expenditure may, therefore, be an indication either of gross extravagance and bad economy on the one hand, or of healthy progress and good economy on the other. Similarly, as regards revenue, imposts which in some States are levied by the Central Government, are in others dealt with locally. Care, therefore, is needed in instituting comparisons, and the particulars contained in this chapter should be read in connexion with those contained in the chapter dealing with Local Government. In many respects, moreover, the budgets of the Australian Governments differ materially from those of most European countries, owing to the inclusion therein of the revenue and expenditure of departments concerned in rendering public services, such for instance as railways, tramways, water supply, etc., which in other countries are often left to private enterprise.

2. **Accounts of State Governments.**—The various financial transactions of the States are in each case concerned with one or other of three Funds—the “Consolidated Revenue Fund,” the “Trust Funds,” and the “Loan Funds.” All revenue collected by the State is placed to the credit of its Consolidated Revenue Fund, from which payments are made under the authority of an Annual Appropriation Act passed by the Legislature, or by a permanent appropriation under a special Act. The hypothecation of the revenue from a specific tax to the payment for some special service is not practised in Australia, all statutory appropriations ranking on an equality as charges on the Consolidated Revenue Fund. The Trust Funds comprise all moneys held in trust by the Government, and include such items as savings banks funds, sinking funds, insurance companies’ deposits, etc. The Loan Funds are debited with all loan moneys raised by the State, and credited with the expenditure therefrom on public works or other purposes.

3. **Inter-relation of Commonwealth and State Finance.**—The principal alteration in State finance brought about by Federation was that the States transferred to the Commonwealth the large revenue received by the Customs and Postal Departments, and were relieved of the expenditure connected with these and the Defence Departments, while, in their place, a new item of State revenue was introduced, viz., the payment to the States of a Commonwealth subsidy. With regard to this, an important development in the financial relations of the Commonwealth and State Governments was discussed at the Premiers’ Conference of May, 1923. The main problem for settlement was that arising from the raising and allocation of the revenues of the Commonwealth and States. The Conference aimed at the termination of the present arrangement under which the Commonwealth pays to the States on a *per capita* basis part of the revenue which it collects; concurrently it was hoped to simplify the entire taxation systems of Australia.

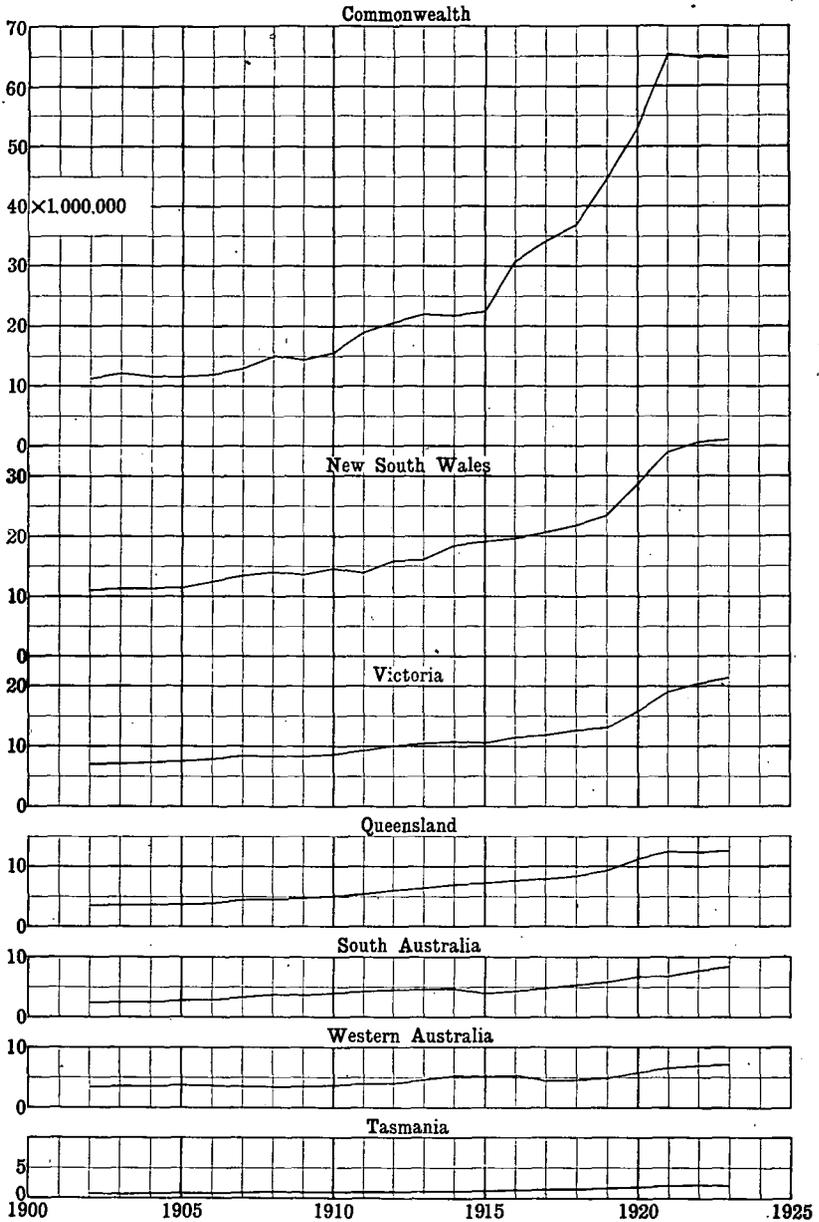
The Commonwealth Prime Minister submitted a scheme intended to secure the attainment of both of these objects. He proposed to cease to collect income tax from all individuals whose incomes were £2,000 a year or less, and to grant an exemption of £2,000 to individuals with incomes over that amount. At the same time he proposed to discontinue the *per capita* payments to the States, leaving the latter free to balance their Budgets by increasing their income tax revenues in the field vacated by the Commonwealth. On the basis of figures supplied by the Commonwealth Treasury, it was believed that Queensland and Tasmania would stand to lose by this arrangement. Accordingly it was proposed to stabilize the finances of these States by a grant of £55,000 to the former and £80,000 to the latter. Inclusive of the above shortage, and certain special payments to the States of Queensland, Western Australia, and Tasmania, the Commonwealth would make an annual payment of £778,000 per annum to these three States. Finally, the Commonwealth Government proposed to enter on these arrangements for a period of five years, and thereafter until otherwise provided.

PUBLIC DEBT—COMMONWEALTH AND STATES, 1901 TO 1923.



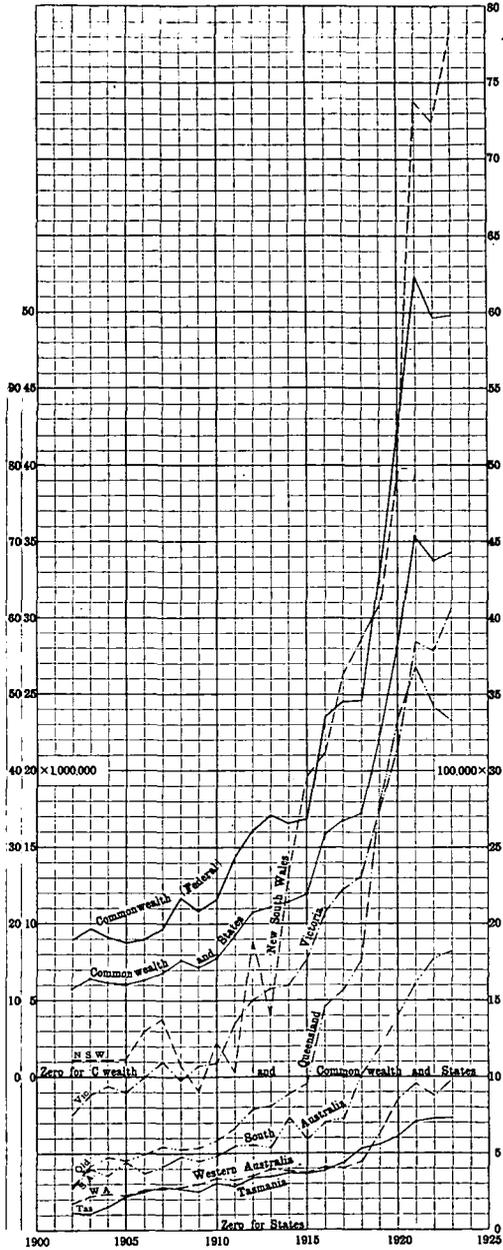
EXPLANATION.—The base of each small square represents an interval of one year, while the vertical height represents £10,000,000 in the case of the Commonwealth (Federal) and States Debts, the scale for which is on the left hand side, and £20,000,000 for Commonwealth and States combined, the scale for which is on the right hand. The Commonwealth (Federal) debt commenced in the year 1911.

CONSOLIDATED REVENUE—COMMONWEALTH AND STATES, 1902 TO 1923.



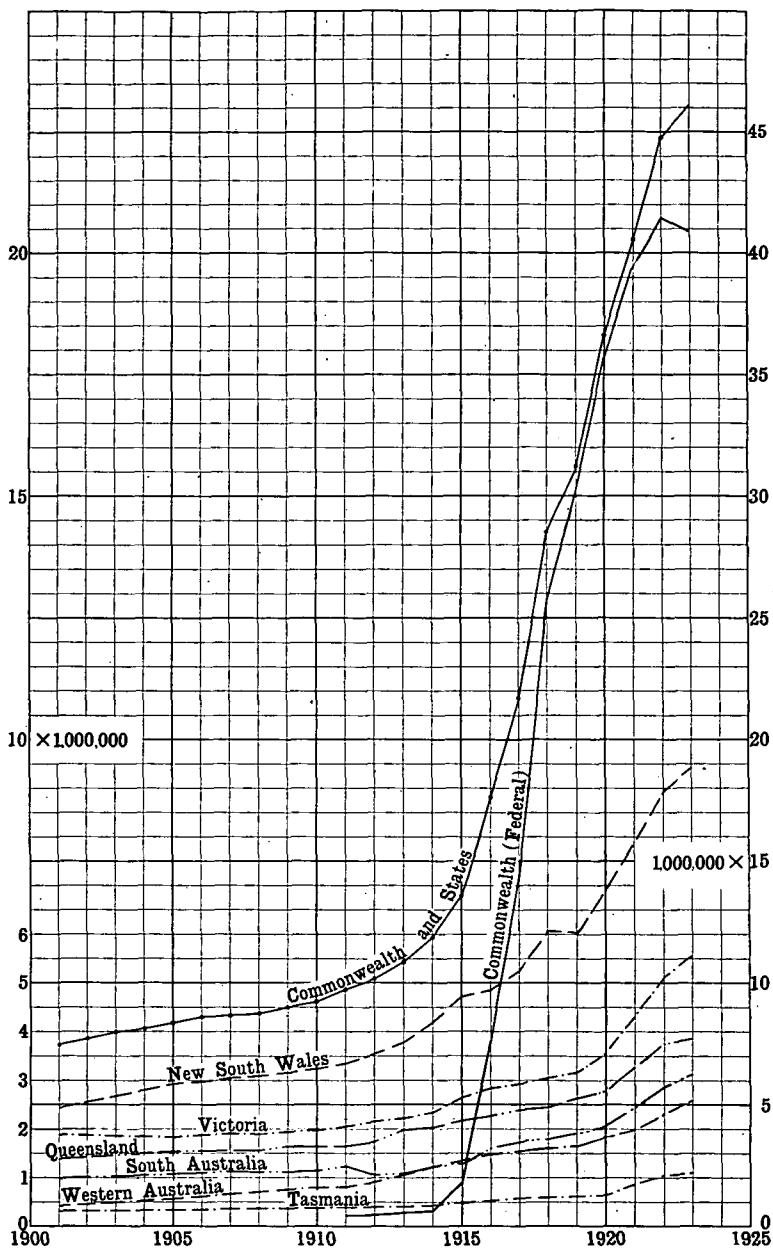
EXPLANATION.—The base of each small square represents an interval of one year, while the vertical height represents £5,000,000. The zero lines in each case are marked thus "0."

TAXATION.—COMMONWEALTH AND STATES, 1902 TO 1923.



EXPLANATION.—The base of each small square represents an interval of one year. Of the two scales on the left hand; the outer one is that for the Commonwealth and States combined, the vertical height of each square representing £2,000,000, and the inner one that for the Commonwealth (Federal), the vertical height representing £1,000,000. The scale on the right hand is that for the States, and the vertical height of each small square represents £100,000.

INTEREST ON PUBLIC DEBTS.—COMMONWEALTH AND STATES, 1901 TO 1923.



EXPLANATION.—The base of each small square represents an interval of one year, while the vertical height represents £500,000 in the case of the Commonwealth (Federal) and States, the scale for which is on the left hand side, and £1,000,000 in the case of the Commonwealth and States combined, for which the scale is on the right hand side.

These proposals were not acceptable to the State Ministers, who put forward counter-proposals for the complete retirement of the Commonwealth from the field of income taxation. The States were willing on that condition to relinquish the capitation payments and to contribute to the Commonwealth Treasury sums to cover any Commonwealth loss entailed under the proposals.

As Commonwealth Ministers could not accept the offer of the States, the Prime Minister proposed that the Commonwealth should vacate the field of income taxation so far as it related to individuals, but should retain the right to tax companies up to a maximum limit of 2s. 6d. in the £1. As a set-off against this the Commonwealth would cease the payment to the States of the capitation allowances and the interest on the transferred properties. Before completing the new scheme it would be necessary to ascertain the exact value of the field to be vacated by the Commonwealth, because certain cash payments to be made by the Commonwealth to the States to save embarrassment of State finances could not be calculated until that value was ascertained.

These suggestions were much more favourably received, and ultimately five of the States—New South Wales dissenting—agreed to accept the principle of the new Commonwealth proposals.

The statistics relating to income tax have since been carefully investigated, and it has been found that figures on which to base payments to the States would not be available for some time. The operation of the scheme was therefore deferred for one year. In June, 1924, the scheme was again considered by the Commonwealth Government, but owing to the continuance of opposition, it is probable that the operation of the proposals will again be postponed. Meanwhile efforts were made to arrange for one collecting authority for both State and Federal income taxes. Agreements have been drawn up between the Commonwealth, on the one hand, and all the States except Western Australia, on the other, under which the State taxation officers will collect both taxes, except where the Commonwealth incomes are derived from two or more States. In Western Australia there has been for some years only one collecting authority—the Commonwealth.

Provision for the taking over by the Commonwealth of certain of the public debts of the States is made in section 105 of the Constitution, and a proposed law extending this provision to the whole of the State indebtedness, which passed both Houses of the Federal Legislature by the statutory majority, was submitted to a referendum at the election in April, 1910, and received the requisite endorsement by the electorate. No action has, however, been taken, although the subject has, on more than one occasion, been under discussion.

§ 2. State Consolidated Revenue Funds.

Division I.—Revenue.

1. **General.**—The principal sources of State revenue are :—

- (a) Taxation.
- (b) The public works and services controlled by the State Governments.
- (c) Sale of and rental from Crown lands.
- (d) The Commonwealth subsidy.
- (e) Miscellaneous sources, comprising fines, fees, interest, etc.

Of these sources, that yielding the largest revenue for the States as a whole is the group of public works and services, the principal contributor being the Government railways and tramways. Next in magnitude comes Taxation, followed in order by the Commonwealth Subsidy and Land Revenue.

2. Revenue Received.—The following table furnishes particulars of the total amounts and the amounts per head of consolidated revenue received by the several States during the five years 1918–19 to 1922–23 :—

STATE CONSOLIDATED REVENUE, 1918–19 TO 1922–23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
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TOTAL COLLECTIONS.

	£	£	£	£	£	£	£
1918–19	23,448,166	13,044,088	9,415,543	5,798,313	4,944,850	1,581,984	58,232,944
1919–20	28,650,496	15,866,184	11,293,743	6,582,788	5,863,501	1,815,031	70,071,743
1920–21	34,031,396	19,054,475	12,601,031	7,151,366	6,789,565	2,105,449	81,733,282
1921–22	35,637,820	20,357,733	12,311,378	7,771,752	6,907,107	2,181,395	85,167,185
1922–23	36,145,944	21,634,677	12,599,403	8,431,700	7,207,492	2,174,062	88,193,278

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918–19	11 19 1	9 1 6	13 6 11	12 13 4	15 19 3	7 15 11	11 9 2
1919–20	14 1 1	10 11 1	15 6 10	13 13 5	17 17 8	8 13 0	13 4 3
1920–21	16 5 5	12 9 5	16 15 9	14 11 4	20 9 10	9 17 11	15 2 1
1921–22	16 15 0	13 2 7	16 0 6	15 9 5	20 11 6	9 19 10	15 9 2
1922–23	16 12 8	13 12 1	15 19 6	16 8 7	20 19 7	9 18 7	15 13 1

The figures given in this table relate in each instance to the financial year ended 30th June.

During the four years from 30th June, 1919, to 30th June, 1923, the aggregate revenue of the States increased by no less a sum than £29,960,334, or about 50 per cent. Increases were in evidence in all the States, the largest being that of £12,697,778 in New South Wales. This general advance is the more notable since, during recent years, a much smaller amount has been received from the Commonwealth in the way of subsidy, than was the case up to 1910.

There has been a marked increase in the collections per head in all the States. Western Australia throughout the period has occupied the premier position, and in 1922–23 the revenue per head in that State exceeded the average for Australia by about 33 per cent. In Tasmania, however, the revenue per head has averaged about 60 per cent. only of the average for Australia.

3. Sources of Revenue.—(i) *General*. Classifying the revenue of the several States in the manner indicated in I *ante*, particulars for the year 1922–23 are as follows :—

(iii) *Revenue from Taxation.*—(a) *General.* Prior to Federation, duties of Customs and Excise constituted the principal source of revenue from taxation. At present, the most productive State tax is the income tax, imposed in all the States. For 1922–23 stamp duties occupied second place. In addition to these, a State land tax and licence fees of various kinds are collected in all the States, while a dividend tax is levied in Western Australia. The total revenue from taxation collected by the States during the year 1922–23 was £18,739,558, details of which are set forth in the table hereunder:—

STATE CONSOLIDATED REVENUE FROM TAXATION, 1922–23.

Taxation.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Probate and succession duties	1,176,596	697,482	257,402	205,382	45,997	56,530	2,439,389
Other stamp duties	1,460,436	1,117,839	353,745	397,050	173,453	166,424	3,668,947
Land Tax	2,570	392,594	417,865	197,107	79,983	97,352	1,187,471
Income Tax	4,196,228	1,514,256	2,149,607	930,460	579,060	325,151	9,667,762
Licences	239,984	335,402	98,743	42,815	54,654	22,822	794,420
Other Taxation	723,304	19,473	53,523	70,962	54,411	59,896	981,569
Total	7,799,118	4,077,046	3,330,885	1,816,776	987,558	728,175	18,739,558

(a) Includes £189,057 Dividend Tax.

The total amount raised by means of taxation by the several State Governments during the five years 1918–19 to 1922–23 is given in the following table:—

STATE CONSOLIDATED REVENUE FROM TAXATION, 1918–19 TO 1922–23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
TOTAL.							
	£	£	£	£	£	£	£
1918–19	4,083,990	2,744,946	2,772,269	1,185,451	629,061	555,537	11,971,254
1919–20	4,962,518	3,159,767	3,323,745	1,391,830	844,197	609,576	14,291,633
1920–21	7,388,133	3,846,833	3,682,642	1,622,076	955,359	708,603	18,203,646
1921–22	7,249,017	3,791,174	3,420,296	1,778,576	881,159	727,701	17,847,923
1922–23	7,799,118	4,077,046	3,330,885	1,816,776	987,558	728,175	18,739,558
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918–19	2 1 8	1 18 2	3 18 7	2 11 10	2 0 7	2 14 8	2 7 1
1919–20	2 8 8	2 2 0	4 10 4	2 17 10	2 11 6	2 18 1	2 14 0
1920–21	3 10 8	2 10 4	4 18 1	3 6 1	2 17 8	3 6 7	3 7 3
1921–22	3 8 2	2 8 11	4 9 0	3 10 10	2 12 6	3 6 8	3 4 9
1922–23	3 11 9	2 11 3	4 4 6	3 10 10	2 17 6	3 6 6	3 6 6

During the period between 30th June, 1919, and 30th June, 1923, State revenue from taxation increased by nearly 60 per cent, the increase varying considerably in the different States. The great increase of recent years in New South Wales is due principally to the broadening of the basis of the State Income Tax, increased receipts from Stamp Duties, and in addition in 1922–23, £537,610 was collected from Racing Taxes. Queensland substantially increased the income tax in 1918–19, and Tasmania imposed in 1917–18 a super-tax on incomes and a tax on motor vehicles. While State taxation for the year 1921–22 showed a slight decline from the previous year, owing mainly to diminished collections in New South Wales and Queensland, increases occurred in 1922–23 in every State except Queensland.

Taking the States as a whole, taxation increased by 19s. 5d. per head during the period from 1918–19 to 1922–23, the most marked increase occurring in the case of New South Wales.

(b) *Probate and Succession Duties.* Probate duties have been levied for many years in all the States, but the provisions of the Acts governing the payment of duty differ

widely both in regard to the ordinary rates and those which apply to special beneficiaries. A table showing the values of the estates in which probates and letters of administration were granted is given hereinafter. (See Private Finance § 8.)

The duties collected for the financial years 1918-19 to 1922-23 are as follows :—

STATE PROBATE AND SUCCESSION DUTIES.—COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-28.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales ..	575,875	1,062,533	734,352	907,307	1,176,596
Victoria ..	718,194	881,423	702,468	706,181	697,482
Queensland ..	(a)	(a)	328,204	295,748	257,402
South Australia ..	221,729	192,540	158,107	197,764	205,382
Western Australia ..	40,329	121,951	42,407	76,817	45,997
Tasmania ..	64,410	50,271	53,407	61,142	56,530
Total ..	1,620,537 (b)	2,308,718 (b)	2,018,945	2,244,959	2,439,389

(a) Included in Stamp Duties.

(b) Excluding Queensland.

(c) *Other Stamp Duties.* The revenue derived from stamp duties (exclusive of probate and succession duties) for the years 1918-19 to 1922-23 is shown in the accompanying table :—

STATE STAMP DUTIES.—COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales ..	687,304	978,343	1,414,468	1,343,389	1,460,436
Victoria ..	583,818	822,489	930,221	932,649	1,117,839
Queensland ..	a387,742	a698,382	332,559	308,991	353,745
South Australia ..	213,130	325,034	370,288	346,918	397,050
Western Australia ..	112,104	173,541	177,404	164,929	173,453
Tasmania ..	96,949	128,574	148,893	144,125	166,424
Total ..	2,081,047a	3,126,363a	3,373,833	3,241,001	3,668,947

(a) Including Queensland probate and succession duties.

(d) *Land Tax.* All the States impose a Land Tax, although Queensland, the last State to fall into line, collected its first levy in 1915-16. In the other States the impost is of long standing. In New South Wales the Land Tax is levied on the unincorporated portion of the western division of the State only.

The following table shows the amount collected by means of such taxes during the financial years 1918-19 to 1922-23 :—

STATE LAND TAX.—COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales ..	2,800	2,834	2,717	2,490	2,570
Victoria ..	324,232	314,217	331,756	372,060	392,594
Queensland ..	578,253	459,188	469,175	480,518	417,865
South Australia ..	154,621	146,336	168,020	162,104	197,107
Western Australia ..	34,182	46,415	57,791	42,549	79,983
Tasmania ..	86,705	87,785	89,085	97,031	97,352
Total ..	1,180,793	1,056,775	1,118,544	1,156,752	1,187,471

(e) *Income Tax.* A duty on the income of persons, whether it be derived from personal exertion or from property, is also imposed in all the States. As might be expected, the rates, exemptions, etc., are widely divergent, but the general principles of the several Acts are similar. The Dividend Duties Act of Western Australia supplied to a certain extent the place of an income tax in that State in former years, but, with the increasing demands upon the Treasury, the levying of a direct income tax was found necessary.

In 1923 agreements were made between the Commonwealth and all States except Western Australia in respect to the collection of the Commonwealth Income Tax. Reference to this subject is made in Section A of this Chapter (*Commonwealth Finance*, §2). A single collecting authority has been in existence in Western Australia for some years.

The following table shows the total amount collected in the several States during the years 1918-19 to 1922-23. In the case of Western Australia the amount of dividend duty collected is included.

STATE INCOME AND DIVIDEND TAXES.—COLLECTIONS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
New South Wales ..	2,355,243	2,308,267	4,399,360	4,077,897	4,196,228
Victoria ..	928,210	915,551	1,591,198	1,443,209	1,514,256
Queensland ..	1,677,335	2,023,316	2,410,171	2,194,361	2,149,607
South Australia ..	542,007	662,384	852,001	975,043	903,460
Western Australia ..	359,623	416,136	579,289	497,879	579,060
Tasmania ..	261,028	279,476	348,005	355,035	325,151
Total ..	6,123,446	6,605,130	10,180,024	9,543,424	9,667,762

(f) *Commonwealth and State Taxation.* The table hereunder shows the combined Commonwealth and State taxation for each of the years 1918-19 to 1922-23, as well as the amount per head of population :—

TOTAL COMMONWEALTH AND STATE TAXATION, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Commonwealth taxation ..	32,864,486	41,847,692	52,427,421	49,678,842	49,885,017
State taxation ..	11,971,254	14,291,633	18,203,646	17,847,923	18,739,558
Total ..	44,835,740	56,139,325	70,631,067	67,526,765	68,624,575
Taxation per head ..	£8/16/6	£10/11/9	£13/1/0	£12/5/1	£12/3/7

Whilst the Commonwealth taxation increased during the period by £17,020,531, of which £15,445,159 was due to Customs and Excise, the State taxation advanced by £6,768,304, the aggregate increase being £23,788,835. The amount *per capita* of total taxation has increased about 40 per cent. in the period under review.

(iv) *Public Works and Services.* A very large proportion of State revenues is made up of receipts from public works and services under the control of the Governments. The principal of these are railways and tramways, harbour works, and water supply and sewerage, while, in addition, State batteries for the treatment of auriferous ores exist in Western Australia, and various minor revenue-producing services are rendered by the Governments of all States. For the year 1922-23 the aggregate revenue from

these sources was £51,037,789, or nearly 58 per cent. of the revenue from all sources. Details of revenue from public works and services for the year 1922-23 are as follows :—

STATE REVENUE FROM PUBLIC WORKS AND SERVICES, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and tramways	19,083,302	611,289,956	65,400,320	63,705,426	3,150,038	568,993	643,198,035
Harbour services ..	1,165,827	199,379	65,183	494,190	168,223	..	2,092,802
Public batteries ..	..	400	..	..	56,691	..	57,091
Water supply and sewerage ..	1,826,260	8351,438	..	432,673	416,633	..	3,027,004
Other public services ..	671,438	845,613	177,260	455,625	208,562	304,359	2,662,857
Total	22,746,827	12,686,786	5,642,763	5,087,914	4,000,147	873,352	51,037,789

(a) Water supply only.

(b) Railways only.

(v) *Lands.* The revenue from the sale and rental of Crown lands has, with few exceptions, been treated from the earliest times as forming part of the Consolidated Revenue Funds, and has been applied to meet ordinary expenses. Where the rentals received are for lands held for pastoral or residential purposes such application of the revenue appears perfectly justifiable. On the other hand, where the rentals are for mineral and timber lands, and in all cases of sales of lands, the proceeding is essentially a disposal of capital to defray current expenses, and is open to adverse criticism. The following table gives the revenue from sales and rentals of Crown lands for the year 1922-23.

STATE LAND REVENUE, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Sales ..	1,035,227	12,471	409,713	34,027	311,360	39,924	1,842,722
Rentals ..	879,006	407,892	1,142,666	174,745	91,975	46,811	2,743,095
Total	1,914,233	420,363	1,552,379	208,772	403,335	86,735	4,585,817

(vi) *Commonwealth Subsidy.* The payments to the States of Commonwealth subsidy represent in each instance a considerable proportion of the States' revenue, and for the year 1922-23 aggregated £7,185,551. This shows a great decline from the amounts received up to 1910, and is the result of the altered system of allotting the subsidy. A reference to recent proposals to discontinue the payment of this subsidy will be found in Section B, §1. 3. of this chapter. The percentage represented by the subsidy received by each State for 1922-23 on the total revenue of that State is shown in the following table :—

COMMONWEALTH SUBSIDY PAID TO EACH STATE, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Commonwealth subsidy	2,690,198	1,969,772	978,673	635,833	554,828 ^a	356,247 ^b	7,185,551
Total revenue ..	36,145,944	21,634,677	12,599,403	8,431,700	7,207,492	2,174,062	88,193,278
Percentage of subsidy on revenue	7.44	9.10	7.77	7.54	7.70	16.39	8.15

(a) Including special grant of £130,000.

(b) Including special grant of £85,000.

(vii) *Miscellaneous.* In addition to the foregoing, there are in each State several miscellaneous sources of revenue, including such items as interest, fines, fees, etc., which for the year 1922-23 aggregated £6,644,563. Of this amount, interest was responsible for £3,382,470.

Division II.—Expenditure.

1. *General.*—The principal heads of State expenditure from Consolidated Revenue Funds are :—

- (a) Interest and sinking funds in connexion with public debt.
- (b) Working expenses of railways and tramways.
- (c) Justice.
- (d) Police.
- (e) Penal establishments.
- (f) Education.
- (g) Medical and charitable expenditure.
- (h) All other expenditure.

Of these, that of working expenses of railways and tramways was the most important, and for the year 1922-23 represented about 37 per cent. of the aggregate expenditure from the Consolidated Revenue Fund. Next in importance for that year was the item of interest and sinking fund in connexion with the public debt, then education, medical and charitable expenditure, and police, in the order named.

2. *Total Expenditure.*—The total expenditure from Consolidated Revenue Funds in the several States, and the expenditure per head of population during each of the years 1918-19 to 1922-23 are given in the table hereunder :—

STATE EXPENDITURE.—CONSOLIDATED REVENUE FUNDS, 1918-19 TO 1922-23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
1918-19	23,233,398	13,023,407	9,587,532	5,876,811	5,596,864	1,644,512	58,962,524
1919-20	30,210,013	15,752,459	11,266,910	6,457,039	6,531,725	1,828,301	72,046,447
1920-21	34,476,892	18,941,698	12,591,201	7,543,640	7,476,291	2,189,157	83,218,879
1921-22	36,966,525	20,297,279	12,499,970	7,826,241	7,639,242	2,302,077	87,531,334
1922-23	35,342,436	21,611,309	12,784,382	8,426,517	7,612,856	2,472,523	88,250,023

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918-19	11 16 11	9 1 2	13 11 10	12 16 9	18 0 10	8 2 0	11 12 1
1919-20	14 16 4	10 9 7	15 6 1	13 8 3	19 18 5	8 14 3	13 11 8
1920-21	16 9 8	12 7 11	16 15 6	15 7 3	22 11 4	10 5 10	15 7 6
1921-22	17 7 5	13 1 9	16 5 5	15 11 6	22 15 1	10 10 11	15 17 8
1922-23	16 5 4	13 11 10	16 4 3	16 8 4	22 3 2	11 5 11	15 13 4

As in the case of the table previously given for revenue, the above figures relate to the year ended 30th June.

3. Details of Expenditure for 1922-23.—(i) *General.* The following table shows the total expenditure and expenditure per head under each of the principal items:—

STATE EXPENDITURE.—DETAILS, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
TOTAL.							
	£	£	£	£	£	£	£
Public debt (interest, sinking fund, etc.) ..	7,701,453	5,776,741	3,589,714	2,460,273	2,587,988	908,124	23,024,293
Railways and tramways (working expenses) ..	13,785,697	8,275,909	4,712,362	2,769,396	2,418,393	525,119	32,486,876
Justice ..	539,548	236,172	163,300	62,629	76,819	20,575	1,099,048
Police ..	1,072,962	610,827	455,519	215,896	175,332	77,036	2,607,572
Penal establishments ..	146,359	80,363	34,068	34,069	24,022	9,640	328,521
Education ..	3,614,875	2,031,563	1,281,177	591,264	589,432	281,467	8,389,778
Medical and charitable ..	1,670,073	926,877	802,454	385,736	364,749	170,119	4,380,008
All other expenditure ..	6,511,469	3,672,857	1,683,788	1,907,254	1,376,121	480,443	15,933,932
Total ..	35,342,436	21,611,309	12,784,382	8,426,517	7,612,856	2,472,523	88,250,023

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Public debt (interest, sinking fund, etc.) ..	3 10 11	3 12 8	4 11 1	4 15 11	7 10 8	4 2 11	4 1 9
Railways and tramways (working expenses) ..	6 6 11	5 4 1a	5 19 7a	5 7 10a	7 0 9	2 8 0a	5 15 4
Justice ..	0 4 11	0 3 0	0 4 2	0 2 5	0 4 6	0 1 10	0 3 11
Police ..	0 9 11	0 7 8	0 11 7	0 8 5	0 10 2	0 7 1	0 9 3
Penal establishments ..	0 1 4	0 1 0	0 0 10	0 1 4	0 1 5	0 0 11	0 1 2
Education ..	1 13 3	1 5 7	1 12 6	1 3 1	1 14 3	1 5 9	1 9 9
Medical and charitable ..	0 15 5	0 11 8	1 1 10	0 15 0	1 1 3	0 15 6	0 15 7
All other expenditure ..	3 2 8	2 6 2	2 2 8	3 14 4	4 0 2	2 3 11	2 16 7
Total ..	16 5 4	13 11 10	16 4 3	16 8 4	22 3 2	11 5 11	15 13 4

(a) Railways only.

(ii) *Relative Importance of Various Items.* The relative importance of the items varies considerably, and the following table shows for each State the percentage under each item on the total expenditure:—

STATE EXPENDITURE.—PERCENTAGES OF ITEMS, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	%	%	%	%	%	%	%
Public debt (interest, sinking fund, etc.) ..	21.79	26.73	28.08	29.20	33.99	36.72	26.09
Railways and tramways (working expenses) ..	39.01	38.29	36.86	32.87	31.77	21.23	36.81
Justice ..	1.53	1.09	1.28	0.74	1.01	0.83	1.25
Police ..	3.04	2.83	3.56	2.56	2.30	3.15	2.95
Penal establishments ..	0.41	0.37	0.27	0.40	0.32	0.38	0.37
Education ..	10.23	9.40	10.02	7.02	7.74	11.38	9.51
Medical and charitable ..	4.72	4.29	6.74	4.58	4.79	6.88	4.96
All other expenditure ..	19.27	17.00	13.19	22.63	18.08	19.43	18.06
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The interest and sinking fund on the public debt, together with the working expenses of the railways and tramways represented for the year 1922-23 about 60 per cent. of the aggregate State expenditure, a proportion which has been maintained with great regularity for many years past.

Division III.—Balances.

1. Position on 30th June, 1923.—On various occasions in each of the States the revenue collected for a financial year has failed to provide the funds requisite for defraying the expenditure incurred during that year, the consequent deficit being usually liquidated either by cash obtained from trust funds, or by the issue of Treasury bills. Thus, during the period of financial stress resultant upon the crisis of 1893 and the drought conditions of succeeding years, the accumulated overdrafts of several of the States grew very rapidly, and the situation has changed very much for the worse in recent years, so that no State has now a credit balance. The position of the balances of the several Consolidated Revenue Funds on 30th June, 1923, was as follows:—

STATE CONSOLIDATED REVENUE FUND BALANCES, 30th JUNE, 1923.

State.	Debit Balance.		Net Debit Balance.
	Cash Overdraft.	Overdraft liquidated by Treasury Bills.	
	£	£	£
New South Wales	2,774,755	..	2,774,755
Victoria	53,598	1,128,286	1,181,884
Queensland	810,011	..	810,011
South Australia	1,539,229	..	1,539,229
Western Australia .. .. .	..	..	5,910,929
Tasmania	298,461	349,401	647,862
Total .. .. .	..	..	12,864,670

§ 3. State Trust Funds.

1. Nature.—In addition to the moneys received as revenue and paid to the credit of their respective Consolidated Revenue Funds, considerable sums are held by the State Governments in trust for various purposes. In most of the States also, sinking funds for the redemption of public debt are provided, and the moneys accruing thereto are paid to the credit of the appropriate trust funds. A similar course is followed in the case of municipal sinking funds placed in the hands of the Governments. In all the States except New South Wales, life assurance companies carrying on business are required to deposit a substantial sum in cash or approved securities with the Government, and these deposits help to swell the trust funds. Various other deposit accounts, superannuation funds, suspense accounts, etc., also find a place. The trust funds have at various times enabled the several State Treasurers to tide over awkward financial positions, but the propriety of allowing deficits to be liquidated in this manner is open to question.

2. Extent.—The amount of trust funds held on the 30th June, 1923, was as follows:—

STATE TRUST FUNDS, 30th JUNE, 1923.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
Amount of trust funds	18,527,873	7,201,583	Dr. 34,975	2,806,048	17,910,684	1,537,706	47,948,919

§ 4. State Loan Funds.

Division I.— Loan Expenditure.

1. **General.**—So far back as the year 1842 revenue collections were supplemented with borrowed moneys, the earliest loan being by New South Wales for the purpose of assisting immigration, at rates of interest varying from 2½d. to 5¼d. per £100 per diem, or approximately from 4½ per cent. to 8 per cent. per annum. Australian public borrowing, however, is mainly due to the fact that the State Governments, in addition to ordinary administrative duties, undertake functions which in other countries are usually entrusted to local authorities or left to the initiative of private enterprise. Foremost amongst these are the construction and control of the railway systems, while loan moneys have largely been used for improvements to harbours and rivers, and the construction of water supply and sewerage works. The State loan expenditure and public debt thus differ very materially from those of most European countries, and also from those of the Commonwealth, where such expenditure was very largely incurred for purposes of defence, or absorbed in the prosecution of war. As shown above, the State debts consist chiefly of moneys raised and expended with the object of assisting the development of the resources of the country, and are, to a very large extent, represented by tangible assets.

2. **Loan Expenditure, 1922–23.**—For the year ended 30th June, 1923, State expenditure from loan funds was £30,283,300, New South Wales with a total of £9,794,019 being the principal contributor to this amount. Expenditure on railways and tramways is a very heavy item, but in recent years the settlement of returned soldiers upon the land has absorbed large sums. Details for the year for each State are given in the following table:—

STATE LOAN EXPENDITURE, 1922–23.

Heads of Expenditure.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and tramways ..	4,669,285	1,674,643	2,134,162	659,120	591,614	254,120	9,982,944
Water supply, sewerage, and Water Conservation	2,850,639	1,210,483	139,592	1,718,978	200,857	..	6,120,549
Harbours, rivers, etc.	682,550	582,715	..	691,398	111,745	98,266	2,166,674
Roads and bridges							
Public buildings ..	307,554	329,882	230,941	81,626	18,680	27,959	996,642
Development of mines, etc.	..	..	..	..	64,618	..	64,618
Advances to settlers ..	1,609	23,731	..	354,799	2,131,345	1,536	5,434,720
Land purchases for settle- ment ..	300,000	2,420,764	230,595	(a)34,477			
Loans to local bodies ..	99,839	..	557,405	..	..	137,939	795,183
Rabbit-proof fences ..	39,514	(b)	20,190	(a) 4,778	..	..	54,926
Other public works and pur- poses ..	843,029	2,522,088	388,865	13,615	270,440	(d)629,007	4,667,044
Total	9,794,019	8,764,366	3,701,750	3,480,281	3,389,299	1,153,645	30,283,300

(a) Repayment.
Electricity supply.

(b) Included in "Advances to Settlers."
(d) Including £226,485 spent on Hydro-Electric scheme.

(c) Including £2,471,457 for

3. **Loan Expenditure, 1918–19 to 1922–23.**—The following table gives the loan expenditure during each of the years 1918–19 to 1922–23:—

STATE LOAN EXPENDITURE, 1918-19 TO 1922-23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
1918-19	3,918,887	2,932,521	2,736,412	2,006,166	1,049,736	575,054	13,218,776
1919-20	8,794,905	7,601,266	4,797,865	3,446,617	2,663,319	1,375,960	28,679,932
1920-21	14,701,028	11,095,158	4,251,248	1,826,841	2,586,404	2,717,452	37,178,131
1921-22	10,442,732	11,804,991	2,599,573	2,689,422	2,454,924	2,097,364	32,089,006
1922-23	9,794,019	8,764,306	3,701,750	3,480,281	3,389,299	1,153,645	30,283,300
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918-19	2 0 0	2 0 10	3 17 7	4 7 8	3 7 9	2 16 8	2 12 0
1919-20	4 6 4	5 1 2	6 10 4	7 3 2	8 2 6	6 11 1	5 8 2
1920-21	7 0 7	7 5 3	5 13 3	3 14 5	7 16 1	12 15 6	6 17 4
1921-22	4 18 2	7 12 3	3 7 8	5 7 1	7 6 3	9 12 2	5 16 6
1922-23	4 10 2	5 10 3	4 13 11	6 15 8	9 17 4	5 5 5	5 7 6

Throughout the period the loan expenditure of New South Wales has represented on the average between 30 and 40 per cent. of the aggregate for all the States.

The loan expenditure per head of population varies in the different States and in different years, reaching its highest point for the five years under review in Tasmania in 1920-21 with £12 15s. 6d. per head, and its lowest in New South Wales in 1918-19 with 40s. 0d. per head.

4. Total Loan Expenditure to 30th June, 1923.—(i) *General.* The total loan expenditure of the States from the initiation of borrowing to the 30th June, 1923, amounted to £519,829,758. The purposes for which this sum was expended are shown in the following table:—

TOTAL STATE LOAN EXPENDITURE TO 30th JUNE, 1923.

Heads of Expenditure.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Railways and tramways	106,520,367	63,398,911	47,868,192	22,683,533	19,268,968	6,596,175	266,336,146
Telegraphs and telephones	1,761,845	..	996,587	991,773	..	142,410	3,892,615
Water supply, sewerage and water conservation	36,454,005	16,244,925	1,044,335	14,824,528	5,610,988	..	74,178,781
Harbours, rivers, etc.	21,037,773	6,151,021	3,343,452	7,560,622	4,603,102	5,426,520	48,122,490
Roads and bridges	1,457,536	149,323	363,084	291,615	..	123,224	2,389,782
Defence	6,632,354	3,134,617	3,006,405	1,847,219	917,319	1,482,583	17,020,795
Public buildings ..	569,930	..	2,763,070	..	432,028	235,000	4,000,028
Immigration .. ..	..	510,454	..	5,111	1,929,451	..	2,445,016
Development of mines, etc.	6,047,000	25,276,007	2,605,023	1,907,632	10,032,147	2,896,893	53,164,387
Land purchases for settlement	675,941	1,036,460	..	2,595,515	..	91,679	..
Advances to settlers ..	89,266	..	7,710,883	..	..	1,476,730	9,276,879
Loans to local bodies ..	168,238	..	..	197,530	328,703	..	694,480
Rabbit-proof fences ..	10,099,469	10,671,452	3,661,704	3,641,158	5,736,472	4,498,104	38,308,359
Other public works and purposes .. .. .	..	..	..	..	..	..	..
Total	191,513,724	126,573,260	73,362,733	56,546,245	48,859,178	22,974,618	519,829,758

The figures in the table show the amounts actually spent, and differ from those given later in the statements relating to the public debt, which represent the amount of loans still unpaid. The statement above includes all expenditure, whether the loans have been repaid or are still in existence. In the public debt statement, however, loans repaid are not included and in the case of loans still outstanding each is shown according to the amount repayable at maturity, and not according to the amount originally available for expenditure.

(ii) *Relative Importance of Items.* The relative importance of the different items of loan expenditure is indicated in the following table, which gives the percentage of each loan on the total loan expenditure in each State and for the States as a whole to 30th June, 1923 :—

TOTAL STATE LOAN EXPENDITURE TO 30th JUNE, 1923.—PERCENTAGES OF ITEMS.

Heads of Expenditure.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States .
	%	%	%	%	%	%	%
Railways and tramways ..	55.62	50.09	65.25	40.11	39.44	28.71	51.23
Telegraphs and telephones	0.92	..	1.36	1.75	..	6.62	0.75
Water supply sewerage and water conservation ..	19.03	12.83	1.42	26.21	11.48	..	14.27
Harbours, rivers, etc. } Roads and bridges	10.98	4.86	4.56	13.36	9.42	23.62	9.26
Defence ..	0.76	6.12	0.49	0.51	..	0.56	6.46
Public buildings ..	3.46	2.48	4.10	3.25	1.88	6.45	3.28
Immigration ..	0.30	..	3.77	..	6.89	1.02	0.77
Development of mines, etc.	..	0.41	..	0.08	3.95	..	0.47
Land purchases for settlement ..	3.16	19.97	3.55	3.37	..	..	..
Advances to settlers ..	6.35	0.81	..	4.58	20.53	12.61	10.23
Loans to local bodies ..	0.05	..	10.51	..	..	6.43	1.78
Rabbit-proof fences ..	0.09	..	..	0.34	0.67	..	0.13
Other public works and purposes ..	5.28	8.43	4.99	6.44	11.74	19.58	7.37
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Division II.—State Public Debts.

1. *General.*—The first government loan raised in Australia was obtained by New South Wales in 1842. This and nine other loans prior to 1855 were all procured locally. In the last-mentioned year Australia approached the London market, the occasion being the placing of the first instalment of the New South Wales 5 per cent. loan for £683,300. Victoria first appeared as a borrower in 1854, and made its first appearance on the London market in 1859. In the other States the first public loans were raised in the following years:—Queensland 1861, South Australia 1854, Western Australia 1845, and Tasmania 1867.

2. *State Debts, 1919 to 1923.*—The table hereunder shows the State public debts and the amounts owing per head of population at the 30th June, in each year from 1919 to 1923 inclusive. The totals include sums advanced by the Commonwealth to the States for settling returned soldiers on the land, and for this reason they differ in some cases from those given in previous issues.

STATE PUBLIC DEBTS, 30th JUNE, 1919 TO 1923.

Date.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL.							
	£	£	£	£	£	£	£
30th June, 1919 ..	147,174,536	82,655,532	64,908,797	46,829,317	43,637,076	15,281,281	400,576,535
" 1920 ..	159,649,649	88,273,123	70,152,471	48,565,562	46,822,003	16,630,039	430,092,847
" 1921 ..	175,084,937	97,317,830	79,744,321	54,888,685	49,039,668	18,772,018	474,847,459
" 1922 ..	190,857,535	109,099,109	85,691,228	60,936,238	54,959,778	21,945,411	523,489,380
" 1923 ..	197,936,092	118,562,029	88,005,001	65,451,873	58,485,555	22,438,091	550,878,641
PER HEAD OF POPULATION.							
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
30th June, 1919 ..	73 14 5	56 1 7	89 17 7	99 19 2	136 10 5	74 15 1	77 2 6
" 1920 ..	77 4 3	58 7 9	93 14 1	109 16 9	141 16 3	79 8 10	80 4 5
" 1921 ..	83 5 11	63 7 5	103 18 8	110 7 3	146 19 8	83 11 11	87 0 10
" 1922 ..	88 17 1	69 9 6	109 7 2	120 14 0	161 12 4	102 17 8	94 0 4
" 1923 ..	90 5 6	73 15 0	109 4 9	125 15 9	168 0 1	104 19 2	96 16 11

The greatest increase in indebtedness was experienced in New South Wales, which added £50,761,556 during the period under review. During the period between 30th June, 1919, and 30th June, 1923, the public debt of the States increased by £150,302,106, or at the rate of about £37,600,000 per annum.

3. Place of Flotation of Loans.—(i) *For each State.* As pointed out previously the early loans, usually for comparatively small amounts, were raised locally, but, with the increasing demand for loan funds and the more favourable terms offering in the London market, the practice of raising loans in London came into vogue, and for many years local flotations, except for short terms or small amounts, were comparatively infrequent. In more recent years, however, the accumulating stocks of money in Australia seeking investment have led to the placing of various redemption and other loans locally, with very satisfactory results. Moreover, certain loans have been placed in New York on account of the Queensland and Tasmanian Governments. The following table gives particulars of loans outstanding on the 30th June, 1923, which had been floated abroad and in Australia respectively:—

STATE PUBLIC DEBTS.—PLACE OF FLOTATION OF LOANS, 30th JUNE, 1923.

State.	Floated Abroad.		Floated in Australia.		Total Public Debt
	Amount.	Percentage on Total Debt.	Amount.	Percentage on Total Debt.	
	£	%	£	%	£
New South Wales ..	120,353,435	60.80	77,582,657	39.20	197,936,092
Victoria ..	45,685,997	38.53	72,876,032	61.47	118,562,029
Queensland ..	(a) 58,900,314	66.93	29,104,687	33.07	88,005,001
South Australia ..	32,373,437	49.46	33,078,436	50.54	65,451,873
Western Australia ..	40,147,753	68.65	18,337,802	31.35	58,485,555
Tasmania ..	(b) 11,755,265	52.39	10,682,826	47.61	22,438,091
Total ..	309,216,201	56.13	241,662,440	43.87	550,878,641

(a) Including £4,521,167, floated in New York.

(b) Including £144,015, floated in New York.

(ii) *Total, All States.* The next table showing similar particulars of aggregate State indebtedness at the end of the years 1918–19 to 1922–23, indicates the rapidity with which the local holdings have increased.

STATE PUBLIC DEBTS.—PLACE OF FLOTATION OF LOANS, 30th JUNE, 1919 TO 1923.

Year.	Floated Abroad.		Floated in Australia.		Total Public Debt.
	Amount.	Percentage on Total Debt.	Amount.	Percentage on Total Debt.	
	£	£	£	%	£
30th June, 1919 ..	261,022,443	65.16	139,554,092	34.84	400,576,535
„ 1920 ..	266,307,448	61.92	163,785,399	38.08	430,092,847
„ 1921 ..	271,981,090	57.28	202,866,369	42.72	474,847,459
„ 1922 ..	300,274,441	57.36	223,214,948	42.64	523,489,389
„ 1923 ..	309,216,201	56.13	241,662,440	43.87	550,878,641

In the course of four years the foreign indebtedness of the States has increased by £48,193,758, while the local indebtedness has increased by £102,108,348. In other words, the Australian proportion had on 30th June, 1923, grown to more than two-fifths.

The total indebtedness of the States increased during the year 1922-23 by over £27,000,000, and is accounted for chiefly by the loans from the Commonwealth Government, which has either advanced money to the States, or acted as agent in obtaining loans from London. The sums raised have been largely spent in settling returned soldiers on the land, in constructing silos for wheat storage, and in providing employment through the medium of local bodies.

4. Rates of Interest.—(i) *At 30th June, 1923.* As mentioned previously, the highest rate of interest paid for the earliest State loans was fivepence farthing per £100 per diem, or, approximately, 8 per cent. per annum. At present the rates vary from 7½ per cent. to 3 per cent. It is probable, however, that the debt at the higher rates will largely increase in the future, since conversion can scarcely be effected at present at a lower rate of interest than 5 per cent. The average rate payable on the aggregate indebtedness is rather more than 4½ per cent. For the separate States the average varies considerably, being lowest in the case of Western Australia and highest in that of Tasmania, the difference between these two average rates being about ½ per cent. The table hereunder gives particulars of the rates of interest payable at the 30th June, 1923 :—

STATE PUBLIC DEBTS.—RATES OF INTEREST PAYABLE, 30th JUNE, 1923.

Rate of Interest.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
%	£	£	£	£	£	£	£
7½	..	..	..	..	..	144,015	144,015
7¼	..	..	830,976	513,564	1,280,000	268,648	5,790,670
7	2,311,068	586,414	2,466,091	..	..	..	2,466,091
£6/15/2	1,250,000	631,248	10,742	..	477,802	..	2,369,792
6½	6,500,000	..	3,130,650	3,000,000	250,000	3,426,013	16,306,663
£6/7/-	4,535,099	5,523,543	1,580,780	1,730,158	1,939,883	900,000	16,209,463
6¼	..	5,516,284	..	..	..	180,057	5,696,341
6	10,000,000	600,081	4,525,676	9,174,162	3,915,380	1,592,318	29,807,617
5¾	25,914,452	5,036,833	..	..	1,500,000	87,976	32,539,261
£5/13/2	..	..	..	28,796	..	..	28,796
5½	22,582,837	21,440,727	5,556,760	11,525,686	3,455,082	2,012,787	66,573,879
£5/6/11	2,124,411	3,563,724	501,241	522,283	1,045,559	600,000	8,357,218
£5/5/3	585,625	1,586,911	310,046	67,375	88,478	342,324	2,980,759
5¼	16,446,843	4,133,613	1,640,000	1,058,007	335,000	469,000	24,082,463
5	11,212,482	16,634,006	327,100	7,031,621	2,621,165	700,122	38,526,496
4¾	..	1,050,000	..	..	..	..	1,050,000
4½	..	1,406,010	..	1,000,000	..	..	2,406,010
£4/14/5	7,400,000	3,900,000	..	2,600,000	3,100,000	1,000,000	18,000,000
£4/14/3	..	398	..	..	..	..	398
4¼	13,278,734	3,262,889	16,110,807	417,162	5,340,808	412,800	38,823,200
4	..	733,660	..	..	..	140,750	874,410
4	21,294,694	7,054,701	22,349,789	10,042,229	11,818,908	4,834,375	77,444,696
3¾	3,056,985	277,720	2,025,300	4,573,655	1,650,000	..	11,583,660
3½	32,395,392	25,917,297	21,149,660	6,204,830	12,317,490	4,826,906	102,811,575
3	17,047,072	9,706,368	5,489,383	5,962,345	7,350,000	450,000	46,005,168
Total	197,936,092	118,562,029	88,005,001	65,451,873	58,485,555	22,438,091	550,878,641
Average rate	£4/15/2	£4/14/-	£4/7/9	£4/15/6	£4/7/6	£4/17/4	£4/13/-

(ii) *All States, 1919 to 1923.* The rapid increase recently in the amounts bearing interest at the higher rates is exhibited in the table hereunder which shows the aggregate amount of indebtedness at the several rates of interest at the 30th June in each of the years 1919 to 1923 :—

STATE PUBLIC DEBTS.—RATES OF INTEREST PAYABLE 30th JUNE, 1919 TO 1923.

Rate of Interest.	30th June, 1919.	30th June, 1920.	30th June, 1921.	30th June, 1922.	30th June, 1923.
%	£	£	£	£	£
7½	..	..	100,090	122,123	144,015
7¼	..	..	..	4,499,529	5,790,670
7	..	..	..	2,466,091	2,466,091
£6/15/2	..	..	..	2,369,792	2,369,792
£6/13/10	..	..	123,991	..	..
6½	..	..	11,972,379	16,149,635	16,306,663
£6/7/-	..	..	16,209,462	16,209,463	16,209,463
6¼	..	461,795	5,100,770	8,651,849	5,696,341
6	..	2,241,800	6,545,219	30,630,929	29,807,617
5½	16,076,000	19,576,000	20,171,777	31,565,051	32,539,261
£5/13/2	..	..	28,796	28,796	28,796
5¼	20,924,002	33,093,115	47,234,718	58,264,168	66,573,879
£5/8/11	..	8,377,014	8,357,218	8,357,218	8,357,218
£5/5/3..	..	3,149,665	3,088,428	3,012,870	2,980,759
5½	7,645,609	22,460,969	24,272,989	24,111,789	24,082,463
£5/3/10	..	17,085	13,571	..	..
£5/3/0	..	17,085	..	..	..
5	18,051,724	21,698,079	19,443,800	18,657,115	38,526,496
4½	20,000	..	..	1,000,000	1,050,000
4¼	7,138,360	7,275,350	6,582,390	2,148,160	2,406,010
£4/14/5	..	..	..	..	18,000,000
£4/14/3	..	20,000	11,874	5,010	398
£4/13/10	..	93,247	..	..	..
4¼	33,574,795	30,113,383	29,236,033	29,966,961	38,823,200
4½	20,000	20,000	..	..	..
£4/7/6	350,000	..	..	..	..
4¼	846,250	640,750	837,010	837,010	874,410
4¼	18,000,000	18,000,000	18,000,000	18,000,000	..
4	94,537,656	90,463,298	86,904,348	84,773,988	77,444,696
3½	24,889,399	14,123,008	13,265,810	12,213,148	11,583,660
3¼	112,210,201	111,963,434	111,123,493	103,420,420	102,811,575
3½	24,718	24,718	24,718	..	..
3	46,450,236	46,280,197	46,198,575	46,028,274	46,005,168
Total	400,576,535	430,092,847	474,847,459	523,489,389	550,873,641
Average rate	£4/0/0	£4/3/1	£4/7/8	£4/12/0	£4/13/0

The increase in the average rate started in 1912, but was accelerated by the war, which has virtually made 5 per cent. the present minimum rate of interest for gilt-edged securities. The figure is likely to rise for some time, since securities falling due in the future will probably have to be renewed at a higher rate of interest.

5. Interest per Head.—The relative burden of the State debts in respect of interest will be seen from the following table, which gives for the 30th June, 1923, the amount of interest payable on the public debt outstanding at that date, and the corresponding amount per head of population :—

STATE PUBLIC DEBTS.—INTEREST PAYABLE, 30th JUNE, 1923.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
Total annual interest payable	9,418,959	5,574,693	3,860,045	3,124,937	2,557,848	1,091,975	25,628,457
Annual interest payable per head	£4/6/1	£3/9/4	£4/15/10	£6/1/0	£7/7/0	£5/2/2	£4/10/1

6. Dates of Maturity.—Whereas securities like the British Consols are interminable, Australian debts have in most cases a fixed date for repayment, there being a few exceptions which are included in the following table under the headings "interminable," "interminable at Government option," and "not yet fixed." The "interminable at Government

option" includes amounts which are payable by the respective Governments after giving a specified notice, and the "not yet fixed" consists of certain amounts owing to the Commonwealth Government. In most cases at date of maturity renewal is effected in respect of the greater portion of the loan, as provision for redemption has been made in exceptional cases only. In order to avoid application to the market at an unfavourable time, several States have adopted the practice of specifying a period prior to the date of maturity within which the Government, on giving twelve, or in some cases six months' notice, has the option of redeeming the loan. The Government can, therefore, take advantage of opportunities that may offer during the period for favourable renewals. Particulars concerning the due dates of the State loans outstanding on the 30th June, 1923, are given in the following table.

Those loans in the case of which the Government has the option of redemption during a specified period have been in each instance classified according to the latest date of maturity.

STATE PUBLIC DEBTS.—DUE DATES OF AMOUNT OUTSTANDING
ON 30th JUNE, 1923.

Year of Maturity.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
Overdue ..	67,521	75,240	..	..	..	..	142,761
1923 ..	6,394,685	15,391,460	..	543,073	146,950	350,074	22,826,242
1924 ..	29,904,164	14,126,782	14,450,634	7,956,975	2,619,520	888,821	69,946,896
1925 ..	11,782,008	14,601,960	12,021,000	9,949,164	3,656,950	2,015,170	54,026,232
1926 ..	7,202,941	6,035,867	963,300	3,759,571	1,922,305	729,474	20,613,458
1927 ..	18,051,676	4,833,265	4,828,750	6,217,842	5,673,785	1,490,635	41,095,953
1928 ..	1,105,111	5,738,308	487,100	1,750,803	167,450	1,012,030	10,260,802
1929 ..	923,440	2,359,146	93,100	1,237,748	..	937,379	5,550,813
1930 ..	3,929,684	4,297,745	4,577,200	1,054,725	..	66,134	13,925,488
1931 ..	3,485,242	1,388,638	..	450	..	143,778	5,018,108
1932 ..	14,214,200	2,031,366	..	1,225	1,168,995	1,557	17,417,343
1933 ..	13,454,614	4,000	..	957,920	615,475	350,500	15,382,209
1934 ..	3,074,800	3,000,000	..	1,044,100	1,866,318	..	8,985,218
1935 ..	17,598,465	..	..	1,561,550	8,408,185	142,750	27,710,950
1936 ..	92,150	300,000	2,925,650	5,201,330	1,240,000	6,000	9,765,130
1937 ..	98,700	..	..	16,400	..	7,580	122,680
1938 ..	84,450	..	1,303,167	101,440	604,700	..	2,093,757
1939 ..	2,900	..	..	2,734,050	106,603	..	2,843,553
1940 ..	16,506,014	4,248,900	2,000,000	6,014,861	4,500,000	7,820,622	41,090,397
1941 ..	5,100	324,380	2,928,391	..	..	26,047	3,283,918
1942 ..	4,008,100	5,485,100	15,000	3,000,000	61,697	..	12,569,897
1943 ..	424,100	3,600	..	1,037,925	..	..	1,465,625
1944 ..	2,900	400	..	..	..	..	3,300
1945 ..	5,006,015	1,049,868	6,228,790	..	2,000,000	..	14,284,673
1946 ..	..	217,400	..	..	..	250,000	467,400
1947 ..	3,200	..	6,553,769	..	2,250,000	..	8,806,969
1948 ..	6,500	..	..	..	..	..	6,500
1949 ..	2,900	11,699,371	..	..	..	..	11,702,271
1950 ..	22,062,415	11,891,840	10,109,253	2,862,176	4,831,722	4,910,972	56,668,378
1951 ..	..	..	999,600	..	..	..	999,600
1952 ..	3,100	..	125,400	..	..	..	128,500
1953 ..	6,500	..	2,147,809	..	..	..	2,154,309
1954 ..	2,900	123,874	..	..	..	..	126,774
1955 ..	1,500	..	..	..	4,437,000	..	4,438,500
1960 ..	..	2,979,700	2,000,000	3,000,000	1,000,000	..	8,979,700
1962 ..	10,500,000	..	..	..	6,000,000	..	16,500,000
1964 ..	..	..	..	..	1,566,000	..	1,566,000
1965 ..	..	..	..	..	3,000,000	..	3,000,000
1970 ..	..	..	2,000,000	..	..	..	2,000,000
Interminable ..	532,839	..	2,228,000	..	..	..	2,760,839
Interminable at Government option ..	7,395,208	5,363,715	..	5,122,845	..	..	17,881,768
Annual Drawings ..	..	..	71,132	..	41,900	..	113,032
Half-yearly ..	..	..	7,457,956	..	..	819,568	8,277,524
Date not fixed ..	..	990,104	1,490,000	326,000	600,000	469,000	3,875,104
Total ..	197,936,092	118,562,029	88,005,001	65,451,873	58,485,555	22,438,091	550,878,641

7. **Sinking Funds.**—The practice of providing sinking funds has been consistently adopted in the case of Western Australia only. This State has established, in connexion with each of its loans, sinking funds varying from 1 per cent. to 3 per cent. per annum of the nominal amount of the loan. The funds are placed with trustees in London, by whom they are invested in securities, and applied from time to time to the redemption of loans falling due. In the other States the sinking fund provision made is varied, consisting in certain instances of the revenues from specified sources, in others of the Consolidated Revenue Fund surplus, and in others again of fixed annual amounts. The following table gives the sinking funds and net indebtedness of each State at the 30th June, 1923 :—

STATE SINKING FUNDS AND NET INDEBTEDNESS, 30th JUNE, 1923.

State.	Gross Indebtedness.	Sinking Fund.	Net Indebtedness.	Net Indebtedness per Head.
	£	£	£	£
New South Wales ..	197,936,092	441,844	197,494,248	90 1 5
Victoria ..	118,562,029	2,993,432	115,568,597	71 17 9
Queensland ..	88,005,001	689,488	87,315,513	108 7 7
South Australia ..	65,451,873	1,779,951	63,671,922	122 7 4
Western Australia ..	58,485,555	8,781,051	49,704,504	142 15 7
Tasmania ..	22,438,091	1,068,433	21,369,658	99 19 2
Total ..	550,878,641	15,754,199	535,124,442	94 1 7

§ 6. Commonwealth and State Public Debts.

The table hereunder, showing the public debts of the Commonwealth and the States, contains a column headed "deduction for debts counted twice." For each year this includes the value of transferred properties, together with certain advances made by the Commonwealth to the States.

COMMONWEALTH AND STATE PUBLIC DEBTS, 1918-19 TO 1922-23.

Year ended 30th June.	Public Debt of Commonwealth.	Public Debt. of States.	Total Debt.	Deduction for Debts Counted Twice.	Balance, i.e., Public Debt of Australia.	Public Debt per Capita.
	£	£	£	£	£	£
1919..	325,770,747	400,576,535	726,347,282	22,045,516	704,301,766	135 12 0
1920..	381,309,905	430,092,847	811,402,752	33,060,917	778,341,835	145 3 6
1921..	401,720,024	474,847,459	876,567,483	48,551,637	828,015,846	151 15 7
1922..	416,070,509	523,489,389	939,559,898	55,182,665	884,377,233	158 16 8
1923..	410,996,316	550,878,641	961,874,957	56,390,011	905,484,946	159 3 9

A series of graphs illustrating the rise in the revenue, public debt, and taxation of the Commonwealth and States since 1902, the year 1901-2 being the first complete financial year since Federation, accompanies this chapter.

C. PRIVATE FINANCE.

§ 1. Coinage.

1. **Australian Mints.**—(i) *General.* Soon after the discovery of gold in Australia steps were taken for the establishment of a branch of the Royal Mint in Sydney. The formal opening took place on the 14th May, 1855. The Melbourne branch was opened on the 12th June, 1872, and the Perth branch on the 20th June, 1899. The States of New South Wales, Victoria, and Western Australia provide an annual endowment in return for which the mint receipts are paid into the respective State Treasuries, and it might be said until recently that, apart from expenditure on buildings, new machinery, etc., the accounts paid into the Treasuries fairly balanced the mint subsidies. Early in 1923, however, it was announced that owing to losses incurred in the operations of recent years, the New South Wales Government had decided to close the Sydney branch at the end of 1923.

(ii) *Gold Receipts and Issues in 1923.* (a) *Assay of Deposits Received.* The deposits received during 1923 at the Sydney Mint reached a gross weight of 111,050 ozs.; at the Melbourne Mint, a gross weight of 166,028 ozs.; and at the Perth Mint, a gross weight of 620,933 ozs. The average composition of these deposits in Sydney was, gold 933.0, silver 44.5, base 22.5 in every 1,000 parts; Melbourne, gold 870.1, silver 78.3, base 51.6 in every 1,000 parts; and Perth, gold 802.9, silver 141.9, base 55.2 in every 1,000 parts.

(b) *Issues.* The Australian mints, besides issuing gold coin in the shape of sovereigns and half-sovereigns, also issue gold bullion, partly for the use of local manufacturers (jewellers and dentists), and partly for export, India taking a considerable quantity of gold cast into 10-oz. bars. During recent years the export has been subject to regulation by the Commonwealth Government. The issues during 1923 are shown in the table below:—

AUSTRALIAN MINTS.—ISSUES OF GOLD, 1923.

Mint.	Coin.			Bullion.	Total.
	Sovereigns.	Half-sovereigns.	Total.		
	£	£	£	£	£
Sydney ..	416,000	..	416,000	56,602	472,602
Melbourne ..	510,870	..	510,870	106,209	617,079
Perth ..	2,124,154	..	2,124,154	4,804	2,128,958
Total ..	3,051,024	..	3,051,024	167,615	3,218,639

(c) *Withdrawals of Worn Coin.* The mints receive light and worn coin for recoinage. The total withdrawals of worn gold coin were as follows:—Sydney, £1,090,997; Melbourne, £865,392 (since and including 1890); Perth, £1,401.

(iii) *Total Gold Receipts and Issues.* (a) *Receipts.* The total quantities of gold received at the three mints since their establishment are stated in the gross as follows:—Sydney, 40,301,867.57 ozs.; Melbourne, 39,674,991.54 ozs.; and Perth, 29,551,634 ozs. As the mints pay for standard gold (22 carats) at the rate of £3 17s. 10½d. per oz., which corresponds to a value of £4 4s. 11½d. per oz. fine (24 carats), it is possible to arrive at an estimate of the number of fine ounces from the amounts paid for the gold received. These amounts were:—Sydney, £149,343,326; Melbourne, £155,438,476; Perth, £102,952,017; corresponding to—Sydney, 35,158,407 ozs. fine; Melbourne, 36,593,328

ozs. fine; and Perth, 24,236,965 ozs. fine. In the case of deposits containing over a certain minimum of silver, the excess is paid for at the rate fixed from time to time by the Deputy-Master of the branch mint concerned.

(b) *Issues.* The total values of gold coin and bullion issued by the three mints are shown in the table hereafter. It may be said that about four-sevenths of the total gold production of Australasia has passed through the three Australian mints, the production of Australia to the end of 1923 being valued at £615,868,225, and that of New Zealand at approximately £92,700,000, or a total of about £708,568,225.

AUSTRALIAN MINTS.—TOTAL ISSUES OF GOLD TO END OF 1923.

Mint.	Coin.			Bullion.	Total.
	Sovereigns.	Half-sovereigns.	Total.		
	£	£	£		
Sydney ..	137,378,500	4,781,000	142,159,500	7,186,923	149,346,423
Melbourne ..	142,186,813	946,780	143,133,593	12,294,576	155,428,169
Perth ..	94,355,796	367,338	94,723,134	8,200,884	102,924,018
Total ..	373,921,109	6,095,118	380,016,227	27,682,383	407,698,610

(iv) *Silver and Bronze Coinage.* (a) *Prices of Silver.* The value of silver has greatly decreased since its demonetization and restricted coinage in almost the whole of Europe. A noticeable increase, however, took place for some years after 1915, the price of silver following the general trend of world prices. Its average price in the London market in recent years is shown in the table in Chapter XXI. Mineral Industry.

(b) *Profits on Coinage of Silver.* As sixty-six shillings are coined out of one pound troy of standard silver, the silver required to produce £3 6s. of coin was only worth on the average about £1 14s. 1d. during 1923, the difference represents, therefore, the gross profit or seignorage made on the coinage of every £3 6s. Negotiations took place for a number of years between the Imperial authorities and the Governments of New South Wales and Victoria, and in 1898, resulted in permission being granted to the two Governments named to coin silver and bronze coin at the Sydney and Melbourne Mints for circulation in Australia. No immediate steps were, however, taken in the matter, and as section 51 of the Commonwealth Constitution makes legislation concerning "currency, coinage, and legal tender" a Federal matter, the question remained in abeyance until the latter part of 1908, when the Commonwealth Treasurer announced his intention of initiating the coinage. Since 1916 silver and bronze coins have been minted in Australia on behalf of the Commonwealth Treasury.

(c) *Silver and Bronze Issues.* The total issues of silver and bronze coinage on account of the Commonwealth since 1910 as obtained from returns furnished by the Treasury, are set out in the following table:—

AUSTRALIAN MINTS.—SILVER AND BRONZE ISSUES, 1910 TO 1923.

Year.	Silver.					Bronze.		
	2/-	1/-	6d.	3d.	Total.	1d.	½d.	Total.
	£	£	£	£	£	£	£	£
1910-18 ..	1,730,950	1,138,600	303,700	295,100	3,468,350	92,220	42,950	135,170
1919 ..	98,600	48,900	28,500	37,725	213,725	29,204	9,930	39,134
1920 ..	94,800	98,000	54,800	53,775	296,375	33,320	8,555	41,875
1921 ..	118,300	58,400	72,500	82,900	332,100	30,779	10,525	41,304
1922 ..	129,100	37,400	40,400	46,650	247,550	31,770	4,400	36,170
1923 (30th June)	135,900	37,200	42,600	42,950	258,650	22,790	5,080	27,870
Total ..	2,307,650	1,413,500	542,500	553,100	4,816,750	240,083	81,440	321,523

(d) *Withdrawals of Worn Silver Coin.* The value of worn silver coins received during 1923 was as follows:—Sydney, £77,700; Melbourne, £90,076; Perth, £8,851. The total withdrawals of worn silver coin were:—Sydney, £1,084,772; Melbourne, £818,531; Perth, £69,470.

(v) *Standard Weight and Fineness of Coinage.* The coinage of Australia, so far as the coins minted are concerned, is the same as that of the United Kingdom, and the same provisions as to legal tender apply, viz., gold coins are legal tender to any amount, silver for an amount not exceeding forty shillings, and bronze up to one shilling. As will be seen from the table below, the standard weights of the sovereign and half-sovereign are respectively 123.27447 grains and 61.63723 grains, but these coins will pass current if they do not fall below 122.5 grains and 61.125 grains respectively.

AUSTRALIAN COINAGE—STANDARD WEIGHT AND FINENESS.

Denomination.	Standard Weight.	Standard Fineness.
	Grains.	
GOLD—		} Eleven-twelfths fine gold, viz. :— Gold .. 0.91667 } 1.0000 Alloy .. 0.08333 }
Sovereign ..	123.27447	
Half-sovereign ..	61.63723	
SILVER—		} Thirty-seven-fortieths fine silver, viz. :— Silver .. 0.925 } 1.000(a) Alloy .. 0.075 }
Florin ..	174.54545	
Shilling ..	87.27272	
Sixpence ..	43.63636	
Threepence ..	21.81818	
BRONZE—		} Mixed metal, viz. :— Copper .. 0.95 } 1:00 Tin .. 0.04 Zinc .. 0.01 }
Penny ..	145.83333	
Halfpenny ..	87.50000	

(a) The fineness of Australian silver coins is still 925, but since December, 1920, the fineness of British silver coins has been reduced to 500.

§ 2. Cheque-Paying Banks.

1. *Banking Legislation.*—(i) *Commonwealth Legislation.* Under Section 51 of the Commonwealth Constitution Act the Commonwealth Parliament has power to legislate with respect to “Banking, other than State banking, also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money.” Legislation under this authority comprises the following Acts: No. 27 of 1909, dealing with Bills of Exchange, Cheques, and Promissory Notes; No. 11 of 1910, dealing with Australian Notes; and No. 14 of 1910, a Bank Notes Tax Act. The Notes Act and the Bank Notes Tax Act were supplemented in the following year by the passing of No. 18 of 1911, “An Act to provide for a Commonwealth Bank,” which passed both Houses and was assented to on 22nd December, 1911. Some account of the foundation of the Bank appeared in No. 6 to No. 10 issues of the Official Year Book.

As the initial expenses of the bank were heavy, the early operations resulted in a small loss, but with the increasing prosperity of the institution the early deficit was gradually reduced, until on 30th June, 1915, it was entirely extinguished. The following table shows the aggregate net profits from the initiation of the bank to the end of each of the last five financial years :—

COMMONWEALTH BANK.—AGGREGATE PROFITS, 1919 TO 1923.

Date.	Aggregate Net Profits to Date.		
	General Bank.	Savings Bank.	Total.
	£	£	£
30th June, 1919	1,726,532	196,438	1,922,970
„ 1920	2,426,067	330,038	2,756,105
„ 1921	3,082,249	369,116	3,451,365
„ 1922	3,577,317	424,342	4,001,659
„ 1923	3,869,219	534,768	4,403,987

According to the provisions of section 30 of the Bank Act, the net profit of £4,403,987 accumulated at 30th June, 1923, was divided equally between a bank reserve fund and a redemption fund. The reserve fund is available for the payment of any liabilities of the Bank. The redemption fund is available for the repayment of any money advanced to the Bank by the Treasurer, or for the redemption of debentures or stock which may be issued by the Bank; and any excess may be used for the purpose of the redemption of any Commonwealth debts, or State debts taken over by the Commonwealth. Under the terms of the new Sinking Fund Act passed in July, 1923, the future accumulations of the Redemption Fund are to be paid into the Sinking Fund for the repayment of Commonwealth debt.

In June, 1924, a bill was introduced into Parliament by the Commonwealth Treasurer to broaden the scope of the Commonwealth Bank and to enable it to perform the functions for which it had been established. Five main amendments are proposed:— (1.) Appointment of a Board of Directors to control not only the general business, but also that of the note issue. The Board will consist of the Governor of the Bank, the Secretary to the Treasury, two persons associated with manufacturing industries or commerce, two persons associated with agricultural, pastoral or other primary industries, and two persons who have a knowledge of currency. In addition to the above Board there will be in each principal city of the Commonwealth a Local Board of Advice. (2.) Strengthening the bank by the provision of further capital. It is proposed to capitalize £4,000,000 of the accumulated profits and to authorize the Treasurer to raise by loan sums aggregating £6,000,000 and to lend the proceeds to the Commonwealth Bank as additional capital. The Ministry does not propose to interfere with the authority already included in the Commonwealth Bank Act to issue debentures up to £10,000,000. (3.) The Board is to fix and publish its discount rate. (4.) The associated banks are required to settle their exchanges through the Commonwealth Bank. (5.) The associated banks are required to supply to the Treasurer each quarter a statement of average weekly liabilities and assets in accordance with the schedule prescribed.

(ii) *State Legislation.* The Acts under which the various banks are incorporated differ somewhat. While most of the other banks were incorporated by special Acts, e.g., the Bank of New South Wales, by Act of Council 1817; the Bank of Australasia, by Royal Charter; the Bank of Adelaide, by Act of the South Australian Parliament; and the Bank of New Zealand, by Act of the General Assembly of New Zealand, the newer banks are generally registered under a “Companies Act,” or some equivalent Act. This is also the case with those banks which, after the crisis of 1893, were reconstructed.

(iii) *Australian Note Issue.* In December, 1920, the Australian Note Issue was handed over to the control of the Commonwealth Bank, the notes, however, still remaining Treasury Notes. The Note Issue Department of the Bank is administered by a Board including the Governor and Secretary of the Bank, a leading Treasury official, and two outside financial experts. The Note Issue has remained fairly constant during

the last two years at a figure slightly exceeding 50 million pounds. The notes in circulation on 30th June, 1923, amounted to £52,102,025 10s., of which approximately four-sevenths were held by the Banks and three-sevenths by the public. Against this there was a reserve of gold coin amounting to £24,346,328 10s., or nearly 47 per cent., and other assets including investments of £29,000,305. The investments are set out in detail as follows:—

AUSTRALIAN NOTES ACCOUNT.—PARTICULARS OF INVESTMENTS AS AT 30th JUNE, 1923.

Investment.	Amount.	Rate of Interest.	Date of Maturity.	Annual Amount of Interest.
	£	%		£
Commonwealth Inscribed Stock	3,014,716	3½	1/4/62 to 1/4/72	105,515
Commonwealth War Loan	63,640	4½	15/12/25	2,864
New South Wales Treasury Bills	7,400,000	4½	(a)	395,250
Victorian Debentures (face value £250,000)	245,000	5½	1/7/24 to 1/7/26	13,475
Victorian Debentures	3,900,000	4½	(a)	160,875
Victorian Inscribed Stock	583,000	5½	(a)	30,608
Queensland Securities	1,490,000	5½	(a)	78,225
South Australian Treasury Bills	2,600,000	4½	(a)	107,250
South Australian Securities	328,000	6	(a)	19,560
Western Australian Stock	590,000	3½	1/1/26	22,125
Western Australian Treasury Bills	3,100,000	4½	(a)	127,875
Western Australian Securities	335,000	5½	(a)	17,587
Tasmanian Inscribed Stock	150,000	6	1/10/23	9,000
Tasmanian Treasury Bills	1,000,000	4½	(a)	41,250
Tasmanian Securities	469,000	5½	(a)	24,622
Advances and Fixed Deposits	1,751,350	5 to 6	Various	96,324
Total	27,017,706	..	..	1,162,405

(a) Not yet fixed.

2. Banks in Operation.—The nineteen banks trading in Australia at the 30th June, 1923, are arranged in the table hereafter according to the situation of their head offices. Where reference to the banks is made by name they will be dealt with in the order thus given, with the exception of the Commonwealth Bank, which is placed first:—

CHEQUE-PAYING BANKS AT 30th JUNE, 1923.

Bank.	Head Office.
Bank of Australasia	London
Union Bank of Australia Limited	"
English, Scottish, and Australian Bank Limited	"
Commonwealth Bank of Australia	Sydney
Bank of New South Wales	"
Commercial Banking Company of Sydney Limited	"
Australian Bank of Commerce Limited	"
Primary Producers' Bank of Australia Limited	"
National Bank of Australasia Limited	Melbourne
Commercial Bank of Australia Limited	"
Bank of Victoria Limited	"
Royal Bank of Australia Limited	"
Ballarat Banking Company Limited	Ballarat
Queensland National Bank Limited	Brisbane
Bank of Adelaide	Adelaide
Western Australian Bank	Perth
Bank of New Zealand	Wellington
Comptoir National d'Escompte de Paris	Paris
Yokohama Specie Bank Limited	Yokohama

Amalgamations, which have been such a feature in British banking of late years, have also been effected in Australia, the number of competitive joint-stock banks being thereby reduced considerably. During the calendar years 1917 and 1918 the following were recorded:—(a) the Royal Bank of Queensland Limited with Bank of North Queensland Limited; (b) City Bank of Sydney with Australian Bank of Commerce Limited; (c) National Bank of Tasmania Limited with Commercial Bank of Australia Limited; and (d) National Bank of Australasia Limited with Colonial Bank of Australasia Limited.

A further amalgamation took place in August, 1920, viz., the London Bank of Australia Ltd. and the English, Scottish and Australian Bank Ltd., and these banks absorbed the Commercial Bank of Tasmania in May, 1921. The National Bank of Australasia also absorbed the Bank of Queensland.

3. **Capital Resources.**—The paid-up capital of the cheque-paying banks, together with their reserve funds, the rate per cent., and the amount of their last dividends, are shown in the table hereunder. The information relates to the balance-sheet last preceding the 30th June, 1923. In regard to the reserve funds it must be noted that in the case of some of the banks these are invested in Government securities, while in other cases they are used in the ordinary business of the banks, and in a few instances they are partly invested and partly used in business:—

CHEQUE-PAYING BANKS.—CAPITAL RESOURCES, 1922-23.

Bank.	Paid-up Capital.	Rate per cent. per annum of last Dividend and Bonus.	Amount of last Half- yearly Dividend and Bonus.	Amount of Reserved Profits.
	£	%	£	£
Commonwealth Bank of Australia	4,000,000	10 and Bonus 3	260,000	4,403,987
Bank of Australasia	3,000,000	15	225,000	3,646,868
Union Bank of Australia Ltd.	1,500,000	10	131,989	3,336,818
English, Scottish and Australian Bank Ltd.	6,000,000	10	149,422(a)	1,557,094
Bank of New South Wales	3,000,000	10	150,000	3,552,438
Commercial Banking Coy. of Sydney Ltd.	1,200,000	7	42,000	2,546,421
Australian Bank of Commerce Ltd.	85,451	10	136,250	323,587
Primary Producers' Bank of Australia Ltd.	2,725,000	10	68,064	1,806,324
National Bank of Australasia Ltd.	2,468,877	4 Pref., 15 Ord.	66,510	42,209
Commercial Bank of Australia Ltd.	1,478,010	9	5,100	698,084
Bank of Victoria Ltd.	750,000	10	37,500	552,162
Royal Bank of Australia Ltd.	127,500	8	5,100	60,917
Ballarat Banking Coy. Ltd.	800,000	10	20,000(a)	408,827
Queensland National Bank Ltd.	875,000	10	36,250	749,701
Bank of Adelaide	378,000	20	25,000	738,187
Western Australian Bank	3,904,989	10 Pref., 13½ Ord.	412,500	2,246,957
Bank of New Zealand	10,000,000	10	1,000,000(b)	2,812,484
Comptoir National d'Escompte de Paris	10,000,000	12	600,000	7,401,582
Yokohama Specie Bank Ltd.	10,000,000	12	600,000	7,401,582
Total	52,292,827	.. 0	..	37,284,647

(a) Dividend for quarter.

(b) For twelve months.

4. **Liabilities and Assets.**—(i) *Liabilities, each State, Quarter ended 30th June, 1923.* Banks transacting business in any State are obliged, under the existing State laws, to furnish a quarterly statement of their assets and liabilities, which contains the averages of the weekly statements prepared by the bank for that purpose, and they have since the year 1908 furnished quarterly statements to the Commonwealth Statistician. As all other financial returns in this work generally refer to a period closing on the 30th June, the banking figures are given throughout for the June quarter of each year. The liabilities are those to the general public, and are exclusive of the banks' liabilities to their shareholders, which are shown in the preceding table. The figures set out in the tables which follow are inclusive in every case of the Commonwealth Bank.

CHEQUE-PAYING BANKS—LIABILITIES, JUNE QUARTER, 1923.

State.	Notes in Circulation not Bearing Interest.	Bills in Circulation not Bearing Interest.	Balances Due to Other Banks.	Deposits.			Total Liabilities.
				Not Bearing Interest.	Bearing Interest. (b)	Total.	
	£	£	£	£	£	£	£
New South Wales	67,556	1,046,580	1,050,955	52,524,726	61,430,633	113,955,359	116,120,450
Victoria ..	88,031	403,467	1,135,503	37,622,350	62,530,463	100,152,813	101,779,814
Queensland ..	(a)	726,300	390,732	18,292,046	36,239,439	54,531,485	55,648,517
South Australia ..	23,561	94,333	746,436	9,002,508	13,535,549	22,538,057	23,402,387
Western Australia	25,688	161,052	263,709	5,995,885	6,692,124	12,688,009	13,138,458
Tasmania ..	2,392	51,964	157,863	3,140,081	4,102,846	7,242,927	7,455,146
Northern Territory	..	29	9,062	79,339	133,514	212,853	221,944
Total ..	207,228	2,483,725	3,754,260	126,656,935	184,664,568	311,321,503	317,766,716

(a) In Queensland, Treasury Notes were used instead of bank notes.

(b) Including £38,102,850 Commonwealth Savings Bank Deposits.

(ii) *Liabilities, all States, June Quarters, 1919 to 1923.* In the next table, which shows the average liabilities of the banks for the quarters ended 30th June, 1919 to 1923, for Australia as a whole, the growth in liabilities is almost entirely due to an increase in the deposits, in which deposits not bearing interest and deposits bearing interest have both shared, although the latter show by far the larger proportion. This is partly due to the increase in the Commonwealth Savings Bank deposits consequent upon the absorption of the Queensland Savings Bank in 1920-21.

CHEQUE-PAYING BANKS—LIABILITIES, JUNE QUARTER, 1919 TO 1923.

Year.	Notes in Circulation not Bearing Interest.	Bills in Circulation not Bearing Interest.	Balances Due to Other Banks.	Deposits.			Total Liabilities.
				Not Bearing Interest.	Bearing Interest. (a)	Total.	
	£	£	£	£	£	£	£
1919 ..	221,755	1,813,390	6,540,609	118,983,567	130,069,687	249,053,254	257,634,008
1920 ..	224,130	2,343,713	4,505,117	133,912,300	131,715,792	265,628,092	272,701,552
1921 ..	213,866	2,392,074	5,745,770	127,789,314	154,767,037	282,556,351	290,908,063
1922 ..	209,894	2,299,870	4,377,704	123,819,184	164,725,978	288,545,162	295,432,630
1923 ..	207,228	2,483,725	3,754,260	126,656,935	184,664,568	311,321,503	317,766,716

(a) Including Commonwealth Savings Bank Deposits.

(iii) *Assets, each State, Quarter ended 30th June, 1923.* The average assets of the banks are shown in the following table:—

CHEQUE-PAYING BANKS.—ASSETS, JUNE QUARTER, 1923.

State.	Coined Gold and Silver and other Metals.	Gold and Silver in Bullion or Bars.	Government and Municipal Securities.	Landed and House Property.	Notes and Bills of other Banks.	Balances Due from other Banks.	Discounts, Overdrafts, and all other Assets.	Australian Notes.	Total Assets.
	£	£	£	£	£	£	£	£	£
N.S.W.	9,629,862	362,257	24,080,629	2,786,178	857,716	2,858,505	81,087,069	10,055,027	131,717,243
Victoria	5,598,092	51,997	6,432,331	1,770,565	5,138,216	2,998,785	63,619,139	9,895,449	95,504,574
Q'land	2,281,880	7,076	17,594,222	1,014,575	528,669	704,814	26,435,257	3,399,956	51,966,449
S. Aust.	1,753,342	84	1,765,790	417,222	249,072	607,175	14,899,814	2,864,253	22,556,752
W. Aust.	1,487,972	146,683	923,190	315,624	191,668	788,267	11,081,065	1,738,946	16,673,415
Tasmania	597,897	69	1,975,053	179,376	48,892	155,823	5,142,427	830,631	8,930,168
Nor. Ter.	4,835	235	..	600	45,002	49,054	6,544	3,625	109,895
Total	21,353,880	568,401	52,771,215	6,484,140	7,059,235	8,162,423	202,271,315	28,787,887	327,458,496

(iv) *Assets, all States, June Quarters, 1919 to 1923.* The average assets of the banks for the June quarters of each of the years 1919 to 1923 are given below.

CHEQUE-PAYING BANKS.—ASSETS, JUNE QUARTERS, 1919 TO 1923.

Year.	Coined Gold and Silver and other Metals.	Gold and Silver in Bullion or Bars.	Landed and other Property.	Notes and Bills of other Banks.	Balances Due from other Banks.	All other Debts Due to the Banks.(a)	Total Assets.
	£	£	£	£	£	£	£
1919 ..	21,341,026	798,883	5,215,550	2,274,422	7,798,735	240,527,120	277,950,736
1920 ..	20,704,078	625,786	5,375,279	2,909,031	7,819,654	232,440,445	269,874,273
1921 ..	21,066,405	560,427	5,736,389	2,406,515	6,644,558	276,331,601	312,745,895
1922 ..	21,350,702	551,351	5,892,641	5,249,453	6,603,581	262,537,920	302,185,648
1923 ..	21,353,880	568,401	6,484,140	7,059,235	8,162,423	283,830,417	327,458,496

(a) Including Government and Municipal securities, and Australian notes.

The increase in assets is mainly due to advances, and the growth in 1919 and 1921 is almost exactly accounted for by increases in this respect, largely on account of the action of the banks in financing wheat and other commodities awaiting shipment and in assisting individuals to invest in war loans. In 1920 the liabilities exceeded the assets by about three millions. This was owing to the excess of exports over imports, and the fact that payments had been made by the British Government for wheat and wool in anticipation of shipments not then effected.

5. Percentage of Coin, Bullion, and Australian Notes to Liabilities at Call.—

(i) *General.* Although it is not strictly correct to assume that the division of deposits into those bearing interest and not bearing interest would in every case coincide with a division into fixed deposits and current accounts, the division, in default of a better one, is adopted, and in the following table "liabilities at call" are therefore understood to include the note circulation of the banks and the deposits not bearing interest. Since 1912, however, the former item has steadily decreased, and is now almost negligible as compared with the latter.

CHEQUE-PAYING BANKS.—PERCENTAGE ON LIABILITIES OF COIN, BULLION, AND AUSTRALIAN NOTES, 1919 TO 1923.

Year.	Liabilities at Call.	Coin, Bullion, and Australian Notes.	Percentage on Liabilities at Call.
	£	£	%
1919 ..	119,210,322	57,894,016	48.56
1920 ..	134,136,930	55,940,627	41.70
1921 ..	128,003,182	56,119,744	43.84
1922 ..	124,029,078	52,216,696	42.10
1923 ..	126,864,163	50,710,168	39.97

It would appear that the banks generally consider it advisable to hold from 40 to 50 per cent. of the amount of liabilities at call in coin, bullion, and notes.

(ii) *Queensland Treasury Notes.* In Queensland, Treasury notes took the place of bank notes in 1893. These Treasury notes are disregarded in the quarterly statements

of the banks; according to Treasury returns the amount outstanding on 30th June, 1923, was £23,094. Under the Australian Notes Act, previously referred to, the issue of notes by a State is now prohibited.

(iii) *Percentage in each State.* The proportion of coin, bullion, and Australian notes to liabilities at call varies considerably amongst the States, and sometimes in the same State from year to year. A table is appended showing the percentage for each State for the quarter ended 30th June in each of the years 1919 to 1923:—

CHEQUE-PAYING BANKS.—PERCENTAGE ON LIABILITIES OF COIN, BULLION, AND AUSTRALIAN NOTES, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	All States.
	%	%	%	%	%	%	%	%
1919 ..	50.52	45.67	48.35	43.32	60.21	55.92	11.05	48.56
1920 ..	43.07	38.36	39.69	45.25	50.75	41.17	14.41	41.70
1921 ..	41.03	46.48	34.75	52.18	60.25	55.70	13.64	43.84
1922 ..	39.38	44.82	32.44	55.40	52.66	52.39	14.51	42.10
1923 ..	38.12	41.22	31.10	51.16	56.03	45.46	10.96	39.97

6. *Deposits and Advances.*—(i) *Deposits.* The amount and average per head of population of deposits held by the banks during each of the last five years are given hereunder.

CHEQUE-PAYING BANKS.—DEPOSITS, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
TOTAL.								
1919..	£ 93,865,093	£ 78,337,458	£ 35,477,051	£ 23,650,545	£ 10,663,143	£ 6,720,381	£ 344,583	£ 249,058,254
1920..	103,373,262	86,922,563	32,387,302	22,421,647	12,502,476	7,701,223	320,119	265,628,592
1921..	107,676,418	85,756,516	46,769,215	22,087,673	12,248,654	7,736,798	281,077	282,556,351
1922..	106,362,977	89,660,671	50,736,291	22,470,645	12,287,165	6,802,512	224,901	288,545,162
1923..	113,955,359	100,152,813	54,531,485	22,538,057	12,688,009	7,242,927	212,853	311,321,503

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1919..	47 3 4	53 8 10	49 9 10	50 18 7	33 13 1	32 19 8	74 6 3	48 4 11
1920..	50 1 4	57 12 1	43 11 0	46 3 9	37 19 1	36 12 10	75 12 2	49 13 8
1921..	51 3 9	55 18 6	61 8 3	44 10 4	36 15 4	36 7 1	72 2 2	51 17 11
1922..	49 11 5	57 4 5	65 3 4	44 11 4	36 4 11	31 15 1	61 1 4	51 19 5
1923..	52 0 11	62 8 9	63 3 6	43 13 9	36 11 4	33 13 11	58 16 4	54 17 2

(ii) *Advances.* In the quarterly statements furnished by the banks, the column headed "all other debts due to the banks" is made up of such miscellaneous items as bills discounted, promissory notes discounted, overdrafts on personal security, overdrafts secured by deposit of deeds or by mortgage, etc. The form prescribed for quarterly returns furnished to the Commonwealth Statistician in 1908 and 1909 provided for a division of the amounts under this heading into a number of sub-headings, but all the banks were not in a position to make the necessary division, and as it is impossible to

separate these items the totals in the column must, therefore, be treated as advances. The following table shows the totals for each State during the years 1919 to 1923. Part of the very large rise in 1918-19 is due to the advances made by the banks to their clients, to enable them to subscribe to the Commonwealth War Loan.

CHEQUE-PAYING BANKS.—ADVANCES, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
	£	£	£	£	£	£	£	£
1919 ..	70,891,172	53,645,558	21,773,778	17,280,249	10,562,174	3,785,362	14,532	177,952,825
1920 ..	68,171,203	45,642,462	21,485,247	10,676,319	10,744,799	3,957,318	16,193	160,693,541
1921 ..	82,317,843	57,826,082	23,267,979	13,623,176	10,909,657	5,462,908	23,115	193,435,760
1922 ..	75,312,841	55,180,844	23,702,482	12,841,216	10,675,452	4,511,973	12,810	182,237,618
1923 ..	81,087,069	63,619,139	26,435,257	14,899,814	11,081,035	5,142,427	6,544	202,271,315

(iii) *Proportion of Advances to Deposits.* The percentage of advances on total deposits shows to what extent the needs of one State are supplied by the resources of another State, and, where the percentage for Australia as a whole exceeds 100 (as it did in the early years of the century), the banks must have supplied the deficiency from their own resources, or from deposits obtained outside Australia. The following figures show, however, that the banking business of Australia has been self-contained in every State during the period under review :—

**CHEQUE-PAYING BANKS.—PERCENTAGE OF ADVANCES ON DEPOSITS,
1919 TO 1923.**

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	All States.
	%	%	%	%	%	%	%	%
1919 ..	75.52	68.48	61.43	73.06	99.05	56.33	4.22	71.45
1920 ..	65.95	52.40	66.34	47.61	85.94	51.39	5.06	60.50
1921 ..	76.45	67.43	49.75	61.70	89.07	70.61	8.22	68.46
1922 ..	70.81	61.54	46.72	57.15	86.88	66.33	5.70	63.16
1923 ..	71.16	63.52	48.48	66.11	87.33	71.00	3.07	64.97

7. *Clearing Houses.*—The Sydney Banks' Exchange Settlement and the Melbourne Clearing House, at which settlements are effected daily between the banks doing business in New South Wales and Victoria respectively, publish figures of the weekly clearances effected. From these it appears that in 1923 the total clearances in Sydney amounted to £805,032,000, and in Melbourne to £697,050,000. Owing to the different distribution of the banking business in the two cities, the figures do not necessarily afford a fair comparison of the volume of banking business transacted in Sydney and Melbourne. Returns of all Australian Clearing Houses for the last five years are shown in the following table :—

CHEQUE-PAYING BANKS.—CLEARING HOUSE RETURNS, 1919 TO 1923.

Year.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.
	£	£	£	£	£
1919 ..	590,098,000	544,211,000	128,006,000	123,880,000	56,900,000
1920 ..	764,546,000	725,006,000	160,539,000	166,011,000	80,758,000
1921 ..	709,734,000	609,335,000	157,549,000	157,503,000	67,619,000
1922 ..	726,583,000	623,789,000	172,836,000	147,374,000	75,279,000
1923 ..	805,032,000	697,050,000	194,915,000	160,524,000	83,730,000

§ 3. Savings Banks.

1. **General.**—In the following tables dealing with Savings Banks the figures for all the States except Tasmania refer to financial years ended 30th June. In the case of Tasmania, figures for the two joint-stock savings banks were made up to the last day of February in each year up to 1918–19, but in 1919–20 and subsequent years were made up to August. The figures in each State are inclusive of the Savings Bank Department of the Commonwealth Bank, and in the case of the Commonwealth Bank figures are made up to the 30th June, 1923.

2. **Accounts Open.**—The number of accounts open, not of those making deposits, and the number per 1,000 of the population, in each of the last five years are shown in the following table:—

SAVINGS BANKS.—ACCOUNTS OPEN, 1918–19 TO 1922–23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
NUMBER.								
1918–19	984,951	966,543	343,424	357,310	192,879	99,565	1,167	2,945,839
1919–20	1,053,893	1,014,223	364,149	377,435	204,005	108,289	987	3,122,981
1920–21	1,126,157	1,072,554	327,065	396,970	217,136	115,502	935	3,256,319
1921–22	1,186,948	1,127,892	337,621	414,570	225,136	120,252	861	3,413,280
1922–23	1,246,191	1,188,437	355,902	432,438	250,214	124,850	869	2,598,901
PER 1,000 OF POPULATION.								
1918–19	493	656	469	763	603	487	245	567
1919–20	509	671	486	776	618	517	243	583
1920–21	535	698	426	798	651	545	238	597
1921–22	552	718	431	821	662	564	235	613
1922–23	568	739	442	836	719	583	238	633

The fall in the number of accounts open in Queensland in 1920–21 is due to the amalgamation of the State and Commonwealth Savings Banks.

In connexion with the number of accounts open per 1,000 of the population, it must be borne in mind that savings bank accounts are not restricted to adults, since many accounts are opened in the names of children. Nevertheless, the proportion is a large one, amounting in the case of Australia to about seven-elevenths, and rising in Victoria to over seven-tenths and in South Australia to four-fifths. As it is possible in some States for the same person to have accounts in both Commonwealth and State Savings Banks, the figures given are slightly in excess of the number of individual depositors.

3. **Deposits.**—The deposits in Australia reached in 1923 the large sum of £172,000,000, and would no doubt be even larger if the banks did not restrict interest-bearing deposits to certain limits. While not granting facilities to draw cheques, the Australian savings banks practically afford the small tradesman all the advantages of a current account, and in addition allow interest on the minimum monthly balance instead of charging a small fee for keeping the account, as is the practice of the ordinary banks. All the Savings Banks have a reciprocity arrangement, under which money deposited in one State may be drawn out in another State, even by telegraph.

The table below shows the amount at credit of depositors, the average per account open, and the average amount deposited for head of population at the end of each of the last five years :—

SAVINGS BANKS.—DEPOSITS, 1918-19 TO 1922-23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	All States.
TOTAL.								
	£	£	£	£	£	£	£	£
1918-19	47,070,342	38,772,024	17,510,975	14,803,237	7,002,473	3,285,393	81,097	128,525,541
1919-20	49,933,535	42,317,863	17,909,571	15,496,514	7,258,384	3,030,181	57,106	136,903,154
1920-21	57,394,441	48,970,989	18,587,942	16,317,353	7,663,440	4,159,502	53,790	153,147,457
1921-22	61,791,273	52,131,032	19,394,156	16,931,678	7,759,317	4,224,662	41,115	162,273,233
1922-23	64,324,670	56,101,260	20,483,581	18,249,540	8,033,419	4,414,653	36,689	171,643,812

AVERAGE PER SAVINGS BANK ACCOUNT.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918-19	47 15 9	40 2 3	50 19 9	41 8 7	36 8 2	32 19 11	69 9 8	43 12 7
1919-20	47 7 7	41 14 6	49 3 8	41 1 2	35 11 7	36 5 10	57 17 2	43 16 9
1920-21	50 19 4	45 13 2	56 16 8	41 2 1	35 5 10	36 0 3	57 10 7	47 0 7
1921-22	52 1 2	46 4 5	57 8 10	40 16 10	34 9 4	35 2 7	47 15 1	47 10 10
1922-23	51 12 4	47 4 1	57 11 1	42 4 0	32 2 1	35 7 2	41 5 5	47 13 10

PER HEAD OF POPULATION.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918-19	23 11 0	26 6 1	24 4 3	31 12 0	21 18 2	16 1 5	17 0 4	24 15 0
1919-20	24 2 6	27 19 10	23 18 5	31 17 1	21 19 8	18 12 10	14 0 8	25 10 10
1920-21	27 5 5	31 17 10	24 4 6	32 16 2	22 19 5	19 12 8	13 14 1	28 1 7
1921-22	28 14 7	33 3 11	24 15 0	33 10 9	22 16 4	19 16 1	11 4 8	29 3 0
1922-23	29 6 9	34 17 11	25 8 6	35 6 5	23 1 6	20 13 0	10 1 2	30 3 6

A comparison of the number of accounts open and the amount of deposits shows that the average amounts to the credit of each account are considerably larger in some States than in others; in other words, in one State a comparatively larger proportion of the population makes use of the savings banks than in another, with the result that there is a smaller amount to the credit of the individual account. Within the same State there is little variation in the figures from year to year, except that each State generally shows a steady advance.

The average amount deposited per head of population increased during the period by over 20 per cent., the figures for Victoria being particularly noticeable.

4. Rates of Interest.—The rates of interest allowed, and the limits of interest-bearing deposits, are as follows :—New South Wales, Government Savings Bank, 4 per cent. up to £500 and 3½ per cent. on the excess up to £1,000; Victoria, 4 per cent. on first £500 and then 3 per cent. for a further £250, also 4 per cent. on deposit stock up to £1,000; South Australia, 3½ per cent. on accounts closed during the year, and 4½ per cent. up to £500 on accounts remaining open; Western Australia, 3½ per cent. from £1 to £500, and 3 per cent. from £500 to £1,000; also 4 per cent. on deposit stock up to £1,000; Hobart Trustees' Savings Bank, 4½ per cent. up to £300; Launceston Trustees' Savings Bank, 4½ per cent. up to £150, and Commonwealth Savings Bank, 3½ per cent. on the first £1,000, and 3 per cent. upon another £300.

5. Annual Business.—The business transacted by the savings banks is very large when compared with the total amount of deposits. This is of course due to the fact that many accounts are used as convenient current accounts. Thus, during the last year of the period under review, the total amount deposited and withdrawn (exclusive of interest added) amounted to nearly double the total amount of deposits at the end of

the previous year, while the amount at credit of depositors (inclusive of interest added) increased nearly 6 per cent. during the same year. The following table shows the business transacted during the year 1922-23 :—

SAVINGS BANKS.—TRANSACTIONS, 1922-23.

State.	Total Deposits at end of Year 1921-22.	Amounts Deposited during Year 1922-23.	Interest Added during Year 1922-23.	Total.	Amounts Withdrawn during Year 1922-23.	Total Deposits at end of Year 1922-23.
	£	£	£	£	£	£
N.S. Wales ..	61,791,273	63,456,350	2,261,949	127,509,572	63,184,902	64,324,670
Victoria ..	52,131,032	52,124,167	1,903,433	106,158,632	50,057,372	56,101,260
Queensland ..	19,394,156	20,752,035	651,507	40,797,698	20,314,117	20,483,581
South Australia	16,931,678	14,680,598	704,589	32,316,865	14,067,325	18,249,540
West. Australia	7,759,317	7,742,344	255,745	15,757,406	7,723,987	8,033,419
Tasmania ..	4,224,662	3,855,833	156,825	8,237,320	3,822,667	4,414,653
Nor. Territory	41,115	24,001	1,241	66,357	29,668	36,689
Total ..	162,273,233	162,635,328	5,935,289	330,843,850	159,200,038	171,643,812

6. Commonwealth Savings Bank.—The figures in the preceding table include those relating to the Savings Bank Department of the Commonwealth Bank, which commenced operations in Victoria on the 15th July, 1912, in Queensland on the 16th September, 1912, in the Northern Territory on the 21st October, 1912, and in the States of New South Wales, South Australia, and Western Australia on the 13th January, 1913. Extensive use is made of the country post-offices as local agencies.

The Commonwealth Bank absorbed the Tasmanian State Savings Bank in January, 1913, on terms set out in Official Year Book No. 6. The transfer of the Queensland Savings Bank was effected in 1920.

The following table gives the number of depositors, and the amount at credit on 30th June, 1923, at the various branches of the Commonwealth Savings Bank :—

COMMONWEALTH SAVINGS BANK, 30th JUNE, 1923.

Locality.	Number of Depositors.	Amount at Credit.
		£
New South Wales	244,516	7,681,218
Victoria	140,991	5,741,782
Queensland	355,902	20,483,581
South Australia	49,879	2,104,503
Western Australia	61,837	2,099,187
Tasmania	59,476	1,531,546
Northern Territory	869	36,689
Papua and New Guinea	1,597	69,642
London	7,710	402,742
Total	922,777	40,150,890

A series of graphs illustrating the progress of banking accompanies this chapter.

§ 4 Companies.

1. General.—Returns in regard to registered companies are defective, and, with few exceptions, are not available for Tasmania. They embrace (a) Returns relating to Trustees, Executors and Agency Companies; (b) Returns relating to Registered Building and Investment Societies; and (c) Returns relating to Registered Co-operative Societies.

2. Trustees, Executors and Agency Companies.—Returns are available for eight Victorian, two New South Wales, one Queensland, four South Australian, two Western Australian, and three Tasmanian companies. The paid-up capital of these twenty companies amounted to £908,734; reserve funds and undivided profits to £615,646; other liabilities, £278,981; total liabilities, £1,803,361. Among the assets are included :—Deposits with Governments. £197,504; other investments in public securities, fixed

deposits, etc., £504,105; loans on mortgage, £161,174; property owned, £659,630; other assets, £280,948. Of the nineteen companies, nine show the total amount of the estates, etc., under administration, the total for 1923 being over £70,000,000. Net profits for the year totalled £147,841, of which £96,944 was paid in dividends.

3. Registered Building and Investment Societies.—(i) *General*. Returns have been received relating to 231 societies, viz., 153 in New South Wales, 29 in Victoria, 11 in Queensland, 19 in South Australia, 15 in Western Australia, and 4 in Tasmania. The principal information available is contained in the appended table.

REGISTERED BUILDING AND INVESTMENT SOCIETIES.—SUMMARY, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania	All States.
Number of societies ..	153	29	11	19	15	4	231
Number of shareholders ..	(b)	8,329	4,775	11,922	6,805	2,100	33,931c
Number of shares ..	(b)	983,884	38,701	24,173	21,907	1,068,665e	1,068,665e
Number of borrowers ..	(b)	9,298	3,342	2,369	1,483	1,301	17,793c
Income for year from interest ..	£ 161,298	235,261	38,158	20,748	(d)	29,592	485,057
Working expenses for year ..	£ 135,220	96,075	7,240	10,339	21,102	5,065	275,041
Amount of deposits during year ..	£ (b)	1,013,665	62,204	7,379	101,973	57,399	1,242,620c
Repayment of loans during year ..	£ (b)	831,610	144,946	98,231	70,625	90,268	1,235,680c
Loans granted during year ..	£ (b)	840,398	149,833	121,273	88,313	104,643	1,304,460c

(b) Not available. (c) Exclusive of New South Wales. (d) Included in repayment of Loans.
(e) Exclusive of New South Wales and Victoria.

(ii) *Liabilities*. The balance-sheets cover various periods ended during the second half of 1922 and the first half of 1923, so that the returns may be assumed to correspond roughly to the financial year 1922-23.

REGISTERED BUILDING AND INVESTMENT SOCIETIES.—LIABILITIES, 1922-23.

State.	Paid-up Capital or Subscriptions.	Reserve Funds.	Deposits.	Bank Overdrafts and other Liabilities.	Total Liabilities.
	£	£	£	£	£
New South Wales ..	2,209,704	469,039	509,763	175,953	3,364,459
Victoria ..	1,455,837	492,388	1,002,550	150,263	3,101,038
Queensland ..	524,504	24,139	5,976	23,050	577,669
South Australia ..	361,102	47,262	10,373	22,671	441,408
Western Australia ..	206,773	..	41,773	13,578	262,124
Tasmania ..	137,193	71,560	197,500	6,724	412,977
Total ..	4,895,113	1,104,388	1,767,935	392,239	8,159,675

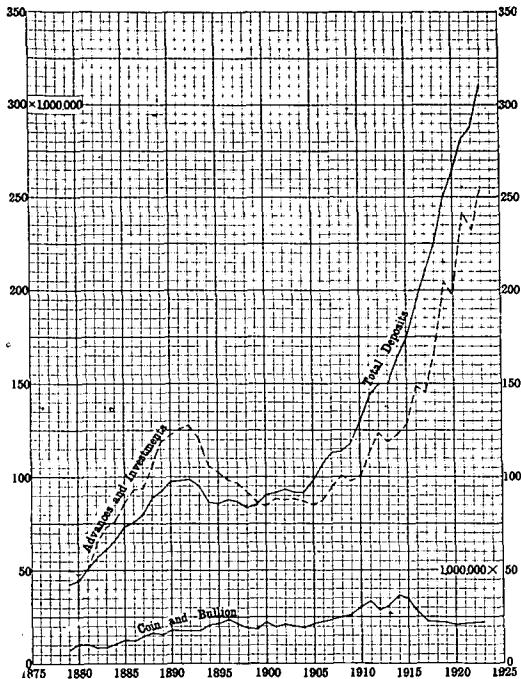
(iii) *Assets*. The assets of the companies for the same period were as follows:—

REGISTERED BUILDING AND INVESTMENT SOCIETIES.—ASSETS, 1922-23.

State.	Advances on Mortgage.	Landed and House Property, Furniture, etc.	Cash in Hand and on Deposit and other Assets.	Total Assets.
	£	£	£	£
New South Wales ..	3,014,447	(a)	350,012	3,364,459
Victoria ..	2,870,430	170,288	141,419	3,182,137
Queensland ..	539,661	7,153	31,495	578,309
South Australia ..	401,964	17,928	21,516	441,408
Western Australia ..	248,670	238	13,216	262,124
Tasmania ..	376,862	10,390	25,725	412,977
Total ..	7,452,034	205,997	583,383	8,241,414

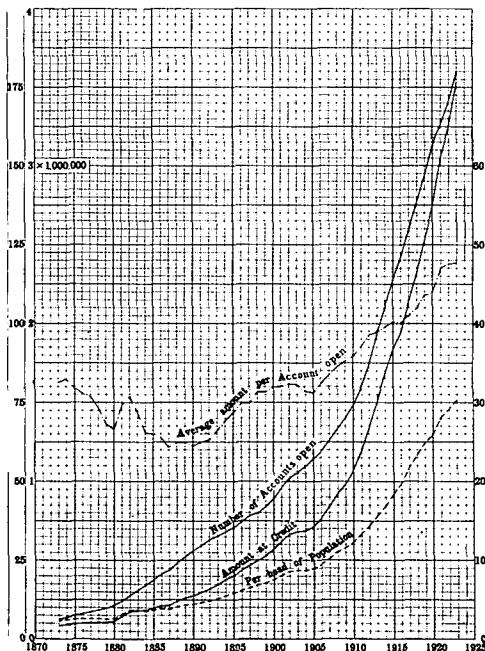
(a) Included with other assets.

CHEQUE-PAYING BANKS, AUSTRALIA, 1879 TO 1923.



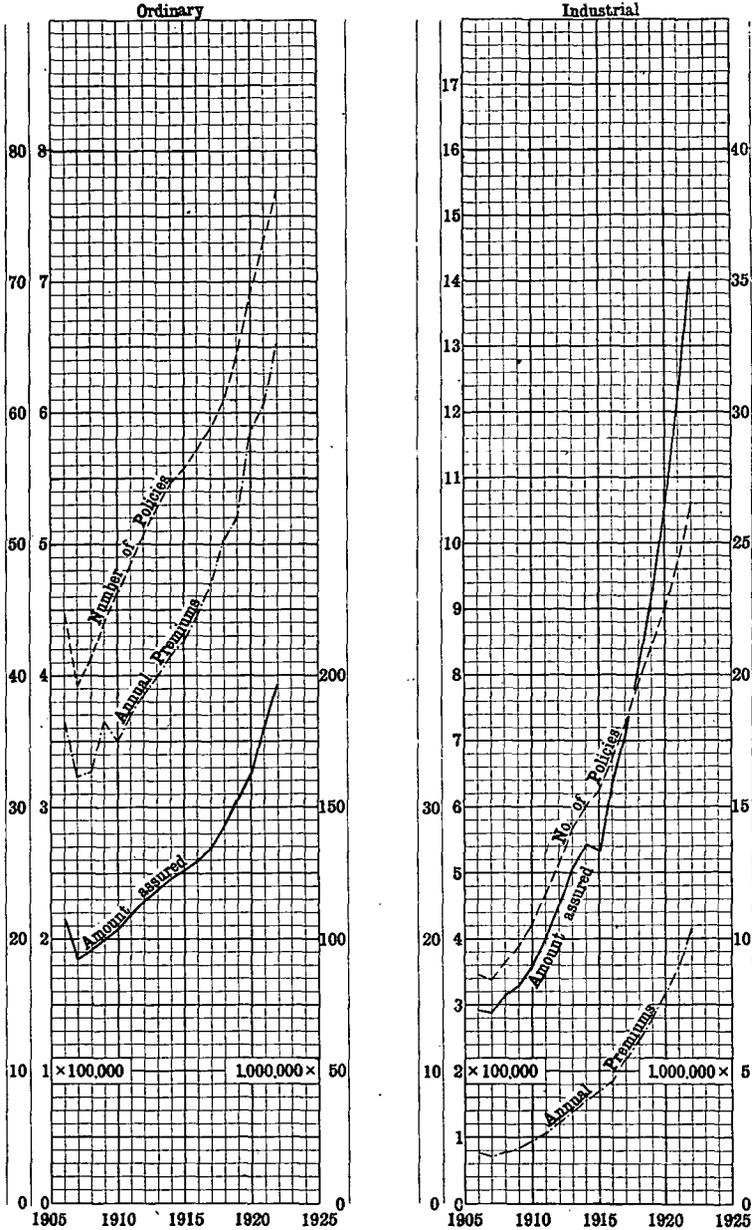
EXPLANATION.—The base of each small square represents an interval of one year, and its vertical height a sum of £5,000,000.

SAVINGS BANKS, AUSTRALIA, 1873 TO 1923.



EXPLANATION.—The base of each small square represents an interval of one year. Of the two scales on the left, the outer one shows the amount at credit, and the inner one the number of depositors, while the vertical height of each small square represents £2,500,000, and 50,000 in number. The scale on the right shows the average amount per depositor, and per head of population, while the vertical height of each small square represents £1.

LIFE ASSURANCE, ORDINARY AND INDUSTRIAL DEPARTMENTS.—AUSTRALIA, 1906 TO 1922.



EXPLANATION.—The base of each small square represents in each graph an interval of one year.

In the case of the "Ordinary" Assurance graph there are three scales—two on the left—the outer one representing the Annual Premiums, and the inner one the number of Policies in force,—and one on the right representing the Amount Assured, exclusive of bonus additions. The vertical height of each small square represents £100,000 premium, 10,000 in number and £5,000,000 in sum assured.

In the case of the "Industrial" graph, the outer scale on the left represents the Annual Premiums, and the inner scale the number of Policies in force. The scale on the right represents the Amount Assured, exclusive of bonus additions. The vertical height of each small square represents £100,000 premium, 20,000 in number; and £500,000 in sum assured.

4. Co-operative Societies.—(i) *General.* The returns relating to Co-operative Societies have been divided into two classes—(i) those engaged in the manufacture and marketing of primary products and trade requirements, and (ii) those engaged in retailing general household requirements. The former may be described briefly as Producers' Co-operative and the latter as Consumers' Co-operative Societies. The following table shows the number of societies, the membership, and the capital employed for the year 1923 :—

CO-OPERATIVE SOCIETIES.—NUMBER, MEMBERSHIP AND CAPITAL, 1923.

Heading.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
Producers' Co-operative Societies—							
Number of Societies ..	59	58	43	28	23	11	222
Membership ..	38,645	51,986	29,693	40,802	2,426	4,437	167,989
Loan Capital .. £	190,720	956,528	149,830	100,374	31,514	24,625	1,453,591
Share Capital .. £	822,240	1,340,909	460,840	604,352	43,103	61,115	3,332,559
Total Capital .. £	1,012,960	2,297,437	610,670	704,726	74,617	85,740	4,786,150
Consumers' Co-operative Societies—							
Number of Societies ..	39	30	10	11	57	5	152
Membership ..	47,728	15,928	4,839	30,731	8,560	1,917	109,703
Loan Capital .. £	46,814	157,462	15,774	191,836	52,313	22,528	486,727
Share Capital .. £	438,784	168,232	37,322	542,297	94,301	32,181	1,313,117
Total Capital .. £	485,598	325,694	53,096	734,133	146,614	54,709	1,799,844
All Societies—							
Number of Societies ..	98	88	53	39	80	16	374
Membership ..	86,373	67,914	34,532	71,533	10,986	6,354	277,692
Loan Capital .. £	237,534	1,113,990	165,604	292,210	83,827	47,153	1,940,318
Share Capital .. £	1,261,024	1,509,141	498,162	1,146,649	137,404	93,296	4,645,676
Total Capital .. £	1,498,558	2,623,131	663,766	1,438,859	221,231	140,449	6,585,994

(ii) *Sales, Profits, Interest, and Dividends paid.* The next table gives the total sales, net profits, interest paid on loan capital, and dividends on share capital. In addition to the amount shown as interest and dividends paid by the Producers' Co-operative Societies a sum of £50,487 was paid in bonuses, representing deferred payments for milk supplied to the Co-operative Butter Factories.

The profits made by Consumers' Co-operative Societies, after payment of interest on loan and share capital, are distributed as dividends on the amount of purchases made by members.

CO-OPERATIVE SOCIETIES.—SALES, PROFITS, INTEREST, AND DIVIDENDS, 1923.

Heading.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
Producers' Co-operative Societies—							
Total Sales .. £	15,462,677	11,836,478	6,522,995	5,406,148	275,020	186,216	39,689,534
Total Net Profits .. £	153,636	75,855	35,746	54,057	11,727	6,115	337,138
Interest on Loan Capital—							
Amount .. £	9,631	57,788	5,462	4,388	1,461	1,208	79,938
Rate per Cent. ..	5.0	6.0	3.6	4.4	4.6	4.9	5.5
Dividend on Share Capital—							
Amount .. £	50,006	23,011	17,732	1,709	952	2,527	95,937
Rate per Cent. ..	6.1	1.7	3.8	3.0	2.2	4.1	2.9
Consumers' Co-operative Societies—							
Total Sales .. £	2,649,627	1,047,197	252,269	1,474,682	692,041	130,585	6,246,401
Total Net Profits .. £	203,184	28,403	18,364	76,227	27,073	3,926	357,177
Interest on Loan Capital—							
Amount .. £	2,009	6,953	941	9,945	2,926	904	23,678
Rate per Cent. ..	4.3	4.4	6.0	5.2	5.6	4.0	4.9
Interest on Spare Capital—							
Amount .. £	17,457	6,789	803	21,794	2,379	566	49,788
Rate per Cent. ..	4.0	4.0	2.2	4.0	2.5	1.8	3.8
Dividends on Purchases ..	155,288	12,365	4,688	46,710	7,750	2,199	229,000
Rate in the £1 ..	1s. 2d.	0s. 3d.	0s. 5d.	0s. 8d.	0s. 3d.	0s. 4d.	0s. 9d.

§ 5. Life Assurance.

1. **General.**—Under section 51 of the Commonwealth Constitution Act, the Commonwealth Parliament is empowered to legislate in regard to "insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned." With the exception of Act No. 12 of 1905, "An Act relating to assurance on the lives of children by life assurance companies or societies," no legislation relating to life assurance has been passed by the Commonwealth Parliament, and life assurance companies carry on their business under State laws where such laws are in existence, or otherwise under the provisions of various companies' or special Acts.

Returns for the year 1922 have been collected from life assurance societies, with results which are in the main satisfactory. The figures below refer to Australian business only.

2. **Companies Transacting Business.**—(i) *General.* The number of companies transacting life assurance business in Australia during 1922 was 30, of which the full name and location of head office are set out in the table below.

LIFE ASSURANCE SOCIETIES OPERATING IN AUSTRALIA, 1922.

Full Name of Company or Society.	Head Office.	Business Transacted.
Australian Mutual Provident Society	Sydney	Ord. Ind.
Mutual Life and Citizens' Assurance Company Limited	"	"
City Mutual Life Assurance Society Limited	"	Ord.
Australian Metropolitan Life Assurance Company Limited	"	Ord. Ind.
People's Prudential Assurance Company Limited	"	"
Assurance and Thrift Association Limited	"	Ord.
Co-operative Assurance Company Limited	"	Ord. Ind.
Australian Provincial Assurance Association Limited	"	Ord.
Commonwealth General Assurance Corporation Limited	"	Ord. Ind.
Commonwealth Life Assurance Society Limited	"	"
Australian Benefit Life Assurance Society Limited	"	Ord.
Farmers' and General Assurance Corporation Limited	"	"
Producers' and Citizens' Co-operative Assurance Company of Australia Limited	"	Ord. Ind.
Australian Natives' Association Limited	"	"
Australasian Catholic Assurance Company Limited	"	"
Australian Alliance Assurance Company Limited	Melbourne	Ord.
National Mutual Life Association of Australasia Limited	"	"
Victoria Life and General Insurance Company	"	"
Colonial Mutual Life Assurance Society Limited	"	Ord. Ind.
Australasian Temperance and General Mutual Life Assurance Society Limited	"	"
Life Insurance Company	"	"
Southern Cross Assurance Company Limited	"	Ord.
Queensland State Insurance Office	Brisbane	"
Equitable Life Assurance Company of Queensland Limited	"	"
Western Australian Insurance Company Limited	Perth	"
Provident Life Assurance Company	Dunedin	Ord. Ind.
Liverpool and London and Globe Insurance Company	Liverpool	Ord.
Equitable Life Assurance Society of the United States	New York	"
Mutual Life Insurance Society of New York	"	"
New York Life Insurance Society	"	"

Early in 1923 the Equitable Life Assurance Society re-insured its entire Australasian business with the National Mutual Life Association, which accepted the transfer of the whole of the assets of the Equitable consisting of property, bonds, and deposits.

Of the Australian companies seven are purely mutual, and seventeen are proprietary companies with a paid-up capital aggregating £1,122,109, part of which is, however, used in fire, marine, and accident insurance business. One office is a State government institution. Five foreign companies transacted business in Australia in 1922, three being mutual and two proprietary companies.

(ii) *Ordinary and Industrial Business.*—Of the societies enumerated in the preceding paragraph, fourteen transacted both ordinary and industrial business. Ordinary and industrial business have, where possible, been kept separate, while figures relating to companies whose head offices are in New Zealand or in Europe or America have been restricted to the Australian business.

3. Australian Business, 1922.—(i) *Ordinary.* The subjoined table shows the ordinary life business in force for each of the last five years. While the total sum assured has increased by over 54 million pounds, the average per policy has increased from £234 to £256. The amount assured in 1922 represents an average of £35 per head of population.

ORDINARY LIFE ASSURANCE.—AUSTRALIAN BUSINESS, 1918 TO 1922.

Year.	Policies.	Amount.	Average per Policy.	Annual Premium Income.
	No.	£	£	£
1918	610,387	142,790,868	234	5,050,088
1919	643,975	153,682,007	239	5,209,139
1920	692,160	168,255,272	243	5,871,894
1921	730,010	180,694,068	248	6,074,375
1922	769,893	196,844,810	256	6,526,907

(ii) *Industrial.* Information in regard to the industrial business of the nine societies transacting it is given in the following table.

The amount assured has increased by 75 per cent. in the period under review. The average amount per policy in 1922 was £33, comparing with an average of £26 in 1918.

INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN BUSINESS, 1918 TO 1922.

Year.	Policies.	Amount.	Average per Policy.	Annual Premium Income.
	No.	£	£	£
1918	788,145	20,208,358	26	1,239,685
1919	841,001	22,755,456	27	1,390,899
1920	904,346	26,223,335	29	1,586,313
1921	973,019	30,314,759	31	1,789,846
1922	1,061,569	35,303,233	33	2,087,148

4. Receipts and Expenditure.—(i) *Ordinary Business.* The following table shows the aggregate Australian revenue for 1922 of all the societies doing business in Australia. Premiums—new and renewal—amounted to 63 per cent., and interest, dividends, and rent to nearly 36 per cent. of the Australian revenue :—

ORDINARY LIFE ASSURANCE.—AUSTRALIAN RECEIPTS, 1922.

Heading.	Amount.
	£
Premiums—New	925,146
Renewal	5,601,761
Consideration for annuities	76,993
Interest, dividends and rents	3,762,410
Other receipts	152,247
Total Income	10,518,557

Expenditure amounted to £6,700,468, of which claims accounted for over 56 per cent., surrenders 10 per cent., expenses of management nearly 12 per cent., and commission 8 per cent.

ORDINARY LIFE ASSURANCE.—AUSTRALIAN EXPENDITURE, 1922.

Heading.	Amount.
	£
Claims	3,796,599
Surrenders	689,869
Annuities	93,273
Commission	544,686
Expenses of management	788,391
Licence fees and taxes	101,310
Shareholders' dividends	49,279
Cash bonuses paid to shareholders	311,394
All other expenses	325,667
Total expenditure	6,700,468

A summary for the last five years is given hereunder :—

ORDINARY LIFE ASSURANCE.—AUSTRALIAN RECEIPTS AND EXPENDITURE, 1918 TO 1922.

Year.	Receipts.	Expenditure.	Excess Receipts.
	£	£	£
1918	7,715,134	5,377,535	2,337,599
1919	8,172,614	5,698,551	2,474,063
1920	9,037,314	5,330,050	3,707,264
1921	9,599,866	5,813,414	3,786,452
1922	10,518,557	6,700,468	3,818,089

(ii) *Industrial Business.* The aggregate Australian revenue for 1922 of societies transacting industrial business was as follows :—

INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN RECEIPTS, 1922.

Heading.	Amount.
	£
Premiums—New and renewal	2,087,148
Consideration for annuities	23
Interest, dividends and rents	399,477
Other receipts	18,143
Total Income	2,504,791

Expenditure during 1922 totalled £1,355,812. Claims amounted to £425,359, or 31 per cent., commission 37 per cent., and expenses of management 17 per cent.

INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN EXPENDITURE, 1922.

Heading.	Amount.
	£
Claims	425,359
Surrenders	34,103
Annuities	295
Commission	505,716
Expenses of management	240,867
Licence fees and taxes	15,693
Shareholders' dividends	57,421
Cash bonuses paid to shareholders .. .. .	..
All other expenses	76,358
Total Expenditure	1,355,812

The aggregate receipts and expenditure for the last five years are as follows :—

INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN RECEIPTS AND EXPENDITURE, 1918 TO 1922.

Year.	Receipts.	Expenditure.	Excess Receipts.
	£	£	£
1918	1,466,077	884,605	581,472
1919	1,674,700	992,974	681,726
1920	1,929,717	1,060,622	869,095
1921	2,223,319	1,122,920	1,100,399
1922	2,504,791	1,355,812	1,148,979

5. *Liabilities and Assets, 1922.*—(i) *General.* The liabilities of the Australian societies consist mainly of their assurance funds; as already mentioned, however, some of the societies are proprietary, and in these cases there is a further liability on account of the shareholders' capital. The assets consist chiefly of loans on mortgage and policies, Government, municipal, and similar securities, shares, freehold property, etc. As in some cases the Australian liabilities exceed the Australian assets, this table should be read in connexion with the table dealing with assets. Loans on personal security are granted by very few of the Australian societies.

(ii) *Ordinary and Industrial Business.* For various reasons several societies do not attempt the division of liabilities and assets between the industrial and ordinary branches, and a few societies cannot state the amount of liabilities in Australia. In the following table, therefore, the figures relate to both branches. Australian liabilities amounted in 1922 to £59,477,177, including Assurance and Annuity Funds, £52,098,875, other funds, including those used in fire and marine business, £3,923,512, and paid-up capital, £1,122,109.

Australian assets aggregated £80,973,935, of which the following are the principal items :—Government and municipal securities, £46,488,751; mortgages, £17,603,444; loans on company's policies, £7,492,847; and landed and house property, £3,168,158. Full details are given below.

AUSTRALIAN LIABILITIES, 1922.

Heading.	Amount.
	£
Shareholders' capital, paid up	1,122,109
Assurance and annuity funds	52,098,875
Other funds	3,923,512
Claims admitted but not paid	695,348
All other liabilities	1,637,333
Total Australian liabilities (a)	59,477,177

(a) Excluding Mutual Life and Citizens, National Mutual, London and Liverpool and Globe, Equitable Life of United States, and Mutual Life of United States.

AUSTRALIAN ASSETS, 1922.

Heading.	Amount.
	£
Government and municipal securities	46,488,751
Mortgages	17,603,444
Loans on company's policies	7,492,847
Railway debentures and stock	423,102
Landed and house property	3,168,158
Life interests and reversions	124,885
Other investments	1,465,865
Outstanding premiums	619,349
Outstanding interest, dividends and rents	730,409
Cash	1,223,727
Establishment and organization account	442,276
All other assets	1,191,122
Total Australian Assets	80,973,935

The next table gives the Australian liabilities and assets for the latest five years available:—

ORDINARY AND INDUSTRIAL LIFE ASSURANCE.—AUSTRALIAN LIABILITIES AND ASSETS, 1918 TO 1922.

Year.	Liabilities.(a)	Assets.
	£	£
1918	43,694,862	62,087,012
1919	44,683,471	64,513,919
1920	49,489,851	71,768,149
1921	54,258,431	77,127,498
1922	59,477,177	80,973,935

(a) Excluding Mutual Life and Citizens, National Mutual, London and Liverpool and Globe, Equitable Life of United States, and Mutual Life of United States.

(iii) *Total Assets.* It has been thought advisable to restrict the figures relating to life assurance to business in Australia. Several of the companies whose head offices are in Australia transact, however, a large amount of business elsewhere, viz., in New

Zealand, in South Africa, and in the United Kingdom, while in the case of the foreign companies, the Australian business is insignificant compared with that done elsewhere. Particulars as to this foreign business of both Australian and foreign companies will be found in "Finance Bulletin No. 14" (published by this Bureau), and a short table only is inserted here, showing the total assets of the various companies.

LIFE ASSURANCE COMPANIES.—TOTAL ASSETS, 1922.

Heading.	Amount.
	£
Government and municipal securities	176,458,610
Mortgages	122,341,469
Loans on company's policies	84,250,676
Railway debentures and debenture stock	175,796,865
Landed and house property	12,349,551
Life interests and reversions	307,697
Other investments	7,149,051
Outstanding premiums	7,200,994
Outstanding interest, dividends, and rent	7,789,990
Cash	7,240,532
Establishment and organization account	452,626
All other assets	4,704,812
Total Assets	606,042,873

6. New Policies issued in Australia, 1922.—(i) *Ordinary Business.* During 1922, 88,357 new policies were issued for £27,114,323. The average amount per policy was £306, which compares with an average of £256 per policy for all policies which were in existence in 1922.

(ii) *Industrial Business.* New policies to the number of 211,943 were issued during the year for a total of £10,240,204. The average per policy was £48, which is nearly 50 per cent. more than the average for all industrial policies which were current in 1922.

7. Policies Discontinued in Australia, 1922.—(i) *Ordinary Business.* The volume of business which from various causes becomes void in each year is always large. The number and amount of policies discontinued in 1922, and the reasons for discontinuance, are given in the following table:—

ORDINARY LIFE ASSURANCE.—POLICIES DISCONTINUED IN AUSTRALIA, 1922.

Mode.	No. of Policies.	Amount.
		£
Death or maturity	13,018	3,023,386
Surrender	10,853	2,590,826
Forfeiture	31,028	8,418,628
Total	54,899	14,032,840

(ii) *Industrial Business.* The number of policies discontinued in this branch each year is also very large. Of the total amount of discontinuance during 1922 only 8 per cent. was due to death or maturity, while 85 per cent. was due to forfeiture.

INDUSTRIAL LIFE ASSURANCE.—POLICIES DISCONTINUED IN AUSTRALIA, 1922.

Mode.	No. of Policies.	Amount.
		£
Death or maturity	21,974	474,215
Surrender	6,516	341,340
Forfeiture	103,554	4,882,044
Total	132,044	5,697,599

Graphs illustrating the progress of Life Assurance, both Ordinary and Industrial, accompany this chapter.

§ 6. Fire, Marine and General Insurance.

1. Australasian Business.—(i) *General.* Returns are available showing the revenue and expenditure, assets and liabilities, and investments of 35 insurance companies having their head offices either in Australia, New Zealand, or Fiji. The names of these companies, with the location of their respective head offices, are given in the following table:—

AUSTRALASIAN FIRE, MARINE, AND GENERAL INSURANCE COMPANIES.

Company.	Head Office.
Australian Alliance	Melbourne
Australian Mutual Fire	Sydney
Australian Provincial	"
Australian Traders'	"
Assurance and Thrift	"
Bankers and Traders'	"
Chamber of Manufacturers	Melbourne
City Mutual Fire	Sydney
Colonial Mutual Fire	Melbourne
Commonwealth General	Sydney
Co-operative	Melbourne
Derwent and Tamar	Hobart
Farmers' Co-operative, New Zealand	Christchurch
Farmers and Settlers'	Sydney
Federal Mutual	"
Insurance Office of Australia	"
Mercantile Mutual	"
Manufacturers' Mutual	"
Mutual Fire Insurance Co. of Tasmania	Launceston
National of New Zealand	Dunedin
New Zealand Insurance Co.	Auckland
New Zealand State Fire Insurance Office	Wellington
New Zealand Government Accident	"
Pacific Insurance Co.	Fiji
Queensland Insurance Co.	Sydney
Queensland State Government	Brisbane
South British	Auckland
Southern Union	Melbourne
Standard of New Zealand	Dunedin
Tasmanian Government	Hobart
United	Sydney
Victoria	Melbourne
Victoria General	"
Victoria State Accident	"
Western Australian Insurance Co.	Perth

(ii) *Revenue and Expenditure.* The accounts given hereunder relate approximately to calendar years. The most important items of revenue and expenditure are given below. While the receipts from premiums have increased during the period under review, the

amounts debited to expenses, commission, and taxation and to losses have increased at a much greater rate, with the result that the trade surplus has decreased very considerably, amounting in 1922-23 to only £97,452, representing 1.70 per cent. of premium income.

FIRE, MARINE, AND GENERAL INSURANCE COMPANIES.—SUMMARY OF REVENUE AND EXPENDITURE, 1918 TO 1923.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Premiums, less re-insurances ..	5,308,884	4,975,879	5,132,329	6,143,416	5,740,063
Losses	2,728,571	2,614,430	2,637,234	3,361,584	3,378,013
Expenses, commission, and taxes	1,527,046	1,588,322	1,698,406	2,194,452	2,264,698
Trade surplus	1,053,267	773,127	796,689	587,380	97,452
Interest, rent, etc.	328,119	380,622	374,751	499,382	515,487
Total surplus	1,381,386	1,153,749	1,171,440	1,086,762	612,939
Dividends and bonuses paid ..	374,722	398,699	378,943	450,477	461,940
Ratio to premium income of—					
(a) Losses .. per cent.	51.40	52.54	51.39	54.72	58.85
(b) Expenses, &c. .. per cent.	28.76	31.92	33.09	35.72	39.45
(c) Trade surplus .. per cent.	19.84	15.54	15.52	9.56	1.70

(iii) *Liabilities and Assets.* The liabilities and assets for the same period are set out in the following tables. Comparison of the results for 1922-23 with those for 1918-19 shows that paid-up capital increased by 64 per cent. and reserves by 31 per cent. While loans on mortgage decreased 76 per cent., Government securities nearly doubled, and landed and other property showed a growth of over 50 per cent.

FIRE, MARINE, AND GENERAL INSURANCE COMPANIES, 1918 TO 1923.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
PAID-UP CAPITAL, RESERVES, AND LIABILITIES.					
	£	£	£	£	£
Paid-up capital	3,109,956	3,365,235	3,879,641	4,652,348	5,100,651
Reserves and re-insurance funds (a)	4,203,548	4,635,401	5,282,399	5,574,784	5,530,537
Undivided profits	335,844	394,795	503,657	493,388	455,992
Losses unsettled	643,412	790,992	893,312	811,979	861,973
Sundry creditors, etc.	1,095,013	1,138,306	1,822,914	1,970,797	1,815,836
Dividends, etc., to pay	283,677	279,618	310,333	322,257	326,287
Life assurance funds (b)	96,043	136,732	480,608	736,083	947,669
Total Liabilities	9,767,493	10,741,079	13,172,864	14,561,636	15,038,945
INVESTMENTS AND OTHER ASSETS.					
	£	£	£	£	£
Loans on mortgage	1,198,576	1,137,746	1,020,195	995,702	908,972
Government securities, etc. ..	4,182,448	4,969,458	6,433,893	7,274,220	8,177,285
Landed and other property ..	1,288,591	1,322,642	1,743,536	1,929,951	2,001,155
Fixed deposit, etc.	1,198,652	1,198,627	1,623,028	1,440,612	1,119,008
Loans on life policies (b)	4,503	4,297	8,795	17,062	18,844
Investments	172,041	183,804	65,681	93,704	98,630
Cash and bills received	811,909	832,630	584,694	785,979	706,739
Sundry debtors and other assets ..	910,773	1,091,875	1,693,042	2,024,406	2,008,312
Total assets	9,767,493	10,741,079	13,172,864	14,561,636	15,038,945

(a) Including amount required as reserves against unexpired risks.

(b) Some of the companies transact Life Business.

(iv) *Marine Insurance.* Separate returns regarding this branch of insurance are not available. Act No. 11 of 1909, "An Act relating to Marine Insurance," passed by the Commonwealth Parliament, and assented to on the 11th November, 1909, altered the conditions under which marine policies had up till then been issued.

§ 7. Friendly Societies.

1. **General.**—Friendly societies are an important factor in the social life of the community, as probably one-third of the total population of Australia comes either directly or indirectly under their influence. Their total membership is over 500,000, but as certain benefits, such as medical attendance and free medicines, and in many cases funeral expenses, are granted to members' families as well as to members themselves, this figure must, even when due allowance is made for young and unmarried members, be multiplied by about four to arrive at the total number of persons more or less connected with these societies. Legislation has conferred certain privileges on friendly societies, but, on the other hand, it insists on their registration, and it is the duty of the Registrars in the various States, prior to registering a new society, to see that its rules are conformable to the law, and that the scale of contribution is sufficiently high to enable the promised benefits to be conferred on members. Societies are obliged to forward annual returns as to their membership and their finances to the Registrar, and reports are published in most of the States dealing with the returns thus received.

In the following tables the figures refer to the year 1922, with the exception of New South Wales, the figures for which relate to the year ended 30th June, 1923.

2. **Number of Societies, Lodges, and Members.**—The number of different societies and lodges, the total number of benefit members at the end of the year, and their average number during the year are shown in the following table:—

FRIENDLY SOCIETIES.—SOCIETIES, LODGES, AND MEMBERS, 1922.

State.	Number of Registered Friendly Societies.	Number of Lodges.	Benefit Members at end of year.	Average No. of Benefit Members during the year.
New South Wales	36	2,120	195,386	193,515
Victoria	57	1,467	146,688	145,254
Queensland	18	596	57,616	57,093
South Australia	18	624	71,166	70,660
Western Australia	15	272	19,028	18,987
Tasmania	18	192	23,764	23,515
Total .. .. .	..	5,271	513,648	509,024

With regard to the number of registered Friendly Societies no total is given for Australia, since many of the societies operate in all the States.

3. **Sickness and Death Returns.**—Sick pay is generally granted for a number of months at full rates, then for a period at half rates, and in some societies is finally reduced to quarter rates. The following table shows the total number of members who received sick pay during the year, the number of weeks for which they received pay in the aggregate, and the average per member sick, and further the number of benefit members who died during the year, together with the proportion of deaths per thousand average members:—

FRIENDLY SOCIETIES.—SICKNESS AND DEATH RETURNS, 1922.

State.	Number of Members who received Sick Pay.	Total Number of Weeks Sick Pay Granted.	Average Number of Weeks per Member Sick.	Deaths of Benefit Members and Wives.	Proportion of Deaths to 1,000 Average Benefit Members.
New South Wales	(a)	(a)	(a)	(a)	(a)
Victoria	26,275	258,851	9.85	1,775	12.22
Queensland	9,267	75,374	8.13	(a)	(a)
South Australia	11,432	123,475	10.80	1,010	14.29
Western Australia	2,931	22,603	7.71	142	7.48
Tasmania	4,312	35,652	8.27	276	11.74
Total	(b) 54,217	(b) 515,955	(b) 9.52	(c) 3,203	(c) 12.39

(a) Not available. (b) Exclusive of New South Wales.
(c) Exclusive of New South Wales and Queensland.

4. Revenue and Expenditure.—(i) *Revenue.* The financial returns are not prepared in the same way in each State, but an attempt has been made in the subjoined table to group the revenue under the main headings:—

FRIENDLY SOCIETIES.—REVENUE, 1922.

State.	Entrance Fees, Members' Contributions, and Levies.	Interest, Dividends, and Rents.	All other Income.	Total Revenue.
	£	£	£	£
New South Wales	673,650	146,106	56,072	875,828
Victoria	481,582	169,376	139,830	790,788
Queensland	204,716	59,677	..	264,393
South Australia	212,817	83,540	17,653	314,010
Western Australia	63,823	19,664	20,455	103,942
Tasmania	74,777	15,601	10,380	100,758
Total	1,711,365	493,964	244,390	2,449,719

(ii) *Expenditure.* The returns relating to expenditure are more complete than those for revenue. The figures show that the excess of revenue for the year was £501,203 for Australia. The revenue exceeded the expenditure by rather less than one pound per average benefit member.

FRIENDLY SOCIETIES.—EXPENDITURE, 1922.

State.	Sick Pay.	Medical Attendance and Medicine.	Sums Paid at Death of Members and Members' Wives.	Adminis- tration.	All other Expendi- ture.	Total Expendi- ture.
	£	£	£	£	£	£
New South Wales	230,241	269,223	48,590	139,208	39,512	726,774
Victoria	164,029	199,868	30,224	92,544	129,375	616,040
Queensland	54,293	82,705	25,782	35,235	..	198,015
South Australia	71,364	72,601	32,209	43,324	16,311	235,809
Western Australia	15,970	22,985	4,830	18,327	21,418	83,530
Tasmania	25,018	24,539	14,314	15,684	8,793	88,348
Total	560,915	671,921	155,949	344,322	215,409	1,948,516

It appears from the above figures that sick pay averaged about 22s. per week, but, as the returns include pay at half and quarter rates, and as the proportion of these to full rates is not stated, the average given must be taken for what it is worth. Medical attendance and medicine came to about 26s. per average benefit member.

5. *Funds.*—The two foregoing tables show that the surplus of revenue over expenditure in five States amounted to £501,203 for the year, and a small surplus must, of course, result annually in every society which levies adequate contributions to enable it to meet all possible claims. These accumulations of profits are generally invested, and the subjoined table shows the division into invested and uninvested funds:—

FRIENDLY SOCIETIES.—FUNDS, 31st DECEMBER, 1922.

State.	Invested Funds.	Uninvested Funds.	Total Funds.
	£	£	£
New South Wales	2,727,991	(a)	2,727,991
Victoria	3,459,065	90,733	3,549,798
Queensland	1,158,429	4,245	1,162,674
South Australia	1,638,664	25,630	1,664,294
Western Australia	322,208	8,946	331,154
Tasmania	288,018	15,485	303,503
Total	9,594,375	145,039	9,739,414

(a) Included in Invested Funds.

The total funds amounted, therefore, to nearly £19 per member at the close of the year under review.

§ 8. Probates.

1. Probates and Letters of Administration.—The value of the estates left by deceased persons gives a fair view of the distribution of property among the general population. There were in 1922, 38,759 deaths of adult persons, while the number of probates and letters of administration granted during the same period was 15,428. It would therefore appear that about two-fifths of the adults who died during the year were possessed of sufficient property to necessitate the taking out of probate. The details for each State are shown in the table hereunder :—

PROBATES AND LETTERS OF ADMINISTRATION, 1922.

State.	Number of Estates.			Net Value of Estates.		
	Probates.	Letters of Administration.	Total.	Probates.	Letters of Administration.	Total.
				£	£	£
New South Wales ..	5,681	(a)	5,681	15,441,378	(a)	15,441,378
Victoria	3,845	1,600	5,445	12,641,263	(a)	12,641,263
Queensland	863	139	1,002	3,338,036	253,495	3,591,531
South Australia ..	1,378	408	1,786	3,514,917	168,285	3,683,202
Western Australia ..	645	297	942	835,021	144,193	979,214
Tasmania	467	78	545	1,122,801	88,963	1,211,764
Northern Territory ..	6	21	27	2,282	3,129	5,411
Total	12,885	(c) 2,543	15,428	36,895,698	658,065	37,553,763

(a) Included with Probates.

2. Intestate Estates.—The number of intestate estates placed under the control of the Curator during the year, and the amount of unclaimed money paid into Consolidated Revenue in each State during the year 1922, are given hereunder :—

INTESTATE ESTATES, 1922.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.Ter.	Total.
Intestate estates placed under control of Curator during 1922 —								
Number	(a)	395	1,155	201	400	199	20	(b) 2,370
Value	£ (a)	36,781	434,548	48,445	18,232	52,990	2,094	(b) 593,090
Unclaimed money paid into Consolidated Revenue by Curator during 1922	£ 64,740	4,023	15,834	1,600	1,274	..	285	87,756

(a) Included with Probates.

(b) Exclusive of New South Wales.

CHAPTER IX.

EDUCATION.

§ 1. Evolution of Educational Systems in Australia.

1. Educational Systems of the States.—(i) *Place of New South Wales in Australian Education.* The first settlement in Australia being in New South Wales, it is but natural that Australian education should have had its beginning in that State. In the evolution of educational method and system in Australia, New South Wales also has played a leading part, and has had practically a dominating influence. The subject is dealt with in some detail in No. I. and No. II. issues of the Commonwealth Official Year Book, but it is not proposed to repeat it in the present volume. (See also 2 hereunder.)

(ii) *Educational Systems of other Commonwealth States.* A more or less detailed account of the origin and development of the educational systems of the other States also appears in No. I. and No. II. issues of the Year Book. Later details are given hereunder.

(iii) *Medical Inspection of State School Children.* See Chapter XII. Public Hygiene.

2. Recent Development in State Educational Systems.—(i) *New South Wales.* The year 1913 was an important one in New South Wales educational history, in that it was the first complete year of active operation of the principles laid down in the University Amendment Act and the Bursary Endowment Act of 1912. Further reference to these Acts will be made later on. It was also remarkable for the reorganization of technical education on a Trades School basis, and of the Superior Schools on a vocational basis. Reference may also be made to the development of the Evening Continuation Schools established in 1911, and to the wide extension of the scheme of school medical inspection. The full development of this branch of the Department's activities has been hampered by lack of funds, but the travelling hospitals and travelling dental clinics have proved very popular in the country districts. A school clinic, under the direction of Lecturers in Education from the Training College, was opened in the metropolis during 1918. The object of this institution is to examine and to suggest suitable treatment for children reported by their teachers as showing special disabilities for school work.

As pointed out in a preceding Official Year Book (see No. VII., page 765), the Education Department instituted a scheme of examinations in 1911 for what were termed respectively the "qualifying," "intermediate," and "leaving" certificate. The first "qualifying" examination was held in March, 1911, the first "intermediate" in November, 1912, and the first "leaving" in November, 1913. The successful students who were awarded exhibitions at the leaving certificate examinations took up University studies in the first term of 1914, thus marking the definite linking-up of the State School system with the University. In addition to the above-mentioned certificates the Department also grants superior commercial, junior technical, domestic, and evening continuation certificates. During 1922 the written test for the qualifying certificate (to afford evidence of pupils' fitness for entering secondary and super-primary schools, and the determining factor in the award of bursaries to secondary schools) was abolished, and the certificate is now awarded on the reports of the inspectors in conjunction with the teachers. This necessitated a new system of estimating the fitness of pupils for admission to the schools and the granting of the bursaries referred to, and a High School Entrance and Bursary Examination was instituted in November, 1922.

The provisions of the Public Instruction (Amendment) Act of 1916 have exercised a marked influence on attendance, and in many schools the average exceeds 90 per cent. of the effective enrolment. The average for all schools in 1922 was over 84 per cent., which is considered satisfactory in view of the causes militating against full attendance, such as extremes of dry and wet weather and the usual epidemics of children's diseases. Amongst educational developments in 1922 mention may be made of the establishment of the special agricultural school at Yanco, and the extension of "rural" education by the opening of ten "rural schools" in country districts. (See also § 2, 4, (v) hereinafter.)

Another important change decided upon in 1922 was the re-imposition of fees for high school instruction. Exemption from payment is granted under certain conditions, but it is estimated that the revenue from this source will amount to about £20,000 annually, and it is proposed to apply this towards meeting interest charges on loan money used in meeting the growing demands for primary school purposes. Developments foreshadowed in the near future include the provision of special schools for mentally deficient children, and the bringing of country schools into closer communication with the city by the use of wireless.

In his Report for the year 1922 the Minister again draws attention to the disabilities under which the Education Department was labouring owing to shortage of teachers and lack of necessary funds for new buildings, equipment, and renovations. It is stated that a sum of £1,000,000 is required for urgent works.

(ii) *Victoria.* Under the Education Act of 1915 it is provided that every child must attend school for the full period of eight years between 6 and 14, unless he be given a certificate of education at 13 or is excused on reasonable grounds. The schools are open on an average 225 days in each year, and require attendance on all these days unless satisfactory explanation is forthcoming. Provision is made for the mentally deficient. The primary curriculum divides the school life into eight grades, so that a child entering at six years of age should have completed the full course by the time he reaches his fourteenth year. After completion of the elementary school course, the pupil may go on to the Evening Continuation Schools, Higher Elementary Schools, District High Schools, or the Trade Schools. Special schools for feeble-minded children have been established in the metropolis, and an "open air" school for delicate children is in operation at Blackburn. There is also a special school for epileptics at Clayton. Highly encouraging results have been obtained at all these institutions. A Council of Public Education has been appointed to advise on educational matters generally, and particularly in regard to co-ordination. Examinations are held throughout the State for the certificate of merit and the qualifying certificate. The former is granted to pupils who, under prescribed conditions, reach a satisfactory standard in subjects prescribed for Grade VIII, while the latter is awarded to pupils who reach a satisfactory standard in Grade VI. Possession of this certificate enables the holder to enter upon the work of the Higher Elementary or the District High School. Acting on the advice of the Council of Education, the Melbourne University has established a Schools Board. The function of this body is to consider all questions relating to school studies and the inspection and examination of schools. In addition to University representation, there are also on the Board representatives of the Department of Education, the registered Secondary Schools, and the business interests of the community. Being with wide powers, this Board must of necessity be the chief guiding factor in the development of education in Victoria. During the year 1915 a considerable amount of attention was devoted to the organization of the elementary schools, especially in connexion with the question of retardation, and in regard to the teaching of infants. It is found that the greater flexibility in organization and system of promotions, coupled with special methods of dealing with backward pupils, tends to lower considerably the retardation percentage. The institution of the uniform school year, the greater powers conferred on the head teachers in regard to the promotion of scholars, the making of the inspector an advisory rather than an examining officer, the better provision for the practical training of the junior teachers, and the inauguration of a system of medical and dental inspection have all been fraught with excellent results. During recent years methods of training teachers have been considerably improved. Formerly there was only one course leading to the trained teacher's certificate. At present four courses are provided—primary, secondary, infant, and short course for teachers of rural schools, and special instruction is provided for in particular subjects.

(iii) *Queensland.* The Amending Act of 1910 introduced several new features into the educational system of Queensland, chief amongst them being—(a) employment of proceeds of sales of land and other school property for school purposes, instead of paying them into Consolidated Revenue; (b) abolition of local contributions; (c) provision of scheme of school certificates to assist in co-ordination of various branches of the system; (d) establishment of compulsory continuation classes; (e) compulsory medical and dental

examination; (f) raising the compulsory age to 14 years instead of 12 years; (g) provision for compulsory attendance on every day on which the school is open. The last-mentioned provision has already produced good results in regard to improved attendance. The organization of the general scheme of education is being systematically developed. State High Schools were inaugurated in February, 1912, and a more liberal scheme of scholarships to secondary schools came into force in 1913, while further amendments were made in subsequent years. Rural schools, giving training in useful manual arts, together with elementary agricultural science, date from 1917. (See § 2, 4 (v)). A Teachers' Training College has been established, and greater attention is being given to the development of technical education. Methods of instruction have been brought into consonance with the latest developments, under the new syllabus adopted in 1914. During this year also the medical and dental inspection of State School children were considerably extended. The problem of dealing with the education of backward and sub-normal children both in the city and country areas is now engaging attention. Reference to the system adopted in connexion with the choice of entrants to the teaching profession will be found in § 2, 6.

(iv) *South Australia.* During the year 1921 the following important modifications in the educational system were made—(a) the issue of a new course of instruction for primary schools, and (b) the inception of new methods in regard to the training, examination, and classification of teachers. With respect to (a), the course of instruction was compiled by a body consisting of about twenty selected teachers, the inspectors, and the members of the Curriculum Board in conjunction with the Superintendent of Primary Education and the Director. The new syllabus shortened the time spent by an average child in the primary schools from eight to seven years, and was designed to show the scope and nature of the studies and the character of the training for each of the seven grades. A special syllabus was compiled for the small one-teacher schools. In regard to (b), the scheme aimed at providing better trained and educated teachers, especially for the country schools. (See also § 2, 6, hereinafter.)

Methods of inspection were revised with the idea of affording more scope and freedom to the teacher, and permitting the inspector, while not neglecting fundamentals, to give more time to advising and helping in the attainment of satisfactory results. In order to provide increased facilities for more advanced education in country districts, sixteen higher primary schools were established in 1922 in rural towns.

Attention is being given to the establishment of separate infant schools wherever possible, in order to overcome retardation and secure higher efficiency in the lowest grades, and twenty-two separate infant schools are now in operation.

A Correspondence School was established in 1920 to meet the needs of children living beyond the reach of existing educational agencies, and this provided for the needs of upwards of 300 children in 1922.

All recently built schools conform to the latest approved principles in regard to orientation, lighting, and furniture, while the conversion of older buildings is being taken in hand so far as funds permit.

The Advisory Council of Education, appointed in terms of the Education Act of 1915, held four meetings in 1922.

(v) *Western Australia.* During 1912 the curriculum of the Primary Schools was remodelled in order to bring it into line with the most up-to-date principles. The work was lightened in directions where experience showed there was overloading, and efforts were particularly directed toward the removal of the abstract and to the development of the imaginative and constructive throughout all grades. Greater freedom was given for experiment by the teacher, and it is recognized that considerable improvement has resulted. Montessori principles are being increasingly adopted in the teaching of the youngest children. Constructive work is receiving greater attention in all departments, and encouragement is given to original or research work of an elementary character. Four special courses—commercial, industrial, domestic, and professional—have been established at the central schools. These schools are practically day continuation schools designed to carry on the education of boys and girls beyond the primary stage. Continued efforts are being made in the direction of bringing about a closer correlation

between primary and secondary education. The Modern School at Perth was opened in 1911, and in June, 1914, a Goldfields High School was opened at Kalgoorlie. There is also a High School at Northam, and District High Schools are in operation at Geraldton, Albany, and Bunbury, while it is proposed to establish additional schools at the larger country centres, and in the meantime to grant scholarships at the existing High Schools to country children. During 1917 a medical officer for schools was appointed under the Public Health Department. Legislation passed in 1919 made compulsory the education of blind, deaf and dumb children, either at home or in special institutions.

A further revision of the curriculum was made in 1920, mainly with the object of removing superfluities, and devoting greater attention to the formative side of education. Special attention is being given to the problem of dealing with feeble-minded children. The experiment was tried in Perth during 1920 of grouping these children in classes at the central schools and giving them instruction in handwork and domestic science coupled with a modified curriculum in the ordinary school subjects. Results were so satisfactory that it is hoped to extend the system to other centres. In 1922 an arrangement was made with the Salvation Army to take a number of mentally defective boys into the home near Gosnells. The school is equipped and staffed by the Education Department. At North Fremantle there is a pavilion class-room where a number of defective boys and girls are under the charge of a specially trained teacher.

During 1921 twelve special rural schools were established at which the curriculum embraces practical instruction in various rural industries for boys, and in domestic economy, fruit preserving, etc., for girls, and in 1922 the number had increased to 25. Reference to the School of Agriculture at Narrogin will be found in § 2.

(vi) *Tasmania.* During the last few years educational effort in Tasmania has been directed to the development on modern lines of the primary system, the foundation of secondary schools, and the provision of a satisfactory system of training for teachers. Kindergartens, Montessori Schools, and Model Country Schools have been established as adjuncts to the training system, and the courses have been remodelled with a view to providing trained teachers for secondary as well as for primary work. At the High Schools, secondary, commercial, and industrial courses have been established. School hygiene has received special attention, doctors and nurses have been appointed, and two dental clinics have been established. During the year 1918, regulations were framed with the object of establishing separate infant departments under trained mistresses. Several have already been established, and it is proposed to open additional schools of this type as opportunity offers. Provision has been made for an extension of the system of teaching by correspondence for children in isolated districts. Improvements effected in the system of training teachers are alluded to later on. During 1921, after collaboration with the various grades of the teaching service, the inspectors, and the Principal of the Training College, the syllabus of instruction was remodelled to bring it into closer relationship with present day methods. Special attention was given during this year to the problem of the retarded and sub-normal child. Classes have been established to deal with pupils who from natural defects or other disabilities are unable to keep pace with the ordinary classes in the schools, and a special teacher has been attached to the Training College staff to instruct students in methods of dealing with the problem. Classes dealing with mothercraft and child-welfare have been established by the Child Welfare Clinic in connexion with the principal city schools. Steady progress is being made with the work of replanning the older schoolrooms to bring them into accord with modern requirements.

(vii) *Northern Territory.* Although the number of children of school age in the Territory is small, nevertheless ample provision has been made by the Commonwealth Government for their education. State schools are in operation at Darwin, Parap, Pine Creek, Alice Springs, and Emungalan. There is also a school for aboriginal and half-caste children at Kahlin Compound, Darwin. A satisfactory standard is maintained at the schools, but progress is somewhat retarded by irregular attendance. In January, 1922, a High School was opened at Darwin. The head master of the Darwin School makes periodical visits of inspection to the other schools.

(viii) *Present Position of State Education in Australia.* Throughout Australia primary education is compulsory and free, while there exists in all States a more or less liberal provision of scholarships and bursaries to the Higher State Schools, to the Secondary Schools, and to the Universities. Provided that the requisite standard is reached, it is,

of course, permissible for children to receive home tuition, or to attend so-called private schools. The orientation, lighting, and ventilation of school buildings are being modernized. In all of the States periodical medical inspection of the children is in force. (A detailed statement of the work being done in this direction will be found in the chapter dealing with Public Hygiene.) Methods of training teachers are now better developed, and although the "pupil teacher" system with its effects have not been wholly eliminated, it appears to be gradually vanishing. (The methods adopted in the various States for the selection and training of teachers are described in some detail in § 2, 6, hereinafter.) There has been a wider employment of kindergarten and Montessori principles in the early stages, and the more or less purely abstract teaching of the older days has been largely replaced by concrete methods. Self-activity on the part of the pupils is being further cultivated by the partial adoption of the "Dalton" system or modifications thereof. Such subjects as nature study, manual training, music, drawing, business practice, and domestic economy have received a general impetus. Greater attention has been given to the scientific classification of pupils, and to the difficult problem of dealing with sub-normal or defective children. Moreover, as will be seen from the above, and from § 2, 4, the State Education Departments are increasing their activities in the direction of secondary education. Lastly, the system of inspection has been considerably remodelled. Under the old system, the inspector was little more than an examining officer, but, under the present régime, the primary duty of this officer consists in guiding and directing the teaching in accordance with approved methods. [See also § 6, Technical Education.]

(ix) *Co-ordination of Educational Activities.* As pointed out already, the educational system of New South Wales may now be considered as a more or less homogeneous entity, the various stages succeeding one another by logical gradation from kindergarten to university. In the other States development is proceeding on somewhat similar lines, activity in this respect being greatly helped by Inter-State conferences of directors of education and of inspectors and teachers.

§ 2. State Schools.

1. *General.*—The State Schools, or, as they are sometimes termed, the "public" schools, of Australia comprise all schools directly under State control, in contradistinction to the so-called "private" schools, the bulk of which, though privately managed, nevertheless cater for all classes of the community. Separate information regarding Technical Education is given in § 6.

2. *Returns for Year 1922.*—(i) *General.* The following table shows the number of State Schools, together with the teachers employed and the enrolment and "average attendance" in each State during the year 1922 :—

STATE SCHOOLS.—RETURNS, 1922.

State or Territory.	Schools.	Teachers.(a)	Scholars Enrolled.	Average Attendance.
New South Wales(b)	3,210	9,639	304,997	257,509
Victoria	2,531	7,049	233,924	186,534
Queensland	1,632	3,919	130,464	102,803
South Australia	991	2,565	81,079	65,834
Western Australia	749	1,883	54,338	48,238
Tasmania	492	1,161	32,353	27,160
Northern Territory	6	10	271	186
Australia	9,611	26,226	837,426	688,264

(a) Exclusive of sewing mistresses.

(b) Including Federal Capital Territory.

Unfortunately, the schemes of enrolment and of the computation of "average attendance" are not identical in each State, so that the comparisons are imperfect.

(ii) *Schools in the Federal Capital Area.* During the year 1922 fifteen State Schools were in operation in the Federal Capital Territory (Yass-Canberra). The pupils enrolled numbered 457 and the average attendance 317. Cost of upkeep in 1922 amounted to £5,273. By arrangement with the Federal Government these schools are conducted by the New South Wales Education Department on the same lines as the ordinary State Schools, the Department being recouped for expenditure.

3. *Growth of Enrolment and Attendance.*—The enrolment and average attendance at the State Schools in Australia are given below for the years 1891, 1901, 1911, and for each year of the period 1918 to 1922 :—

STATE SCHOOLS.—ENROLMENT AND ATTENDANCE.—AUSTRALIA, 1891 TO 1922.

Year.	Total Population (a)	Enrolment.	Average Attendance.	Year.	Total Population (a)	Enrolment.	Average Attendance.
1891 ..	3,421	561,153	350,773	1919 ..	5,304	782,317	608,069
1901 ..	3,825	638,478	450,246	1920 ..	5,411	801,405	632,182
1911 ..	4,573	638,850	463,799	1921 ..	5,509	819,042	666,498
1918 ..	5,081	779,687	612,174	1922 ..	5,633	837,426	688,264

(a) At 31st December, in thousands.

The decline in attendance noticeable in 1919 was chiefly due to the epidemic of influenza, which particularly affected the attendance returns for New South Wales.

4. *Distribution of Educational Facilities.*—(i) *In Sparsely-settled Districts.* It has always been the aim of the State to carry the benefits of education into the remotest and most sparsely-settled districts. This is effected in various ways :—(a) By the establishment of Provisional Schools, *i.e.*, small schools in which the attendance does not amount to more than about a dozen pupils, these institutions merging into the ordinary public school list when the attendance exceeds the minimum : (b) When there are not enough children to form a provisional school, what are known as Half-time Schools are formed, the teacher visiting them on alternate days : (c) In still more sparsely-peopled districts, an itinerant teacher goes from house to house within a certain radius. Thus, in Queensland during 1922 the 16 itinerant teachers' districts covered 545,000 square miles of country, while a distance of 63,376 miles was travelled in visiting 1,737 children. In this State also the Education Department has established what are known as Saturday Schools, in which small groups of children in outlying districts are visited by the nearest teacher on Saturdays and receive the benefit of several hours' instruction. These schools, of which there are ten, have been warmly welcomed in the districts in which they are established, inasmuch as under this system the children "outback" receive a greater amount of instruction than is possible under the system of itinerant teachers. Provision has been made for a vocational "top" to be established at schools in important distributing centres of inland pastoral areas in Queensland, and special classes receive instruction in manual work, commercial work, and domestic economy. Itinerant teachers capable of imparting instruction in domestic and manual work have also been appointed to visit parents and children at various localities in the Central District. Further, in New South Wales, Victoria, South Australia, Western Australia and Tasmania parents in the thinly-peopled areas are allowed to club together and build a school, which receives aid from the Government in the form of a yearly subsidy and grant of school material. In some cases the Department also provides the building. During 1922 subsidy was paid to 678 schools in New South Wales. Victoria had 16 schools of this type, Western Australia 23, and Tasmania 44 : (d) Several "travelling" schools have been established in New South Wales, the teacher being supplied with a van carrying a tent for himself and one for use as a school, together with books and apparatus for primary teaching. South Australia has devised attractive portable schools to meet the needs of new districts and temporary settlements. Queensland has two travelling housecraft schools for the instruction of girls, as well as adults, in the smaller centres. Railway Camp

Schools are established in some States on the sites of extensive railway works: (e) All the States provide also for education, by correspondence, of children in localities not at present reached by the methods outlined above. At the end of 1922 upwards of 1,600 children were on the rolls of the three Correspondence Schools in New South Wales. In Victoria, about 200 invalid and isolated children were receiving instruction by this means. The first Correspondence School in Queensland was opened in February, 1922, with an enrolment of 37 pupils, but by the end of the year the total had risen to 796. In South Australia it is stated that the children of one family are 400 miles from the nearest school. Another family of four is 320 miles distant from a school, and several families live along the camel tracks in the far north. The Port Augusta School supervises the work of twelve children living along the East-West railway line. In 1920 a special Correspondence School, staffed with five teachers, was opened in Adelaide, and at the end of 1922 over 350 children were on the roll. A library has been established in connexion with the school, and the books are much appreciated by both parents and children "outback." The enrolment in correspondence classes in Western Australia during 1922 was 655, and a staff of fourteen teachers is employed on the work. There are nine teachers attached to the Correspondence School in Hobart, and a visiting teacher tours the whole island, calling, as far as possible, at all the isolated dwellings. The number on the roll in 1922 was about 250.

(ii) *Centralization of Schools.* The question of centralization of schools adopted so successfully in America and Canada has received some attention in Australia, and particularly in New South Wales. It is recognized that a single adequately-staffed and well-equipped central institution can give more efficient teaching than a congeries of small scattered schools in the hands of less highly trained teachers, and the small schools in some districts were therefore closed and the children conveyed to the central institution. The principle was first adopted in New South Wales in 1904, and in 1922 a sum of £39,866 was expended in boarding allowance and conveyance to central schools. Cost of conveyance to elementary schools in Victoria during 1922-23 was returned as £7,300. In South Australia the sum of £1,042 was disbursed in 1922 in connexion with travelling expenses of school children.

(iii) *Evening Schools.* Evening Public Schools have been in existence for many years in some of the States, but their progress has been uncertain. In New South Wales the 47 Evening Continuation Schools had an effective enrolment of 4,170 and an average attendance of 3,127 in 1922. The schools for boys are classed as commercial, commercial preparatory, junior technical, and junior technical preparatory, and for girls as domestic, and domestic preparatory. Attendances at the schools for boys numbered 2,531, and at those for girls 596, the total showing an increase of 357 over that for 1921, and being the highest recorded in the history of these schools. The comparatively high proportion of attendance to enrolment shows that the institutions are attractive. In Victoria there was only one night school and 6 evening continuation classes in operation during 1922, the average attendance being 20 and 58 respectively. Although the Education Act in Victoria gives authority for the establishment of evening continuation classes at which the attendance of boys up to the age of seventeen years and living within a radius of 2 miles may be made compulsory for six hours a week, considerations of expense have prevented the free exercise of this power. Evening Continuation Schools have been established under regulation in South Australia, and are intended principally to help the working boy to improve his general education and to add to the store of knowledge most useful in his present work. Western Australia has evening continuation classes in 22 centres; the enrolment in 1922 numbered 2,831.

(iv) *Higher State Schools.* (a) *New South Wales.* In New South Wales, public schools which provided advanced courses of instruction for two years for pupils who have completed the primary course were classed as Superior Schools. These were reorganized in 1913 as Day Continuation Schools, and divided into Superior Commercial Schools, Superior Junior Technical Schools, and Superior Domestic Schools for Girls. During 1922 there were 89 schools of this type in operation, of which 16 were in the Commercial group, 25 in the Junior Technical, and 48 in the Domestic group, with an average attendance of 9,323 in the sixth and seventh classes. It is believed, however, that greater efficiency could be produced by reducing the number of these schools and establishing

Central "Superior Public Schools" instead. Provision has also been made for the more advanced education of children in country centres by the establishment of 12 District Schools. These schools, which in 1922 had an average attendance of 855, are specially staffed, and, in addition to the usual work, undertake the preparation of students for admission to the training colleges. Composite Courses were given in 1922 at 151 country schools, Course A leading to the intermediate certificate, B to the commercial superior public school certificate, and C preparing for the public service entrance examination. The average attendance at these courses was 1,673. In addition, there are 28 High Schools in the State. These had an average weekly enrolment in 1922 of 8,094, with an average attendance of 7,487. To meet the wishes of representatives of the registered Secondary Schools, the syllabus of the High Schools was amended in 1913, and now offers such a wide range of choice in the selection of subjects that there is no possibility of producing a merely stereotyped uniformity of study. The growing demand for High School education in the metropolis and in country centres led to the establishment of Intermediate High Schools, and in 1922 the number had increased to 26, with an average attendance of 4,619. In accordance with Departmental regulations, there is a liberal distribution of scholarships and bursaries to the higher State Schools and to the University. During the last quarter of 1922 over 900 pupils holding bursaries were receiving instruction at High, Intermediate High, and District Schools. Under the provisions of the University Amendment Act of 1912, 200 exhibitions were awarded in 1922 to successful students at the leaving certificate examinations, 107 of these being given to State School pupils and 93 to students from registered secondary schools. The principal faculties which absorbed these exhibitioners were Arts, 81; Science, 32; Medicine, 27; Law, 22; Engineering, 18.

During the ten years ended 30th June, 1922, the Bursary Endowment Board awarded 3,330 bursaries tenable at Secondary Schools. Of this number, about one-fifth were held at non-State Schools. In 1919 a sum of £12,500 was raised by public subscription to provide bursaries for the children of fallen or incapacitated soldiers and sailors. These bursaries are also administered by the Board, and in 1922 bursaries at the rate of £25 per annum were awarded to 60 applicants.

The Sydney Grammar School (not a "State" School in the ordinary acceptation of the term), which receives a State endowment of £1,500 a year, had, in 1922, an enrolment of 598 pupils, and an average attendance of 511.

(b) *Victoria.* In Victoria, action was taken in January, 1912, to give effect to the provisions of the Education Act of 1910, with regard to the decentralization of the system of secondary education. Forty-one Higher Elementary and 31 District High Schools have been established, and, to obviate congestion at the High Schools, Higher Elementary Classes are carried on at 19 "Central" Schools. The average attendance for 1922 at the Higher Elementary Schools was 2,854, of whom 1,413 were girls, at the District High Schools 6,079, of whom 2,903 were girls, while 1,158 boys and 1,152 girls were receiving secondary teaching in the Central Schools. The qualifications for admission to the High Schools and Higher Elementary Schools are that pupils shall be not less than 12 years of age, shall possess the qualifying certificate or its equivalent, and that their parents shall undertake that the children will remain at school for four years. For the first two years there is a common course for all pupils, thereafter replaced by four special courses:—(1) A preparatory professional course for pupils preparing to proceed to the University, to enter the teaching profession, or to gain a sound general education; (2) an agricultural course to be taken in Agricultural High Schools; (3) a commercial course; and (4) a domestic arts course for girls. Parallel with these courses an industrial course has been developed for pupils who intend to enter upon some form of industrial occupation.

The demand for places in the metropolitan High Schools is in excess of the available accommodation, and although the "Central" Schools, already referred to, have to some extent relieved the congestion, increased provision is urgently needed.

In the Junior Technical Schools pupils are enrolled at 12 and 13 years of age for a course extending over three years designed to qualify for entrance to the Senior Technical Schools. There were 24 of these junior schools in operation at the end of 1922 with a net enrolment of 4,161 pupils.

Schools of Domestic Arts have been established—three in Melbourne, one in Ballarat, and one in Bendigo. At these institutions, in addition to continuing their general education, the girls receive special instruction in cookery, needlework, and various home duties. A modified course in domestic arts is given to senior pupils at Maryborough and Castlemaine.

Scholarships granted by the Department are as follows :—(a) One hundred junior, tenable for four years at a District High School or approved Secondary School, with allowance of £26 per annum for board when required ; (b) Forty senior, tenable three to six years, with allowance of £40 towards expense of course at University ; (c) Fifty junior technical, giving free tuition for two years at a Junior Technical or other approved school, and, in certain cases, board allowance of £26 per annum ; (d) Fifty-five senior technical, giving free tuition for approved courses at Technical schools, with £30 allowance for day students, and £10 for night students ; (e) Four senior technical, available for two to three years, with allowance of £40 towards expenses of a course in architecture, engineering, or science at the University ; (f) Sixty teaching, similar in other respects to junior ; (g) Twenty nominated courses, giving four to six years' free tuition in agriculture, mining, or veterinary science at the University, with allowance in certain cases of £26 per annum. Allowances are also made in some cases to high school and technical school pupils whose parents are in necessitous circumstances, while free tuition is granted to all children of deceased or totally incapacitated soldiers and sailors.

(c) *Queensland.* Prior to the year 1912, Queensland did not possess any distinctly secondary schools under State control, but in February of that year High Schools were opened at Warwick, Gympie, Bundaberg, Mount Morgan, Mackay, and Charters Towers. Tuition at these schools is free, but students must pass a qualifying entrance examination. Three courses of study—General, Commercial and Domestic, are provided. The General Course leads up to the University, and students will be able to matriculate from the High Schools. In 1917 and 1920 High Schools were opened at Gatton and Roma respectively. High Schools ranking in all respects with those mentioned are also conducted at Brisbane Central Technical College and at the Technical Colleges at Toowoomba and Rockhampton, and "The Brisbane Junior High School" was opened in 1920. In smaller centres where an average of not less than 25 qualified pupils can be obtained, secondary tuition is provided at existing State Schools, and this has been arranged for at Herberton, Childers, Dalby, Kingaroy, Pittsworth, Southport, Cairns, Wynnum Central, and Emerald. The enrolment at High Schools in 1922 was 2,096, and the daily attendance 1,336. There are, moreover, ten Grammar Schools—six for boys and four for girls—each of which was subsidized by the State to the extent of £750 per annum, and in addition received a payment of £250 per annum for providing five scholarships for State scholars. Owing to representations regarding increased cost of maintenance, the grants to the Grammar Schools for boys and girls in Brisbane were raised to £2,400 and £2,604 respectively in 1922, and in the case of the remainder of these Schools the grant was raised to £1,500 each. The Government also pays *per capita* fees in payment for the tuition of state scholarship-holders in attendance at the Grammar Schools. During 1922 endowments amounted to £17,040 and payments for fees to £13,596. The enrolment at the Grammar Schools in 1922 was 1,992 and the average attendance 1,648. Since the year 1909 these schools have been regularly examined by the inspectors of the Education Department.

Scholarships covering a period of four and a half years at a secondary school are granted on the results of examination. In the case of holders who live away from home while attending a secondary school the allowance is £30 per annum, but holders who live at home receive free text-books and an allowance of £4 per annum.

As a result of the 1922 examinations, held in April, scholarships were awarded to 977 boys and 704 girls. Of the successful candidates 307 were granted the allowance of £4 per annum and free text-books, and 126 received the allowance of £30.

Prior to the establishment of the Queensland University, three exhibitions per annum to approved Universities were granted. These have been replaced by twenty scholarships to the local University. Each scholarship is tenable for three years, and carries an allowance of £26 per annum if the holder lives at home and attends the University, or £52 per annum board allowance where necessary. In addition to these "open" scholarships, twenty "teacher" scholarships are granted to students who undertake to enter

the teaching profession. These have a currency of two and a half years and carry an allowance of £72 for males and £60 for females during the first year's training, and of £120 per annum for males and £108 for females during the remainder of the course.

(d) *South Australia.* Including the Adelaide High School, there were altogether 22 High Schools open in South Australia in 1922, with an enrolment of 3,907, an average attendance of 3,254, and a staff of 133 teachers. In addition to giving secondary education, these institutions form a valuable source from which the Department can draw a supply of young teachers. Sixty qualifying exhibitions to these schools are open to pupils who have completed the primary course, 50 of such exhibitions being reserved for country children. The exhibitions are of the value of £10 each, with an additional allowance of £20 per annum if it is necessary for the holder to live away from home.

The Department has also established 16 Higher Primary Schools in order to provide increased facilities for higher education to country children. These schools cover the first and second years' work at the High Schools, and students who complete this work may compete for 24 junior exhibitions tenable for three years at a High School.

Pupils from the High Schools may compete for 12 bursaries tenable at the University, the School of Mines, or the Roseworthy Agricultural College. The bursaries carry exemption from fees, with an allowance of £20 per annum, which may be increased to £40 if the bursar is living away from home.

(e) *Western Australia.* In 1922 the Perth Modern School, the Eastern Goldfields High School, and the High School at Northam provided courses up to the leaving certificate standard, and the District High Schools at Geraldton, Bunbury, and Albany provided a three years' course up to the junior certificate standard. The schools at Albany and Bunbury will shortly rank as full High Schools. In addition, there are "Central" Schools in which the upper classes are collected from various contributory schools in the surrounding district. These supply:—(a) A Professional Course lasting three years leading to the junior certificate of the Public Examination Board. (In the Perth Central Schools classes leading up to the Leaving Certificate and Matriculation, thus covering the High School course, have also been established.): (b) A Commercial Course of three years: (c) An Industrial Course lasting two years: (d) A Domestic Course of two years for girls. Altogether 2,912 pupils were taking these courses, and if to this number the 564 children enrolled at the large country towns be added, the total enrolments amount to 3,476. The enrolment at the six High Schools in 1922 amounted to 1,230, and the average attendance to 1,164. Entrants to State secondary schools must have passed an examination identical with that for Secondary School scholarships, and boarding allowance up to £30 per annum is provided where necessary. Evening continuation classes were attended at 22 centres in 1922 by about 2,800 pupils. The classes are intended to provide some measure of higher education to those who leave school as soon as they reach the compulsory age of 14 years. Admission to these classes is free, but pupils must attend regularly three evenings a week. It is proposed to institute in 1923 a scheme of carefully compiled correspondence lessons with the object of giving some measure of secondary education to suitable scholars in scattered country areas.

Fifty scholarships tenable for three years (with possibility of extension to five years) at approved secondary schools are annually offered for boys and girls attending Government or other efficient schools. Ten carry an allowance of £20 per annum, and the remainder entitle the holders to receive a grant for books and travelling expenses. Boarding allowance up to £30 per annum may also be granted where necessary. Thirty-three bursaries of the value of £5 each tenable for two years were also granted in 1922. Scholarships to enable children from country districts to attend at District High Schools or the Narrogin School of Agriculture were inaugurated in 1917. Only those children who must live away from home are eligible, and the tenure may in some cases be extended to five years. The scholarships carry an allowance of £30 per annum. During 1922, 39 District High School Scholarships, and 8 tenable at the Narrogin School of Agriculture were awarded. Twelve scholarships also were awarded in 1912 to children of fallen or disabled soldiers. The scholarships are tenable for three years, and, where necessary, carry an allowance of £30 per annum.

(f) *Tasmania.* Up to the year 1912 the Department confined its efforts to the provision of primary education for the school children in Tasmania. In 1911, however, super-primary classes were formed in the larger schools, with an enrolment in 1911 of 200, and in 1912 of 400 pupils. It was recognized, however, that the previously existing scheme of scholarships and exhibitions was inadequate to meet the demands for higher education. High Schools were therefore opened in January, 1913, at Hobart and Launceston, and later on at Devonport, Burnie, Huonville, and Scottsdale. The enrolment and average attendance at the six High Schools in 1922 were 801 and 759 respectively. These provide for five classes of pupils—(i) Those who desire to become teachers; (ii) University students; (iii) Commercial; (iv) Mechanics; (v) Home duties (girls). The full secondary course covers five years. Under the Bursaries Act of 1915 five junior city bursaries tenable for three years at a State or registered Secondary School and carrying allowances up to £16 were awarded, also seventeen junior bursaries for country children with allowances up to £46, and six for children in country schools of the fourth to the seventh class with allowances up to £46 tenable for three years. Five senior and 8 junior city bursaries and 11 senior and 12 junior country bursaries tenable up to three years and with allowances up to £46 were awarded in 1922.

(v) *Agricultural Training in State Schools.* (a) *New South Wales.* Allusion was made in the preceding issue of this work to methods of agricultural training in vogue in the State Schools in New South Wales. (See Year Book 15, page 735.) During 1921 the whole subject of agricultural education was revised, and, under a Supervisor of Agriculture, a definite course of scientific and practical instruction was evolved. This course is now being taken at the residential schools at Hurlstone and Yanco, and it is proposed to establish similar schools in other parts of the State. The necessary number of teachers to initiate the work has been provided, and students will be trained at the University to meet future requirements. Proposals were also under consideration for the establishment also of (1) an Agricultural Continuation School in the metropolis, giving a two years' course in elementary agriculture to boys unable to attend a High School, and a course in domestic science and horticulture for girls; (2) Rural Schools, giving a course in elementary agriculture, nature study, and farm mechanics for boys, and domestic science and horticulture for girls; and (3) re-organization of Rural Camp Schools. In 1922 the rural course was introduced in ten country schools. The course will extend over three years, and includes such subjects as elementary agriculture, applied farm mechanics, and rural economics in the case of boys, while the girl pupils will receive training in domestic science and horticulture.

(b) *Victoria.* In Victoria, what are termed Agricultural High Schools have been established at Ballarat, Colac, Leongatha, Mansfield, Mildura, Sale, Shepparton, Wangaratta, Warragul, and Warrambool. Pupils must be at least fourteen years of age, and have passed beyond the curriculum of the elementary school, or else be able to afford satisfactory proof that they are qualified to profit by the instruction offered. The schools are practically secondary schools with an agricultural bias, and form a link between the rural school and the agricultural college. They are also used as a preliminary stage in the education of boys and girls who wish to become teachers and eventually graduate in the State Training College and the University. At some of the schools short courses in agriculture have been instituted for farmers' sons who have left school. A local council is appointed for each school, and exercises a general oversight over its operations. The experimental plots at these schools have aroused much interest among the farmers from the surrounding districts. A Supervisor of Agriculture reports and gives advice on the teaching of agriculture in the State Schools. A fair number of teachers have gained diplomas in agriculture, and are capable of giving practical instruction at the High Schools. Schools of Agriculture are conducted by the Agricultural Department at the State Research Farm, Werribee. Teachers in the wheat-growing districts are also instructed for short periods by the organizing Inspector of Agriculture at the University, and their services are utilized as leaders or group supervisors in their districts. The elementary principles of agriculture are taught in a large number of State Schools, and progress has been made in the direction of establishing agricultural clubs and home-project organizations. A Horticultural Society has been established, with a number of schools in affiliation, while practical help in school gardening is afforded by the departmental supervisor. The Society has a nursery and distributing centre for plants and

seeds at Oakleigh, and sub-nurseries have been established at various schools. Recently an officer has been detailed to promote the establishment of school plantations on blocks adjacent to school properties, the subsequent care of the trees, etc., to be undertaken by the pupils.

(c) *Queensland.* In Queensland the Government provides a small grant to encourage the study of agriculture, horticulture, and kindred subjects in the State Schools, while a departmental teacher of agriculture visits the schools and gives assistance in agricultural, horticultural, and nature study work. Excellent experimental work has been carried out at some of the schools, and gardens have been established wherever circumstances permitted. A successful experiment in cotton culture was made during 1922 at the Byrnestown Central School. Several of the schools, with their surroundings of well-grown shade and ornamental trees, make attractive spots in the country landscape. Short courses of instruction for teachers have been instituted at the Gatton College. A large number of teachers have gained a practical knowledge of milk and cream testing and dairy farming methods generally, and the subject is now added to the programme of instruction in several of the dairying districts. The practical advice and help given has resulted in many instances in marked improvement in the dairy herds. At Nambour, a Rural School, the first of its type, was opened early in 1917. In addition to the ordinary subjects of the curriculum, this school provides for instruction in farming, fruit growing, dairying, etc., with dress-making, millinery and cookery for girls, and woodwork, leatherwork, and tinsmithing for boys. Training in business methods, shorthand and typewriting is also available. Supplies of trees for distribution to other schools are raised at Nambour, and many schools distribute trees and plants for home planting. In view of the success of this institution, schools of somewhat similar type have been established at Boonah, Gracemere, Marburg, and Home Hill, and it is proposed to add to their number when funds permit.

(d) *South Australia.* In South Australia the Public Schools' Floral and Industrial Society, founded in 1880, holds annual exhibitions of school work from all parts of the State. In addition, it has for some years undertaken the distribution of flower seeds among school children at a very cheap rate, and has thus fostered the love of horticulture. A special instructor has been appointed to give assistance to teachers desirous of making their school gardens aid in nature study work. Assistance is given by personal visits as well as by correspondence, and by instruction at vacation Summer Schools. Teachers in training receive instruction in Nature knowledge and the art of conducting Nature Studies. A seed wheat competition amongst school children inaugurated in 1911 proved very successful, a second, which was commenced in 1916, concluded in 1920, and a third in 1921. In 1919 two of the competitors who entered on the work of wheat-breeding produced wheat of such quality that they were unable to supply the orders for seed grain received from South Australia, as well as from other States. Milk-testing is carried out in several schools, and the agricultural training generally is greatly helped by the practical co-operation of the farmers. At the end of 1921 a Forest Camp School was held in the Kuitpo forest, the scholars receiving practical training in forestry and allied subjects. During 1922 camps were held for all the city and some of the country High Schools, and it is proposed to provide for training students for some of the chief secondary colleges.

(e) *Western Australia.* In Western Australia an advisory teacher of nature study visits the schools and gives advice in regard to proper methods in horticulture and experimental agricultural work. The number and usefulness of the gardens and experimental crops attached to State Schools show marked improvement each year. Special attention is being given to the needs of the country schools, and as far as possible the instruction is given a practical bias. In some districts definite projects are undertaken of importance to a rural community, i.e., vegetable growing, bee-keeping, and pig and poultry-keeping. The boys are also trained in useful manual work, and the girls, wherever possible, are taught simple cookery, and the drying and preserving of fruit and vegetables. Twenty-five special rural schools have been established in different parts of the State, and the project system has as far as possible been made portion of the curriculum. Early in 1914 a school was opened on the Narrogin State Farm. The pupils are taken directly from the primary schools, and the course of instruction lasts for two years. On its completion students are qualified to enter on the diploma course at the University. The school was brought under the control of the Education Department in 1921, and has so justified its

existence that it cannot accommodate all the applicants for admission. During 1922 accommodation was provided for 63 students. A short course for farmers was held in the winter vacation, when the school staff was assisted by officers of the Agricultural Department and the Professor of Agriculture at the University. Provision has been made for practical work in agriculture at the High School at Northam, and, by arrangement, some of the pupils spend a portion of their time each year at the State Experimental Farm at Merredin. The Education Department is also interesting itself in finding employment on farms for town boys who have difficulty in obtaining employment at home.

(f) *Tasmania.* In Tasmania the organizing teacher of nature study visits and advises the teachers at the State Schools, and also gives addresses and model lessons at the schools of instruction. Considerable success has attended the establishment of classes in Hobart for instruction in apple-grading and packing, and similar classes have been formed at several other centres.

5. **Teachers.**—The distribution of the teaching staff in the State Schools during the year 1922, including teachers of needlework, was as follows:—

STATE SCHOOLS.—TEACHING STAFF, 1922.

State,	Principal Teachers.		Assistants.		Pupil or Junior Teachers.		Sewing Mistresses.	Total.		
	Males.	Fem.	Males.	Fem.	Males.	Fem.		Males.	Fem.	Total.
New South Wales ..	2,205	1,226	1,824	4,384	..	..	178	4,029	5,788	9,817
Victoria ..	1,522	1,120	651	1,866	348	1,542	386	2,521	4,014	7,435
Queensland ..	942	703	553	1,345	130	241	..	1,630	2,289	3,919
South Australia ..	414	538	264	943	119	287	126	797	1,894	2,691
Western Australia ..	355	385	236	739	22	146	74	613	1,344	1,957
Tasmania ..	190	282	60	319	52	258	6	302	865	1,167
Northern Territory	3	3	..	3	..	1	..	3	7	10
Total ..	5,631	4,257	3,593	9,599	671	2,475	770	9,895	17,101	26,996

The figures for principal teachers include mistresses of departments, while students in training colleges have been grouped with assistants. Under this heading also are included teachers in sole charge of small schools. Some of these teachers have had very little training, but future permanent appointments will be confined as far as possible to those who have gone through a regular course of instruction.

It will be observed that there is a fairly large number of junior teachers, or pupil teachers, as they are called in some of the States. The pupil teachers will, however, in time disappear, and their places will be filled by young people who have undergone a course of training in schools specially provided for the purpose. Allusion to the methods of training will be found in the next sub-section.

In New South Wales attention has recently been drawn to the difficulty of securing an adequate supply of teachers, particularly male teachers for small schools in out-back districts.

6. **Training Colleges.**—The development of the training systems of the various States has been alluded to at some length in earlier issues of the Year Book. The present position is as follows:—

(i) *New South Wales.* During 1922, the total number of students in training was 848, of whom 341 were taking the twelve months' course for rural teachers or assistants, and the balance the various courses up to five years, and the special courses arranged

in accordance with departmental requirements. Practically all accessible metropolitan schools are used as practice schools for giving training-college students opportunity to acquire practical skill in teaching. Formerly the limits of accommodation at the College were responsible for the employment in the schools of a number of untrained juniors, but during recent years teachers entering the service have at least six months' professional training. At present some difficulty is experienced owing to the necessity for holding classes in three separate buildings some distance apart, but this will disappear with the completion of the new buildings within the University grounds. The Principal of the College is also Professor of Education at the University. Members of the College staff are afforded opportunities of visiting foreign countries on study leave. In addition to the help and advice afforded by the inspectorial staff, teachers in rural districts receive the advantage of tuition by lectures and correspondence from members of the Training College staff. The Department also arranges for schools of instruction in various subjects during vacations.

(ii) *Victoria.* During recent years the educational and professional attainments of the general body of teachers in Victoria have steadily improved. Prior to the establishment of the High Schools, the pupil or junior teachers were recruited from the ranks of those who had obtained the Merit Certificate in the eighth grade of the elementary schools, and the acquirement of the necessary literary qualifications for promotion was greatly hindered by the circumstance that they were engaged in teaching for the greater portion of the day. Under present conditions, candidates spend at least two years in a High School, and consequently enter on their professional duties with a better mental and physical equipment. A number of High School pupils after serving as junior teachers for a year are awarded studentships at the Training College. The present Training College dates back to 1874, but during the retrenchment period, viz., from 1893 to 1900, it was closed. The institution was reopened on February, 1900, with an enrolment of 57 students. During the year 1922 the students in training numbered 215, of whom 119 were women. A correspondence class has been formed for country teachers desirous of qualifying for the Infant Teacher's certificate. The students at the Hostel receive training in domestic economy. Three city and six country practising schools are attached to the Training College, and four infant rooms with attached kindergartens have been specially equipped for the training of infant teachers. The University High School gives secondary teaching practice to both departmental and private students. Three courses of training are provided for at the College, i.e., for Kindergarten or infant teachers, for primary teachers, and for secondary teachers.

(iii) *Queensland.* The great majority of the teachers in Queensland originated in the pupil-teacher system, under which the beginner, at the age of fourteen or thereabouts, was placed in charge of a class, his efforts being to some extent supervised by the head teacher or senior assistant. In addition to the strain involved in teaching, the neophyte had to prepare notes of lessons, and to study for the annual examinations. Under the present system, twenty scholarships to the Training College are awarded annually to candidates who obtain approved passes at the University Junior Examination. The scholarships have a currency of $2\frac{1}{2}$ years, and carry a living allowance. In addition, 43 appointments as student teachers are made on the results of approved passes, and the selected candidates receive academic and professional training under the head teachers of the schools to which they are appointed. At the Training College the students receive tuition in teaching methods, as well as in ordinary scholastic subjects, while the main portion of the practical work is focussed at the Brisbane Central State School. During 1922 there were 91 students in training at the College, including 15 University students, 36 teacher students, and 40 taking the short course for rural teachers. In addition, 195 students were receiving instruction by correspondence, and 93 were attending evening classes in general subjects for examination purposes. Teachers of small schools are also greatly helped by the inspectors' practical and theoretical instruction in the various districts, while the Central Technical College gives correspondence lessons to small-school teachers desirous of passing the Class III. examination. Schools of instruction for the untrained teachers of rural schools are conducted by the inspectors in their respective districts.

(iv) *South Australia.* In 1920 the scheme for the training of teachers was remodelled. The new system is based on three fundamental principles. (1) That the candidate should have completed his ordinary education—at least up to the standard of the Junior Public Examination—before entering on the professional course. (2) That he should complete his professional course before being permitted to teach. (3) That in order to secure uniformity, the various courses should be controlled by one person, instead of several, as was formerly the case. The remodelled courses came into operation in January, 1921, and are arranged to give the necessary academic and professional training as follows:—(a) Short course (one year) for the less important positions in primary schools and for teachers of Class VII. schools: (b) Primary Course (two years) for the more important positions in primary schools: (c) Kindergarten and Sub-Primary Course (two years) for positions as infant teachers: (d) Secondary Course (three to four years) for High School teachers: (e) Commercial Course (two years) for teachers of Commercial Subjects: (f) Domestic Arts Course (two years) for teachers of Domestic Arts: (g) Woodwork Course (one year) for Teachers of Woodwork. The total number of students in 1922 was 356. Practical work in teaching is carried out at six Practising Schools, for primary, rural, and infant teachers, and at selected schools of other kinds for secondary teachers, and teachers of special subjects. In order to provide an adequate supply of qualified students, provision is made for the award of 150 scholarships annually, tenable at a High School. These scholarships entitle the holder to one or two years' education at a High School beyond the Junior Public stage, with an allowance of £40 per annum for boys and £30 for girls, and a boarding allowance of £20 per annum if students live away from home. The new scheme of inspection, while providing for a measure of examination to test progress in fundamentals, gives the inspector a greater opportunity to estimate the general value of the teacher's work and to give advice and assistance where needed. Special evening or Saturday morning classes of instruction are held by the inspectors in their districts, while during 1922 six Schools of Instruction were conducted by inspectors and attended by 156 teachers from rural schools.

(v) *Western Australia.* A Training College for teachers was opened at Claremont in 1902. The original building provided accommodation for 60 students, but extensions were opened in 1908, and the number in training in 1922 was 165. Of the long-course students, 43 were in the first year, and 32 in the second year, while one graduate was enrolled for a special course of one year's duration. The remaining 89 were taking the one year's course for teachers of country schools. A fair proportion of the full-course students attend lectures at the University, and some remain for a third or fourth year to complete degree work. In addition to the ordinary schools at which teachers gain professional experience, special practising schools have been established for the proper training in teaching and managing the smaller country schools. The standard for entry into the teaching profession has been considerably raised during recent years. Formerly young people were taken at the age of fourteen years from the primary schools and appointed as "pupil" teachers. At present the probationary teachers or monitors must be seventeen years of age, and are expected to possess a good secondary education. After a short period of probation they enter the Training College for special professional training. University graduates receive a special course of one year's duration. Untrained applicants are appointed only when the supply of trained teachers is insufficient. The teachers in the metropolis are greatly helped by periodical conferences of inspectors and teachers, while in rural areas demonstration lessons are given by inspectors at convenient centres. Teachers in isolated areas are assisted by the correspondence classes.

(vi) *Tasmania.* During 1917 the scheme for the training of teachers was recast and grouped in four divisions:—(1) A short course to supply the professional training required for the less important positions in the primary schools and for teachers of the smaller provisional and Sixth Class schools: (2) Training of infant teachers: (3) Training for positions in the larger primary schools: (4) Training of high school teachers. Practical training for the various classes is given in well-equipped practising schools and in model small schools. The inspectors hold schools of instruction for teachers of small schools, and teachers of moderate attainments are also helped by the Correspondence School. The enrolment at the Training College in 1922 numbered 83.

7. *Expenditure.*—(i) *Maintenance.* The net expenditure on maintenance in all grades of schools, excepting technical schools, and the cost per head of average attendance, for the five years ended 1922 are shown below. The figures do not include expenditure on buildings, which is given separately in a subsequent table.

STATE SCHOOLS.—EXPENDITURE ON MAINTENANCE, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Total.
TOTAL.								
	£	£	£	£	£	£	£	£
1918	1,748,221	1,098,060	722,056	308,423	336,852	125,572	1,668	4,340,852
1919	1,971,209	1,127,962	773,814	342,907	348,694	142,097	2,027	4,708,710
1920	2,668,060	1,325,149	1,103,041	403,768	394,931	182,822	2,763	6,080,534
1921	3,227,245	1,615,882	1,210,592	452,364	464,136	230,131	2,607	7,202,057
1922	3,234,549	1,713,014	1,149,576	444,373	521,110	239,117	2,943	7,304,682

PER HEAD OF AVERAGE ATTENDANCE.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918	7 14 10	6 10 10	7 14 10	5 3 4	7 17 3	5 1 11	8 9 4	7 1 5	
1919	9 5 2	6 9 10	8 3 5	5 14 10	7 19 2	5 13 4	10 19 2	7 14 4	
1920	11 7 5	7 15 6	11 7 7	6 11 0	8 15 0	7 3 5	12 1 4	9 11 8	
1921	12 16 9	8 19 5	11 18 1	7 1 9	10 2 11	8 16 0	10 12 11	10 15 4	
1922	12 11 3	9 3 8	11 3 8	6 15 0	10 16 1	8 16 1	15 16 5	10 12 3	

The figures for Queensland have been amended since last issue by taking in expenditure in connexion with State scholarship holders at Grammar Schools and other approved secondary institutions, allowance being made for the number of these pupils in arriving at the cost per head of attendance.

As the figures show, the cost per head of average attendance has grown considerably during the quinquennium. This increase is due to the greatly enhanced cost of materials and equipment, and to the higher salaries paid to the teaching staff to meet the increased cost of living and also to make the service more attractive. For New South Wales the expenditure on salaries rose from £1,589,000 in 1919 to £2,188,000 in 1920, and to £2,666,000 in 1922. In Queensland the increase in 1920 was largely due to additional salaries and allowances—amounting to about £286,000—paid to teachers in consequence of awards of the Industrial Arbitration Court, while the further increase in 1921 was mainly accounted for by heavier cost of salaries and allowances. Increased salaries and allowances also were chiefly responsible for the high average cost in Western Australia for the year 1921 as compared with previous years.

(ii) *Buildings.* Expenditure on school buildings in each of the years quoted was as follows:—

STATE SCHOOLS.—EXPENDITURE ON BUILDINGS, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Total.
	£	£	£	£	£	£	£	£
1918	238,434	62,532	94,323	40,299	16,540	8,883	252	461,263
1919	265,174	87,273	94,603	41,974	24,579	23,897	650	538,150
1920	370,412	131,266	138,985	28,907	26,851	19,406	..	715,827
1921	293,420	176,099	67,490	64,885	70,533	53,059	..	725,486
1922	464,015	349,562	83,754	70,506	81,773	31,329	..	1,080,939

The large increase in expenditure for New South Wales in 1922 was due to the efforts made to overtake arrears in necessary buildings and repairs. It is stated that fully £1,000,000 is required to bring school accommodation to a satisfactory level.

(iii) *Total.* The net total cost during the year 1922 was as follows :—

STATE SCHOOLS.—NET TOTAL COST, 1922.

Item.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Total.
	£	£	£	£	£	£	£	£
Net cost of education, including buildings	3,698,564	2,062,576	1,233,330	514,879	602,883	270,446	2,943	8,385,621

The figures in this and the preceding tables refer to all grades of State schools (with the exception of technical schools), and include evening schools. Including buildings, the net cost per scholar in average attendance for the whole of the State schools in Australia amounted in 1922 to £12 3s. 8d. as compared with £4 9s. 3d. in 1901.

8. **School Savings Banks.**—Returns show that these institutions are in existence in three States. In New South Wales, there were 856 banks at the end of 1922, the deposits amounting to £65,430, and withdrawals to £66,018. Since the establishment of the banks in 1887, deposits totalled £887,746, and withdrawals £870,137. Of the latter sum the withdrawals of accounts of £1 and upwards for deposit in the Government Savings Bank as children's individual accounts amounted to £170,243. In South Australia, 694 schools had 38,392 depositors, with £48,129 to their credit; and in Western Australia, there were 531 school banks, with 38,879 depositors and £64,137 to their credit.

§ 3. Private Schools.*

1. **Returns for 1922.**—The following table shows the number of private schools, together with the teachers engaged therein, and the enrolment and average attendance in 1922 :—

PRIVATE SCHOOLS, 1922.

State.	Schools.	Teachers.	Enrolment.	Average Attendance.
New South Wales	678	4,092	80,247	66,340
Victoria	486	2,109	60,105	(a)51,000
Queensland	177	1,096	26,245	21,772
South Australia	170	811	16,536	12,330
Western Australia	120	514	11,662	10,394
Tasmania	75	337	6,715	5,379
Northern Territory	1	3	64	47
Total	1,707	8,962	201,574	167,362

(a) Estimated.

The totals for New South Wales include returns from the Sydney Grammar School, which receives a yearly State subsidy of £1,500, and which, in 1922, had an enrolment of 553, and an average attendance of 511.

The figures for Queensland include the returns from Grammar Schools, of which there are ten—six for boys and four for girls, with an enrolment of 1,207 boys and 785 girls. These schools are governed by boards of trustees, partly nominated by Government, and partly by the subscribers to the funds. The trustees make regulations regarding the fees of scholars, the salaries of teachers, and generally for the management of the schools. The total Government aid received in 1922 was £17,004, of which the Brisbane Boys' and Girls' Grammar Schools received £2,400 and £2,600 respectively, and the others £1,500 each. In addition, a sum of £14,914 was received for Government scholarships and bursars' fees. The Grammar Schools are inspected annually by officers of the Department of Public Instruction.

* Private schools include all schools not wholly under State control. The term "private," though popularly applied, is of course a misnomer.

2. **Growth of Private Schools.**—The enrolment and average attendance at Private Schools during 1891, 1901, 1911, and in each year of the period 1918 to 1922 are as follows:—

PRIVATE SCHOOLS.—ENROLMENT AND ATTENDANCE, 1891 TO 1922.

Year.	Enrolment.	Average Attendance.	Year.	Enrolment.	Average Attendance.
1891	124,485	99,588	1919	193,115	145,630
1901	148,659	120,742	1920	192,093	156,083
1911	160,794	132,588	1921	198,688	164,073
1918	190,999	151,590	1922	201,574	167,362

The comparatively small rate of increase in private school enrolment and attendance is due in large measure to the development of the State educational systems, especially as regards the provision of secondary education. The heavy decline in attendance figures for the year 1919 was accounted for chiefly by the smaller attendance in New South Wales schools resultant on the influenza epidemic.

3. **Registration of Private Schools.**—Until recent years the various State Governments had comparatively little control over privately conducted schools. With the advance of modern educational thought the position is improving, but still leaves much to be desired. It is evident that without a thorough system of registration there will always be a difficulty in regard to enforcing the compulsory clauses of the various Education Acts. Moreover, advanced educational thought demands complete supervision, not only of curricula, but of all matters pertaining to school hygiene.

In New South Wales, under the provisions of the Bursary Endowment Act of 1912, non-State Schools are inspected by the departmental Inspector of Secondary Education for registration or renewal thereof. Under the compulsory clauses of the amending Public Instruction Act of 1916, children between the ages of 7 and 14 years must attend schools certified as efficient by the Minister. Provisional registration is granted to applicants pending inspection by Government officers. School proprietors must conform to prescribed conditions in regard to the hygiene, etc., of their buildings, and supply the requisite returns.

In Victoria, a registration scheme has been established under a special committee consisting of nine members of the Council of Education, and all private schools must be registered. The Minister of Education is also empowered to authorize the inspection of any school (other than a State School) in order to ascertain whether the instruction given is satisfactory. The inspector of registered schools has pointed out that the Registration Act has had the effect of improving the school buildings as well as the methods of instruction. Since 1914, the improvement of existing buildings has been enforced where necessary, while full requirements have been insisted on in the case of additions or new buildings.

In Queensland, with the exception of the Grammar Schools, which are now examined annually, there is practically no control over the private schools, beyond the fact that they may submit themselves to inspection if so desired. No provision is made under the Education Act for the furnishing of returns.

In South Australia there is no compulsory registration of schools or teachers, but all instruction must be given in the English language, and monthly and annual returns of attendance forwarded to the Department of Education.

In Western Australia, non-Government schools must be declared efficient by the Education Department if attendance at them is to be recognized as fulfilling the requirements of the law, and the school registers must be open to the inspection of the compulsory officers of the Department. Returns of attendance must be furnished monthly and quarterly.

In Tasmania, all private schools must be registered with the Teachers and Schools Registration Board. Prior to registration by the Board teachers must produce evidence of fitness to teach. Annual returns of attendance are required.

§ 4. Free Kindergartens.

The following information regarding Free Kindergartens has been compiled from particulars supplied by the principals of the chief institutions or the organizing secretary in each State, except in the case of Western Australia, the details for which were furnished by the Education Department.

FREE KINDERGARTENS, 1923.

State.	No. of Schools.	Average Attendance.	Permanent Instructors.	Student Teachers.	Voluntary Assistants.
New South Wales (Sydney)	12	707	25	74	18
Victoria (Melbourne) ..	25	1,339	55	36	240
(Ballarat) ..	1	26	2	..	12
Queensland (Brisbane) ..	6	157	7	16	2
South Australia (Adelaide)	7	228	9	23	1
Western Australia (Perth)	5	157	8	..	11
Tasmania (Hobart) ..	3	100	5	5	..
(Launceston) ..	2	83	1	5	3
Total	61	2,797	112	159	287

In New South Wales there were 74 students at the Kindergarten Training College. At the Melbourne College, 36 students were in training. The Brisbane Training College had 16 students in training during 1923, the Training College at Adelaide 23, and at Perth 18. There is no training college at Hobart, but the free kindergartens are used as practising schools in connexion with the Kindergarten Association. Five students were in training during 1923.

The information given above refers to institutions under private kindergarten unions or associations, and is exclusive of the kindergarten branches in the Government schools of the various States.

§ 5. Universities.

1. **Origin and Development.**—(i) *University of Sydney.* The Act of Incorporation of the University of Sydney received Royal Assent on the 1st October, 1850, and the first Senate was appointed on the 24th December of that year. The first matriculation examination was held in October, 1852, when 24 candidates passed the required test, and the formal inauguration ceremony took place on the 11th October of the same year. A Royal Charter was granted to the University on the 27th February, 1858. Women students were admitted in 1881. The passing of the University (Amendment) Act of 1912 marks an important epoch in the development of the educational system of New South Wales. The Act aims at placing the University in a more effective position as the culminating point in a thoroughly co-ordinated system of State education, and it is claimed that the passing of this measure made the educational system—from the Primary Schools through the Secondary Schools to the Technical Colleges or to the University—form a progressive and continuous whole. More extended reference to this Act and to the liberal scheme of exhibitions provided thereunder for scholars from the State and Private Schools was given in Official Year Book No. 15, page 745. At the inception of the University there were only three professorships. The present staff consists of 32 professors, 6 associate and 2 assistant professors, and 170 lecturers and demonstrators. There are, in addition, 13 honorary lecturers.

(ii) *University of Melbourne.* This institution was established by Act of Parliament assented to on the 22nd January, 1853, and its first council was appointed on the 11th April of that year. The foundation stone of the main building was laid on the 3rd July, 1854, and the University was formally inaugurated on the 13th April, 1855. By Royal Letters Patent, issued in 1859, its degrees are, like those of the Sydney institution, declared of equal status with those of any other University in the British Empire. Women

students attended lectures for the first time in 1881. The University, which began in 1855 with schools of Arts and Law, has now a staff of 23 professors, 79 lecturers and demonstrators, and 150 various assistants. The Conservatorium of Music has a staff numbering 43.

(iii) *University of Queensland.* The Act to establish the University of Queensland was passed in 1909, and the first Senate was appointed on the 14th April, 1910. The University was opened on the 14th March, 1911, when 60 students were matriculated. Provision has been made for a Correspondence Study department in connexion with the institution, and at the request of the Brisbane branch of the Workers' Educational Association weekly lectures are given in History and Economics. At the present time there are 8 professors, with 16 independent lecturers, 7 assistant lecturers and demonstrators, and 4 miscellaneous assistants.

(iv) *University of Adelaide.* This University was established by Act of Parliament in 1874. Its origin and progress were largely due to the munificence of the late Sir Walter Watson Hughes and Sir Thomas Elder, G.C.M.G., the total gifts of the latter amounting to over £100,000. The academical work of the institution was commenced in March, 1876, when eight matriculated and fifty-two non-graduating students attended lectures. The foundation stone of the University buildings was laid on the 30th July, 1879, and the buildings were opened in April, 1882. In 1881, by Royal Letters Patent, the degrees granted by the institution were recognized as of equal distinction with those of any University in the British Empire. The Elder Conservatorium of Music was opened in 1898. Power was given by Act of Parliament in 1880 to grant degrees to women. At first there were only four professorships in the University, whereas the present staff consists of 16 professors, 86 lecturers and demonstrators, and 36 miscellaneous assistants, while the staff at the Conservatorium, not included in the foregoing figures, numbers 21.

(v) *University of Western Australia.* The University of Western Australia was established under an Act which received Royal assent on the 16th February, 1911, and the first Senate was appointed on the 13th February, 1912. The University was opened in March, 1913. There are now 10 professors, in addition to 21 lecturers and demonstrators and 19 miscellaneous assistants. The Chair of Agriculture was endowed by Sir Winthrop Hackett. Associates of the Perth Technical School or the Kalgoorlie School of Mines may, under prescribed conditions, obtain a reduction in period of attendance for the B.E. degree, and students from the School of Mines may be admitted to the examinations and take portion of their course at the University.

(vi) *University of Tasmania.* The Act to establish the University of Tasmania (Hobart) was assented to on the 5th of December, 1889. At the present time the institution, which is small but efficient, possesses a staff of 7 professors, 13 independent lecturers, and 2 assistant lecturers and demonstrators. Under Statutes the Zeehan School of Mines and Metallurgy and the School of Mines and Industries at Mount Lyell were affiliated to the University.

2. *Teachers and Students.*—The following table shows the number of professors and lecturers, and the students in attendance at each of the State Universities during the year 1922 :—

UNIVERSITIES.—TEACHERS AND STUDENTS, 1922.

University.	Professors.	Lecturers and Demonstrators.	Students attending Lectures.		
			Matriculated.	Non-matriculated.	Total.
Sydney	40	183	2,485	520	3,005
Melbourne	23	79	..	..	2,462(a)
Queensland (Brisbane)	8	23	290	115	405
Adelaide	16	86	829	567	1,396(b)
Western Australia (Perth)	10	21	322	14	336
Tasmania (Hobart)	7	15	127	39	166

(a) Exclusive of 198 music students.

(b) Exclusive of 602 music students.

Students at the Conservatorium of Music have been excluded in the case of Melbourne and Adelaide. The Conservatorium in Sydney, while attached to the Education Department, is not under the control of the University.

3. University Revenue.—The income of the Universities from all sources during the year 1922 was as follows :—

UNIVERSITIES.—REVENUE, 1922.

University.	Government Grants.	Fees.	Private Foundations.	Other.	Total.
	£	£	£	£	£
Sydney	118,470	43,330	59,350	7,254	228,404
Melbourne	39,008	73,837	9,004	18,087	139,936
Queensland (Brisbane)	16,400	8,291	13,060	6,399	44,150
Adelaide	35,398	21,453	100,480	9,398	166,729
Western Australia (Perth)	16,800	3,223	627	2,726	23,376
Tasmania (Hobart)	12,697	2,484	910	254	16,345

The extent to which the older-established Universities have benefited by private munificence will be apparent from the following table :—

UNIVERSITIES.—BENEFACTIONS.

University of Sydney.		University of Melbourne.		University of Adelaide.	
Donor.	Amount.	Donor.	Amount.	Donor.	Amount.
	£		£		£
J. H. Challis	276,750	Sir Samuel Wilson	30,000	Sir Thos. Elder	98,760
Sir P. N. Russell	100,000	James Stewart	25,624	The Hon. Sir Langdon Bonython	40,000
Thos. Fisher	30,000	Sir Samuel Gillott	23,900	Mrs. Jane Marks	30,000
Sir Hugh Dixon	9,050	Hon. Francis Ormond	20,000	R. Barr Smith	
Edwin Dalton	8,000	John Hastie	19,140	and family	21,150
J. F. Archibald	7,135	Robert Dixon	10,837	Sir W. Hughes	20,000
Hon. Sir W. Macleay	6,000	John Dixon Wyse-		Family of John	
Mrs. Hovell	6,000	laskie	8,400	Darling	15,000
Thos. Walker	6,200	David Kay	5,764	Mrs. G. A. Jury	12,000
Other donations	69,281	Cuming Smith & Co. Ltd.	5,250	Hon. J. H. Angas	10,000
		Subscribers, Ormond Exhibitions in Music	5,217	Other donations	31,568
		Sir J. M. and Lady Higgins	9,700		
		Mr. and Mrs. F. Knight	5,000		
		Henry T. Dwight	5,000		
		Wm. Thos. Mollison	5,000		
		Other donations	81,143		
Total	518,416	Total	259,975	Total	278,478

The figures quoted above for the Sydney University relate to actual cash, and are exclusive of the munificent bequest by the late Hon. Sir Samuel McCaughey, M.L.C., of property producing an annual income of £15,000 to be applied to the general purposes of the University. In addition to the sum of £6,000 shown above, the Hon. Sir W. Macleay also presented the Museum of Natural History to the University of Sydney. The column "Other Donations" for Melbourne University includes portion of the sum of £49,000 raised by special appeal in 1920.

The credit balances of some of the above endowments now amount to very considerable sums. For example, on the 31st December, 1922, the Challis Fund amounted to nearly £342,000, while the total credit balances of all private endowments exceeded £632,000. In the case of Melbourne University the Stewart fund on the 31st December, 1922, stood at £30,500, the Hastie at £26,600, and the Dixon fund at £16,000.

In addition to the above there were various other bequests to Sydney University—e.g., collection of Egyptian antiquities, etc., by Sir Charles Nicholson, and Natural History collection by Mr. Geo. Masters, while the building for the Natural History Museum was given by Sir W. Macleay. Numerous prizes and scholarships have also been given to the various colleges. In Melbourne, the Hon. Francis Ormond's benefactions to Ormond College amounted to about £108,000. With a view to advancing the cause of education in agriculture, forestry and allied subjects, Mr. Peter Waite transferred to the Adelaide University in 1914 the whole of the valuable Urrbrae estate at Glen Osmond. The estate comprises 134 acres of land with a fine mansion. In 1915, he presented the estate of Claremont and part of Netherby, comprising 165 acres, adjoining Urrbrae, while in 1918 he transferred to the University 5,880 shares in a public company to provide funds to enable the University to utilize the land for the purposes intended. In addition to the sum of £30,000 mentioned above, presented by Mrs. Jane Marks in 1922, Adelaide University benefited during the year by a gift of property valued at £20,000, presented by Mrs. A. M. Simpson and Miss A. F. Keith Sheridan. Private benefactions to the University of Tasmania and the University of Queensland amount to about £6,000 and £43,000 respectively. In connexion with the latter, the trustees of the Walter and Eliza Hall Trust have endowed fellowships in engineering, economic biology, and pure and applied chemistry. The bequest by the late Sir Samuel McCaughey amounted in 1922 to £20,000, and a gift of £10,000 by the British Red Cross Society was used to create a Research Chair in Medical Psychology. A bequest of £10,000 was received in 1922 from Miss Kate Garrick. In Western Australia the chair of Agriculture was founded by an endowment of Sir Winthrop Hackett, first Chancellor of the University, who made available also an annual sum of £900 for the establishment of a Department of Agriculture.

4. **University Expenditure.**—For the year 1922 the expenditure by the Universities under various headings was as follows:—

UNIVERSITIES.—EXPENDITURE, 1922.

University.	Salaries and Administration.	Scholarships, Bursaries, etc.	General Maintenance.	Buildings and Grounds.	Other.	Total.
	£	£	£	£	£	£
Sydney	119,919	5,265	34,707	36,470	2,713	199,074
Melbourne	84,438	8,999	6,798	13,618	21,445(a)	135,298
Queensland (Brisbane)	21,863	2,836	6,976	795	10,577(b)	43,047
Adelaide	43,638	1,060	2,080	11,008	12,411(c)	70,197
Western Australia (Perth)	16,403	32	1,845	..	4,508	22,788
Tasmania (Hobart)	9,868	805	..	557	5,360(d)	16,590

(a) Includes £8,842 laboratory and research expenditure. (b) Includes £2,561 laboratory and research. (c) Includes £7,549 laboratory and research. (d) Includes laboratory and research, £1,185.

5. **University Extension.**—Extension lectures were instituted at Sydney University in 1886, and in 1892 a Board was appointed which receives and considers applications from country centres, and makes provision for engaging lecturers and managing the entire business connected with the various courses. The Board also arranges for courses of lectures in other States. In 1922 provision was made for seventeen courses, the lectures being given in part at the University, and in part in various suburban and country districts.

Evening tutorial classes open to both matriculated and unmatriculated students have been established in various centres in accordance with the University Amendment Act of 1912. Fifty-nine of these classes, attended by about 1,400 students, were in operation during 1922. Thirty-four of the classes were held in the metropolitan area, and twenty-five in country districts.

University extension lectures in Victoria date from the year 1891, when a Board was appointed by the Melbourne University for the purpose of appointing lecturers and holding classes and examinations at such places and in such subjects as it might think fit. A joint committee composed of representatives from the Extension Board and the Workers' Educational Association respectively controls the organization of tutorial classes. The Board also arranges for advising country students by correspondence on social and cultural subjects. Attendance at extension lectures in 1922 numbered 542, and at the tutorial classes 392.

As pointed out previously, a correspondence study department has been inaugurated in connexion with the University of Queensland in order to overcome, as far as possible, the difficulties of students who desire to benefit by University teaching, but who for various reasons are unable to attend the lectures. In 1922 there were 133 students on the roll. In addition, 10 public lectures, and 3 intra-mural courses were given in Brisbane, and 7 lectures in country towns, while 8 classes were conducted in Brisbane for members of the Workers' Educational Association, and attended by 282 students, and correspondence lectures were provided for 348 country students. Four extension classes in country towns were provided with notes and text-books, and a tutor was appointed to supervise the work.

The Adelaide University has also instituted short courses of extension lectures in Arts and Science, to which students are admitted on payment of a nominal fee. Public intimation of these lectures is made from time to time during the session. Three courses of lectures were delivered in 1922. Attendance at tutorial classes in 1922 amounted to 645. In addition, short courses of popular lectures were delivered at the University and in some of the country towns.

In Western Australia provision has been made for the giving of courses of extension lectures in Perth and suburbs, and also—by arrangement with local committees—in country centres. The professor of agriculture visits the chief farming districts for the purpose of giving lectures to, and holding conferences with the primary producers. *Special short courses for farmers are given at the University. Short courses of popular lectures are also given in the evening by various professors at the University.*

In Tasmania during 1919 the University Extension Board which had previously controlled the work of providing extra-mural tuition was replaced by the Committee for Tutorial Classes. The Professor of Economics is director of tutorial classes, and conducts one class annually. There are also lectureships for the northern and west coast districts. Attendance at the classes in 1922 numbered 160.

6. Workers' Educational Association.—In 1913 Workers' Educational Associations were formed in all the States of Australia and later in New Zealand. The movement has for its object the bringing of the University into closer relationship with the masses of the people and thereby providing for the higher education of the workers in civic and cultural subjects. The work of the Association is gaining in popularity year by year, and the growth of the movement has been phenomenal. The Government of New South Wales at first granted the University of Sydney the sum of £1,000 to initiate a scheme for tutorial classes. There are now direct grants from all State Governments except Western Australia, and an additional University grant in New Zealand. The particulars of grants for classes are as follow:—New South Wales, £5,970, 55 classes; Victoria, £4,500, 21 tutorial classes and extension work; Tasmania, £1,380, 14 classes; South Australia, £1,600, 13 classes; Queensland, £2,000, 19 classes. In addition, the New South Wales Association receives a Government grant for general organizing purposes of £400, paid on the basis of £1 for £1 on subscriptions and donations up to this amount. Correspondence courses form a strong feature of the work in Queensland, groups of construction workers and other outback pioneers being reached thereby. About 55 per cent of the total membership in Queensland consists of correspondence students. The total number of students throughout Australia is approximately 4,000, the greater number of whom are taking three-year courses while working at their daily occupations. An analysis of these occupations showed that the great majority of the students were wage-earners. The principal subjects chosen in all States are Industrial History, Economics, Political Science, and Sociology, but there is an increasing number of classes in other subjects such as History, Psychology, Philosophy, Literature, Music, Physiology, and Biology. Each University co-operates with the W.E.A. in the formation of a joint committee which appoints tutors and generally supervises

the work with the assistance of a University officer with the title of Director of Tutorial Classes. In addition to the longer and more serious courses, a great many preparatory classes, study circles, and summer schools are organized by the Association, numerous courses of public lectures are delivered, educational conferences promoted, and an extensive book service is spreading educational literature throughout Australia. A strong feature of the work of the Association is the organization of a number of country branches to carry facilities for higher education to districts in which these have hitherto been lacking. This work has been particularly successful in New South Wales, Victoria, Queensland, and Tasmania. In New South Wales the Association organized an important representative conference on "Trade Unionism in Australia" in 1915, the report of which has been issued in book form. Another conference on the "Teaching of Sex Hygiene" was held in 1916, the report of which has passed through two large editions. A report was also published of a conference on "Adolescent Education" held in 1919. During 1923 eight conferences were held in the principal centres of Victoria on the subject of "Adult Education," the attendances totalling 1,400. A Commonwealth Conference held at Adelaide in 1918 resulted in the formation of a federal organization now known as "The Workers' Educational Association of Australia." Its central office is in the Education Department, Melbourne. The Federal Council co-ordinates the activities of the W.E.A. in all States, and has inaugurated a series of publications on sociological and economic subjects. It also publishes "The Highway," a monthly magazine now in its sixth year, which contains notes on the movement and general discussions on educational work.

§ 6. Technical Education.

1. **General.**—Although provision has been made in some of the States in respect to many necessary forms of technical education, the total provision made would imply that this branch of education has not been regarded as of great importance. As will be seen later on, the expenditure on technical education for the whole of Australia is comparatively small. The question of apprenticeship is referred to in the chapter dealing with "Labour, Wages, etc."

2. **New South Wales.**—Some account of the origin and development of technical education in New South Wales was given in Official Year Book No. 15, page 750, but considerations of space preclude its repetition in this issue. It may be noted, however, that technical education had its origin in this State in 1883, but it was not until the year 1913 that a definitely co-ordinated scheme was adopted. The branch Technical Colleges, with the exception of those at Newcastle and Broken Hill, were then superseded by Trade Schools, admission to which was restricted to those actively engaged in the trade concerned, and was dependent also on the possession of a certain degree of preparatory knowledge. Courses of instruction in which workshop experience is not necessary to train the efficient worker—such as Art, Science, and Commercial Courses—are, however, open to all students who have the requisite preliminary knowledge. Advisory committees were appointed for each trade or group of trades. The first two or three years' course of instruction is given in the Trade Schools, of which there are ten, and students may then go on for a further two or three years' advanced teaching at the Technical Colleges, of which there are three, one at Sydney, one at Newcastle, and one at Broken Hill. The higher courses embrace instruction in advanced trades' work qualifying for the position of manager or foreman, but no attempt is made to train for the professional standing. It is hoped, however, that the scheme will develop so that part of the graduates may proceed to the University. Admission to the higher courses will eventually be restricted to those who have either graduated in the Trade Schools of the Department, or who evidence possession of a similar standard of knowledge. In addition to the courses given in the Technical Colleges and Trade Schools, elementary instruction has been provided at various centres where there has been a demand for it, and provision has been made also for special courses of instruction by correspondence. A liberal scheme of scholarships has been provided for students passing from the day or evening Junior Technical Schools or Domestic Science Schools, to the Trades and Science Schools, as well as scholarships to the University at the close of the diploma course.

As the existing accommodation both at the Central College and the suburban Trade Schools was found to be quite inadequate, a beginning was made in 1921 with the work of providing increased facilities for technical education in the metropolis by remodelling

the premises formerly used as the Darlinghurst Gaol. The necessary alterations will involve a sum of £36,650, and it is hoped that the building will be open early in 1923.

The table below gives some idea of the development of technical education in New South Wales during the five years 1918 to 1922:—

TECHNICAL EDUCATION.—NEW SOUTH WALES, 1918 TO 1922.

Year.	Number of Classes.	Number of Enrolments.	Average Weekly Attendance.	Individual Students.	Number of Lecturers and Teachers.	Fees Received.
1918 ..	572	15,986	12,156	8,717	369	£ 9,422
1919 ..	557	14,580	10,949	7,827	379	9,416
1920 ..	638	18,119	13,808	9,258	406	12,701
1921 ..	636	18,974	..	9,696	447	12,641
1922 ..	646	21,328	..	9,806	470	13,627

Attention has recently been drawn to the necessity for a Vocational Bureau to make provision for effectively placing in the various industries boys and girls leaving school. At present many of the students at the Technical Colleges are anxious to be apprenticed, but there is a difficulty in bringing the interested parties together.

During the year 1922 the Department continued the training of returned soldiers at the Central Technical College and various Trade Schools in the metropolitan area, and at the branch Technical Colleges at Newcastle and Broken Hill. The numbers of course decreased as the men were absorbed into different industries, and about the middle of the year the few classes that remained were taken over by the Repatriation Department.

3. Victoria.—Technical instruction in mining has for many years received considerable attention in Victoria, the Ballarat School of Mines, which was established as far back as 1870, having achieved an Australasian reputation. Fine work was also done at the School of Mines in Bendigo, and later on excellent courses of training were evolved at the Working Men's College in Melbourne. The general scheme of instruction, however, lacked cohesion, and it was not until after the publication of the Report of the Royal Commission on Technical Education, which was appointed in 1899, that many defects were remedied. Prior to 1910 the whole of the schools were under the control of local councils, but in the year mentioned the control passed to the Education Department. At the end of 1922 there were 27 Technical Schools receiving State aid. The largest technical institution in Melbourne is the Working Men's College, founded in 1887. The College, in addition to giving instruction in a large number of technical subjects, is also a School of Mines. During 1922 the classes in operation numbered 180, and the average enrolments per term amounted to 2,500. In addition, 200 students were receiving vocational training for the Repatriation Department. Such institutions as the Swinburne Technical College, and the Ballarat and Bendigo Schools of Mines, have also an extensive curriculum embracing the more important industrial subjects. There are now 24 Junior Technical Schools in existence, giving a two or three years' course of instruction to boys between the ages of 12½ and 15 years, thereby preparing them for the more advanced teaching in the higher schools.

Particulars regarding the growth of technical education in Victoria during the last five years are given in the appended table:—

TECHNICAL EDUCATION.—VICTORIA, 1918 TO 1922.

Year.	Number of Classes.	Number of Enrolments.	Average Attendance.	Fees Received.
1918	110	13,300	9,119	£ 19,044
1919	110	12,785	9,102	18,351
1920	115	14,174	10,548	29,132
1921	116	15,105	10,663	25,831
1922	120	16,168	12,236	28,725

Considerably more than 2,000 returned soldiers have received the advantages of vocational training, and the staff and councils of the various technical schools have taken great interest in the work of teaching and finding employment for qualified trainees.

4. **Queensland.**—Up to the passing of the "Technical Instruction Act of 1908." technical education in Queensland was controlled by local committees, the State simply providing financial aid. Under the provisions of this Act, the State took over the technical colleges at Brisbane, South Brisbane and West End, and formed therefrom a Central Technical College. By an amending Act in 1918, power was taken to assume the control of other technical institutions, and in 1919 the colleges at Toowoomba and Rockhampton came under departmental control. Technical High Schools were inaugurated in 1921 at the Central and Ipswich Technical Colleges, and the vocational courses given in the High Schools connected with the Colleges at Toowoomba and Rockhampton attracted a large number of students. During 1922 there were seventeen technical colleges in operation, while classes in technical subjects were held in a number of smaller centres. Nine colleges were directly controlled by the Department and eight by local committees. Preparatory Day Trade Schools were established at Ipswich and Brisbane in 1916, and Domestic Science Day Schools at Brisbane and Ipswich in 1915, and at Townsville in 1918. A certain amount of technical and vocational work is also provided for at the Rural Schools. (See § 2, 4 (v.c.)). Several itinerant Domestic Schools have been opened to meet the needs of districts where the population is not sufficient to warrant the establishment of permanent classes, and these institutions have been very successful. Vocational training for returned soldiers has been provided in Brisbane and at various country centres. The special classes at the Central Technical College were closed at the end of 1922, and the trainees remaining were placed in suitable positions. The progress of technical education since 1918 is shown in the following table:—

TECHNICAL EDUCATION.—QUEENSLAND, 1918 TO 1922.

Year.	Number of Classes.	Enrolments.	Average Weekly Attendance.	Number of Teachers.	Fees Received
					£
1918	421	9,900	8,500	295	14,851
1919	423	9,864	(a) 8,000	348	11,364
1920	509	11,863	(a) 9,000	377	13,074
1921	522	11,993	(a) 9,500	372	13,882
1922	512	12,069	(a) 10,000	396	14,549

(a) Estimated.

Greater attention is being devoted to the development of trade classes, and the Technical College authorities have been assisted by the University professors in the preparation of a properly organized system of trade instruction. Compulsory attendance at technical classes in various districts has been provided for by industrial awards, the decisions so far—with the exception of printing—being confined to trades connected with engineering and metal working. Under the scheme inaugurated in 1920, there is a Central Apprenticeship Committee and Group Apprenticeship Committees, which exercise oversight over apprenticeship matters and submit recommendations as to conditions to the Arbitration Court. Although some opposition was met with at the outset, there is an increasing tendency amongst employers to obtain apprentices by application to the Secretary.

5. **South Australia.**—Prior to the year 1917 the condition of affairs in regard to technical education in Australia was regarded by the Education Department as unsatisfactory. There was a School of Mines and Industries in Adelaide, and in addition Schools of Mines at Moonta, Port Pirie, Kapunda, Mount Gambier, and Gawler. While the Government bore the bulk of the cost of maintenance of these institutions, they were controlled by independent councils, and there was no regular co-ordination in regard to staffs, curriculum, etc. A Director of Technical Education was appointed in 1916, and

the reorganization of the system was thereupon undertaken. The position in 1921 was, however, still unsatisfactory, as the control of technical education in the State rested with two bodies, (a) the Council of the South Australian School of Mines and Industries, whose activities are confined to the metropolitan area; and (b) the technical branch of the Education Department, which deals with schools in the metropolis, as well as throughout the country districts. During the year, an amending Act dealing with the technical education of apprentices was passed, and, by proclamation, the scope of the original Act was widened so as to include over 150 separate trades. Regular meetings of the Apprentices Advisory Board were held, and improvements in conditions of apprenticeship were made on their recommendation. In 1922 the work of the seven classes established under the Act was carried on; 497 apprentices and probationers were enrolled, and 110 apprentices completed the statutory three years' course of study and received tradesman's certificates. A further amending Act passed in this year removed some of the difficulties in administration. The Country Technical Schools previously alluded to were maintained in 1922, and new schools were opened at Kadina and Wallaroo. In June the work of the Vocational Schools for returned soldiers came to a close, about 1,300 soldiers having received special training during the period covered by their operations.

Particulars regarding the position of technical education in the State during the five years 1918 to 1922 are given hereunder:—

TECHNICAL EDUCATION.—SOUTH AUSTRALIA, 1918 TO 1922.

Year.	Number of Classes.	Enrolments.	Average Attendance.	Number of Teachers.	Fees Received.
					£
1918	169	5,927	4,760	127	4,393
1919	207	6,819	4,453	134	4,177
1920	358	11,304	8,424	200	5,161
1921	357	10,499	7,187	183	5,713
1922	311	10,609	7,875	160	6,008

6. Western Australia.—A Technical School was established at Perth in 1900, and since its opening has progressed rapidly. Extensive additions to the buildings were made in 1909, and the remodelled institution was opened in 1910. The school is affiliated to the University, and provides instruction for evening students in first year University work in mathematics, physics, and chemistry, and second year work in mathematics and chemistry. The trade classes are well supported, and particular attention is devoted to subjects of value to the skilled tradesman. In 1922 committees including representatives of employers and workers' unions were formed for each group of trades, and these committees will confer regularly with the trade instructors. Full time day classes in engineering are provided for pupils who have passed through the Junior Technical School, and a number of railway apprentices attended the day classes at Perth and Midland Junction. The Fremantle School is being gradually developed on the trade side. In the other centres, i.e., Claremont, Kalgoorlie, Boulder, Geraldton, Bunbury, Collie, Albany, and Beverley, the classes are almost entirely confined to commercial and domestic subjects. In addition, Continuation Classes are held at various centres. The schools are all under the control of the Education Department, the officer entrusted with the supervision being styled Director of Technical Education. The Director also supervises the School of Mines at Kalgoorlie, which is controlled by the Mines Department. Advanced work at present is taken only in Perth, Fremantle, Boulder, and in Kalgoorlie by the School of Mines, the other branches dealing almost entirely with preparatory work, chiefly in Continuation Classes.

In 1918 a vocational training committee was formed to superintend the training of returned soldiers, and some 2,000 men were interviewed and advised by the Committee before a Special Selection Officer was appointed in October, 1919. Originally it was

proposed to train disabled men only, but later it was decided to extend the privilege to all returned soldiers who were under 20 years of age at the time of enlistment. Provision was made for accommodating the classes in the Technical School and in workshops and other premises built or rented in various parts of the metropolis.

At present pupils leaving the State Schools at the age of fourteen to take up employment may by attendance at evening classes qualify for free admission to the Technical Schools. Those with leaving certificates from the eighth standard, and others able to devote their full time to study, may obtain day instruction at the Technical Schools in subjects bearing on their intended occupations, or may qualify for a more extended course including graduation at the University. Returns for the last five years are embodied in the table hereunder:—

TECHNICAL EDUCATION.—WESTERN AUSTRALIA, 1918 TO 1922.

Year.	Number of Classes.	Enrolments.	Individual Students.	Number of Teachers.	Fees Received.
1918	435	5,853	3,320	127	£ 920
1919	463	5,713	3,337	130	842
1920	455	5,424	3,158	151	976
1921	461	6,773	3,466	145	1,920
1922	449	6,920	5,679(a)	153	3,139

(a) Average weekly attendance, individual students, 3,471.

7. *Tasmania.*—Provision for technical education dates from the year 1888, but in the report of the Commission appointed in 1916 to inquire into the condition of technical education in Tasmania, allusion was made to the want of co-ordination between existing institutions and the Education Department, and it was recommended that the schools should be taken over by the Government, and a trained technologist appointed as organizing inspector. The inspector was appointed in 1917 and a Technical Education Branch was established in 1918. The scheme of technical education includes provision for courses of training in industrial, commercial, and domestic pursuits. Under the first-mentioned, the scheme provides for junior technical schools, applied science schools, technical trade schools, and art and applied art schools, and it is to this group that the activities of the Department have hitherto been almost exclusively confined. The co-operation of employers and employees has been obtained, and certain of the more advanced courses have been co-ordinated with the courses given at the University. There are Junior Technical Schools for boys at Hobart and Launceston, and for boys and girls at Queenstown and Zeehan. Senior Technical Schools are in operation at Hobart and Launceston, organized into Departments of Engineering and Applied Science, Art, and Trade; and at Queenstown and Zeehan, courses in Metallurgical and Mining Engineering are undertaken. Vocational classes for returned soldiers were established at Hobart and Launceston, and the training scheme was completed in June, 1922.

TECHNICAL EDUCATION.—TASMANIA, 1918 TO 1922.

Year.	Number of Classes.	Enrolments.	Average Weekly Attendance.	Number of Teachers.	Fees Received.
1918	68	836	472	38	£ 878
1919	107	752	478	56	784
1920	135	1,152	784	63	1,338
1921	167	1,218	860	65	1,286
1922	209	1,098	(a)	55	1,069

(a) No record.

8. *Expenditure on Technical Education.*—The expenditure on technical education in each State during the period 1918 to 1922 is shown below :—

TECHNICAL EDUCATION.—EXPENDITURE, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1918	{ (a) 99,275	102,287	41,566	24,363	13,444	4,738	285,673
	{ (b) 10,651	30,656	9,931	7,706	492	..	59,436
1919	{ (a) 115,087	115,383	44,285	26,580	14,047	10,335	325,717
	{ (b) 6,302	8,083	10,180	3,586	569	..	28,720
1920	{ (a) 211,987	118,168	57,219	34,538	16,326	13,677	451,915
	{ (b) 2,668	9,326	22,607	13,080	494	328	48,503
1921	{ (a) 210,515	162,596	62,321	40,864	19,212	17,808	513,316
	{ (b) 13,972	29,619	4,854	4,172	580	259	53,456
1922	{ (a) 169,925	202,228	59,075	43,744	18,406	18,222	511,600
	{ (b) 48,978	21,750	1,577	708	1,030	151	74,194

(a) Maintenance. (b) Buildings.

Cost of maintenance in New South Wales during 1922 shows a decrease of £40,000 on the figures for 1921, the falling-off being due to the lessened expenditure on vocational training of soldiers and sailors which dropped from £58,600 in 1921 to £19,900 in 1922.

The expenditure on maintenance for technical education in 1922 amounted to 1s. 10d. per head of the population of Australia, as compared with 26s. 3d. per head expended on maintenance for primary education, the figures apparently showing that technical education has not attained its proper place in educational organization.

§ 7. Business Colleges and Shorthand Schools.

There has been considerable development in recent years both in the number and scope of privately conducted institutions which aim at giving instruction in business methods, shorthand, typewriting, the use of calculating machines, etc. Particulars for all States excepting Queensland are given in the following table :—

BUSINESS COLLEGES, SHORTHAND SCHOOLS, ETC., 1922.

State.	Schools.	Teachers.	Students Enrolled.		Average Attendances.		Fees Received.
			Males.	Females.	Males.	Females.	
New South Wales ..	15	128	3,166	3,841	689	1,879	£ 30,295
Victoria ..	18	179	3,886	2,553	2,880	1,954	(b)
Queensland(a) ..	..	..	..	..	..	..	..
South Australia ..	5	45	834	1,124	522	622	12,731
Western Australia ..	13	63	1,077	995	(b)	(b)	17,348
Tasmania ..	3	9	200	432	163	291	4,447

(a) Included in private schools. (b) Not available.

The figures for New South Wales are exclusive of students instructed at home through the medium of correspondence classes.

In Victoria it is explained that the preponderance of male students is due to the larger enrolment of males in the correspondence classes.

§ 8. Diffusion of Education.

1. **General Education.**—A rough indication of the state of education of the people is obtained at each Census under the three headings, "read and write," "read only," and "cannot read." The grouping of the whole population, exclusive of aborigines, in these three divisions is given for each Census since 1871 :—

EDUCATION AT CENSUS PERIODS, 1871 TO 1921.

State or Territory.	1871.	1881.	1891.	1901.	1911.	1921.	
N.S.W.	Read & write	296,741	507,067	835,562	1,071,935	1,380,196	1,760,435
	Read only..	56,391	49,372	43,539	29,728	6,557	5,868
	Cannot read	149,866	193,386	244,853	253,183	259,981	334,068
(a)	Read & write	478,464	653,346	908,490	998,010	1,136,189	1,331,621
	Read only..	70,953	47,950	32,794	21,852	4,741	3,238
	Cannot read	180,781	160,270	198,556	181,208	174,621	196,421
Victoria	Read & write	74,940	136,436	276,381	376,294	508,584	633,338
	Read only..	12,080	13,657	14,618	11,737	3,542	3,108
	Cannot read	33,084	63,432	102,719	110,098	93,687	119,526
Q'land	Read & write	117,349	200,057	236,514	290,748	344,398	421,025
	Read only..	21,509	15,267	9,571	8,283	1,812	1,643
	Cannot read	46,768	64,541	74,346	64,126	62,348	72,492
S. Aust.	Read & write	14,166	19,684	34,254	150,099	237,605	283,344
	Read only..	2,717	2,430	2,061	3,107	972	890
	Cannot read	7,902	7,594	13,467	30,918	43,537	48,498
(b)	Read & write	55,941	74,966	103,138	133,579	155,447	175,435
	Read only..	13,946	9,606	6,287	3,907	925	610
	Cannot read	29,441	31,133	37,242	34,989	34,839	37,735
W. Aust.	Read & write	..	..	..	..	2,408	2,832
	Read only..	..	..	..	..	36	15
	Cannot read	..	..	..	..	866	1,020
Tasm'nia	Read & write	..	..	..	..	1,424	2,093
	Read only..	..	..	..	..	14	8
	Cannot read	..	..	..	..	276	471
Northern Ter.(c)	Read & write	1,037,601	1,591,556	2,394,339	3,020,665	3,766,251	4,610,133
	Read only..	177,696	138,282	108,870	78,614	185.9	15,380
	Cannot read	447,842	520,356	671,183	674,522	670,155	810,231
Fed. Cap. Ter.(d)	Read & write	..	..	..	..	..	..
	Read only..	..	..	..	..	..	..
	Cannot read	..	..	..	..	..	..
C'wealth	Read & write	..	..	..	..	..	..
	Read only..	..	..	..	..	..	..
	Cannot read	..	..	..	..	..	..

(a) Including Federal Capital Territory prior to 1911.

(c) Included in South Australia prior to 1911.

(b) Including Northern Territory prior to 1911.

(d) Included in New South Wales prior to 1911.

It will of course be understood that the heading "cannot read" includes a large proportion of children under five years of age.

The proportion in Australia of the various classes per 10,000 of the population is shown below for each Census period :—

PROPORTION OF EDUCATED AND ILLITERATE PER 10,000 PERSONS, 1871 TO 1921.
(AUSTRALIA.)

Division.	1871.	1881.	1891.	1901.	1911.	1921.
Read and write	6,239	7,073	7,543	8,004	8,454	8,481
Read only	1,068	615	343	208	42	28
Cannot read	2,693	2,312	2,114	1,788	1,504	1,491

As pointed out previously, the "cannot read" group includes a large proportion of children under five years of age.

2. Education of Children.—The figures in the preceding tables refer to the entire population of Australia, and as the age constitution of those dwelling in the various portions thereof underwent considerable modifications during the period dealt with, a far more reliable test of the diffusion of education will be obtained by a comparison of the Census returns in regard to children of school age. For comparative purposes this has been taken to include all children in the group over five and under fifteen years of age, and the degree of education of these at each Census from 1861 to 1921 will be found below.

EDUCATION OF CHILDREN OF SCHOOL AGE AT CENSUS PERIODS, 1861 TO 1921.

State or Territory.	1861.	1871.	1881.	1891.	1901.	1911.	1921.	
N.S.W. ^a	Read & write	34,040	68,776	121,735	196,240	251,187	291,450	371,106
	Read only . .	20,345	26,886	25,100	21,375	15,934	993	497
	Cannot read	25,472	32,924	41,663	48,580	60,734	34,793	67,421
Victoria	Read & write	42,268	122,739	170,713	201,199	236,515	237,028	271,105
	Read only . .	25,518	39,636	25,249	15,656	13,128	410	193
	Cannot read	19,341	29,490	21,421	27,441	27,765	19,621	29,002
Q'land	Read & write	2,156	12,698	33,317	62,402	95,635	117,347	144,419
	Read only . .	1,534	6,104	7,019	7,580	5,955	616	296
	Cannot read	1,629	6,015	9,615	16,257	18,827	8,633	16,723
S. Aust. ^b	Read & write	15,485	30,608	46,630	58,291	69,451	69,878	89,930
	Read only . .	8,748	12,432	7,926	4,618	4,229	248	120
	Cannot read	6,907	10,074	12,483	17,988	15,480	9,638	12,684
W. Aust.	Read & write	1,333	3,218	4,418	6,910	25,326	47,568	62,682
	Read only . .	226	617	1,260	933	1,815	159	99
	Cannot read	1,015	1,795	1,593	2,348	5,431	5,234	9,636
Tasm'nia	Read & write	11,919	17,335	17,188	24,007	32,890	36,351	40,458
	Read only . .	2,848	4,143	4,108	2,974	1,795	186	63
	Cannot read	4,581	6,663	6,606	8,829	8,475	5,575	7,377
Northern Ter. ^c	Read & write	..	..	..	..	..	195	314
	Read only . .	..	..	..	..	..	..	..
	Cannot read	..	..	..	..	..	118	159
Fed. Cap. Ter. ^d	Read & write	..	..	..	..	..	322	402
	Read only . .	..	..	..	..	..	2	4
	Cannot read	..	..	..	..	..	47	108
C'wealth	Read & write	107,201	255,374	394,001	549,049	711,004	800,139	980,416
	Read only . .	59,219	89,818	70,662	53,136	42,856	2,614	1,272
	Cannot read	58,945	86,961	93,381	121,443	136,712	83,659	143,110

(a) Including Federal Capital Territory prior to 1911. (c) Included in South Australia prior to 1911.
 (b) Including Northern Territory prior to 1911. (d) Included in New South Wales prior to 1911.

In the case of Tasmania full details for the years 1861 and 1871 are not available and the figures for those years are approximate. The variation in degree of education may be more readily seen by reducing the foregoing figures to the basis of proportion per 10,000, and the results so obtained are embodied in the following table, a glance at which is sufficient to demonstrate the remarkable strides that at least the lower branches of education have made since 1861. In that year, only 47 per cent. of the children of school age could read and write, while 26 per cent. were illiterate. The returns for 1921 show that the proportion of those who could read and write had increased to over 84 per cent., while the totally illiterate had declined by over 50 per cent.

**EDUCATION OF CHILDREN (AGES 5 TO 14) PER 10,000 AT CENSUS PERIODS,
1861 TO 1921.**

State or Territory.		1861.	1871.	1881.	1891.	1901.	1911.	1921.
N.S.W. ^a	Read & write	4,263	5,349	6,458	7,372	7,662	8,907	8,453
	Read only . .	2,547	2,091	1,332	803	486	30	11
	Cannot read	3,190	2,560	2,210	1,825	1,852	1,063	1,536
Victoria	Read & write	4,851	6,397	7,853	8,236	8,526	9,221	9,028
	Read only . .	2,929	2,066	1,162	641	473	16	6
	Cannot read	2,220	1,537	985	1,123	1,001	763	966
Q'land	Read & write	4,053	5,116	6,670	7,236	7,942	9,269	8,946
	Read only . .	2,884	2,460	1,405	879	495	49	18
	Cannot read	3,063	2,424	1,925	1,885	1,563	682	1,036
S. Aust. ^b	Read & write	4,973	5,763	6,956	7,206	7,790	8,761	8,754
	Read only . .	2,809	2,341	1,182	571	474	31	11
	Cannot read	2,218	1,896	1,862	2,223	1,736	1,208	1,235
W. Aust.	Read & write	5,179	5,716	6,076	6,780	7,775	8,982	8,656
	Read only . .	878	1,096	1,733	916	557	30	14
	Cannot read	3,943	3,188	2,191	2,304	1,668	988	1,330
Tasm'nia	Read & write	6,160	6,160	6,160	6,704	7,620	8,632	8,447
	Read only . .	1,472	1,472	1,472	830	416	44	13
	Cannot read	2,368	2,368	2,368	2,466	1,964	1,324	1,540
Northern Ter. ^c	Read & write	..	..	..	..	..	6,230	6,638
	Read only . .	..	..	..	..	..	..	..
	Cannot read	..	..	..	..	..	3,770	3,362
Fed. Cap. Ter. ^d	Read & write	..	..	..	..	..	9,868	7,821
	Read only . .	..	..	..	..	..	5	78
	Cannot read	..	..	..	..	..	127	2,101
C'wealth	Read & write	4,757	5,910	7,061	7,588	7,984	9,027	8,717
	Read only . .	2,628	2,078	1,266	734	481	29	11
	Cannot read	2,615	2,012	1,673	1,678	1,535	944	1,272

(a) Including Federal Capital Territory prior to 1911. (c) Including Northern Territory prior to 1911.

(b) Included in South Australia prior to 1911. (d) Included in New South Wales prior to 1911.

3. Education as shown by Marriage Registers.—Another common method of testing the spread of education is to compare the number of mark signatures with the total number of persons married during each year of a series. The percentage of males and females signing with a mark to the total persons married in the Census years 1861 to 1921 was as follows :—

EDUCATION.—MARRIAGE SIGNATURES, AUSTRALIA, 1861 TO 1921.

Year.	Proportion Signing with Marks of Total Persons Married.			Year.	Proportion Signing with Marks of Total Persons Married.		
	Males.	Females.	Total.		Males.	Females.	Total.
	Per cent.	Per cent.	Per cent.		Per cent.	Per cent.	Per cent.
1861 ..	18.50	30.69	24.60	1901 ..	1.35	1.29	1.32
1871 ..	10.58	16.40	13.49	1911 ..	0.56	0.54	0.55
1881 ..	4.34	6.78	5.56	1921 ..	0.16	0.18	0.17
1891 ..	2.27	2.40	2.34				

The table shows that there has been a large diminution in illiteracy, and judging from the figures for the last few years the proportion bids fair to practically disappear.

§ 9. Miscellaneous.

1. *Scientific Societies.*—(i) *Royal Societies.* Despite the trials and struggles incidental to the earlier years of the history of Australia, higher education and scientific advancement were not lost sight of. Thus the origin of the Royal Society dates as far back as 1821, when it was founded under the name of the Philosophical Society of Australasia, Sir Thomas Brisbane being its first president. Scientific work was fitfully carried on by means of a Society whose name varied as the years rolled on. It was called the Australian Philosophical Society in 1850. In 1856 the old Australian Society merged into a resuscitated Philosophical Society of New South Wales, and its papers were published up to 1859 in the Sydney Magazine of Science and Art (2 vols., 1858-9). Its present title dates from 1866. Some of the papers of the old Philosophical Society were published in 1825 under the title of "Geographical Memoirs of New South Wales" (Barron Field), and contain much that is interesting in regard to the early history of Australia. One volume containing the Transactions of the Philosophical Society of New South Wales (1862-65) was published in 1866. The journal of the Society did not begin to bear a serial number, however (vol. 1), until the year 1867. "Transactions of the Royal Society of New South Wales" were issued in 1867, the title of the series being altered to "Journal" in 1878. Up to the end of 1923, 57 volumes had been published. The exchange list comprises the names of 332 kindred societies. At the present time the library contains over 30,000 volumes and pamphlets, valued at about £8,600. Income and expenditure for the year ended 31st March, 1923, were £1,701 and £1,852 respectively, and the Society had on the same date 372 members.

The Royal Society of Victoria dates from 1854, in which year the Victorian Institute for the Advancement of Science and the Philosophical Society of Victoria were founded. These were amalgamated in the following year under the title of the Philosophical Institute of Victoria, whilst the Society received its present title in 1860. The first volume of its publications dates from 1855. Up to 1923, 68 volumes of proceedings had been issued. The Society exchanges with 248 kindred bodies. The constitution of the Society states that it was founded "for the promotion of art, literature, and science," but for many years past science has monopolized its energies. A mathematical and physical section has recently been formed to encourage discussion in these sciences. The library contains over 16,000 volumes, valued approximately at £4,200. Income for the year 1923 amounted to £457, and expenditure to £414. There are 205 members on the roll.

The inaugural meeting of the Royal Society of Queensland was held on the 8th January, 1884, under the presidency of the late Sir A. C. Gregory. The Society was formed "for the furtherance of the natural and applied sciences, especially by means of original research." Shortly after its formation it received an addition to its ranks by the amalgamation with it of the Queensland Philosophical Society, which was started at the time when Queensland became a separate colony. At the end of 1923 the members numbered 115; publications issued, 35 volumes; library, 7,400 volumes; societies on exchange list, 210. Income and expenditure in 1923 amounted to £204 and £193 respectively.

The present Royal Society of South Australia grew out of the Adelaide Philosophical Society, which was founded in 1853, its object being the discussion of all subjects connected with science, literature and art. Despite this programme, the tendency of the papers was distinctly scientific, or of a practical or industrial nature. With the advent of the late Professor Tate the Society became purely scientific. Permission to assume the title of "Royal" was obtained in 1879, the Society thenceforward being known as "The Royal Society of South Australia." In 1903 the society was incorporated. In 1923 the number of members was 109. The income for the year 1923 was £586, and expenditure £869. Up to 1923 the Society had issued 47 volumes of proceedings and 8 parts of memoirs, exclusive of several individual papers published in earlier years. The exchange list numbers about 200, while the library contains 4,150 volumes and over 1,900 pamphlets.

Permission to assume the title of Royal Society was granted to the Natural History and Science Society of Western Australia in March, 1914. This Society has grown out of the Mueller Botanic Society, founded in July, 1897. The objects of the Society are

the study of natural history and pure science, promoted by periodical meetings and field excursions, the maintenance of a library, and issue of reports of proceedings. It numbers at present 243 members, whose subscriptions form its only source of revenue, the income and expenditure in 1922-23 being £148 and £122 respectively. Five volumes of proceedings were issued as *Journal of the Natural History and Science Society of Western Australia*, and nine as of the *Royal Society*. Its publications are exchanged with 78 institutions at home and abroad. The library contains some 200 volumes, and over 1,000 unbound journals, pamphlets, etc.

The *Royal Society of Tasmania* (the first *Royal Society* outside the United Kingdom) was inaugurated by Sir Eardley Wilmot, Lieutenant-Governor of Van Diemen's Land, on the 14th October, 1843. It may be mentioned, however, that a scientific society had been formed as far back as 1838 under the presidency of Sir John Franklin, then Governor of the colony, and in 1841 the number of resident members was 31, and corresponding members, 38. The meetings of this parent society were held at Government House, and three volumes of proceedings were issued. A large portion of the Colonial Gardens, together with a grant of £400, was given to the Society. A library and museum were established in 1848. In 1885 the museum and gardens were given back to the State, the Society being granted room in the museum for its library and meetings. The names of Captains Ross and Crozier, of H.M.S. *Erebus* and *Terror*, appear in the list of the first corresponding members. The Society, which, since 1844, has published 62 annual volumes of proceedings, possesses 245 members, 12 corresponding members, 9 life members, exchanges with 225 kindred bodies, and has a library containing 13,000 volumes, in addition to manuscripts, etc., valued at over £10,000. Income for the year 1923 was £335, and expenditure £334.

(ii) *The Australasian Association for the Advancement of Science*. This Association was founded in 1887, with head-quarters at the Royal Society's House in Sydney. It was recognized that in addition to Royal, Linnean, and Naturalists' Societies generally, there was room for an organization representative of scientific education in Australia and New Zealand "to give a stronger impulse and a more systematic direction to scientific inquiry, to promote the intercourse of those who cultivate science in different parts of the Commonwealth of Australia, the Dominion of New Zealand, and in other countries, to obtain more general attention to the objects of science, and a removal of any disadvantages of a public kind which may impede its progress." Its meetings are usually held biennially within the various States and in the Dominion of New Zealand. The next meeting will be held in Adelaide in August, 1924. Although the actual funds of the Association are small, liberal aid has always been forthcoming from the various State Governments, especially in connexion with the printing of the volumes of its proceedings, of which Vol. XVI. is the latest issued. The library of the Association contains 4,000 volumes. Not the least important of the activities of the Association was the giving a constitution to the Australian National Research Council which brought in its train the Pan-Pacific Scientific Congress of 1923.

(iii) *Other Scientific Societies*. The *Linnean Society of New South Wales*, with head-quarters in Sydney, was founded in 1875. The soundness of its present position is due to the benefactions of Sir William Macleay, who during his lifetime and by his will endowed the Society to the amount of £67,000, which has been increased by judicious investment to nearly £80,000. Income for the year 1923 amounted to £5,208 and expenses to £4,433, including £1,885 for research purposes. The Society maintains a research bacteriologist, and offers annually 4 research fellowships in various branches of natural history. The library comprises some 12,000 volumes, valued at about £6,000. Forty-eight volumes of proceedings have been issued, and the Society exchanges with some 180 kindred institutions. The ordinary membership at the end of 1923 was 167.

The *British Astronomical Society* has a branch in Sydney, and in some of the States the *British Medical Association* has branches.

In addition to the societies enumerated above, there are various others in each State devoted to branches of scientific investigation.

2. *Public Libraries*.—In each of the capital cities there is a well-equipped *Public Library*, the institutions in Melbourne and Sydney especially comparing very favourably

with similar institutions elsewhere. The following statement gives the number of volumes in the Public Library of each capital city :—

METROPOLITAN PUBLIC LIBRARIES, 1922.

City.	Number of Volumes in—			Total.
	Reference Branch.	Ordinary Lending Branch.	Country Lending Branch.	
Sydney	(a)321,738	(b)	37,275	359,013
Melbourne	290,644	39,770	.. .. .	330,414
Brisbane	43,265	.. .. .	.. .. .	43,265
Adelaide	119,065	40,599	.. .. .	159,064
Perth	116,857	.. .. .	15,910	132,767
Hobart	23,500	.. .. .	.. .. .	23,500

(a) Including 109,723 volumes in the Mitchell Library.

(b) The maintenance and control of the ordinary lending branch of the Public Library at Sydney were transferred in 1908 to the Municipal Council. At the end of December, 1922, the books numbered 40,632.

During 1921 the Public Library authorities in Sydney inaugurated the system of lending boxes of children's books to country schools, and 339 of these children's travelling libraries are now in circulation. Boxes are forwarded to out-back schools distant from towns. Each box contains about 40 books, and is lent for a period of four months, and then exchanged for another collection, the Library Trustees defraying the cost of carriage both ways.

A special research staff attached to the Public Library gives valuable assistance in making readily available to inquirers the store of information contained in books, etc., which, owing to limitations of space, are not in open access.

The Mitchell Library in Sydney consisted of over 60,000 volumes and pamphlets, and 300 paintings, principally relating to Australasia, valued at £100,000, and bequeathed in 1907 by Mr. D. S. Mitchell, together with an endowment of £70,000. The testator stipulated that the regulations of the British Museum were to be adopted as far as practicable, hence the library is the resort of specialists. There are now about 110,000 volumes in the library. During 1917 the Mitchell Library was further enriched by a donation of 3,676 printed volumes, 117 volumes of manuscript, and 235 pamphlets from the working library of the late John Tebbutt, of Windsor, the well-known astronomer. A very fine collection of New South Wales postage and fiscal stamps, estimated by philatelists to be worth at least £20,000, was presented to the trustees by Mr. H. L. White, of Belltrees, near Scone, in June of the same year. In 1921 this gift was supplemented by the presentation of a very fine collection of Queensland and Western Australian stamps, also valued by experts at about £20,000, and in 1922 Mrs. H. V. Hordern, a daughter of Mr. White, donated a fine collection of Tasmanian stamps.

Amongst other important libraries in New South Wales may be mentioned the "Fisher" Library at Sydney University with 146,000 volumes; the library at the Australian Museum, 23,000; the Teachers' College library, 20,000; Sydney Technical College library, 10,000; and the library at the Botanic Gardens, 8,000. Libraries attached to the various State Schools possessed about 388,000 volumes in 1922.

The reading room at the Melbourne Public Library ranks among the finest in the world. It was opened in 1913, and has a diameter of 114 feet, with a similar height, and is capable of seating 320 readers at a time, all of whom are under efficient supervision from the centre of the room.

The library at Brisbane (South) contained over 13,000 volumes at the end of 1922.

For some years past efforts have been made in South Australia to collect original documents likely to be of service in compiling a history of the State. So far back as 1914 Professor Henderson, of Adelaide University, under commission from the South Australian Government, visited and reported on the system of keeping archives in England, France, Belgium, Holland, and Ceylon, and obtained valuable information also from the United States and Canada. A department of historical documents has

been created under the care of an archivist, and valuable preliminary work done in connexion with examination, classification, and permanent preservation of the available papers. A suitable building for housing the documents and the staff was provided in 1921. The archives contain 171,227 documents, 4,298 photographs, and 97 maps.

During 1922 the Tasmanian Public Library adopted the plan of lending books to individual country borrowers and to families or committees of residents in country districts. The Public Library at Launceston contains 31,000 volumes.

Mention may be made here of the free library attached to the Commonwealth Patents Office, which contains over 10,000 volumes, including literature dealing with patents in the principal countries of the world.

Statistics in regard to libraries generally are not available for all States, while the information supplied is not in all cases complete. Returns for Victoria in 1922 showed a total of 476 libraries in receipt of State or municipal aid, containing 1,268,000 books; Queensland returned 218 libraries with 394,000 books; South Australia, 262 libraries and 786,000 books; Western Australia, 265 libraries and 278,000 books; Tasmania, 24 libraries and 112,000 books; while there are 3 libraries with 5,000 books in the Northern Territory.

3. **Public Museums.**—The Australian Museum in Sydney, founded in 1836, is the oldest institution of its kind in Australia. In addition to possessing a fine collection of the usual objects to be met with in kindred institutions, the Museum contains a very valuable and complete set of specimens of Australian fauna. The cost of construction of the building was £79,000. The number of visitors to the institution in 1922 was 209,000, and the average attendance on week-days 523, and on Sundays 1,175. The expenditure for 1922 amounted to £16,028. A valuable library containing about 23,000 volumes is attached to the Museum. Representative collections illustrative of the natural wealth of the country are to be found in the Agricultural and Forestry Museum, and the Mining and Geological Museum. The latter institution prepares collections of specimens to be used as teaching aids in country schools. The "Nicholson" Museum of Antiquities, the "Macleay" Museum of Natural History, and the Museum of Normal and Morbid Anatomy, connected with the University, and the National Herbarium and Botanical Museum at the Sydney Botanic Gardens, are all accessible to the public. There is a fine Technological Museum in Sydney, with branches in five country centres. Valuable research work is being performed by the scientific staff in connexion with oil and other products of the eucalyptus, and essential oils of other native vegetation. During 1922 the work of the Museum was strengthened by the appointment of an advisory committee representing the scientific, general, and industrial activities of the State. The number of visitors to the Technological Museums during 1922 was about 127,000.

The National Museum at Melbourne, devoted to Natural History, Geology, and Ethnology, is located in the Public Library Building. The National Art Gallery is situated in the same building. The Industrial and Technological Museum, also housed under the same roof, contains over 10,000 exhibits. Cost of construction for the combined institutions is set down at £327,000. There is a fine Museum of Botany and Plant Products in the Melbourne Botanic Gardens. In addition to the large collection in the geological museum attached to the Mines Department in Melbourne, well-equipped museums of mining and geological specimens are established in connexion with the Schools of Mines in the chief mining districts.

The Queensland Museum dates from the year 1871, but the present building was opened in January, 1901. Since its inauguration the Government has expended on the institution a sum of £106,767, of which buildings absorbed £20,591, purchases £30,537, and salaries £55,639. The number of visitors during the year was 94,585, of whom 38,000 visited the institution on Sundays. The Queensland Geological Survey Museum has branches in Townsville, opened in 1886, and in Brisbane, opened in 1892.

Under the Public Library Act of 1884 the South Australian Institute ceased to exist and the books contained therein were divided amongst the Museum, Public Library, and Art Gallery of South Australia, and the Adelaide Circulating Library. The Museum was attended by 86,000 visitors in 1921. Cost of construction of the Museum building was returned as £65,000.

The latest available returns show that the Western Australian Museum contains altogether 97,000 specimens, of an estimated value of £81,000. The Museum is housed in the same building as the Art Gallery, and the visitors to the combined institutions during the year reached 69,000. Cost of construction of the building amounted to £45,800. The expenditure for the year 1922-23 was £6,232, and the Government grants for the year amounted to £6,000, the figures in each case including returns for the Public Library.

There are two museums in Tasmania—the Tasmanian Museum at Hobart, and the Victoria Museum and Art Gallery at Launceston—both of which contain valuable collections of botanical, mineral, and miscellaneous products. The Tasmanian Museum received aid from the Government during 1922 to the extent of £1,200, and the Launceston institution £500. The cost of construction in each case is included in that of Art Galleries given below.

4. **Public Art Galleries.**—The National Art Gallery of New South Wales originated in the Academy of Art founded in 1871. Cost of construction of the present building amounted to about £94,000. At the end of 1922 its contents, which are valued at £164,000, comprised 509 oil paintings, 408 water colours, 783 black and white, 177 statuary and bronzes, and 782 ceramics, works in metal and miscellaneous. During 1922 the average attendance on week days was 444, and on Sundays 1,385. Since the year 1895 loan collections of pictures have been regularly forwarded for exhibition in important country towns.

The National Gallery at Melbourne at the end of 1922 contained 649 oil paintings, 5,116 objects of statuary, bronzes, ceramics, etc., and 14,469 water colour drawings, engravings, and photographs. The Gallery is situated in the same building as the Museum and Public Library, the total cost of construction being £327,000. Several munificent bequests have been made to the institution. That of Mr. Alfred Felton, given in 1904, amounts to about £8,000 per annum. In 1913, Mr. John Connell presented his collection of art furniture, silver, pictures, etc., the whole being valued at £10,000. The Art Gallery at Ballarat contains over 400 oil paintings and water colours, with some fine statuary, bronzes, etc., while there are some valuable works of art in the small galleries at Bendigo, Castlemaine, Geelong, and Warrnambool, and in some cases pictures are sent on loan from the National Gallery.

The Queensland National Art Gallery, situated in the Executive Buildings, Brisbane, was founded in 1895, and contains a small, but well chosen collection of pictures. At the end of 1922 there were on view 104 oil paintings, 28 water colours, 139 black and white, and 31 pieces of statuary, together with various prints, mosaics, and miniatures. Exclusive of exhibits on loan, the contents are valued at about £11,000. Visitors during the year averaged 152 on Sundays and 112 on week days.

The Art Gallery at Adelaide dates from 1880, when the Government expended £2,000 in the purchase of pictures, which were exhibited in the Public Library Building in 1882. The liberality of private citizens caused the gallery to rapidly outgrow the accommodation provided for it in 1889 at the Exhibition Building, and on the receipt of a bequest of £25,000 from the late Sir T. Elder, the Government erected the present building, which was opened in April, 1900. The Gallery also received bequests of £16,500 in 1903 from the estate of Dr. Morgan Thomas, and of £3,000 in 1907 from Mr. David Murray. At the 30th June, 1921, there were in the Gallery 243 oil paintings, 79 water colours, and 24 statuary. Building and site are valued at upwards of £31,000. Visitors during the year 1921 numbered 87,000. The cost of construction of the Art Gallery amounted to £22,000.

The foundation stone of the present Art Gallery at Perth in Western Australia was laid in 1901, and, as is the case in Melbourne, the Public Library, Museum, and Art Gallery are all situated in the one structure. The collection comprises 116 oil paintings, 55 water colours, 575 black and white, 275 statuary, and 1,150 ceramic and other art objects. It is estimated that the collections in the Gallery possess a value of about £15,000.

In Tasmania, the Art Gallery at Hobart was opened in 1887. Its present contents consist of 117 oil paintings, 123 water colours, 21 black and white, and 175 etchings, engravings, etc., the value of the contents being estimated at £5,000. The cost of construction of the building was £4,500.

The Art Gallery at Launceston was erected in 1888 at a cost of £6,000, and opened on the 2nd April, 1891. Only a small proportion of the contents belongs to the gallery, the bulk of the pictures being obtained on loan. At latest date there were on view 81 oil paintings, 59 water colours, and miscellaneous exhibits, the whole being valued at £4,900.

5. State Expenditure on all Forms of Educational Effort.—The expenditure from the Consolidated Revenue in each State and Territory on all forms of educational and scientific activity during each of the last five financial years was as follows :—

EXPENDITURE ON EDUCATION, SCIENCE, AND ART, 1918-19 TO 1922-23.

State or Territory.		1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
New South Wales ..	Total £	2,139,541	2,359,900	3,737,960	3,736,294	3,777,551
	Per head	21/9	23/1	35/8	35/1	34/9
Victoria ..	Total £	1,248,994	1,474,877	1,847,184	1,955,036	2,048,949
	Per head	17/5	19/7	24/2	25/3	25/9
Queensland	Total £	892,992	1,103,334	1,350,399	1,362,197	1,349,387
	Per head	25/4	30/0	36/0	35/6	34/3
South Australia ..	Total £	428,519	487,609	607,160	627,075	623,902
	Per head	18/9	20/3	24/9	25/0	24/4
Western Australia..	Total £	407,822	460,384	543,356	596,518	604,947
	Per head	26/4	28/1	32/10	35/6	35/3
Tasmania	Total £	158,501	179,871	263,524	281,677	281,602
	Per head	15/7	17/2	24/9	25/10	25/9
Northern Territory	Total £	2,676	2,467	4,291	4,860	4,884
	Per head	11/6	10/10	21/6	26/0	27/6
Australia ..	Total £	5,279,045	6,068,442	8,353,874	8,563,657	8,691,222
	Per head	20/9	22/11	30/11	31/1	30/10

The comparatively heavy increases during the last five years are partly due to the expanding provision for State-aided education, to greater cost of building, equipment, and maintenance, and to increments in teachers' salaries and allowances.

CHAPTER X. PUBLIC JUSTICE.

§ 1. Police.

1. **General.**—In previous issues of the Year Book a résumé was given of the evolution of the police force in Australia up to the passing of the Police Act of 1862 (25 Vic. No. 16) in New South Wales, but considerations of space preclude its inclusion in the present volume.

2. **Strength of Police Force.**—(i) *General.* The strength of the police force in each State during the five years ended 1922 is given in the table hereunder. It may be mentioned that the police forces are entirely under State control, but, by arrangement, the Commonwealth Government utilizes their services in various directions, such as the collection of particulars for Commonwealth electoral rolls, etc.

POLICE FORCES.—STRENGTH, 1918 TO 1922.

State.	Area of State in Sq. Miles.	1918.	1919.	1920.	1921.	1922.
New South Wales ..	310,372	2,481	2,569	2,630	2,738	2,799
Victoria	87,884	1,558	1,719	1,733	1,736	1,741
Queensland	670,500	1,141	1,119	1,126	1,105	1,113
South Australia ..	380,070	521	541	566	593	576
Western Australia	975,920	465	466	473	493	489
Tasmania	26,215	235	243	240	240	240
Northern Territory	523,620	28	32	32	30	32
Total	2,974,581	6,429	6,689	6,800	6,935	6,990

The figures for New South Wales for 1922 are exclusive of 34 "black trackers," i.e., natives employed in detection of offenders chiefly in outlying districts, and four female searchers. For Queensland the figures exclude 59 native trackers and 1 female searcher; for South Australia 11 "black trackers" and 1 female searcher, and for the Northern Territory 28 "black trackers." There are also 44 "black trackers" and 5 female searchers in Western Australia, not included in the table. According to the returns, women police are employed in all the States except Queensland, the respective numbers being—New South Wales 4, Victoria 4, South Australia 10, Western Australia 6, and Tasmania 2. Their work is mainly preventive, and the importance and usefulness of their duties have been referred to in very high terms, especially by the Commissioners of Police in South Australia and Western Australia.

(ii) *Proportion to Population.* The average number of inhabitants to each officer in each State during the same period is as follows. In considering these figures, allowance must, of course, be made for the unequal area and unequal distribution of the population of the various States.

POLICE FORCES.—COMPARISON WITH POPULATION, 1918 TO 1922.

State.	Number of Persons per Sq. Mile, 1921 Census.	Inhabitants to each Police Officer.				
		1918.	1919.	1920.	1921.	1922.
New South Wales	6.80	784	779	787	770	769
Victoria	17.42	914	857	873	885	902
Queensland	1.13	612	646	662	690	702
South Australia	1.30	866	866	860	839	879
Western Australia	0.34	663	687	698	677	695
Tasmania	8.15	843	843	876	889	895
Northern Territory .. ..	..	174	145	131	130	114
Total	1.83	782	777	788	787	797

3. Duties of the Police.—In addition to the ordinary employment attaching to their office, the police are called upon to perform many duties which in other countries are carried out by various functionaries. Thus, in New South Wales, according to the Report of the Inspector-General, the time of one-fifth of the force was taken up during 1921 in extraneous duties unconnected with the protection of life and property, while the cash value of the services rendered to other Government departments was stated as over £200,000 per annum. The Queensland Commissioner refers to the circumstance that in 1922 no less than 68 subsidiary offices were held by the police. In South Australia, the Commissioner alludes to the large number of subsidiary duties performed by police officers, and mentions that in 1922 over 80,000 inquiries were made on behalf of other departments.

While these special tasks doubtless involve some degree of sacrifice of ordinary routine duties, the fact that the general intelligence of the police is adequate for their performance, besides being most creditable, results in a large saving of the public money.

4. Cost of Police Forces.—The expenditure from Consolidated Revenue on the police forces, and the cost per head of population in each State during the five years 1918 to 1922 are given in the following table:—

POLICE FORCES.—COST, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
TOTAL.					
	£	£	£	£	£
New South Wales	722,754	977,506	1,101,767	1,150,323	1,205,557
Victoria	397,025	490,016	577,407	579,351	600,856
Queensland	346,802	407,480	476,153	458,955	455,519
South Australia	151,090	159,258	197,157	211,428	216,109
Western Australia	136,295	171,832	186,717	184,245	181,893
Tasmania	54,960	66,940	79,372	79,105	77,096
Northern Territory	10,200	11,435	12,970	15,520	16,011
Total	1,819,126	2,284,467	2,631,543	2,678,927	2,753,041
PER HEAD OF POPULATION.					
	s. d.	s. d.	s. d.	s. d.	s. d.
New South Wales	7 4	9 7	10 6	10 10	11 1
Victoria	5 6	6 6	7 7	7 6	7 7
Queensland	9 10	11 1	12 8	11 11	11 7
South Australia	6 7	6 10	8 0	8 5	8 5
Western Australia	8 9	10 6	11 3	11 0	10 7
Tasmania	5 5	6 5	7 6	7 3	7 0
Northern Territory	44 0	50 4	65 0	81 6	90 2
Total	7 2	8 7	9 9	9 9	9 9

The total for New South Wales in 1922 includes £110,000 payment to the Police Superannuation Fund. Similar payments in Victoria and Queensland amount to £58,000 and £41,700 respectively, while smaller sums are included in the returns for other States.

The relatively high cost per head in Queensland and Western Australia is due to the fact that there are in those States extensive areas of sparsely settled country, in which mounted patrols have to be maintained. In view of the small number of its white population and the vast extent of country to be patrolled, the figures for the Northern Territory necessarily show a very high average. The duties of the police, moreover, chiefly pertain to matters connected with the control of aborigines.

The general advance in cost during the period under review is due to increases in salaries, and rise in prices of supplies and equipment.

5. **Interstate Police Conferences.**—In February, 1921, a Conference of the chief officers of the police forces of the various States was held in Melbourne. In addition to the discussion of matters of common interest, arrangements were made for the interchange of detectives. The results were so satisfactory that it was decided to hold similar Conferences annually, and the second Conference was held in Sydney in February, 1922.

§ 2. Lower (Magistrates') Courts.

1. **General.**—In considering the criminal returns of the various States, due allowance must be made on account of several factors, such as the relative powers of the courts, both lower and higher, etc. In the case of lower courts, the actual number of laws in each State the breach of which renders a person liable to fine or imprisonment must be taken into account. Again, the attitude of the magistracy and police towards certain classes of offences is a factor, for in the case of liquor laws, or laws connected with vagrancy or gaming, the views of magistrates, and instructions issued to the police, may be responsible for considerable variations in the returns. The strength and distribution of the police forces, and the age-constitution and distribution of the State's population, also influence the results. Due weight should also be given to the prevalence of undetected crime, but information on this point can be obtained only for the State of Victoria. It may be mentioned that each State has its own separate judicial system, the Commonwealth jurisdiction being confined to the High Court of Australia, which is largely a Court of Appeal intermediate to the Privy Council, although it has also original jurisdiction, and the Commonwealth Court of Arbitration and Conciliation. Full particulars regarding the judicial power of the Commonwealth will be found in Chapter III. of the Commonwealth Constitution, which is quoted in full in Chapter I. of this work.

2. **Powers of the Magistrates.**—In New South Wales there is no general limit to the powers of the magistrates in regard to offences punished summarily, their authority depending in each case on the statute which creates the offence and gives them jurisdiction. Except in the case of a very few statutes, and excluding cumulative sentences, the power of sentence is limited to six months. Imprisonment in default of payment of fine is regulated by a scale limiting the maximum period according to the sum ordered to be paid, but in no case exceeding twelve months. Actions for debt and damage within certain limits also come within magisterial jurisdiction. In cases of debts, liquidated or unliquidated, the amount recoverable is not exceeding £50 before a court constituted of a stipendiary or police magistrate at certain authorized places, and not exceeding £30 at any other place before a court constituted of a stipendiary or police magistrate or two or more justices of the peace. The amount in actions of damage is limited to £10, but may extend to £30 by consent of parties.

In Victoria, the civil jurisdiction of magistrates is restricted to what may be designated ordinary debts, damages for assault, restitution of goods, etc., where the amount in dispute does not exceed £50. No definite limit is fixed to the powers of the magistrates on the criminal side, and for some offences sentences up to two years may be imposed. The proportion of long sentences is, however, comparatively small.

In Queensland, generally speaking, the maximum term of imprisonment which justices can inflict is six months, but in certain exceptional cases, such as offences against sections 233 and 445 of the Criminal Code (betting-houses and illegally using animals) sentences of twelve months may be imposed. No limit exists as to the extent to which cumulative sentences may be applied, but in practice the term is never very lengthy.

In South Australia, under the Minor Offences Act, magistrates can impose sentences up to six months, and under the Summary Convictions Act, up to three months. The Police Act of 1916 gives power to sentence up to one year, with hard labour, in the case of incorrigible rogues; while under the Quarantine Act of 1877, and the Lottery and Gaming Act of 1875, sentences of two years may be imposed.

Under the Petty Offences Act of 1867, in Tasmania, any person charged with having committed, or with having aided or abetted in the commission of an offence, in regard to property of a value not exceeding £10, may, on conviction, for a first offence, before two or more justices in Petty Sessions, be imprisoned for any term not exceeding one year, and for a term not exceeding two years for a second or subsequent offence.

3. Persons Charged at Magistrates' Courts.—The total number of persons who were charged before magistrates in each State is given below for the five years 1918 to 1922 :—

MAGISTRATES' COURTS.—PERSONS CHARGED, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
New South Wales ..	76,870	78,103	89,572	94,685	96,989
Victoria ..	58,965	58,470	56,698	62,402	63,713
Queensland ..	25,006	21,926	24,180	24,479	25,185
South Australia ..	9,161	8,804	10,143	10,622	11,821
Western Australia ..	11,599	9,769	10,430	10,775	10,844
Tasmania ..	6,583	6,362	6,629	7,185	7,106
Northern Territory ..	301	221	221 ^a	115	186
Total ..	188,485	183,655	197,873	210,263	215,844

(a) Year 1919. Returns for 1920 not available.

Investigation of the returns shows that considerable variations in the total for single States are occasioned by breaches of new Acts, or the more stringent enforcement of the provisions of existing Acts. Any deductions drawn from the total returns as to the increase or otherwise of criminality must, therefore, be largely influenced by a careful analysis of the detailed list of offences.

4. Convictions and Committals.—The figures given in the tabulation above include, of course, a number of people who were wrongly charged, and statistically are not of general importance. The actual number of convictions in connexion with the persons who appeared before the lower courts in each year of the period 1918 to 1922 is, therefore, given hereunder. A separate line is added showing the committals to higher courts.

MAGISTRATES' COURTS.—CONVICTIONS AND COMMITTALS, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales ..	Convictions	63,811	64,518	74,667	80,214	82,263
	Committals	1,308	1,680	2,239	2,594	2,495
Victoria ..	Convictions	44,900	44,623	43,088	46,924	49,464
	Committals	406	575	795	776	733
Queensland ..	Convictions	22,818	19,773	21,922	22,479	22,982
	Committals	207	255	309	328	331
South Australia ..	Convictions	7,898	7,527	8,628	8,968	10,048
	Committals	79	74	123	121	146
Western Australia ..	Convictions	10,162	8,702	9,198	9,605	9,748
	Committals	96	127	112	120	68
Tasmania ..	Convictions	5,854	5,807	6,034	6,474	6,385
	Committals	37	55	71	88	79
Northern Territory	Convictions	255	187	187 ^a	100	171
	Committals	6	3	3 ^a	8	4
Total ..	Convictions	155,698	151,137	163,724	174,764	181,061
	Committals	2,139	2,769	3,652	4,035	3,856

(a) Year 1919. Returns for 1920 not available.

5. Convictions for Serious Crime.—While the figures given in the preceding table refer to the entire body of convictions, the fact must not be overlooked that they include a large proportion of offences of a technical nature, many of them unwittingly committed, against various Acts of Parliament. Cases of drunkenness and minor breaches of good order, which, if they can be said to come within the category of crime at all, at least do

so in a very different sense to some other offences, also help to swell the list. The following table has therefore been prepared for the purpose of showing the convictions at magistrates' courts for what may be regarded as the more serious offences, *i.e.*, against the person and property, either separately or conjointly, and forgery and offences against the currency :—

MAGISTRATES' COURTS.—CONVICTIONS FOR SERIOUS CRIME, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
TOTAL.					
New South Wales ..	6,355	7,232	7,704	8,057	7,744
Victoria	3,162	2,976	4,294	3,719	2,909
Queensland	1,427	1,526	1,357	1,747	1,835
South Australia ..	534	629	772	855	653
Western Australia ..	884	995	993	976	977
Tasmania	479	594	548	550	577
Northern Territory ..	18	11	11 ^a	42	60
Total	12,859	13,963	15,679	15,946	14,755

(a) Year 1919. Returns for 1920 not available.

PER 10,000 OF THE POPULATION.

New South Wales ..	32.7	36.1	37.2	38.2	36.0
Victoria	22.2	20.2	28.4	24.2	18.5
Queensland	20.5	21.1	18.2	22.9	23.5
South Australia ..	11.8	13.4	15.9	17.2	12.9
Western Australia ..	28.7	31.1	30.1	29.2	28.8
Tasmania	24.2	29.0	26.0	25.8	26.9
Northern Territory ..	37.0	23.6	26.1	107.5	164.2
Total	25.6	26.9	29.3	29.2	26.5

6. *Decrease in Serious Crime, 1881 to 1922.—(i) Rate of Convictions.* The figures quoted in the preceding table show that while during the last five years the rate of serious crime has increased somewhat, if the comparison be carried back to 1881 the position is seen to be more satisfactory. The rate of convictions at magistrates' courts per 10,000 of the population is given below for each of the years 1881, 1891, 1901, 1921, and 1922. Only the more serious offences particularized in the preceding sub-section have been taken into consideration.

MAGISTRATES' COURTS.—SERIOUS CRIME.—RATE OF CONVICTIONS, 1881 TO 1922.

Year.	Convictions per 10,000 Persons.	
1881	69.3
1891	44.8
1901	29.1
1921	29.2
1922	26.5

The figures already quoted refer to total convictions, and in respect of individuals necessarily involve a considerable amount of duplication, especially in minor offences, such as petty larcenies, etc.

(ii) *Causes of Decrease.* The statistics given above show that there has been a considerable decrease in crime throughout Australia during the period dealt with. The results so far quoted are restricted entirely to the lower or magistrates' courts. There has also been a gratifying decrease in regard to offences tried at the higher courts, as will be seen later.

Attempts have been made to account for this decline: *e.g.*, advance in education, enlightened penological methods, etc. Much depends upon what is meant by education. Many classed in census statistics as "educated" can barely read and write. In this connexion, moreover, it ought not to be forgotten that collaterally with the introduction of ordinary intellectual education certain people have departed from their pristine virtues. In regard to the deterrent effect of punishment, it may be said that in respect of many offences, notably drunkenness, vagrancy, petty larcenies, etc., it appears to be almost negligible. In general, punishment has declined in brutality and severity, and has improved in respect of being based to a greater extent upon a scientific penological system, though in this latter respect there is yet much to be desired. Recent advances in penological methods will be referred to in a subsequent sub-section. Here it will be sufficient to remark that under the old régime, a prisoner on completion of a sentence in gaol was simply turned adrift on society, and in many cases sought his criminal friends, and speedily qualified for readmission to the penitentiary. Frequently he was goaded to this by mistaken zeal on the part of the police, who took pains to inform employers of the fact of a man having served a sentence in gaol. For a long time any assistance to discharged prisoners was in the hands of private organizations, such as the Salvation Army Prison Gate Brigade, but in some of the States, and notably in New South Wales, the authorities themselves look after the welfare of discharged prisoners in the way of finding work, providing tools, etc. Improvements in the means of communication and identification have been responsible for some of the falling-off noticeable in the criminal returns, the introduction of the Bertillon system having contributed to certainty of identification. In his report for the year 1910 the Inspector-General of Police in New South Wales states that "criminals have a wholesome dread of the finger-print system, and I have not the slightest doubt that it is one of the principal causes of the diminution of serious crimes." Part of the improvement may no doubt be referred also to the general amelioration in social conditions that has taken place during the last fifty years.

7. *Drunkenness.*—(i) *Cases and Convictions.* The number of cases of drunkenness and the convictions recorded in connexion therewith during the period 1918 to 1922 will be found in the following table:—

DRUNKENNESS.—CASES AND CONVICTIONS, 1918 TO 1922.

State.	1918.		1919.		1920.		1921.		1922.	
	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions.	Cases.	Convictions.
New South Wales ..	20,651	20,511	19,834	19,546	26,080	25,843	29,047	28,702	30,918	30,723
Victoria ..	5,987	3,049	6,237	3,000	7,154	3,834	7,621	4,334	8,773	5,201
Queensland ..	12,302	11,518	12,178	11,403	12,017	11,712	12,166	11,744	13,014	12,632
South Australia ..	3,308	3,298	3,197	3,171	3,463	3,448	3,465	3,443	3,775	3,764
Western Australia ..	4,058	4,020	3,612	3,595	4,222	4,185	4,135	4,103	3,740	3,715
Tasmania ..	433	426	485	474	536	530	539	531	539	535
Northern Territory	81	81	109	109	(a)109	(a)109	51	51	112	104
Total ..	46,820	42,903	45,652	41,298	53,581	49,661	57,024	52,908	60,871	56,677

(a) For 1919. Returns for 1920 not available.

The number of convictions is, as might naturally be expected, almost identical with the number of cases. Victoria, however, is an exception, but in this State it is explained that offenders are generally discharged on a first appearance, and no conviction is recorded, a similar procedure being also adopted in the case of those arrested on Saturday and detained in custody till Monday. The logic of excluding these cases from the list of convictions is open to doubt.

(ii) *Convictions per 10,000 of Population.* The convictions for drunkenness per 10,000 of the population during each of the years from 1918 to 1922 are given hereunder :—

DRUNKENNESS.—CONVICTIONS PER 10,000 INHABITANTS, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
New South Wales	105.5	97.6	124.9	136.0	142.7
Victoria	21.4	20.4	25.4	28.2	33.1
Queensland	165.1	157.6	157.0	153.9	161.7
South Australia	73.1	67.7	70.9	69.2	74.4
Western Australia	130.4	112.4	126.8	122.9	109.4
Tasmania	21.5	23.1	25.2	24.9	24.9
Northern Territory	166.3	234.2	258.8	130.6	284.7
Total	85.3	79.5	92.7	96.9	101.8

The convictions for drunkenness taken by themselves are not an altogether satisfactory test of the relative sobriety of the inhabitants of each State, inasmuch as several important factors must be taken into consideration. The age and sex constitution of the people, for example, is by no means identical in each State, Western Australia having by far the largest proportion of adult males. Owing to the smallness of the population the figures for the Northern Territory are, of course, abnormal. The avocations of the people affect the result, since persons engaged in strenuous callings are, on the whole, more likely to indulge in alcoholic stimulants than those employed in less arduous ones. The distribution of the population is also a factor, the likelihood of arrest or summons for drunkenness obviously being greater in the more densely populated regions, and lastly, allowance must be made for the attitude of the magistracy, the police, and the public generally in regard to the offence. Due account also must be taken of the recent legislation dealing with the limitation of hours during which liquor may be sold in hotels.

(iii) *Consumption of Intoxicants.* It is not unusual to supplement statistics of drunkenness by furnishing also the relative consumption of alcoholic beverages. Deductions drawn therefrom will be very misleading if they fail to take into account also the consumption of non-intoxicating beverages such as tea and coffee, and the general habits of the people. Throughout the greater part of Europe, tea and coffee are consumed but sparingly, while Australia, as is well known, is one of the greatest tea-drinking countries of the world.

The following table shows the consumption of spirits, wine, and beer per head of the population in Australia during each year of the quinquennium 1919-23 :—

INTOXICANTS, CONSUMPTION.—AUSTRALIA, 1919 to 1923.

Year.	Consumption per Head of Population.		
	Spirits.	Wine.	Beer.
	Imp. Galls.	Imp. Galls.	Imp. Galls.
1918-19	0.39	0.50	12.50
1919-20	0.45	0.50	13.39
1920-21	0.36	0.50	12.20
1921-22	0.36	0.50	11.49
1922-23	0.39	0.50	11.30

(iv) *Treatment of Drunkenness.* (a) *General.* Though the problem of the correct method of dealing with dipsomania is by no means an easy one, it seems fairly clear that the present plan of bringing offenders before magistrates, and subjecting them to the penalty of imprisonment or fine, has little deterrent effect, as the same offenders are constantly reappearing before the courts. Further, the casting of an inebriate into prison, and placing him in his weakened mental state in the company of professional malefactors, certainly lowers his self-respect, and doubtless tends to swell the ranks of criminals. Examination of the prison records in New South Wales some years ago disclosed the fact that over 40 per cent. of the gaol population had commenced their

criminal career with a charge of drunkenness. During the last few years the dangers of moral contamination in this way have been more accurately appreciated, and a system of classification of prisoners has been adopted whereby the petty offender is as far as possible kept from association with the more evilly-disposed. The Comptroller-General of Prisons in Queensland stated in his Report for the year 1907 that "the drunken habit in many cases is merely one of many symptoms which jointly indicate the existence of a graver condition than simple habitual drunkenness."

(b) *Remedial.* Legislation has been passed in each State, providing for the commitment of inebriates to special Government institutions. The laws in the various States are as follows:—New South Wales, Inebriates Act 1912; Victoria, Inebriates Act 1915 and 1923; Queensland, Inebriate Institutions Act 1896; South Australia, Inebriates Acts 1908, 1913, and 1920; Western Australia, Inebriates Acts 1912 and 1919; Tasmania, Inebriates Act 1885, Inebriate Hospitals Act 1892. Curative work was first undertaken by the Government of New South Wales in 1907. In most cases the institutes are connected with the gaols, and, naturally, custodial measures are still a strong feature in their management; nevertheless, the results of remedial measures have been encouraging.

8. *First Offenders.*—In all the States and in New Zealand statutes dealing with first offenders have been in force for some years, the dates of passing the Acts being as follows:—New South Wales, 1894; Victoria, 1890, 1908, and 1915 (Crimes Act, sec. 340); Queensland, 1887; South Australia, 1887 and 1913; Western Australia, 1892; Tasmania and New Zealand, 1886. The method of procedure is practically the same in all cases, i.e., with regard to most first offenders the magistrate or judge is empowered to allow the offender to go free on recognizances being entered into for his good behaviour for a certain period. In practice, this humane law has been found to work excellently, very few of those to whom its provisions have been extended having been found to relapse into crime.

9. *Children's Courts.*—Special courts for the trial of juvenile offenders have been established in New South Wales, Victoria, Western Australia, Tasmania, and New Zealand within the last few years, while Children's Courts, although not under that name, are practically provided for by the State Children's Acts of 1895 and 1900 in South Australia. The object of these Courts is to avoid, as far as possible, the unpleasant surroundings of the ordinary police court.

10. *Committals to Superior Courts.*—(i) *General.* In a previous sub-section it has been pointed out that comparisons of criminality based on a consideration of the total returns from magistrates' courts are somewhat inadequate, seeing that the figures include numbers of cases which are merely technical breaches of laws having in some instances a purely local significance. The committals to higher courts give a better basis of comparison, although even in this connexion allowance must be made for the want of uniformity in jurisdiction. The table below gives the number of committals in each year from 1918 to 1922, with the rate of such committals per 10,000 of the population.

COMMITTALS TO SUPERIOR COURTS, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales	{ No.	1,308	1,680	2,239	2,594	2,495
	{ Rate	6.7	8.4	10.8	12.3	11.6
Victoria . . .	{ No.	406	575	795	776	733
	{ Rate	2.9	3.9	5.3	5.0	4.7
Queensland . . .	{ No.	207	255	309	328	331
	{ Rate	3.0	3.5	4.1	4.3	4.2
South Australia . .	{ No.	79	74	123	121	146
	{ Rate	1.8	1.6	2.5	2.4	2.9
Western Australia	{ No.	96	127	112	120	68
	{ Rate	3.1	4.0	3.4	3.6	2.0
Tasmania . . .	{ No.	37	55	72	88	79
	{ Rate	1.9	2.7	3.4	4.1	3.7
Northern Territory	{ No.	6	3	3	8	4
	{ Rate	12.3	6.4	7.1	20.5	10.9
Total . . .	{ No.	2,139	2,769	3,653	4,035	3,856
	{ Rate	4.3	5.3	6.8	7.4	6.9

(ii) *Decrease in Rate since 1861.* The above figures show that the rate of committals for serious crime has increased by 60 per cent. during the last five years, but if the comparison be carried further back, it will be found that, as compared with the earlier years, there has been a considerable improvement. This will be evident from an examination of the following figures, which show the rate of committals per 10,000 persons in Australia at various periods since 1861 :—

RATE OF COMMITTALS, AUSTRALIA, 1861 TO 1922.

Year	1861.	1871.	1881.	1891.	1901.	1911.	1921.	1922.
Committals per 10,000 inhabitants	22	14	12	11	8	6	7	7

The decline in proportion to population since 1861 has therefore been about 68 per cent.

§ 3. Superior Courts.

1. *Convictions at Superior Courts.*—The number of convictions at superior courts, with the rate per 10,000 of the population are given below for each of the years 1918 to 1922 :—

SUPERIOR COURTS.—CONVICTIONS, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales	{ No.	622	762	1,027	1,111	1,040
	{ Rate	3.2	3.8	5.0	5.3	4.8
Victoria.. ..	{ No.	245	347	461	520	463
	{ Rate	1.7	2.4	3.0	3.4	2.9
Queensland ..	{ No.	193	254	302	338	378
	{ Rate	2.8	3.5	4.0	4.4	4.8
South Australia ..	{ No.	46	47	83	97	113
	{ Rate	1.0	1.0	1.7	2.0	2.2
Western Australia	{ No.	55	63	69	70	40
	{ Rate	1.8	2.0	2.1	2.1	1.2
Tasmania	{ No.	18	39	51	57	55
	{ Rate	0.9	1.9	2.4	2.7	2.6
Northern Territory	{ No.	..	..	..	3	3
	{ Rate	..	..	..	7.7	8.2
Total	{ No.	1,179	1,512	1,993	2,196	2,092
	{ Rate	2.3	2.9	3.7	4.0	3.8

The rate in 1901 was 4.6 per 10,000, and the decrease to the end of 1922 was, therefore, about 17 per cent.

In considering the above figures allowance must be made for the various factors enumerated in a preceding paragraph. South Australia, Western Australia and Tasmania, it will be noted, show the smallest proportion of serious crime, while the rates for New South Wales and the Northern Territory are the highest, the figures for the latter, however, owing to the particular conditions prevailing there being abnormal.

2. *Offences for which Convictions were Recorded at Superior Courts.*—In the following table will be found a classification of the principal offences for which persons were convicted at the higher courts during each year of the period 1918 to 1922. Owing to lack of uniformity in the presentation of the returns the information is confined to the chief offences against the person only.

SUPERIOR COURTS.—CONVICTIONS, SERIOUS CRIME, AUSTRALIA, 1918 TO 1922.

Offences.	1918.	1919.	1920.	1921.	1922.
Murder, and attempts at ..	14	34	20	29	36
Manslaughter	7	14	18	17	10
Rape, and attempts at ..	11	3	7	8	5
Other offences against females ..	75	66	69	87	95
" " " the person	155	220	223	235	240
Total	262	337	337	376	386

The total convictions for similar offences in 1901 amounted to 432, the decline during the period 1901 to 1922 amounting therefore to about 11 per cent.

3. **Habitual Offenders.**—In New South Wales the Habitual Criminals Act of 1905 gives judges the power of declaring a prisoner, after a certain number of sentences, to be an habitual criminal, and as such to be detained until, in the opinion of the authorities, he is fit to be at large. At the end of 1922 there were 31 persons in prison under this Act. Since the passing of the Act, 90 offenders, including 1 female have been declared to be habitual criminals. The Indeterminate Sentences Act came into force in Victoria in July, 1908, and up to the end of June, 1923, 798 prisoners had been released on probation or parole. Of this number, 248 were re-convicted or returned for not observing the conditions of release, and 550 have not returned to prison. Of the latter, 268 are still on probation or parole, and 273 have completed their probation and are out of the Board's control. At the 30th June, 1923, the number under indeterminate detention was 105. The Criminal Code Amendment Act of 1914, which makes provision for the detention and control of habitual criminals, was assented to in Queensland on the 3rd December, 1914, and the first cases in connexion therewith were dealt with in 1922, when 2 prisoners were declared to be habitual criminals. The provisions of the Habitual Criminals Amendment Act of 1907 were put into force in South Australia in 1909, and 23 criminals had been declared to be habitual offenders up to the end of 1922. Of these, 20 had been released after serving the indeterminate portion, and 3 were serving the definite portion of their sentence. In Western Australia, under the Criminal Code Amendment Act of 1918, power is given to declare a prisoner after a certain number of convictions to be an habitual criminal. The number under preventive detention on the 30th June 1922, was 15, and the total number dealt with since the passing of the Act was 53. During the period in which the Habitual Criminals and Offenders Act of 1907 (now Indeterminate Sentences Act 1921) has been in force in Tasmania, 141 prisoners have been released under its provisions, and the results, according to the Sheriff, have been satisfactory, only four prisoners having defaulted. The Comptroller-General of Prisons in New South Wales points out that the system has exercised a wholesome deterrent effect on the criminal who is not a prisoner, while the Indeterminate Sentence Board in Victoria states that it has become impressed with the advantages which this form of sentence offers, both from a reformatory and deterrent standpoint, over the ordinary sentence.

4. **Capital Punishment.**—The table below gives the number of executions in each State during the period 1918 to 1922:—

EXECUTIONS, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
New South Wales .. ..	..	..	..	..	..
Victoria	2	..	..	..	1
Queensland .. ..	..	..	..	..	..
South Australia .. ..	..	1	1	..	..
Western Australia .. ..	..	..	..	..	1
Tasmania .. ..	..	..	..	..	1
Total	2	1	1	..	3

In the early days of the history of Australia the penalty of death was attached to a large number of offences, many of which at the present time would be dealt with in the lower or magistrates' courts. With the growth of settlement, and the general amelioration in social and moral conditions, the list was, however, considerably curtailed, and the existing tendency is practically to restrict death sentences to cases of murder. It may be remarked that in cases of rape, which is a capital offence in some of the Australian States, the penalty has been but sparingly inflicted during the last few years. Juries are reputed to be loth to convict on this charge, owing to the uncertainty whether sentence of death will be pronounced.

Under the Criminal Code Amendment Act of 1922 capital punishment was abolished in Queensland.

During the period 1861 to 1880 the annual average number of executions in Australia was 9, from 1881 to 1900 the average was 6, for the period 1901 to 1910 the figure was 4, from 1911 to 1920 it was 2, while the average for the last two years was 1.

§ 4. Prisons.

1. Prison Accommodation and Prisoners, 1922.—The table below shows the number of prisons in each State, the accommodation therein, and the number of prisoners in confinement at the end of 1922 :—

PRISON ACCOMMODATION AND PRISONERS, 1922.

State.	Number of Prisons.	Accommodation in—		Prisoners at End of Year.
		Separate Cells.	Wards.	
New South Wales	25	2,616(a)	..	1,373
Victoria	15	1,491	565	719
Queensland	11	601	380	331
South Australia	13	759	467	265
Western Australia	23	676	847	196
Tasmania	2	146	5	62
Northern Territory	3	..	67	4
Total	92	6,289	2,331	2,950

(a) Total accommodation.

The figures refer to prisoners under sentence, and are exclusive of aborigines.

2. Prisoners in Gaol, 1918 to 1922.—The number of prisoners in gaol at the 31st December in each of the years 1918 to 1922 is given below. As stated above, the figures refer to prisoners under sentence, and are exclusive of aborigines. A separate line is added in each instance showing the proportion per 10,000 of the population.

PRISONERS IN GAOL, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.	
New South Wales	Number ..	959	895	1,128	1,273	1,373
	Proportion	4.9	4.5	5.4	6.0	6.4
Victoria	Number ..	588	665	700	733	719
	Proportion	4.1	4.5	4.6	4.8	4.6
Queensland	Number ..	255	279	275	309	331
	Proportion	3.7	3.9	3.7	4.1	4.2
South Australia	Number ..	233	222	229	252	265
	Proportion	5.2	4.7	4.7	5.1	5.2
Western Australia	Number ..	185	158	167	211	196
	Proportion	6.0	4.9	5.1	6.3	5.8
Tasmania	Number ..	55	72	63	95	62
	Proportion	2.8	3.5	3.0	4.5	2.9
Northern Territory	Number ..	7	3	3	4	4
	Proportion	14.4	6.4	7.1	10.2	10.9
Commonwealth	Number ..	2,282	2,294	2,565	2,877	2,950
	Proportion	4.5	4.4	4.8	5.3	5.3

The proportion to population of prisoners in gaol under sentence has risen by about 15 per cent. for Australia during the last five years, but, if the comparison be carried farther back, the position is seen to be more favourable, the proportion in 1891 being as high as 16 per 10,000.

3. **Improvement of Penological Methods.**—(i) *New South Wales.* During recent years Australia, in common with most other civilized countries, has introduced considerable modifications and improvements in methods of prison management. Under the old system, punishment partook more or less of the character of reprisal for wrongdoing, and the idea of constituting the prison as a reformatory agency was in the background. But in recent years there has been an earnest attempt at effecting a moral reformation in the unfortunates who lapse into crime. This aspect of prison management has been specially prominent in New South Wales. A short account of the reorganization of the prison system in this State appears in preceding Year Books (see No. V., p. 922), but considerations of space preclude its repetition here. At the present time it is found that good results have followed the principles of scientific classification and restricted association of prisoners, together with the provision of separate institutions for the treatment of inebriates. Special efforts are put forward to provide reproductive work of a regular and intelligent nature. At the chief penitentiaries for males and females in the metropolis, a careful classification of prisoners is carried out, and provision is made for the treatment of special cases at some of the larger country gaols. Young first offenders are employed at the Emu Plains Prison Farm, and first offenders over the age of 25 years are drafted to the Prisoners' Afforestation Camp at Tuncurry, on the Manning River. This institution, which was opened in 1911, has given very satisfactory results. About 180,000 seedlings were planted in 1922, and many thousands of trees, some up to 40 feet in height, are flourishing. The Shaftesbury Inebriate Institution was established in 1915 for the treatment of non-criminal inebriates, and in the following year provision was made for the accommodation and treatment of voluntary paying guests. In many instances prisoners received into the gaols are found to be suffering from contagious diseases, and, under the Prisoners Detention Act such persons may be detained until cured.

Amongst other improvements introduced during the last three years were the relieving of the monotony of non-working hours at week-ends by the provision of concerts and lectures at the principal gaols, by more open-air exercise on Saturday afternoons and Sundays, and by the supply of a greater variety of interesting books and magazines to the prison libraries. Prisoners are encouraged to take up courses of study likely to be of service to them on their discharge, and, within reason, the text-books required are purchased for their use. As the Comptroller-General points out, these changes have been brought about, not from sympathy with the criminal, but as ordinary necessities to the wholesome functioning of the mind.

In 1902 the system of finger-print identification of criminals was introduced, and in the following year bureaux were established in the various States for the exchange of records. Very successful results have attended the introduction of the system.

Allusion may be made here to the excellent work performed by the Prisoners' Aid Association, which has branches in the country towns where there are prisons. Members of the organization meet prisoners on their discharge, help in restoring hopeful cases to reputable relatives and friends, assist in obtaining situations, and generally maintain a friendly supervision over those in need of assistance.

(ii) *Victoria.* Space will not permit of more than a passing reference to the improvements brought about in prison management in the other States. In Victoria there is an excellent system of classification and allocation of prisoners in various grades to different gaols, while at the important penal establishment at Pentridge careful segregation into several classes is carried out. First offenders are placed in the "special" division, and it is stated that out of 869 prisoners in this class discharged from Pentridge during the decade ending in 1921 only 87 are known to have been reconvicted. In common with the other States the latest humane methods of accommodation and prison treatment have for some time been employed. An afforestation camp known as McLeod Settlement, French Island, was opened in 1916, and at the 31st December, 1922, there were 36 inmates. In addition to the work of afforestation, portion of the land has been laid down in crops, and some attention given to poultry and pig-keeping. It is stated that the experiment has resulted in improvement, both in demeanour and physique of prisoners, and in many

cases has led to a return to honest citizenship. A farm has also been established about 3 miles from the prison at Castlemaine, and the inmates are taken to and fro daily. The number in confinement at the end of December, 1922, was 49. Accommodation has been provided for housing a certain number of prisoners on the farm site. The orchard planted in connexion with the farm contains about 1,000 fruit trees. Provision has been made for practical instruction in carpentering and other work which will help in securing employment for prisoners on release.

Amongst improvements foreshadowed in the near future are more frequent inspection of prisons, better training of staff, more extended classification of prisoners, and open air employment of first offenders in farming and forestry.

Under the Venereal Diseases Act, prisoners where necessary receive medical treatment, and after release the treatment where required is continued outside the prison at places gazetted by the Health Department. Provision is also made for dental attention where necessary, the treatment being free if the prisoner is unable to pay or to make arrangements for payment.

Aid is given to discharged prisoners by the Salvation Army and by various church organizations and welfare committees.

(iii) *Queensland.* Queensland prisons have been considerably modernized during the last few years. Amongst recent reforms may be mentioned the provision of a separate institution at Brisbane for long-sentence prisoners, and the extension of the principle of classification and separation. Juvenile offenders, i.e., those between the ages of 16 and 21 years, are kept apart from other prisoners and treated in accordance with the latest reformatory methods. The penal establishment at St. Helena has been converted into a farm colony, and well-conducted prisoners receive special treatment there during the latter stages of their sentences. Greater facilities have been provided for the instruction of prisoners in trades which will afford them a means of earning a livelihood on their release, and the prison libraries have been replenished with useful and interesting literature. The cells in the principal prisons have been provided with lights, and prisoners are allowed to read and study up to a reasonable hour at night. Under the provisions of the Health Act, prisoners suffering from venereal disease may be detained until danger of infection has ceased.

Excellent work in aid of discharged prisoners is carried on by the Salvation Army, while the "William Powell Home," through its secretary, renders valuable service.

(iv) *South Australia.* The present system of gaol administration was drafted mainly on English and European lines by the late W. R. Boothby, C.M.G., and has since been as far as possible adapted to modern penological procedure. At the Yatala Labour Prison, which is the largest in the State, the number in confinement on the 31st December, 1922, was 137. The prisoners are graded into three classes—first offenders, second offenders, and old offenders, the various classes being kept apart. The Adelaide gaol, which had 73 prisoners in confinement at the end of 1922, is the next in point of importance. Provision is made for the special treatment of inebriates at the Adelaide and Gladstone gaols.

Various religious organizations devote attention to the periodical visiting of prisoners in the gaols, while fine work is done by the Prisoners' Aid Association in helping released prisoners to obtain employment, or return to their homes in other States.

(v) *Western Australia.* A Royal Commission in 1911 recommended the adoption of various reforms in connexion with the prison system of Western Australia. The bulk of these were carried out, and included, amongst other things, an extension of the principle of separate treatment, improvement in prisoners' dietary scale, more satisfactory arrangements in regard to remission of sentences, and better conditions in regard to hours of labour, leave of absence, etc., for the staff. Amongst other improvements introduced may be mentioned the grant of an eight hours' day to officers, enlargement and improved hygiene of cells, additional library facilities, assistance to discharged prisoners by provision of railway passes and monetary aid, appointment of committees to look after the welfare of discharged prisoners, and the remodelling of the "mark" system. The military method of control at Rottnest Island, coupled with considerable privileges to well-conducted prisoners, has proved very successful. Under the Prisons Act Amendment Act of 1918 a portion of Fremantle Prison was set aside as a reformatory prison in 1919, and first offenders are kept separate from other prisoners. The Prison Gate Committee affords assistance to discharged prisoners by finding work and helping in other ways.

(vi) *Tasmania*. The number of convicted prisoners in confinement in Tasmanian gaols on the 30th June, 1923, was 69, of whom 67 were confined in the penal establishment at Hobart and 2 at the Launceston gaol. There were no prisoners in the country gaols. The completion of alterations to the Hobart gaol has facilitated the classification of offenders, and afforded greater opportunities for teaching trades. Youthful offenders are kept apart from ordinary prisoners.

§ 5. Civil Courts.

1. Lower Courts.—The transactions of the lower courts on the civil side during each of the last five years are given in the table hereunder. As pointed out previously the jurisdiction of the courts is by no means uniform in the various States.

LOWER COURTS.—CIVIL CASES, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales ..	{ Cases No.	32,135	31,847	34,475	37,557	38,828
	{ Amount £	94,026	92,853	111,531	145,176	163,803
Victoria ..	{ Cases No.	31,870	34,841	33,300	45,319	47,140
	{ Amount £	149,755	155,009	158,198	202,606	295,697
Queensland ..	{ Cases No.	10,957	9,289	10,428	14,339	16,023
	{ Amount £	53,710	56,555	58,476	84,277	122,684
South Australia ..	{ Cases No.	13,619	14,600	18,030	20,334	23,030
	{ Amount £	52,847	58,647	73,505	103,715	123,569
Western Australia ..	{ Cases No.	11,387	11,990	12,306	15,240	15,991
	{ Amount £	40,243	43,601	46,765	63,162	71,457
Tasmania ..	{ Cases No.	4,489	4,325	4,954	1,442	7,246
	{ Amount £	28,769	30,537	34,329	36,571	59,137
Total ..	{ Cases No.	104,457	106,892	118,493	134,231	148,258
	{ Amount £	419,350	437,202	482,804	635,507	836,347

The figures just given represent the returns from Petty Sessions Courts in New South Wales and Victoria, the Petty Debts Courts in Queensland, the Local Courts of South Australia and Western Australia, and the Courts of Requests in Tasmania.

2. Superior Courts.—In the next table will be found the transactions on the civil side in the Superior Courts during each of the years 1918 to 1922.

The New South Wales returns refer to the total amounts sued for, and not the sums actually awarded after trial in the District Courts, and are exclusive of judgments signed in the Supreme Court, for which the amount is not available.

SUPERIOR COURTS.—CIVIL CASES, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales ..	{ Causes No.	846	933	1,148	1,344	1,386
	{ Amount £	a259,902	a333,539	a377,419	a475,816	a500,862
Victoria ..	{ Causes No.	583	661	760	906	863
	{ Amount £	108,919	100,200	122,840	226,736	213,597
Queensland ..	{ Causes No.	184	172	225	231	187
	{ Amount £	19,994	44,567	19,707	32,513	21,914
South Australia ..	{ Causes No.	18	20	39	52	55
	{ Amount £	4,518	3,491	16,938	5,673	10,300
Western Australia ..	{ Causes No.	141	138	174	288	195
	{ Amount £	30,100	26,757	28,890	54,339	40,119
Tasmania ..	{ Causes No.	329	237	145	246	474
	{ Amount £	17,453	29,808	14,507	13,651	28,952
Total ..	{ Causes No.	2,101	2,161	2,491	3,067	3,160
	{ Amount £	440,886	538,362	580,301	808,728	815,744

(a) Exclusive of judgments signed, Supreme Court, the amount not being recorded.

3. Divorces and Judicial Separations.—The number of divorces and judicial separations in each State during the period 1918 to 1922 is shown below. The figures refer in the case of divorces to decrees made absolute in each year and include decrees for nullity of marriage.

DIVORCES AND JUDICIAL SEPARATIONS, 1918 TO 1922.

State.	1918.		1919.		1920.		1921.		1922.	
	Divorces.	Judicial Separations.								
New South Wales ..	380	11	427	7	556	11	789	18	683	8
Victoria ..	233	3	346	2	373	2	388	1	376	2
Queensland ..	24	2	25	1	45	1	56	2	47	..
South Australia ..	17	..	30	..	32	2	88	1	76	..
Western Australia ..	23	..	45	..	22	..	22	..	33	..
Tasmania ..	4	..	6	2	18	..	40	..	33	..
Northern Territory
Total ..	681	16	879	12	1,046	16	1,383	22	1,248	10

The average annual number of divorces and judicial separations in Australia at decennial periods from 1871 to 1920 is as follows:—

DIVORCES AND JUDICIAL SEPARATIONS.—AUSTRALIA, 1871 TO 1920.

	1871-1880.	1881-90.	1891-1900.	1901-10.	1911-20.
Averages ..	29	70	358	401	707

The bulk of the divorces and judicial separations refer to New South Wales and Victoria, the Acts of 1899 and 1889 in the respective States having made the separation of the marriage tie comparatively easy. In some statistical works it is customary to compare the divorces in any year with the marriages in the same year. The comparison is, however, quite valueless, as there is no necessary connexion between the figures.

4. Probates.—The number of probates and letters of administration granted, together with the value of the estates concerned, are given below for each State for the period 1918 to 1922:—

PROBATES AND LETTERS OF ADMINISTRATION, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
New South Wales ..	Number 6,877 Value £ 11,827,552	7,188 17,131,131	5,737 12,265,044	5,461 13,895,765	5,681 15,441,378
Victoria ..	Number 6,935 Value £ 11,009,294	7,404 13,844,186	5,837 14,672,239	5,769 12,554,365	5,445 12,641,263
Queensland ..	Number 959 Value £ 2,335,848	1,122 3,733,964	1,027 3,594,844	1,130 4,039,379	1,002 3,591,531
South Australia ..	Number 2,321 Value £ 4,760,203	2,319 3,470,000	1,844 3,831,914	1,784 3,115,106	1,736 3,683,202
Western Australia ..	Number 1,574 Value £ 1,193,841	1,353 2,451,828	948 1,438,192	1,059 1,854,099	942 979,214
Tasmania ..	Number 435 Value £ 928,317	564 1,300,836	517 1,095,536	518 1,207,252	545 1,211,764
Northern Territory ..	Number (a) Value £ ..	19 23,800	..	10 3,864	27 5,411
Total ..	Number 19,101 Value £ 32,055,055	19,969 42,015,835	15,910 36,897,769	15,731 36,670,330	15,423 37,553,763

(a) Not available.

5. Bankruptcies.—(i) *General.* The returns in bankruptcy during each of the last five years are given in the following table.

For several reasons comparisons drawn from these figures are of little value. In the first place, the statements of assets and liabilities are notably unsatisfactory, particularly in regard to the former. Then, again, there is wide dissimilarity in regard to the laws in force in the various States and the methods of procedure thereunder in connexion with bankruptcy. Further, there are no means of knowing how many persons in each State who were in a bankrupt condition made private arrangements with their creditors either personally or by intervention of a solicitor. The figures quoted in the table exclude private arrangements in Victoria, South Australia, and Western Australia, and the liquidations in Queensland and Tasmania.

BANKRUPTCIES, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales	Number ..	264	316	344	394	481
	Liabilities £	221,928	323,222	204,594	311,900	440,856
	Assets £	115,776	189,920	139,550	166,457	251,185
Victoria	Number ..	243	207	186	300	322
	Liabilities £	131,247	184,041	154,658	180,044	349,118
	Assets £	77,989	130,328	53,229	92,048	189,016
Queensland	Number ..	170	144	118	150	148
	Liabilities £	35,837	68,291	73,853	65,603	90,790
	Assets £	11,894	26,863	57,904	18,760	42,012
South Australia	Number ..	91	59	60	67	110
	Liabilities £	137,469	78,888	81,610	121,987	158,987
	Assets £	109,641	63,724	54,502	96,858	102,738
Western Australia	Number ..	23	31	25	30	36
	Liabilities £	9,559	23,958	46,381	43,044	36,510
	Assets £	4,010	21,190	41,875	35,899	16,961
Tasmania	Number ..	1	..	..	6	1
	Liabilities £	912	..	..	1,829	1,170
	Assets £	118	..	..	1,599	..
Northern Territory	Number ..	..	1	..	..	2
	Liabilities £	..	115	..	..	175
	Assets £	..	7	..	..	..
Total ..	Number ..	792	758	733	947	1,100
	Liabilities £	536,952	678,515	561,098	725,307	1,077,606
	Assets £	318,328	432,032	347,060	411,421	601,912

(ii) *Deeds of Arrangement, etc.* The figures given above are, as explained, exclusive of private arrangements. In Victoria during 1922 the deeds of arrangement numbered 99, the declared liabilities and assets being £178,986 and £127,657 respectively. Liquidations under the Insolvency Act in Queensland numbered 13, the total liabilities and assets amounting to £13,704 and £11,982 respectively. In South Australia 107 compositions were arranged during the year. Under the Bankruptcy Amendment Act of 1898, 5 compositions, 6 schemes of arrangement, and 39 deeds of assignment were made in Western Australia. In Tasmania, 24 liquidations involving liabilities £14,437 and assets £5,194, and 11 compositions with liabilities £2,157 and assets £644, were arranged during 1922.

6. High Court of Australia.—Under the provisions of section 71 of the Commonwealth Constitution Act, the judicial power of the Commonwealth is vested in a Federal Supreme Court, called the High Court of Australia, and in such other courts as the Parliament creates or invests with federal jurisdiction. The Federal High Court possesses both original and appellate jurisdiction. The powers of the Court are defined in Chapter III. of the Constitution Act and in the Judiciary Acts of 1903–20. At present the Court consists of a Chief Justice and six other judges. Sittings of the Court are held in the capitals of the various States as occasion may require. The following statement shows the transactions of the High Court for the quinquennium 1918–22 :—

COMMONWEALTH HIGH COURT.—TRANSACTIONS, 1918 TO 1922.

Items.	1918.	1919.	1920.	1921.	1922.
I. ORIGINAL JURISDICTION.					
Number of writs issued	76	93	123	155	183
Number of causes entered for trial	8	8	20	24	30
Verdicts for plaintiffs	4	3	6	13	6
Verdicts for defendants	1	..	5	4	9
Otherwise disposed of	10	5	31	22	61
Amount of judgments	£3,463	£1,730	£6,907	£15,403	£18,579
II. APPELLATE JURISDICTION.					
Number of appeals set down for hearing	67	54	65	68	96
Number allowed	33	20	20	31	39
Number dismissed	27	25	31	24	48
Otherwise disposed of	7	9	14	13	9
III. AMOUNT OF FEES COLLECTED.					
Amount in each year	£708	£502	£675	£742	£802

During the year 1922 the Court dealt also with other matters as follows :—

Appeals from Assessments under the Taxation Assessment Acts ..	17
Special cases stated for the opinion of the Full Court	14
Applications for Prohibition	3
Applications under the Trading with the Enemy Act	2

7. Commonwealth Court of Conciliation and Arbitration.—A more or less detailed statement regarding the operation of this Court, which was established under the provisions of the Commonwealth Conciliation and Arbitration Act of 1904–20, will be found in Chapter XIII.

§ 6. Cost of Administration of Justice.

1. Expenditure by the State.—The table below shows the expenditure from Consolidated Revenue during each of the last five years in connexion with the administration of justice in each of the States. Expenditure on police and on prisons are given on separate lines. With regard to the figures quoted for "other" expenditure, a slight allowance has to be made for the fact that some extraneous expenditure has been included which it was found impossible to disentangle from the total, but the amount is in no instance large.

STATE EXPENDITURE ON JUSTICE, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
		£	£	£	£	£
New South Wales ..	Police	722,754	977,506	1,101,767	1,150,323	1,205,557
	Gaols	87,875	92,781	113,882	120,136	145,887
	Other	277,805	309,632	370,061	400,943	395,691
Victoria ..	Police	397,025	490,016	577,407	579,351	600,856
	Gaols	54,328	61,937	75,986	74,161	80,363
	Other	166,946	193,481	227,190	224,670	233,452
Queensland ..	Police	346,802	407,480	476,153	458,955	455,519
	Gaols	35,346	36,802	40,190	36,236	34,068
	Other	124,763	140,374	149,068	143,592	144,341
South Australia ..	Police	151,090	159,258	197,157	211,428	216,109
	Gaols	23,063	27,381	31,940	33,359	34,520
	Other	41,124	60,784	52,500	54,129	50,459
Western Australia ..	Police	136,295	171,832	186,717	184,245	181,893
	Gaols	23,939	28,669	30,417	28,715	27,440
	Other	71,787	83,546	97,779	89,987	91,605
Tasmania ..	Police	54,960	66,940	79,372	79,105	77,096
	Gaols	6,418	8,274	9,774	10,097	9,643
	Other	21,407	29,289	33,322	34,114	32,921
Northern Territory a	Police	10,200	11,435	12,970	15,520	16,011
	Gaols	3,048	2,663	3,857	4,171	4,403
	Other	2,196	1,925	3,396	3,289	2,664
Total ..	Police	1,819,126	2,284,467	2,631,543	2,678,927	2,753,041
	Gaols	234,017	258,507	306,046	306,875	336,324
	Other	706,028	819,031	933,316	950,724	951,133

(a) See 2, Federal Expenditure, next page.

The rise in expenditure during the last few years was due chiefly to increases in wages and salaries and heavier outlay on stores and supplies.

For the purposes of comparison the figures in the table above have been reduced to a population basis, and the results are given in the table following :—

STATE EXPENDITURE ON JUSTICE PER HEAD, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
		s. d.	s. d.	s. d.	s. d.	s. d.
New South Wales	Police	7 4	9 7	10 6	10 10	11 1
	Gaols	0 11	0 11	1 1	1 2	1 4
	Other	2 10	3 0	3 6	3 9	3 8
Victoria	Police	5 6	6 6	7 7	7 6	7 7
	Gaols	0 9	0 10	1 0	0 11	1 0
	Other	2 4	2 7	3 0	2 11	2 11
Queensland	Police	9 10	11 1	12 8	11 11	11 7
	Gaols	1 0	1 0	1 1	0 11	0 10
	Other	3 6	3 10	4 0	3 9	3 8
South Australia	Police	6 7	6 10	8 0	8 5	8 5
	Gaols	1 0	1 2	1 4	1 4	1 4
	Other	1 10	2 6	2 2	2 2	2 0
Western Australia	Police	8 9	10 6	11 3	11 0	10 7
	Gaols	1 7	1 9	1 10	1 9	1 7
	Other	4 7	5 1	5 11	5 4	5 4
Tasmania	Police	5 5	6 5	7 6	7 3	7 0
	Gaols	0 8	0 10	0 11	0 11	0 11
	Other	2 1	2 10	3 2	3 1	3 0
Northern Territory	Police	44 0	50 4	65 0	81 6	90 2
	Gaols	13 2	11 9	19 4	22 4	24 10
	Other	9 10	8 6	17 0	17 7	15 0
Total	Police	7 2	8 7	9 9	9 9	9 9
	Gaols	0 11	1 0	1 2	1 1	1 2
	Other	2 9	3 1	3 5	3 6	3 5

Owing to the smallness of the white population, large area to be policed, and cost of supplies, transport, etc., the figures for the Northern Territory must necessarily appear somewhat abnormal.

The total expenditure in connexion with the administration of justice in the various States has risen from 10s. per inhabitant in 1901 to 14s. 4d. in 1922. Police expenditure increased by 4s. per head, the average for gaols was identical in both years, while the expenditure on courts and the remaining machinery of justice increased by 4d. per head during the period. Increased salaries and allowances, and the heavier cost of materials and equipment, were largely responsible for the rise in the rate per head during the last few years.

2. *Federal Expenditure.*—(i) *High Court.* With the exception of that for the Northern Territory, the expenditure shown in the foregoing tables is that incurred by the State Governments only, and does not include expenditure in connexion with the Federal High Court, which is given hereunder for the period 1917–18 to 1922–23.

EXPENDITURE ON FEDERAL HIGH COURT, 1917–18 TO 1922–23.

Year.	Amount.	Year.	Amount.
	£		£
1917–18	31,352	1920–21	34,669
1918–19	30,337	1921–22	33,776
1919–20	34,370	1922–23	35,458

(ii) *Other Expenditure.* Other items of expenditure during 1922–23 by the Commonwealth Attorney-General's Department include—Secretary's office, £20,009; Crown Solicitor, £18,829; Court of Conciliation and Arbitration, £11,182; Public Service Arbitrator, £3,604. Including the High Court expenditure, but excluding that in connexion with Patents and Copyright, the total expenditure by the federal law authorities in 1922–23 amounted to £117,944.

CHAPTER XI. PUBLIC BENEVOLENCE.

§ 1. Introductory.

1. **General.**—Charity and charitable effort in Australia may be classified under three headings, viz. :—(a) State ; (b) public ; (c) private. To the first belong all institutions wholly provided for by the State, such as the principal hospitals for the insane in the various States, the Government hospitals in Western Australia, and the Government asylums for the infirm in New South Wales. The second class comprises public institutions of two kinds, viz. :—(i) those partially subsidized by the State or State endowed, but receiving also private aid, and (ii) those wholly dependent upon private aid. To the former division belong such institutions as the principal metropolitan hospitals. In the latter are included institutions established and endowed by individuals for the benefit of the needy generally. All charitable movements of a private character are included in the third group. A more or less accurate statistical account is possible in classes (a) and (b), but in regard to (c) complete tabulation is, for obvious reasons, impossible.

No poor-rate is levied in Australia, and Government aid without return is required only for the aged and disabled. Moreover, although Old-age Pensions, Invalid Pensions, and Maternity Allowances are paid by the Commonwealth, the payments are looked upon rather in the light of a citizen's right than as a charity. Reference to these matters will be found in § 6 and 7A of Chapter VIII.

From time to time relief funds have been organized for famine-stricken countries in various parts of the world or for places where plague, flood, fire, or earthquake has shown the need of urgent relief. Special funds were also raised for persons disabled or bereaved through war. Complete statistical information in regard to these forms of charity is not, however, available. It may be mentioned that the daily Press frequently accepts the duty of collectorship in charity appeals. In regard to subscriptions to the various patriotic funds which were instituted in consequence of the war, the total for Australia is estimated to exceed £12,500,000 sterling.

§ 2. The Larger Charities of Australia.

1. **Hospitals.**—(i) *General.* All the State capitals have several large and well-equipped hospitals, and there is at least one in every important town. In large centres there are hospitals for consumptives, women, children, infectious diseases, incurables, etc.

(ii) *Principal Hospitals in each State.* The particulars given herein refer to general hospitals, and include all institutions affording general hospital relief.

(a) *New South Wales.* A Government hospital, with a staff of 33 medical officers and accommodation for about 700 patients, is established at Little Bay, near Sydney. Altogether, there are four hospitals for women, one for women and children, and three for children in the metropolis. The Royal Prince Alfred Hospital, with a medical staff of 89, and with 584 beds, is the largest metropolitan subsidized institution. Amongst other large metropolitan hospitals may be mentioned the Sydney Hospital, with a medical staff of 67 and with 382 beds, St. Vincent's with 44 doctors and 220 beds, and Lewisham with 34 medical attendants and 275 beds. In extra-metropolitan areas the Waterfall Hospital for Consumptives, which is a Government institution, provides accommodation for 408 patients. The Newcastle Hospital has 180 beds and a medical staff of 25. At the Carrington Convalescent Home at Camden there is provision for 110 patients. The hospital in the Broken Hill district can accommodate 173.

(b) *Victoria.* There are several large metropolitan hospitals in Victoria. The largest of these, the Melbourne Hospital, has 358 beds ; the Austin Hospital for Incurables has 290, the Alfred Hospital 168, St. Vincent's 126, and the Homœopathic 98. Amongst the country institutions, Bendigo has 222 beds, Geelong 217, and Ballarat 170.

(c) *Queensland.* Of the metropolitan hospitals, the largest is the Brisbane General, which can accommodate 361 patients. The Children's Hospital has 250 beds, the Diamantina 174, and the Mater Misericordiæ 123. Ipswich Hospital, with 150 beds, is the largest of the country institutions, followed by Toowoomba with 130, Rockhampton

with 110, Townsville with 105, Maryborough 96, Charters Towers, 92, Bundaberg 92, Cairns 84, Mackay 84, and Mt. Morgan 71.

(d) *South Australia.* Including the Consumptive Home and Infectious Diseases Block, the Adelaide Hospital can accommodate a total of 580 patients. The most important of the country hospitals are at Port Augusta, Port Pirie, and Wallaroo, with 72, 58, and 48 beds respectively. The Adelaide Children's Hospital has 98 beds.

(e) *Western Australia.* Information regarding the capacity of the Western Australian hospitals is not available, but some idea of their comparative importance may be gained from the figures relating to cases treated. In the metropolis, 4,037 cases were treated at the Perth Hospital in 1922, and 1,625 at the Perth Children's Hospital. Of the country hospitals, Kalgoorlie returned 1,112 cases, Fremantle 1,106, and Woorlooloo 408.

(f) *Tasmania.* There are well-equipped general hospitals in Hobart and Launceston. The former has a medical staff of 4 and can accommodate 225 patients, with additional verandah accommodation if required, and the latter has 243 beds and a medical staff of 3. Hospitals for women have been established in both centres, and there is a sanatorium for consumptives at Newtown. Outside the metropolitan area, the Devon Cottage Hospital has beds for 103 patients; the Lyell District Hospital can accommodate 44 patients, and there are other institutions in important country centres.

(g) *Northern Territory.* In addition to the hospitals at Darwin and Pine Creek, arrangements have been made for the supply of medicines and first aid to outlying stations.

(iii) *Number, Staff, and Accommodation, 1922.* Details regarding the number of hospitals, staffs, and accommodation for the year 1922 are given in the appended table:—

GENERAL HOSPITALS.—NUMBER, STAFFS, AND ACCOMMODATION, 1922.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Number of Hospitals—								
Government	4	..	4	12	22	3	4	49
Other	157	53	93	29	30	12	1	375
Total	161	53	97	41	52	15	5	424
Medical Staff—								
Males	987	96	214	141	62	23	1	1,538
Females								
Total	987	96	223	146	62	23	1	1,538
Nursing Staff and Attendants—								
Males	87	(a) 16	331	97	117	2	5	(a) 655
Females	2,519	(a) 921	1,512	746	615	196	10	(a) 6,519
Total	2,606	1,635	1,843	843	732	198	15	7,872
Accommodation—								
Number of dormitories, etc.	1,132	445	604	292	231	140	8	2,852
Capacity, in cubic feet	8,624,728	4,834,155	4,171,919	1,990,488	2,398,576	1,480,000	120,000	23,619,864
Number of beds, etc.	7,382	3,627	3,872	1,578	1,729	736	45	18,969
Cubic feet to each bed	1,168	1,333	1,077	1,261	1,388	2,010	2,667	1,245

(a) Victorian figures, exclusive of 696 nursing staff and 2 dispensing staff, sexes not available.

(iv) *Patients Treated.* The table hereunder furnishes particulars respecting patients treated for the year 1922. In addition to the accommodation provided in the ordinary wards, a considerable amount of accommodation for certain classes of cases is furnished in out-door or verandah sleeping places, and this can be augmented; full particulars in connexion with these are not available. So far as the returns show, there were 988 out-door beds in New South Wales, 47 in South Australia, 96 in Tasmania, and 20 in the Northern Territory. These figures are not included in the totals given in the table above.

GENERAL HOSPITALS.—PATIENTS TREATED, 1922.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Indoor Relief : Persons Treated—								
Males	49,895	18,725	27,781	8,533	8,717	5,088	106	118,845
Females	47,083	15,436	17,841	7,807	5,770	5,382	45	99,364
Total	96,978	34,161	45,622	16,340	14,487	10,470	151	218,209
Inmates at beginning of Year—								
Males	2,689	1,211	1,431	556	621	210	16	6,734
Females	2,282	1,069	814	387	264	281	4	5,101
Total	4,971	2,280	2,245	943	885	491	20	11,835
Admissions and Re-admissions during Year—								
Males	47,206	17,514	27,350	8,814	8,096	4,878	106	113,964
Females	44,801	14,367	17,027	8,207	5,506	5,101	45	95,054
Total	92,007	31,881	44,377	17,021	13,602	9,979	151	209,018
Discharges—Recovered :								
Males	32,876	15,000	24,944	5,272	4,400	4,508	97	87,097
Females	35,237	12,955	15,745	5,730	3,726	4,876	45	78,314
Total	68,113	<i>a</i> 27,955	<i>a</i> 40,689	11,002	8,126	<i>a</i> 9,384	142	165,411
Relieved :								
Males	9,249	<i>b</i>	<i>b</i>	2,335	2,769	<i>b</i>	..	<i>c</i>
Females	6,004	<i>b</i>	<i>b</i>	1,591	1,290	<i>b</i>	..	<i>c</i>
Total	15,253	<i>b</i>	<i>b</i>	3,926	4,059	<i>b</i>	..	<i>c</i>
Unrelieved :								
Males	1,632	94	501	431	273	68	..	3,004
Females	1,346	80	335	326	125	53	..	2,265
Total	2,978	174	836	757	403	121	..	5,269
Not stated :								
Males .. ..	..	677	179	59	..	15	..	930
Females .. ..	..	425	96	58	..	10	..	589
Total .. ..	..	1,102	275	117	..	25	..	1,519
Deaths—								
Males	3,395	1,793	1,684	712	692	274	9	8,559
Females	2,103	956	852	469	343	202	1	4,926
Total	5,498	2,749	2,536	1,181	1,035	476	10	13,485
Inmates at end of Year—								
Males	2,743	1,161	1,473	561	568	223	16	6,745
Females	2,393	1,020	813	420	286	241	3	5,176
Total	5,136	2,181	2,286	981	854	464	19	11,921
Average Daily Resident—								
Males	} 5,779	2,274	2,523	{ 594 499	625 340	237 268	16 4	} 13,159
Females								
Total	5,779	2,274	2,523	1,093	965	505	20	13,159

(a) Including-relieved.

(b) Included in recovered.

(c) Not available.

(v) *Summary for Five Years, 1918 to 1922.* Returns for the last five years of the number of hospitals in Australia, admissions, patients treated, deaths, and expenditure, are given in the following table. Figures for general hospitals only are tabulated, since the working of "special" institutions is not properly comparable with those which treat every class of case.

GENERAL HOSPITALS.—SUMMARY, AUSTRALIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
Number of institutions ..	393	393	393	404	424
Number of beds ..	17,000	17,390	17,890	18,342	18,969
Admissions during year ..	174,379	193,920	202,053	205,072	209,018
Indoor patients treated ..	184,176	202,929	211,332	215,278	218,209
Deaths ..	12,494	15,758	14,475	13,969	13,485
Expenditure ..	£ 1,543,162	1,798,297	2,099,601	2,332,116	2,441,075

In addition to those admitted to the institutions, there are large numbers of out-patients. The exact number of these cannot be given, but a rough estimate of distinct cases places the total at about 300,000.

(vi) *Revenue and Expenditure.* The revenue and expenditure for the year 1922 were as follow :—

GENERAL HOSPITALS.—REVENUE AND EXPENDITURE, 1922.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
	£	£	£	£	£	£	£	£
Revenue—								
Fees of patients, etc.	149,848	72,820	57,906	51,998	48,216	27,045	503	408,336
Government grants	490,965	73,009	261,109	157,027	82,413	41,424	213	1,106,160
Other ..	433,263	242,682	206,868	57,423	36,036	7,409	..	983,681
Total ..	1,074,076	388,511	525,883	266,448	166,665	75,878	716	2,498,177
Expenditure—								
Salaries and Main-tenance ..	814,313	321,131	443,822	169,841	157,099	54,259	5,386	1,965,851
Buildings ..	154,292	61,636	46,131	62,748	2,554	2,928	199	330,488
Other ..	82,800	2,419	20,719	12,551	6,419	19,828	..	144,736
Total ..	1,051,405	385,186	510,672	245,140	166,072	77,015	5,585	2,441,075

2. *Benevolent and Destitute Asylums.*—(i) *General.* There has been a great increase in recent years in the amount of aid provided for the aged. Two elements, each of them independent of the growth of population, have influenced this increase. One is, that the general age of the community has advanced—the large flow of immigration of sixty and seventy years ago having been mostly of persons in the prime of life; the other is the increased regard paid in all British communities to the well-being of the helpless. In Australia numerous establishments have been founded for the housing and protection of persons no longer able to care for themselves. The institutions are supported by Government and municipal aid, public subscriptions, charity performances, bequests, etc.; and in many cases relatives of indigent and afflicted persons contribute to their maintenance.

The impossibility of an entirely satisfactory statistical tabulation in regard to all forms of charitable aid is especially marked in the case of benevolent institutions, since the conditions under which they have been established in the different centres in Australia have resulted in differences in the classes of cases treated by them. For example, in Western Australia the Home for Destitute Women includes a maternity ward, for which the statistics are not separately kept. Since the chief function of the

institution is aid to the destitute, it has been included amongst benevolent asylums. In Victoria, although nine of the hospitals are also benevolent asylums, they have been classed under hospitals. In South Australia, the Destitute Asylum includes lying-in and children's departments.

(ii) *Principal Institutions.* The principal institutions of this nature in each State are as follows:—

(a) *Government Asylums for the Infirm, New South Wales.* There are five asylums for the infirm maintained by the Government—four for men and one for women. Rookwood, the largest of these, had in 1922 an average number resident of 1,416, Newington 704, and Liverpool 645. At the Cottage Homes, situated at two separate localities in Parramatta, the average number resident was about 485. The State Labour Depot and Refuge at Randwick had 92 inmates during 1922.

(b) *Benevolent Asylums, Victoria.* Besides the asylums attached to hospitals, there are eight institutions in Victoria. In 1921-22, the average daily number of indoor patients was 1,922, and there were 328 distinct cases of outdoor relief.

(c) *Benevolent Asylums, Queensland.* There are four institutions in Queensland, with 1,259 beds. The most important of these is at Dunwich (Stradbroke Island) with 1,141 beds, while there are small institutions at Nundah, Rockhampton, and Toowoomba. At the end of 1922 the inmates of the four institutions numbered 1,180.

(d) *Destitute Asylum, South Australia.* Outside of hospitals and lunatic asylums the destitute of South Australia are dealt with and relieved at the Destitute Asylum and the Aged Men's Home, Beaumont. The former institution includes a children's department. In the asylum the number of inmates at the end of 1922 was 387; in the Beaumont Home it was 71.

(e) *Homes for the Destitute, Western Australia.* There are two homes in Western Australia supported by public funds. The Old Men's Home at Claremont had 597 inmates at the end of 1922, and the Women's Home, Fremantle, which receives children also, had 104 adult inmates.

(f) *Charitable Establishments, Tasmania.* There are two principal Government charitable establishments in Tasmania. The New Town Infirmary and Consumptive Home, with 230 beds, had 208 inmates on 30th June, 1923, and the Home for Invalids, Launceston, with 27 beds, had 27 inmates on the same date.

(iii) *Revenue and Expenditure.* Details regarding revenue and expenditure for the year 1922 are given in the following table:—

BENEVOLENT ASYLUMS.—REVENUE AND EXPENDITURE, 1922.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
	£	£	£	£	£	£	£
Revenue—							
Government aid ..	144,248	21,122	44,683	41,238	13,660	9,801	274,752
Municipal aid ..	..	882	..	..	..	..	882
Public subs., legacies, etc.	3,589	12,752	2,098	29	..	..	18,468
Fees ..	15,715	24,063	..	6,147	10,327	3,763	60,015
Other ..	7,095	7,496	464	2,618	..	1,084	18,757
Total ..	170,647	66,315	47,245	50,032	23,987	14,648	372,874
Expenditure—							
Buildings ..	2,362	2,154	1,988	525	..	442	7,471
Maintenance ..	159,620	53,469	44,618	49,421	23,987	12,639	348,754
Other ..	7,819	1,638	500	59	..	1,567	11,583
Total ..	169,801	62,261	47,106	50,005	23,987	14,648	367,808

3. **Orphanages, Industrial Schools, etc.**—(i) *General.* The organization of charitable effort varies greatly in regard to orphans and waifs. In many institutions, shelter and some form of industrial training are offered to destitute children of all classes whether orphans or not, while some of those styled orphanages do not confine their relief strictly to orphans. The expenditure on orphanages in 1922 was approximately £220,000.

(ii) *Principal Institutions.* The principal institutions in each State are as follows:—

(a) *New South Wales.* The care of destitute and neglected children is entrusted to the State Children's Relief Board, whose officers supervise the welfare of the children and the treatment of them by those to whom they are boarded out. Provision is made for instruction in various trades and callings.

There are also orphanages, farm homes, country homes for children, etc., with upwards of 2,000 children under care.

There are several reformatory and industrial schools maintained by the State. At the Parramatta Industrial School for Girls, to which a Training Home is attached, there were on 31st December, 1922, 167 inmates. At the Farm Home for boys, Gosford, there were 70 inmates at the end of 1922.

(b) *Victoria.* There are ten orphanages in Victoria, with 1,793 beds. The daily average of the inmates was 1,808 in 1921-22. The expenditure in the same year was £44,041.

At the end of 1922 there were two industrial and four reformatory schools in the State. Of these, one in each class is wholly controlled by the Government, being used merely as a receiving and distributing dépôt. The children are sent thence to situations, foster homes, or other institutions dealing with State wards. The other schools are under private management, receiving an allowance for State wards. Many of the reformatory children are placed with friends, or licensed out.

(c) *Queensland.* There are twelve orphanages in Queensland. The number under care on 31st December, 1922, was 1,043, and the expenditure for the year, £31,658.

There are also seven industrial and reformatory schools, which had 93 boys and 72 girls under detention at the end of 1922.

(d) *South Australia.* The State Children's Department exercises a supervision over the probationary and industrial schools and the reformatories. The total number of admissions into these institutions in 1922 was 857. The number of inmates on the 31st December, 1922, was 355, in addition to which a number were placed out, or had been adopted or apprenticed. There were no deaths amongst children in industrial schools and reformatories, and of those placed out and in other institutions four died.

There are three orphan asylums. The number under care during 1922 was 333, and the number of inmates on 31st December, 1922, was 261. There were no deaths during the year, and the expenditure amounted to £3,770.

(e) *Western Australia.* In Western Australia there were, at 30th June, 1923, five orphanages, five orphanages and industrial schools, and two industrial schools, containing 375 boys and 305 girls. There were also 10 boys and 19 girls at the Government Receiving Dépôt at the 30th June, 1923.

(f) *Tasmania.* There are four industrial schools and one orphanage under benevolent institutions in the State. Admissions in 1922-33 numbered 39, and average daily number of inmates was 187. No deaths occurred during the year. The expenditure was £7,247.

The Newtown Training School for boys had a daily average of 60 during 1921-22.

(iii) *Transactions of State Departments.* The following table summarizes the transactions in 1922 of State Departments for the relief of neglected children :—

STATE RELIEF OF NEGLECTED CHILDREN.—SUMMARY, 1922.

Particulars.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas. (b)	Total.
Number of children in institutions, boarded out, or on probation—							
Males	2,729	3,402	1,565	787	490	286	9,259
Females	2,349	2,766	1,243	693	472	230	7,753
Total	5,078	(c) 6,168	2,808	1,480	962	516	17,012
Number of children boarded out with their own mothers—							
Males	11,852	7,651	2,484	164	95	164	25,240
Females			2,431	138	111	150	
Total	11,852	7,651	4,915	(f)302	206	(f)314	25,240
Total	16,930	13,819	7,723	d1,782	1,168	830	42,252
	£	£	£	£	£	£	£
Gross cost to State of children's relief ..	474,621	308,565	194,689	48,556	e28,997	23,692	1,079,120
Receipts, from parents' contributions, etc. ..	11,210	13,125	12,383	5,291	5,042	1,682	48,733
Net cost	463,411	295,440	182,306	43,265	e23,955	22,010	1,030,387

(a) For year ending 5th April following. (b) For the year ended 30th June, 1923. (c) Excluding 33 incapacitated children maintained by the State. (d) Excluding 1,826 children (904 males and 922 females) placed with licensed foster-mothers and others. (e) Maintenance State children only. (f) Total number of boarded-out children.

4. *Lepers.*—Lazarets for the treatment of lepers have been established in New South Wales (Little Bay); Queensland (Peel Island, near Brisbane, and Dayman Island, Torres Strait); and the Northern Territory (Mud Island). Two deaths occurred in the latter in the year 1921–22. Quarantine and isolation stations have also been used for the segregation of patients. Up to 1915, 545 cases of leprosy had been recorded in Australia. Later information is not available, but between the calendar years 1916 to 1922 there were 40 deaths from the disease. At the end of 1922 there were 21 lepers in the Little Bay lazaret.

5. *Hospitals for the Insane.*—(i) *General.* The method of compiling insanity statistics has been fairly uniform throughout the States, but differences in diagnosis of the early stages of the disease introduce an element of uncertainty which considerably affects the value of comparisons.

(ii) *Hospitals, Staff, etc., 1922.* Particulars regarding the number of institutions, medical and nursing staff, and accommodation are given in the appended table for the year 1922 :—

HOSPITALS FOR THE INSANE.—NUMBER, STAFFS, ACCOMMODATION, 1922.

Particulars.	N.S.W.	Vic.(a)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Number of Institutions—							
Government	10	9	3	2	3	1	28
Private	2	(b) 5	..	..	1	..	8
Total	12	14	3	2	4	1	36
Medical Staff—							
Males	24	21	6	4	4	2	61
Females	1	..	1	1	..	..	3
Total	25	21	7	5	4	2	64
Nursing Staff and Attendants—							
Males	676	586	231	93	122	58	1,766
Females	568	543	180	90	68	66	1,515
Total	1,244	1,129	411	183	190	124	3,281
Accommodation—							
Number of dormitories	(f)	(c) 1,382	557	507	44	407	(f)
Capacity, in cubic feet	(f)	(c) 3,688,853	1,922,291	889,389	714,714	878,590	(f)
Number of beds	(c) 6,769	5,510	2,584	1,313	1,186	685	13,047
Cubic feet to each bed	{ (d) (c) 600 } { (e) (c) 1,000 }	666	744	677	{ (e) 605 } { (g) 1,684 }	1,283	(f)

(a) Exclusive of Receiving House, Royal Park, and of the Receiving Wards at Bendigo and Geelong Hospitals. (b) There are five private licensed houses in Victoria, in which there were 104 cases at the end of 1922. Complete figures for these private asylums are not available. (c) Government hospitals only. (d) Ordinary dormitory. (e) Hospital dormitory. (f) Information not available. (g) Private hospitals.

(iii) *Patients, 1922.* Information regarding patients treated, deaths, etc., for the year 1922 is given in the table hereunder :—

HOSPITALS FOR THE INSANE.—PATIENTS, DEATHS, ETC., 1922.

Particulars.	N.S.W.	Vic.(a)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Admissions and re-admissions during year—							
Males	667	473	325	192	88	38	1,783
Females	575	403	208	152	56	46	1,443
Total	1,242	879	533	344	144	84	3,226
Discharges—Recovered—							
Males	274	87	138	56	29	8	592
Females	258	91	94	56	18	14	534
Total	532	181	232	112	47	22	1,126
Relieved and unrelieved—							
Males	91	69	13	52	83	8	316
Females	66	49	7	49	27	8	206
Total	157	118	20	101	110	16	522

(a) Exclusive of inmates of the Receiving House, Royal Park, and of Receiving Wards attached to the hospitals at Bendigo and Geelong, and of five private licensed houses.

HOSPITALS FOR THE INSANE.—PATIENTS, DEATHS, ETC., 1922—*continued.*

Particulars.	N.S.W.	Vic.(a)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Absconders not retaken—							
Males	12	46	..	1	..	..	59
Females	1	3	..	..	..	..	4
Total	13	49	..	1	..	..	63
Deaths—							
Males	335	231	134	62	39	12	813
Females	184	145	58	34	14	19	454
Total	519	376	192	96	53	31	1,267
Number of patients on books at end of year—							
Males	4,440	2,909	1,785	677	739	302	10,852
Females	3,551	3,088	1,057	547	340	297	8,880
Total	7,991	5,997	2,842	1,224	1,079	599	19,732
Average daily number resident—							
Males	4,230	2,620	1,776	667	731	293	10,317
Females	3,175	2,727	1,014	543	350	295	8,104
Total	7,405	5,347	2,790	1,210	1,081	588	18,421
Number of patients on books at end of year per 1,000 of population—							
Males	4.20	3.69	4.29	2.63	4.04	2.75	3.86
Females	3.66	3.85	3.81	2.14	2.12	2.72	3.33
Persons	3.93	3.77	3.61	2.39	3.15	2.74	3.51
Average number of patients resident in hospitals for insane per 1,000 of mean population—							
Males	3.87	3.38	4.30	2.63	4.04	2.71	3.64
Females	3.01	3.43	2.74	2.15	2.20	2.76	2.96
Persons	3.45	3.40	3.57	2.39	3.20	2.73	3.31

(a) Exclusive of inmates of the Receiving House, Royal Park, and of Receiving Wards attached to the hospitals at Bendigo and Geelong, and of five private licensed houses.

In some States persons well advanced towards recovery are allowed to leave the institutions and reside with their relatives or friends, but they are under supervision and their names are kept on the books. The figures for admissions, etc., include absconders captured and re-admitted. Generally, very few escapees succeed in avoiding capture.

(iv) *Summary for Australia, 1918 to 1922.* The table hereunder gives a summary for hospitals for the insane in Australia for each of the five years 1918 to 1922. Licensed houses (except as regards expenditure) are included in the totals for New South Wales and Victoria, in the latter the figures are exclusive of reception houses, and observation wards in gaols:—

HOSPITALS FOR THE INSANE.—SUMMARY, AUSTRALIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
Number of institutions (a)	34	35	35	35	36
Number of beds	17,176	17,308	17,468	17,224	18,047
Admissions	3,192	3,323	3,501	3,254	3,226
Discharged as recovered, relieved, etc.	1,406	1,565	2,302	1,723	1,648
Deaths	1,383	1,699	1,483	1,473	1,267
Expenditure	£ 951,439	1,116,676	1,414,055	1,398,148	1,303,907

(a) Exclusive of receiving wards at general hospitals, and including licensed houses for insane in Victoria.

(v) *Number of Insane, 1918 to 1922.* The proportion of insane, as well as the total number returned as under treatment, has changed very little during recent years. The next table gives the number of insane under official care in Australia and the proportion per 1,000 of population for the last five years.

INSANE PERSONS IN INSTITUTIONS, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
NUMBER.					
New South Wales ..	7,581	7,544	7,889	7,970	7,991
Victoria ..	5,915	5,846	5,830	5,842	5,997
Queensland ..	2,623	2,703	2,745	2,753	2,842
South Australia ..	1,153	1,187	1,194	1,190	1,224
Western Australia ..	1,123	1,148	1,166	1,104	1,079
Tasmania ..	575	578	578	584	599
Total ..	18,970	19,006	19,402	19,443	19,732
PER 1,000 OF POPULATION.					
New South Wales ..	3.86	3.70	3.77	3.75	3.93
Victoria ..	4.12	3.89	3.82	3.77	3.77
Queensland ..	3.72	3.66	3.65	3.58	3.61
South Australia ..	2.52	2.46	2.43	2.37	2.39
Western Australia ..	3.62	3.51	3.52	3.48	3.15
Tasmania ..	2.83	2.75	2.72	2.67	2.74
Australia ..	3.73	3.58	3.58	3.53	3.61

For the period embraced in the tables Victoria shows the highest rate of insanity, roughly 1 in 260 persons. It is stated that this is chiefly owing to the proportionately greater number of the aged in that State. On the other hand, in South Australia a considerably lower insanity rate has prevailed, averaging about 1 in 420, Tasmania being next with an average of about 1 in 365.

A more rational attitude towards the treatment of mental cases has resulted in a greater willingness in recent years to submit afflicted persons to treatment at an earlier stage. Hence an increase in the number of recorded cases does not necessarily imply an actual increase in insanity and the small increment in the numbers in the first of the immediately preceding tables is probably, if not solely, due to this circumstance.

(vi) *Causes of Insanity.* The proportion of causes of insanity to the total ascertained causes in Australia in the five years 1918 to 1922 shows that hereditary influence has been the chief factor, more than one-fifth of the total ascertained causes coming under this head. Domestic troubles, adverse circumstances, etc., have also been a fruitful source. Cases due to intemperance in drink range from one in nine to one in thirteen.

INSANITY.—PERCENTAGE OF CAUSES, AUSTRALIA, 1918 TO 1922.

Causes, Previous History, etc.	1918.	1919.	1920.	1921.	1922.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Domestic trouble, adverse circumstances, mental anxiety ..	9.9	8.4	9.3	10.6	12.6
Intemperance in drink ..	10.2	8.7	10.9	7.7	8.9
Hereditary influence, ascertained; congenital defect, ascertained ..	22.1	21.1	23.7	21.2	21.8
Pregnancy, lactation, parturition and puerperal state, uterine and ovarian disorders, puberty, change of life ..	4.9	5.8	6.0	7.5	7.6
Previous attacks ..	14.6	12.4	12.5	11.5	12.4
Accident, including sunstroke ..	1.5	1.8	1.7	0.8	1.3
Old age ..	9.4	8.1	10.6	9.2	11.7
Veneral disease ..	(a)	(a)	7.1	5.6	3.3
Other causes ascertained ..	27.4	33.7	18.2	25.9	20.4
All ascertained causes ..	100.0	100.0	100.0	100.0	100.0

(a) Not available.

(vii) *Length of Residence in Hospital.* (a) *New South Wales.* Particulars are not available regarding the average length of residence in hospitals during the year of persons who died or were discharged. There are three State Reception Houses, where suspected persons are confined for observation, being subsequently either discharged or transferred to lunatic asylums. In one of the gaols, observation wards have been instituted with similar functions.

(b) *Victoria.* Particulars are not available as to the average length of residence in hospitals during the year of persons who died or were discharged. There are lunacy wards in two of the general hospitals; also a State receiving house where persons are placed for observation, and subsequently discharged or transferred to asylums.

(c) *Queensland.* The average residence in the institutions of those who died during the year was 7 years 135 days for males and 8 years 322 days for females; and of those who were discharged, 2 years for males and 358 days for females. There are three reception houses for insane, which act as depots to which patients are sent with a view to determining whether their mental illness is of a merely temporary character, easily relieved, or is of such a nature as to need further treatment at the State asylums.

(d) *South Australia.* The average residence of those who died was 5 years and 5 months for males and 8 years 9 months for females; of those discharged, 1 year and 7 months for males and 2 years and 2 months for females.

(e) *Western Australia.* The period of residence of those who died during the year averaged about 5 years and 3 months for males and 6 years 5 months for females; of those who were discharged, 3 years and 10 months for males and 3 years and 4 months for females.

(f) *Tasmania.* The period of residence of those who died was 10 years and 5 months for males and 7 years 1 month for females; that of those discharged, 1 year and 2 months for males and 2 years and 2 months for females.

(viii) *Revenue and Expenditure, 1922.* The revenue of Government asylums is small in comparison with their cost, and consists chiefly of patients' fees. The proportion of expenditure borne by the State amounts to about 87 per cent.

HOSPITALS (GOVERNMENT) FOR THE INSANE.—FINANCES, 1922.

Particulars.	N.S.W. (a)	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
Revenue (Exclusive of Government Grants)—							
Fees of Patients	69,614	34,164	21,354	14,014	9,032	6,503	154,681
Other	2,412	4,552	1,189	653	5,582	1,346	15,714
Total	72,026	38,716	22,543	14,667	14,594	7,849	170,395
Expenditure—							
Salaries	284,106	190,395	110,174	35,321	50,469	24,768	695,233
Maintenance	212,779	15,540	65,434	41,227	37,409	22,659	608,674
Buildings .. .. .	..	18,881	8,296	15,374		374	
Other	28,549	5,352	800	..		..
Total	525,434	366,168	184,704	91,922	87,878	47,801	1,303,907

(a) Year ended 30th June, 1923.

6. *Protection of Aborigines.*—For the protection of the aboriginal Australian race there are institutions, under the supervision of Aborigines Boards, where the blacks are housed and encouraged to work, the children receiving elementary education. The work is usually carried on at mission stations, but many of the natives are nomadic, and receive food and clothing when they call, whilst others but rarely come under the notice of the Boards. The native race is extinct in Tasmania. The approximate annual expenditure on maintenance, etc., is—New South Wales, £35,000; Victoria, £4,000; Queensland, £40,000; South Australia, £25,000; Western Australia, £35,000; Northern Territory, £8,000; total for Australia, £147,000. In 1922 in New South Wales

the average number receiving monthly aid was 1,957; in Victoria there were 325 under the care of the Aborigines Protection Board; in Queensland, at the end of 1922, there were 3,437 aborigines at the mission stations; in South Australia, in 1922, there were 764 inmates at mission stations, while in Western Australia the aborigines and half-castes in the native institutions in the year 1922-23 numbered 490. At the mission stations in the Northern Territory about 300 were in residence, but casual assistance and medical attendance are given to large numbers of natives every year.

7. **Royal Life Saving Society.**—In each of the State capitals, "centres" of the Royal Life Saving Society have been established. Life preservation is the object of the Society, and its immediate aims are (a) educative and (b) remedial. The encouragement of swimming and life-saving in schools, colleges, clubs, etc., will bring about a more widespread knowledge of these necessary matters and there is increasing provision of life-belts, reels, lines, and other first-aid appliances on ocean beaches, wharves, and other suitable places. Upwards of 3,000 certificates of proficiency in various grades are issued annually after examination.

8. **Royal Humane Society.**—The Royal Humane Society of Australasia has for its objects (a) to grant awards for skill, promptness, and perseverance in life saving; (b) to provide assistance in cases of danger and apparent death; (c) to restore the apparently drowned; (d) to collect and circulate the latest information regarding approved methods and apparatus for life saving. Awards of medals and certificates are made numbering about 100 annually. Upwards of 350 lifebuoys have been provided at various places on the coasts, rivers, lakes, and reservoirs in the various States. Swimming is encouraged amongst school children, and awards are made for proficiency.

9. **Other Charitable Institutions.**—Owing to variety of name and function of other charitable institutions it has been found impracticable to give detailed results. The aid given in kind—food, clothing, tools of trade, etc.—is considerable, whilst the shelter and treatment afforded range from a bed for a night for casual callers in establishments ministering minor charity, to indoor treatment over long periods in those that exist for the relief of the aged and infirm. The institutions not so particularized include asylums for the deaf, dumb, and blind, maternity institutions and infant homes, homes for the destitute and aged poor, industrial colonies, night shelters, crèches, homes of hope, rescue homes, free kindergarten and ragged schools, auxiliary medical charities, free dispensaries, benevolent societies and nursing systems, ambulance and health societies, boys' brigades, humane and animals' protection societies, prisoners' aid associations, shipwreck relief societies, bush fires and mining accident relief funds, etc.

10. **Total Expenditure on Charities.**—The table below gives the total expenditure on charities (excluding Old-age pensions) in each of the last five years, the figures for the various States being compiled, as far as possible, on the same basis:—

TOTAL EXPENDITURE ON CHARITIES, 1918 TO 1922.

State or Territory.	1918.	1919.	1920.	1921.	1922.
	£	£	£	£	£
New South Wales	1,596,239	1,856,751	2,391,057	2,540,606	2,532,039
Victoria	972,141	1,042,295	1,230,566	1,459,163	1,521,278
Queensland	646,384	796,688	933,547	1,017,817	975,028
South Australia	305,580	348,268	416,303	520,879	551,596
Western Australia	348,119	398,901	451,738	475,802	457,661
Tasmania	137,654	161,764	199,206	206,513	216,580
Northern Territory	4,734	6,830	6,178	6,265	5,585
Total	4,010,851	4,611,497	5,628,595	6,227,045	6,259,767

The figures include expenditure from Government and private sources of all institutions and societies affording relief, for which particulars are available.

CHAPTER XII.

PUBLIC HYGIENE.

§ 1. Public Health Legislation and Administration.

1. **General.**—(i) *Commonwealth.* The Commonwealth Department of Health, which was created on the 3rd March, 1921, and commenced its administration as from the 7th March, 1921, is controlled by the Commonwealth Minister of Health. The Department was formed by the extension and development of the Commonwealth Quarantine Service, the Director of Quarantine becoming the Commonwealth Director-General of Health and Permanent Head of the Department.

The functions of the Department are as follows:—

The administration of the Quarantine Act: The investigation of causes of disease and death and the establishment and control of laboratories for this purpose: The control of the Commonwealth Serum Laboratories and the commercial distribution of the products manufactured in those laboratories: The methods of prevention of disease: The collection of sanitary data, and the investigation of all factors affecting health in industries: The education of the public in matters of public health: The administration of any subsidy made by the Commonwealth with the object of assisting any effort made by any State Government or public authority directed towards the eradication, prevention, or control of any disease: The conducting of campaigns of prevention of disease in which more than one State is interested: The administrative control of the Australian Institute of Tropical Medicine: The administrative control of infectious disease amongst discharged members of the Australian Imperial Forces: Generally to inspire and co-ordinate public health measures: Any other functions which may be assigned to it.

The Department controls the Australian Institute of Tropical Medicine at Townsville, and the campaign in connexion with hookworm disease. These matters, together with the control exercised by the Department over malaria and bilharziasis introduced by returned soldiers and sailors, are dealt with separately in subsequent pages in this chapter (see § 5). Reference to the Commonwealth Serum Laboratories will be found in § 4, 5.

(ii) *New South Wales.* The Department of Public Health is controlled by the Minister of Public Health. The Director-General of Public Health is the chief executive officer, and is assisted by various staffs—medical, bacteriological, chemical, veterinary, dairy inspection, meat inspection, sanitary, pure food, and clerical. The work of the Department extends over the whole of the State, and embraces all matters relating to public health and the general medical work of the Government, the Director-General of Public Health holding the position of Chief Medical Officer of the Government as well as being permanent head of the Department.

The Board of Health has certain statutory duties imposed upon it by various Acts of Parliament, and the Director-General is President of the Board. These duties consist largely in supervision of the work of local authorities (Municipal and Shire Councils), so far as that work touches upon public health matters connected with the following Acts:—Public Health Act 1902, Public Health (Amendment) Acts 1915 and 1921, Dairies Supervision Act 1901, Noxious Trades Act 1902, Cattle Slaughtering and Diseased Animals and Meat Act 1902, Pure Food Act 1903, Private Hospitals Act 1908, and Venereal Diseases Act 1918. The Board further possesses certain powers connected with public health matters under the Local Government Act 1919. The Board of Health is a nominee Board, created in 1881 and incorporated in 1894.

The Director-General of Public Health acts independently of the Board of Health as regards the State hospitals and asylums and the various public hospitals throughout the State which receive subsidies from the Government.

(iii) *Victoria*. In this State the Public Health Acts 1915, 1919, and 1922 are administered by a Commission composed of the Chief Health Officer and six members appointed by the Governor-in-Council. The medical and sanitary staffs of the Commission consist of (a) the chief health officer, who is also chairman, (b) six district health officers and three assistant health officers, (c) chief sanitary engineer and assistant sanitary engineer, three building surveyors and four building inspectors, and (d) ten health inspectors. The main function of the Commission is to enforce the execution of the Health Acts by the local municipalities, but it has been found advisable to supplement this supervisory function by an active policy of inspection of the sanitary condition of various districts, and the sampling of articles of food. The supervision of the sanitary conditions of milk production is under the Dairy Supervision Branch of the Department of Agriculture, but distribution is supervised by the Commission. Acts administered by the Department of Public Health are:—The Health Acts (in which are now included the Adulteration of Wine Act, the Pure Food Act, the Meat Supervision Act) and the Cemeteries Act, which includes the Cremation Act. The Department administers also the Midwives Act, the Goods Act, the Venereal Diseases Act, the Infectious Diseases Hospital Act, the Heatherton Sanatorium Act, the Masseurs Act, and the Nurses Registration Act.

(iv) *Queensland*. The Public Health Acts 1900 to 1922 are administered by the Commissioner of Public Health under the Home Secretary. The executive staff of the Department includes a health officer, a medical officer for the tuberculosis bureau, two medical officers for venereal diseases, fourteen food and sanitary inspectors, and one staff nurse. There are, in addition, rat squads in Brisbane. Northern offices, in charge of inspectors, are located at Rockhampton, Townsville, and Cairns, whilst another inspector is stationed at Toowoomba. A laboratory of microbiology and pathology, in charge of a medical director, is controlled by the Department, and performs a wide range of microbiological work for the assistance of medical practitioners and the Department.

One function of the Department is to stimulate and advise local sanitary authorities on matters pertaining to the Health Acts, and, where necessary, to rectify or compel rectification, at the cost of the local authority, of sanitary evils produced by local inefficiency or apathy. Its powers and responsibilities were widely increased by the Amending Acts of 1911, 1914, 1917, and 1922.

(v) *South Australia*. The Central Board of Health consists of five members, three of whom (including the chairman, who is permanent head of the Department) are appointed by the Governor, while one each is elected by the city and suburban local Boards and the country local Boards. The Health Act 1898 to 1918 provides that the municipal and district councils are to act as local Boards of Health for their respective districts. There are 188 of these local Boards under the general control and supervision of the Central Board. A chief inspector and one inspector under the Health and Food and Drugs Acts periodically visit the local districts, and see generally that the Boards are carrying out their duties. There is also a chief inspector of food and drugs (under the Food and Drugs Act 1908 to 1922), who, in company with an analyst, visits country districts, and takes samples of milk, which are analysed on the spot. There are three nurse inspectors employed in advising and assisting local Boards in connexion with outbreaks of infectious diseases. In the outlying districts there are sixteen inspectors directly responsible to the Board. The Venereal Diseases Act 1920, which provides for the prevention and control of venereal diseases, has not yet been proclaimed.

(vi) *Western Australia*. The legislation in this State comprises the Health Act 1911, with the amending Acts of 1912 (2), 1915, 1918, and 1919, which have been partly consolidated and reprinted as "The Health Act 1911-19." Further amending Acts were passed in 1920 and 1921. The central authority is the Department of Public Health, controlled by a Commissioner, who must be a qualified medical practitioner. The local authorities comprise:—(a) Municipal Councils, (b) Road Boards where the boundaries of a Health District are coterminous with those of a Road District, and (c) Local Boards of Health,

composed of persons appointed by the Governor. These local Boards are utilized only where neither Municipal Councils nor Road Boards are available. Generally speaking, the Act is administered by the local authorities, but the Commissioner has supervisory powers, also power to compel local authorities to carry out the provisions of the Act. In cases of emergency, the Commissioner may exercise all the powers of a local health authority in any part of the State.

All the usual provisions for public health legislation are contained in the Act, and, in addition, provision is made for the registration of midwifery nurses, the medical examination of school children, the control of public buildings (*i.e.*, theatres, halls, etc.), the control of food, and the provision of standards therefor. The amending Acts of 1915 and 1918 deal exclusively with venereal diseases.

(vii) *Tasmania.* The office of Director of Public Health was established under the Director of Public Health Act 1920, and the person holding the office of Chief Health Officer under the Public Health Act 1903 at the time of the passing of the first-named Act is the Director of Public Health, and is also the permanent head of the Department. This officer has very wide powers, and in the event of the appearance of dangerous infectious disease (small-pox, plague, etc.) in the State, is vested with supreme power, the entire responsibility of dealing with such an outbreak being taken over by him from the local authorities. Local executive is vested in local authorities, who possess all legal requirements for the efficient sanitary regulation of their districts. Controlling and supervisory powers over these bodies are possessed by the Department of Public Health, and many of the powers conferred upon them may be converted into positive duties. One function of the Department is to advise local authorities on matters pertaining to the Health Act, and, where necessary, to rectify sanitary evils produced by local inefficiency or apathy. The Department has four full-time inspectors, who assist and instruct the local sanitary inspectors, but full-time district health officers are not provided for. The number of local authorities under the Public Health Act has been reduced to forty-nine since the Local Government Act 1906 came into force. All parts of Tasmania are now furnished with the administrative machinery for local sanitary government.

The Public Health Acts 1917 and 1918 deal with venereal diseases. Regulations under the Public Health Act 1903, as amended, for checking or preventing the spread of any infectious disease, came into force in February, 1918.

The Places of Public Entertainment Act 1917 is administered by the Director of Public Health under the Minister. This Act provides, *inter alia*, for the licensing and regulation of places of public entertainment, for the appointment of a censor or censors of moving pictures, and for the licensing of cinematograph operators. Comprehensive regulations have been framed under the Act. Inspectors under the Public Health Act 1903 are Inspectors of Places of Public Entertainment under this Act.

§ 2. Inspection and Sale of Food and Drugs.

1. **General.**—Under the Acts referred to later and the regulations made thereunder, the importation of articles used for food or drink, of medicines, and of other goods enumerated, is prohibited, as also is the export of certain specified articles, unless there is applied to the goods a "trade description" in accordance with the Act. Provision is made for the inspection of all prescribed goods which are imported or which are entered for export.

2. **Commonwealth Jurisdiction.**—Under Section 51 (i) of the Commonwealth Constitution Act 1900, the Commonwealth Parliament has power to make laws with respect to trade and commerce with other countries and among the States. By virtue of that power, the Federal Parliament passed the Commerce (Trade Descriptions) Act 1905, to which reference has already been made in Chapter VI, p. 221.

3. State Jurisdiction.—The inspection and sale of food and drugs are also dealt with in each State, either under the Health Acts or under Pure Food Acts. This work is carried out in each State by the Executive Officer of the Health Department. There is, in addition, a number of Acts dealing with special matters, such as the adulteration of wine and the oversight of bread and meat supply. The supply and sale of milk are also subject to special regulations or to the provisions of special Acts.

The general objects of these Acts are to secure the wholesomeness, cleanliness, and freedom from contamination or adulteration of any food, drug or article; and the cleanliness of receptacles, places, and vehicles used for their manufacture, storage or carriage. The sale of any article of food or any drug which is adulterated or falsely described is prohibited, as also is the mixing or selling of food or drugs so as to be injurious to health.

Power is given to any authorized officer to enter any place for the purpose of inspecting any article to be used as a food or drug, and also to inspect articles being conveyed by road, rail or water. The officer may take samples for analysis or examination, and may seize for destruction articles which are injurious to health or unwholesome. Special provision is generally made in the Acts with regard to the sale of preservatives and disinfectants.

In every State except Queensland, Advisory Committees have been appointed for the purpose of prescribing food standards and for making recommendations generally with a view to carrying out the provisions of the Acts. The duty of enforcing these regulations is entrusted to the local authorities.

4. Food and Drug Standardization.—Conferences with the object of securing uniformity in these matters were held in Sydney in 1910, and in Melbourne in 1913. The resolutions of the latter conference were submitted to the Premiers' Conference held in Melbourne in March, 1914, and in conformity with the determinations arrived at, each State issued regulations which have had the effect of ensuring uniformity throughout Australia.

5. Sale and Custody of Poisons.—In New South Wales, Victoria, Western Australia and Tasmania, the enactments for regulating the sale and use of poisons are administered by the Pharmacy Boards in the respective States. In South Australia, the sale of poisons is provided for by regulations under "The Food and Drugs Act 1908," administered by the Central Board of Health. In Queensland, the sale of poisons is under the control of the Health Department.

In New South Wales and Tasmania the Government subsidizes the Pharmacy Board, in order to enable it to carry out the provisions of the Poisons Act. The subsidy to the Victorian Board was withdrawn in March, 1921, provision having been made for the payment of a 10s. licence fee under the Poisons Act 1920.

No persons, other than legally qualified medical practitioners and registered pharmaceutical chemists, are permitted to sell poisons, without special licence from the bodies administering the legislation in the respective States. These licences are issued to persons in business distant from four to five miles from a registered chemist, on production of certificates from medical practitioners, police, or special magistrates or justices as to the applicant's character and fitness to deal in poisons. Annual licence fees, ranging from 5s. to 40s., are charged. New poisons regulations were approved in Queensland on the 1st April, 1920, amongst which are stringent restrictions on the sale of cyanide of potassium. A revised list of standard poisons was gazetted in Western Australia in December, 1922.

Special conditions attaching to the sale of poisons were alluded to on p. 1055 of Official Year Book No. 12.

Partial exemptions from the regulations are made in some States in the case of sales of poisons for agricultural, horticultural and photographic purposes, in so far that any person may sell such poisons subject to the restrictions as to the class of container and the manner in which they may be sold. The sale of what are generally known as industrial poisons—such as sulphuric acid, nitric acid, hydrochloric acid, soluble salts of oxalic acid, etc.—is governed by regulations, as also is the sale of poisons for the destruction of rats,

vermin, etc. Under the existing laws these poisons may, in most of the States, be sold by any one. The Victorian Parliament, in December, 1920, passed an amending Poisons Act, in which the word "wholesale" has for the first time been defined as meaning "sale or supply for the purposes of re-sale," providing for an annual fee of 10s. and the issuing of licences to dealers in exempted poisons. A new principle is introduced into the Victorian Poisons Act of 1920. Certain drugs are declared to be "potent drugs" and may be sold by pharmaceutical chemists only. These drugs include acetanilid, adrenalin, oil of tansy, pituitary extract, thyroid gland preparations, and any serum or vaccine for human use. Under the Victorian "Dangerous Drugs Regulations, 1922," which came into effect on the 1st January, 1923, further restrictions were imposed on the manufacture and sale of habit-forming drugs such as morphine, opium, heroin, cocaine, veronal, etc.

§ 3. Supervision of Dairies, Milk Supply, etc.

1. **General.**—In Official Year Book No. 12 and preceding issues, allusion is made in general terms to the legislation in force in the various States to ensure the purity of the milk supply and of dairy produce generally, but limits of space preclude the repetition of this information in the present issue.

2. **Number of Dairy Premises Registered.**—The following table shows, so far as the particulars are available, the number of dairy premises registered and the number of cattle thereon. Compulsory registration is not in force throughout the whole area of the various States.

DAIRY PREMISES REGISTERED, AND CATTLE THEREON, 1923.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust. (b)	Tasmania.
Premises registered ..	22,194	16,215	(a)18,000	1,502	929	(c)
Cattle thereon ..	906,131	235,607	500,000	8,925	11,079	(c)

(a) Approximate number of dairies operating.

(b) For year 1921.

(c) Not available.

3. **New South Wales.**—The provisions of the Dairies Supervision Act 1901 extend to the whole of the Eastern and Central Divisions and to all important dairying districts further inland. Other districts are brought under the operation of the Act by proclamation from time to time. Every dairyman, milk vendor, and dairy factory or creamery proprietor is required under penalty to apply for registration to the local authority for the district in which he resides, and also to the local authority of every other district in which he trades. Registration must be applied for prior to commencing trade, and must be renewed annually. The Chief Dairy Inspector is in charge of all inspectorial work under the Dairies Supervision Act 1901, and has assisting him fourteen qualified dairy inspectors, each in charge of a district. During 1923, samples of milk numbering 15,360, and of food and drugs numbering 415 were taken from the vendors for examination, and 11,910 dairy premises were inspected. Where necessary, warnings and prosecutions followed. A sum of over £3,000 was imposed in fines for adulteration, want of cleanliness, etc.

4. **Victoria.**—The registration, inspection and supervision of dairies, dairy farms, dairy produce, milk stores, milk shops, milk vessels, dairy cattle and grazing grounds are provided for by the Dairy Supervision Act 1915, and the Milk Supply Act 1922, administered by the Minister of Agriculture. Under the Health Act, however, the Department of Public Health is empowered to take samples of food (including milk, cream, butter, cheese, and other dairy products) for examination or analysis, and to institute prosecutions in case of adulterated or unwholesome food. During the first six months of 1922, 427 samples of milk were analysed by the Public Health Department. By the end of the year 1922, 117 municipal districts, comprising about one-third of the

area of the State, had been brought under the operation of the Dairy Supervision Act. The municipal councils have the option of carrying out the administration of the Act or of deciding that the work should devolve upon the Department of Agriculture; up to the present all the municipalities in which the Act has been proclaimed have elected for Departmental administration.

The Milk Supply Act 1922 provides for the appointment of a Milk Supply Committee with power to issue regulations to govern the milk supply of the metropolis, and to disseminate information concerning the best methods of handling the product.

The Council of any metropolitan municipality, or a group of councils acting together may establish depots at which milk may be bought, treated, and sold. The Committee may, however, issue certificates authorizing persons to sell milk, but, in an area in which there is a municipal depot, no milk may be sold unless it has been treated in a depot or, by approved methods, in a factory. Milk sold in containers must have the grade specified on the label. A laboratory is to be established to carry out researches in matters relating to milk.

5. **Queensland.**—The control and supervision of the milk supply, of dairies, and of the manufacture, sale, and export of dairy produce are provided for by the Dairy Produce Act 1920, administered by the Department of Agriculture and Stock. This Act and the regulations made thereunder apply only to prescribed areas which comprise the whole of the coastal district from Rockhampton down to the New South Wales border, and the Darling Downs, Maranoa, Mackay, and Cairns districts. In certain proclaimed areas the sale of milk is restricted to persons licensed under the Milk Sellers' Regulations of 1917. Milk for sale is supervised by inspectors of the Health Department under the Health Acts 1900–1922. During the year ended 30th June, 1923, 764 samples of milk were analysed.

6. **South Australia.**—The Food and Drugs Act 1908, and the Regulations made thereunder, provide for the licensing of vendors of milk, and the registration of dairies, milk stores and milk shops. The Metropolitan County Board carries out the requirements of the metropolitan area. In the country, the majority of local authorities have not made statutory provision for the licensing of vendors of milk and the registration of dairy premises; and, in consequence, the Central Board of Health provides for such under the Act.

7. **Western Australia.**—Under the provisions of the Health Act control of dairies throughout the State is in the hands of the Public Health authorities. The premises of dairymen and milk vendors must be registered by a local authority. The inspectors under the Act supervise the sanitary condition of the premises, the examination of herds being carried out for the Health Department by officers of the Department of Agriculture. Inspection of herds is made at regular intervals, and the tuberculin test is applied in cases of suspected disease.

8. **Tasmania.**—Local authorities are responsible for the dairies in their respective districts. By-laws for the registration and regulation of dairies have been drafted by the Public Health Department, and in the majority of cases have been adopted by the local authorities. By the Food and Drug Act, which came into force in March, 1911, milk sampling is carried out by the local authorities. During 1913, attention was drawn by circular to the requirements of local authorities with regard to dairies, and a special report is now required before licences are granted. An Act also provides for the registration and inspection of dairies and other premises where dairy produce is prepared, and regulates the manufacture, sale, and export of such produce.

§ 4. Prevention and Control of Infectious and Contagious Diseases.

1. **General.**—The provisions of the various Acts in regard to the compulsory notification of infectious diseases and the precautions to be taken against the spread thereof may be conveniently dealt with under the headings—Quarantine; Notifiable Diseases, including Venereal Diseases; and Vaccination.

2. Quarantine.*—(i) General. The Quarantine Act is administered by the Commonwealth Department of Health, and uniformity of procedure has been established in respect of all vessels, persons, and goods arriving from oversea ports or proceeding from one State to another, and in respect of all animals and plants brought from any place outside Australia. In regard to inter-state movements of animals and plants, the Act becomes operative only if the Governor-General be of opinion that Federal action is necessary for the protection of any State or States; in the meantime the administration of inter-state quarantine of animals and plants is left in the hands of the States. The Commonwealth possesses stations in each State for the purposes of human and also of animal quarantine.

(ii) *Administration of Act.* The administration of the Act in respect of the general division, i.e., vessels, persons, and goods, and human diseases, is under the direct control of the Commonwealth in all States except Tasmania. A medical chief quarantine officer, with assistant quarantine officers, has been appointed in each State. This officer is charged with responsible duties, and is under the control of the Director-General of Health. In Tasmania, the chief health officer of the State acts as chief quarantine officer, and payment is made to the State for his services. The administration of the Act in the Northern Territory has been combined with that of Queensland under the chief quarantine officer for the North-eastern division. The administration of the Acts and Regulations relating to oversea animal and plant inspection and quarantine is carried out by the officers of the State Agricultural Departments acting as quarantine officers.

(iii) *Chief Provisions of Act.* The Act provides for the inspection of all vessels including air-vessels, from oversea, for the quarantine, isolation, or continued surveillance of infected or suspected vessels, persons, and goods, and for the quarantining and, if considered necessary, the destruction of imported goods, animals, and plants. The obligations of masters, owners, and medical officers of vessels are defined, and penalties for breaches of the law are prescribed. Power is given to the Governor-General to take action in regard to various matters by proclamation, and to make regulations to give effect to the provisions of the Act. Quarantinable diseases are defined as small-pox, plague, cholera, yellow fever, typhus fever, leprosy, or any other disease declared by the Governor-General, by proclamation, to be quarantinable. "Vessel" is defined as "any ship, boat or other description of vessel or vehicle used in navigation by sea or air." "Disease" in relation to animals means certain specified diseases, or "any disease declared by the Governor-General by proclamation, to be a disease affecting animals." "Disease" in relation to plants means "any disease or pest declared by the Governor-General, by proclamation, to be a disease affecting plants." The term "plants" is defined as meaning "trees or plants, and includes cuttings and slips of trees and plants and all live parts of trees or plants and fruit."

(iv) *Proclamations.* The proclamations so far issued specify the diseases to be regarded as diseases affecting animals and plants; appoint first ports of landing for imported animals and plants, and first ports of entry for oversea vessels; declare certain places beyond Australia to be places infected or as places to be regarded as infected with plague; prohibit the importation (a) of certain noxious insects, pests, diseases, germs, or agents, (b) of certain goods likely to act as fomites, and (c) of certain animals and plants from any or from certain parts of the world; fix the quarantine lines, and define mooring grounds in certain parts of Australia.

(v) *Miscellaneous.* At present, instead of all oversea vessels being examined in every State, as was formerly the case, those arriving from the east and west are now examined only at the first port of call, and pratique is given for the whole of the Commonwealth except in cases of suspicious circumstances, while vessels arriving from the northern routes are examined only at the first and last ports. It is expected that the restrictions placed upon oversea vessels will be further removed as the machinery of quarantine is improved. The present freedom from certain diseases which are endemic in other parts of the world would, however, appear to justify the Commonwealth in adopting precautionary measures not perhaps warranted in the already infected countries of the old world.

3. Notifiable Diseases.—A. General.—(i) Methods of Prevention and Control. Provision exists in the Health Acts of all the States for precautions against the spread, and for

* From information furnished by the Commonwealth Director-General of Health.

the compulsory notification of infectious diseases. When any such disease occurs, the Health Department and the local authorities must at once be notified. In some States notification need only be made to the latter. The duty of giving this notification is generally imposed, first, on the head of the house to which the patient belongs, failing whom on the nearest relative present, and, on his default, on the person in charge of or in attendance on the patient, and on his default, on the occupier of the building. Any medical practitioner visiting the patient is also bound to give notice.

As a rule the local authorities are required to report from time to time to the Central Board of Health in each State as to the health, cleanliness, and general sanitary state of their several districts, and must report the appearance of certain diseases. Regulations are prescribed for the disinfection and cleansing of premises, and for the disinfection and destruction of bedding, clothing, or other articles which have been exposed to infection. Bacteriological examinations for the detection of plague, diphtheria, tuberculosis, typhoid, and other infectious diseases within the meaning of the Health Acts are continually being carried out. Regulations are provided in most of the States for the treatment and custody of persons suffering from certain dangerous infectious diseases, such as small-pox and leprosy.

(ii) *New South Wales.* The proclamation and notification of infectious diseases are dealt with in Part II. of the Public Health Acts 1902 and 1915. Notification of infectious disease must be made to the local authority by the head of the family, etc., and by the medical practitioner. Provision is made for the disinfection or destruction of premises. Restrictions are placed upon the attendance at school of children suffering from infectious disease or residing in a house in which infectious disease exists. Special provisions have been made with regard to typhoid fever, tuberculosis, small-pox and leprosy, and legislation has been passed dealing with venereal diseases.

(iii) *Victoria.* Under the Health Act 1919 any disease may be declared to be notifiable throughout the State. The occupier of a house containing a case of infectious disease, and also the medical practitioner, must report the fact to the Council. The Medical Officer of Health may order the removal of a patient to a hospital when such is available. The occupier of the house must also inform the head teacher of the school of any child suffering from notifiable disease or residing in an infected dwelling. The notification of venereal diseases is dealt with in the Venereal Diseases Act 1916.

(iv) *Queensland.* Part VII. of the Health Act 1917-1922 stipulates that all cases of infectious disease must be notified by the occupier of the house, and the medical practitioner attending the case. Restrictions are placed on the attendance at school of children suffering from a notifiable disease. Special measures must be taken against typhoid, small-pox, and venereal diseases. Leprosy is dealt with under the Leprosy Act 1892.

(v) *South Australia.* Cases of infectious diseases must be reported to the local board, under the provisions of Part VIII. of the Health Act 1898. The duty of notification rests primarily on the head of the family, and, in addition, the medical practitioner must report the case. Children suffering from or resident with a person suffering from an infectious disease must not attend school till they hold a certificate that there is no risk of infection. Venereal diseases will be dealt with under the provisions of the Venereal Diseases Act 1920 which, however, is not yet in operation.

(vi) *Western Australia.* The Health Acts 1911 to 1922 provide for the notification and control of infectious diseases, including venereal diseases. The occupier of a house containing a case of infectious disease, and the medical practitioner, must report the case to the local authority. Children may not attend school within three months of suffering from any infectious disease unless they possess a certificate of freedom from infection. Special provisions apply to typhoid fever, tuberculosis, and venereal diseases.

(vii) *Tasmania.* The provisions regarding the notification and prevention of infectious diseases are contained in the Public Health Act 1903 and amending Acts. Notification of cases devolves upon the medical practitioner or the occupier of the house. Special measures are provided for dealing with typhoid, small-pox, and venereal diseases.

(viii) *Diseases Notifiable in each State.* In the following statement diseases notifiable in each State are indicated by a cross:—

DISEASES NOTIFIABLE UNDER THE HEALTH, ETC., ACTS IN EACH STATE.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.
Acute lobar pneumonia .. .. .	..	..	..	(c)	+	..
Anthrax .. .. .	..	+	..	+	+	..
Ankylostomiasis .. .. .	..	+	+	..	..	..
Beri-beri .. .. .	..	..	..	..	+	..
Bilharziasis .. .. .	..	+	+	+	+	+
Bubonic plague	+	+	+	+	+	+
Cerebro-spinal fever .. .. .	+	+	+	+	..	..
Cerebro-spinal meningitis	+	+	+	+	+	+
Chicken-pox .. .. .	..	..	..	+	..	..
Cholera .. .. .	..	+	+	+	+	+
Colonial fever .. .. .	..	..	..	..	+	..
Continued fever .. .. .	..	..	+	..	+	..
Dengue fever .. .. .	..	..	..	..	+	..
Diphtheria	+	+	+	+	+	+
Dysentery .. .. .	..	..	+(a)	+	+	..
Encephalitis lethargica .. .. .	..	+	..	..	..	+
Enteric fever	+	+	+	+	+	+
Erysipelas .. .. .	..	..	+	+	+	..
Favus .. .. .	..	..	..	+	..	..
Hæmaturia .. .. .	..	..	+	..	+	+
Infantile paralysis	+	+	+	..	+	+
Influenza .. .. .	..	..	..	+(c)	+	..
Leprosy	+	+	+	+	+	+
Low fever .. .. .	..	..	..	..	+	..
Malarial fever .. .. .	..	+	+	+	+	+
Malta fever .. .. .	..	..	..	..	+	..
Measles .. .. .	..	..	..	+	..	..
Membranous croup	+	..	+	+	+	..
Pneumonic influenza .. .. .	..	..	..	+(c)	+	+
Polioencephalitis .. .. .	..	+	..	..	..	..
Poliomyelitis anterior acuta	+	+	+	+	+	+
Puerperal fever .. .. .	..	..	+	+	+	..
Pulmonary tuberculosis (phthisis)	+(a)	+	+	+	+	+
Pyæmia .. .. .	..	..	..	..	+	..
Relapsing fever .. .. .	..	..	+	+	+	..
Scarlet fever	+	+	+	+	+	+
Scarlatina	+	+	+	+	+	+
Septicæmia .. .. .	..	..	..	..	+	..
Small-pox	+	+	+	+	+	+
Trichinosis .. .. .	..	..	..	+	..	..
Tuberculosis .. .. .	..	+	..	..	..	..
Tuberculosis in Animals .. .. .	..	..	..	+	..	..
Typhoid	+	+	+	+	+	+
Typhus fever .. .. .	..	+	+	+	+	+
Venereal Diseases:—						
Chancroid (soft chancre)	+	+	+	+(d)	+	+
Gleet .. .. .	+	..	..	+(d)	+	..
Gonorrhœa	+	+	+	+(d)	+	+
Gonorrhœal ophthalmia .. .. .	+	..	..	+(d)	+	..
Infective granuloma of the pudenda	+	+	+	+(d)	+	..
Ophthalmia neonatorum .. .. .	..	+	..	..	+	+
Syphilis	+	+	+(b)	+(d)	+	+
Venereal warts	+	..	+	+(d)	+	..
Whooping cough .. .. .	..	..	..	+	..	..
Yellow fever .. .. .	..	+	+	+	+	..

(a) Notifiable in certain areas only. (b) Primary and secondary stages only. (c) In South Australia influenza vera is notifiable, and any febrile toxic-septicæmic condition similar to influenza, including pneumonic influenza. (d) Act not yet in operation.

B. Venereal Diseases.—(i) *General.* The prevention and control of venereal diseases are undertaken by the States. Each State has a Venereal Diseases Act, or provisions in the Health Act govern the working of the measures taken to combat these diseases. In every State notification has been made compulsory. A list of notifiable forms of venereal complaints appears on page 523. Steps have been taken to ensure free treatment by medical practitioners or in subsidized hospitals. Registered pharmaceutical chemists are allowed to dispense prescriptions only when signed by medical practitioners. Clinics have been established, and, in some cases, beds in public hospitals have been set aside for patients suffering from these diseases.

Penalties may be imposed on a patient who fails to continue under treatment. Clauses are inserted in the Acts which aim at preventing the marriage of any patient or the employment of an infected person in the manufacture and distribution of foodstuffs.

The Commonwealth Government has granted a subsidy of £15,000 per annum to the various States to assist in providing hospital treatment and administrative control. The supervision of this work, in so far as it relates to the expenditure of the subsidy, is undertaken by the Commonwealth Department of Health. In February, 1922, a conference was held to consider the means of securing the best results from this subsidy.

(ii) *New South Wales.* The Venereal Diseases Act 1918 came into operation on 1st December, 1920. The Act, which is administered by a Commissioner, aims at ensuring that all cases of venereal disease will have immediate and continued treatment. Clinics are being established at subsidized hospitals. Notification is compulsory; a person suffering from the disease is required to place himself under the treatment of a medical practitioner or to attend a hospital within three days of becoming aware of the existence of the disease, and to continue treatment until a cure is effected. During 1923, notifications numbered 6,829. Satisfactory results are being obtained from action taken in cases where patients have been reported for failure to continue treatment as required by the Act. A number of prosecutions—all of which have been successful—has been undertaken for (a) sale of drugs prohibited under the Act, and (b) treatment of venereal disease by a person other than a medical practitioner.

(iii) *Victoria.* Under the Venereal Diseases Acts 1916 and 1918 the control of venereal disease is undertaken by the Department of Public Health. The Acts provide for compulsory treatment by qualified medical practitioners of all persons suffering from the disease. All hospitals in receipt of State aid treat patients. Three evening and three day clinics have been established at hospitals in Melbourne, and in June, 1918, a special departmental clinic was instituted. Notification of the disease is compulsory, and 7,808 cases were notified in 1923. Between the 17th June, 1918, and 30th June, 1923, 10,761 cases were treated at the special departmental clinic, the attendances numbering 392,929.

(iv) *Queensland.* The Health Act 1900-22 confers power on the Commissioner of Public Health to deal with the prevention and control of venereal disease, and affected persons must place themselves under treatment by a medical practitioner. Persons other than medical practitioners are prohibited from treating the disease. Subsidized hospitals are required to make provision for the examination and treatment of cases reported to them, and clinics have been established in Brisbane and seven towns. Notification is compulsory, and during the year ended 30th June, 1923, 1,710 cases were reported. Visits to the Brisbane clinics numbered 8,244 by males, and 627 by females. Examination of prostitutes is conducted at Brisbane and eight other towns by medical officers appointed under regulation 10 of the Venereal Diseases Regulations of 1923.

(v) *South Australia.* The provisions of the Venereal Diseases Act 1920 (not yet in operation) are to be carried out by the Inspector-General of Hospitals. The Minister administering the Act may arrange with any public hospital to provide free accommodation and treatment, and may also establish hospitals and arrange for free examinations and free supply of drugs. Persons suffering from venereal disease will be compelled to consult a medical practitioner or attend a hospital and place themselves under treatment. No person other than a medical practitioner may attend or prescribe for patients.

(vi) *Western Australia.* The Health Act gives power to the Commissioner of Public Health to deal with venereal diseases, and persons suffering from these diseases must consult a medical practitioner and place themselves under treatment. No treatment may be given except by qualified medical practitioners. Free examination and treatment are given by subsidized hospitals.

(vii) *Tasmania.* The Public Health Act 1917-1918 authorized the Director of Public Health to take steps for the control of venereal diseases, and persons affected must place themselves under the care of a medical practitioner or of a hospital. The State-aided hospitals are required to provide treatment. During 1923, 384 cases were notified, the great majority of which received free treatment at the principal public hospitals.

4. **Vaccination.**—(i) *General.* In New South Wales there is no statutory provision for compulsory vaccination, though in all the other States such provision has been made. Jennerian vaccine for vaccination against small-pox is prepared at the Commonwealth serum laboratories in Melbourne. A moderate demand exists for the vaccine in Victoria, but in the other States the normal requirements are small. During the years 1912, 1913, and 1914, the output of the vaccine in doses from the *dépôt* was respectively 65,000, 570,000, and 146,000. The number of doses issued in 1913 was, however, abnormal, and was due to the epidemic of small-pox which broke out in Sydney at the end of June, this being followed by large numbers of vaccinations in each State.

(ii) *New South Wales.* Although there is no provision for compulsory vaccination, public vaccinators have been appointed. No statistics are available as to the proportion of the population who have been vaccinated, but a report of the Principal Medical Officer of the Education Department states that out of 55,740 children medically examined during 1919, 9,487, or 17 per cent., had been vaccinated.

(iii) *Victoria.* Compulsory vaccination, subject to a "conscience" clause is enforced throughout the State under Part VII. of the Health Act 1919. From the year 1873 up to 31st December, 1918, it is estimated that 72 per cent. of the children whose births were registered were vaccinated. Free lymph is provided. The number of children vaccinated during 1923 was 2,149, or about 6 per cent. of the births registered.

(iv) *Queensland.* Although compulsory vaccination is provided for under Part VII. of the Health Act 1900-1922, its operation has not been proclaimed. Vaccination thus being purely voluntary, medical practitioners do not notify vaccinations.

(v) *South Australia.* The Vaccination Act 1882, which applies to South Australia and the Northern Territory, is administered by the vaccination officer of the State. Under this Act vaccination was compulsory, but in 1917 an Act to suspend compulsory vaccination was passed. There were no vaccinations reported in 1923.

(vi) *Western Australia.* Vaccination is compulsory under the Vaccination Act 1878, which, however, remains almost a dead letter, seeing that under the Health Act 1911, a "conscientious objection" clause was inserted, which is availed of by the majority of parents. The number of children vaccinated is very small. All district medical officers are public vaccinators, but they receive no fees for vaccinations.

(vii) *Tasmania.* All infants are nominally required under the Vaccination Act 1898 to be vaccinated before the age of 12 months, unless either (a) a statutory declaration of conscientious objection is made, or (b) a medical certificate of unfitness is received. Information in regard to vaccinations in recent years is not available.

(viii) *Persons Vaccinated, 1919 to 1923.* Information regarding the number of vaccinations in recent years is not available for all States, and in those States for which figures are supplied the returns are incomplete. In Victoria 2,149 children were vaccinated during 1923, the annual average for the last five years being 5,429. In South Australia there were no vaccinations recorded in 1923, and the average for the last five years was only 5. Information is not available for the other States.

5. **Commonwealth Serum Laboratories.**—The establishment for the preparation of Jennerian Vaccine situated at Royal Park, near Melbourne, formerly known as the “Calf Lymph Dépôt” was in 1918 greatly enlarged by the Commonwealth. The remodelled institution is designated the “Commonwealth Serum Laboratories,” and forms a division of the Commonwealth Department of Health. The list of bacteriological preparations produced by the laboratories has been extended so as to cover practically the whole range of biological products, thus forming a valuable national provision for the protection of public health.

6. **Health Laboratories.**—The Commonwealth Department of Health has established Health Laboratories at Rabaul, New Guinea, at Bendigo, Victoria, and at Townsville and Toowoomba, Queensland, and arrangements are being made for the organization of similar laboratories in other parts of Australia.

The laboratory at Rabaul is carried on in conjunction with the hookworm campaign, and is working in close co-operation with the health organization of the New Guinea Administration.

The Bendigo Laboratory was opened in 1922. Besides carrying on the ordinary diagnostic and educational work of a health laboratory, it is undertaking, by means of an excellent X-ray equipment, the examination, diagnosis and treatment of persons suffering from miner's disease and tuberculosis.

The laboratory at Townsville is carried on in conjunction with the Australian Institute of Tropical Medicine at Townsville. The laboratory at Toowoomba was opened on 18th December, 1923. Both of these laboratories are undertaking successfully the diagnostic educative, and research work for which they were created.

7. **Industrial Hygiene.**—The Industrial Hygiene division of the Commonwealth Department of Health was established in December, 1921. Its objects are the collection of reliable data on which to base guidance and advice; investigation of industrial conditions affecting health; and the issue of advice to employers and employees for the improvement of conditions of work and for the safeguarding of health. Publications have been issued dealing with the scope of industrial hygiene, and with health hazards in industry. Expert advice is available to employers and employees, and it is anticipated that the work of the division will be of great value in guiding the development of industry along hygienic lines and in improving, generally, the condition of workers.

8. **Sanitary Hygiene.**—A division of sanitary engineering was established in the Commonwealth Department of Health early in 1923. Investigation and inquiry have been made into numerous sanitary engineering problems affecting Australia, including a number referred to the Department by various State Governments. Advice is given generally, on the protection of water supplies, drainage, and other engineering questions affecting health.

§ 5. Tropical Diseases.

1. **General.**—The remarkable development of parasitology in recent years, and the increase in knowledge of the part played by parasites in human and animal diseases, have shown that the difficulties in the way of tropical colonization, in so far as these arise from the prevalence of diseases characteristic of tropical countries, are largely removable by preventive and remedial measures. Malaria and other tropical diseases are coming more and more under control, and the improvements in hygiene which science has accomplished lend an entirely new aspect to the question of white settlement in countries formerly regarded as unsuitable for colonization by European races. In Australia, the most important aspect of this matter is at present in relation to such diseases as filariasis, malaria, and dengue fever, which, although practically unknown in the southern States, occur in many of the tropical and sub-tropical parts.

2. **Transmission of Disease by Mosquitoes.**—(i) *Queensland.* The existence of filariasis in Queensland was first discovered in 1876. The parasite of this disease is transmitted by *Culex quinquefasciatus* (*Culex fatigans*), the mosquito most prevalent in Queensland. The mosquito *Aedes aegypti* (*Stegomyia fasciata*), conveyor of yellow fever (and probably of dengue fever also), is another common domestic mosquito throughout Eastern Queensland during the summer, but so far has never been infected from abroad. Occasional limited outbreaks of malaria occur in the northern parts of the State; one at Kidston, in 1910, resulted in 24 deaths. The infection was traced to newcomers from New Guinea. Allusion to the efforts made to deal with the mosquito, under the Health Act of 1911, will be found in Official Year Book No. 12, p. 1063. By an Order in Council, the local authorities are now responsible for the taking of measures for the destruction, and the prevention of breeding, of mosquitoes.

(ii) *Other States.* In Western Australia it is stated that malaria is not known to exist south of the 20th parallel, while filariasis has never been discovered. Mosquito-borne diseases are unknown in Victoria, South Australia, and Tasmania, except for very rare sporadic cases, and it is stated that filariasis is uncommon in New South Wales, the only cases known being imported ones. Kerosene and petroleum have been successfully used, both by municipalities and private individuals, to destroy larvæ of mosquitoes at various places in these States.

(iii) *Northern Territory.* While the Territory is conspicuously free from most of the diseases which cause such devastation in other tropical countries, malaria exists, and, although cases rarely end fatally, the Administration is taking measures for the destruction of mosquito larvæ wherever settlements or permanent camps are formed, and precautions are being taken to prevent the collection of stagnant water in such localities.

3. **Control of Introduced Malaria and Bilharziasis.**—(i) *General.* The control of returned sailors and soldiers suffering from malaria and bilharziasis, which was undertaken by the Commonwealth Department of Health at the request of the Departments of Defence and Repatriation, is still being carried out in conjunction with State Health Departments.

(ii) *Malaria.* Steps were taken to have all recrudescences in returned sailors, soldiers and nurses in all parts of Australia notified direct to the Commonwealth Department of Health by the Medical Officers of the Repatriation Local Committees. Malaria is also notifiable to each State Health Department, except in New South Wales, and particulars of such notifications are passed on to the Commonwealth Department of Health.

Treatment on intensive lines has been regularly carried out in connexion with malaria recurrences in returned sailors and soldiers in order to effect a cure as rapidly as possible. Steps were also taken to prevent the settlement of malaria-infected individuals in localities such as irrigation areas, where mosquitoes capable of carrying malaria were known to exist.

From information received, it is evident that in the great majority of cases cure has now been established, and that where recrudescences do occur they have been greatly reduced in severity and frequency. The number of foci of infection has thus been very largely lessened and the danger of spread of malaria in the community correspondingly minimized.

(iii) *Bilharziasis.* With few exceptions the men who contracted this disease on active service have been brought in from all parts of Australia for expert re-examination and treatment.

Those who have suffered from the disease, and have undergone treatment as indicated above, are still kept under periodical observation, but owing to the success of the measures already taken it is not anticipated that there is any danger of widespread infection. Action is being taken in the case of a small number of men who have evaded treatment.

4. **Hookworm.**—An investigation made in Papua in 1917 by an officer of the International Board of Health of the Rockefeller Foundation disclosed the fact that half of all natives examined were infected with hookworm disease. In 1918, an investigation was undertaken in Queensland, and the prevalence of the disease and its effects in

retarding growth and development were found to be greater than had been supposed. In October, 1919, the Australian Hookworm Campaign was begun. This campaign was supported jointly by the Commonwealth, the International Health Board of the Rockefeller Foundation, the State of Queensland, and the other States in which work in this direction was undertaken. By the end of 1922, the survey of Australia and its dependencies had been completed. The total number of examinations and treatments up to 1st January, 1924, including those in Dr. Waite's survey in Papua and the earlier work in Queensland, was as follows:—

People examined for hookworm disease	..	..	347,003
Found to be infected with hookworms	..	..	60,441 (17.4%)
Treated free by the Australian Hookworm Campaign	..	..	273,297*
Found to be cured on re-examination	..	..	11,242*

Endemic hookworm infection was found in intermittent areas along the eastern coast of Australia from Cape York to Macksville in New South Wales. The higher summer rainfall in these areas appears to be chiefly responsible for the localization of the infection. It is also found in the vicinity of Broome and Beagle Bay in Western Australia, in the northern part of the Northern Territory, and along the eastern coast of the Gulf of Carpentaria. In the Territory of Papua, 59.2 per cent. of the natives were found to be infected, and in the Territory of New Guinea, 74.2 per cent. There is no endemic hookworm infection in Victoria, South Australia, Tasmania, the interior of Queensland, New South Wales, except the north-eastern part, and Western Australia except the far north.

Metalliferous mines were examined in Victoria, South Australia, New South Wales, Tasmania, and Western Australia, and were found entirely free from hookworm infection. The examination of metalliferous mines in Queensland showed either no infection or a light infection which may have originated chiefly outside the mines. Coal mines in Victoria, Tasmania, and Western Australia were free of infection. Examinations were made in the coal mines of the Newcastle district, and among 1,226 miners examined in about 25 mines only five infected miners were found. In the Ipswich group of coal mines in Queensland, 31.5 per cent. of the miners were infected, and in the Howard-Torbanlea group (Queensland) 75.8 per cent. were infected. Recommendations have been made with regard to the correction of the insanitary conditions responsible for these high infection rates.

Wherever operations are carried on by the hookworm campaign, emphasis is placed on the prevention of hookworm disease, in contrast to temporary relief through the curing of existing cases, and much work has been done to improve methods of night-soil disposal, and to teach the people the danger from soil pollution.

In thirteen of the endemic hookworm districts of Queensland in the original survey, 50,939 persons were examined and 7,658 were found to be infected—an incidence rate of 15 per cent. During the re-survey in 1893 of the same districts, 40,867 persons were examined, and 3,858 were found infected—an incidence rate of 9.4 per cent. The value of the measures of the hookworm campaign in regard to treatments and the prevention of soil pollution would thus appear to be demonstrated.

In the latter part of 1922, the scope of the campaign was widened to include a malaria and filaria survey in co-operation with the Division of Tropical Hygiene, Commonwealth Department of Health.

Up to the 1st January, 1924, 261 persons had been examined for malaria, of whom 40 were found infected. The endemic areas as indicated by this survey, would appear to be round Cooktown, Cairns, Palm Island and possibly the western portion of Northern Queensland.

In the same period, 11,028 persons were examined for filariasis, of whom 309 were found to be infected. The endemic area of this disease is apparently practically the whole of the Cape York Peninsula and a narrow strip along almost the entire coast of Queensland.

* Only part of the people treated were re-examined to find out whether they were cured. The total number cured was, therefore, much larger than shown.

5. **Institute of Tropical Medicine, Townsville.**—The Australian Institute of Tropical Medicine was founded at Townsville in January, 1910. Since 7th March, 1921, the Institute has been administered by the Commonwealth Department of Health. A full account of the activities of this Institute will be found in Official Year Book No. 15, pp. 1010-1012.

§ 6. Medical Inspection of School Children.

1. **General.**—The health of school children is now recognized as a fundamental concern of modern Education Departments, and the medical branches have proved their value both to children and parents.

Medical inspection of school children is carried out more or less thoroughly in all the States. Medical staffs have been organized, while in some States travelling clinics have been established to deal with dental, ocular, and other defects.

2. **New South Wales.**—In 1913, the school medical service was re-organized so as to embrace every pupil whose parents desired such inspection. During the three years ended 1922 the extra-metropolitan schools were visited for the third time, thus completing the third round of the State. Owing to the shortage of staff the inspection of the metropolitan schools has been incomplete.

During the three triennial periods ended 1922, 612,414 children were examined, and 355,765 (58 per cent.) were found to be suffering from physical defects requiring treatment. Only about 46 per cent. of these cases received treatment, but the parents or guardians of the remaining 54 per cent. made no attempts to secure alleviation.

In the triennium ended 1922, 185,770 children were medically examined (inclusive of those dealt with by the travelling hospital, but excluding those examined by the travelling dental clinics). Of this total 96,764 (52 per cent.) were recorded as defective. The chief defects were:—Dental 74,476 cases; nose and throat, 25,152 cases; vision, 10,598 cases; and hearing, 5,029 cases. The number of children treated subsequently for any defect was 52,065.

During 1922, 15,232 children were treated either by the departmental medical officers, or outside agencies such as hospitals, lodge doctors, etc., while 2,576 children received medical and dental attention from the travelling hospital, and 16,350 were treated for dental defects at the metropolitan dental clinic and by the six travelling dental clinics. During 1923, 89,316 pupils were medically examined, but detailed results are not yet available.

Eleven travelling dental clinics now cover the whole extra-metropolitan area, while some provision for Sydney children is made at the Metropolitan Dental Clinic. The travelling clinics concentrate on the earlier years of school life in the attempt to ensure a healthy permanent set of teeth to every child.

In 1923, a school dental clinic was established at the out-patient department of the Royal Alexandra Hospital for children, with the idea of obtaining strict oral and dental cleanliness prior to operations on the nose and throat.

The staff of the department includes nineteen medical officers, eleven full-time and eight half-time dentists, nine nurses, and fifteen dental assistants.

3. **Victoria.**—The system of medical inspection aims at examining the child three times in its school life, but in the High Schools the students are examined every two years. After the examination, the parents are notified of defects and are advised to obtain treatment from their own doctor or dentist, and in the metropolitan area two nurses follow up these cases. Attached to the department is a dental centre which deals with about 700 children each month from the metropolitan schools.

During the year ended 30th June, 1923, 14,643 children were medically examined, and 8,285 received dental treatment. In addition, the nurses of the Bush Nursing

Association examine the school children in their districts and report to the medical officers of the Education Department who, in their turn, advise whether medical attention is necessary.

The staff of the medical branch consists of four medical officers, two dentists, three dental attendants, and two school nurses.

4. **Queensland.**—In matters affecting the general administration of the medical branch of the Department of Public Instruction, the Department acts on the advice of the Commissioner of Public Health. There is no permanent professional officer in charge of the work, the medical inspection being carried out by part-time local medical practitioners who examine a large number of children each year, and refer those who need treatment to the hospitals. A staff of eight dentists carries out dental inspection and treatment. Particular attention is paid to diseases of the eyes and tonsils. In the Western Districts, where ophthalmic diseases formerly were rife, the medical officers in charge of district hospitals are employed to treat cases promptly and thereby prevent the spread of infection.

In 1922, 22,804 children were medically examined, of whom 3,209 were found to be suffering from physical defects. The departmental dentists examined 18,097 children. Extractions numbered 10,823, fillings 12,193, and other gratuitous treatments 7,085.

5. **South Australia.**—Medical inspection embraces the examination, at least twice in their school life, of all children attending the primary schools, and the report to parents of defects likely to interfere with educational progress. The staff consists of one medical inspector, a dentist, two trained nurses, and a disinfecting officer. The dentist attends remote country schools and treats children. The Medical Inspector meets the parents after the examination of the children, reports any defect, and recommends treatment. It is found that a personal talk is of greater value than any written notice.

Children to the number of 3,181 were examined by the medical officer, and a considerable number of defects was disclosed. The school dentist gave treatment to 1,887 children in the outback districts of the State.

6. **Western Australia.**—Under the Public Health Act 1911–1920, the medical officers of health appointed by the local authorities became medical officers of schools and school children. In the Health Department there is one medical officer for schools, whose duty it is to conduct medical examinations. During 1922, 9,618 children were examined.

7. **Tasmania.**—To Tasmania belongs the credit of being the first State in Australia to provide for the systematic medical inspection of State school children. As far back as 1906, 1,200 children from the Hobart State schools were examined. At the present time two part-time medical officers conduct examinations of school children in Hobart and Launceston. There are also four nurses, whose chief duty is to visit the homes to advise the parents as to the treatment of any defects disclosed by the medical examination. Country schools are inspected by two whole-time medical officers. In 1922, the medical officers examined 13,491 children.

Dental clinics have been established at Hobart and Launceston, and two additional dentists have been appointed to visit the country schools.

§ 7. Supervision and Care of Infant Life.

1. **General.**—The number of infantile deaths and the rate of infantile mortality for the last five years are given in the following table, which shows that during the period 1919 to 1923 no less than 42,285 children died before reaching their first birthday. With the exception of New South Wales and Tasmania for the year 1921, the rate of mortality in the metropolitan area has in every case been consistently greater than that for the remainder of the State. Further information regarding infantile mortality will be found in Chapter XXV.—Vital Statistics :—

INFANTILE DEATHS AND DEATH RATES, 1919 TO 1923.

State.	Metropolitan.					Remainder of State.				
	1919.	1920.	1921.	1922.	1923.	1919.	1920.	1921.	1922.	1923.
NUMBER OF INFANTILE DEATHS.										
New South Wales ..	1,509	1,693	1,437	1,292	1,431	1,977	2,051	1,981	1,665	1,846
Victoria ..	1,278	1,616	1,381	1,101	1,345	869	1,053	1,201	835	1,011
Queensland ..	504	446	382	347	362	840	835	719	660	716
South Australia ..	350	459	452	347	388	358	351	332	223	317
Western Australia ..	226	321	318	247	258	198	217	293	205	184
Tasmania ..	93	120	119	120	105	252	256	330	204	220
Australia (b) ..	3,960	4,655	4,089	3,454	3,889	4,494	4,763	4,856	3,792	4,294

RATE OF INFANTILE MORTALITY.(a)										
	1919.	1920.	1921.	1922.	1923.	1919.	1920.	1921.	1922.	1923.
New South Wales ..	79.33	74.03	62.38	57.68	63.26	66.99	66.01	63.01	50.81	53.70
Victoria ..	78.22	83.82	73.82	58.25	71.18	56.87	62.48	71.13	48.03	59.54
Queensland ..	93.89	70.39	61.81	57.10	57.89	63.01	59.98	50.82	44.99	52.15
South Australia ..	66.19	74.57	73.64	58.23	65.70	62.03	59.77	56.89	36.73	53.96
Western Australia ..	66.33	76.14	80.55	58.27	61.24	56.09	55.17	75.93	52.67	50.54
Tasmania ..	68.89	74.81	75.17	71.94	66.00	63.64	61.89	79.09	49.17	54.11
Australia (b) ..	77.99	76.99	68.62	58.33	65.48	62.96	62.78	63.48	48.50	56.69

(a) Number of deaths under one year per 1,000 births registered.

(b) Exclusive of Territories.

During recent years greater attention has been paid to the fact that the health of the community depends largely on pre-natal as well as after care in the case of mothers and children. Government and private organizations are, therefore, taking steps to provide instruction and treatment for mothers before and after confinement, while the health and well-being of mother and child are looked after by the institution of baby health-centres, baby clinics, crèches, visitation by qualified midwifery nurses, supervision of milk supply, etc.

2. **Government Activities.**—In all the States Acts have been passed with the object of supervising and ameliorating the conditions of infant life and reducing the rate of mortality. Government Departments control the boarding-out to suitable persons of the wards of the State, and wherever possible the child is boarded-out to its mother or near female relative. Stringent conditions regulate the adoption, nursing and maintenance of children placed in foster-homes by private persons, while special attention is devoted to the welfare of ex-nuptial children. (See also in this connexion Chapter XI.—Public Benevolence.) Under the provisions of the Maternity Allowance Act 1912, a sum of five pounds is payable to the mother in respect of each confinement at which a living or viable child is born. Further particulars regarding Maternity Allowance are given in Chapter VIII.—Finance.

3. **Nursing Activities.**—(i) *General.* In several of the States, the Government maintains institutions which provide treatment for mothers and children, while, in addition, subsidies are granted to various associations engaged in welfare work.

(ii) *New South Wales.* Baby clinics were established by the Government in 1914. Attached to each clinic is an honorary medical officer and a staff of trained nurses who instruct mothers in matters pertaining to the care of themselves and their children. At the 30th June, 1923, there were 34 clinics in operation, of which 21 were in the metropolitan area and the remainder in important industrial and rural centres. During 1922 the attendances at the clinics numbered 136,596, and the nurses paid 60,103 visits to homes. No charge is made for attention or advice.

The Royal Society for the Welfare of Mothers and Children has two training schools for nurses and two welfare centres in the metropolis. The Day Nursery Association maintains three nurseries where working mothers may leave their children during the day.

The Bush Nursing Associations aim at providing fully-qualified nurses in country districts throughout Australia. Centres may be formed in any district where the residents can enrol sufficient members to guarantee the salary of a nurse. As the greater part of the nurses' work is that of midwifery, the nurses must be registered midwives. At the end of April, 1923, there were 27 bush-nursing centres in New South Wales.

(iii) *Victoria.* The first Baby-Health Centre was opened in 1917. At the latest available date the Victorian Baby-Health Centres' Association had 50 centres in operation, 38 in the metropolitan area, and 12 in country towns. The Association receives subsidies from the State Government and the local municipal councils. During the year ended 30th June, 1923, attendances at the centres numbered 101,037, while 48,251 visits were paid by the nurses to patients in their own homes. The Society for the Health of Women and Children also maintains five centres in the industrial suburbs of the metropolis. There are, in addition, crèches where children may be left while the mothers are at work.

The Bush Nursing Association had in February, 1924, 47 centres in operation in the country districts.

(iv) *Queensland.*—Baby Clinics were established in Brisbane by the Government in 1918, and others have been formed in six of the larger provincial centres. A training school has been organized to train nurses for welfare work. For the year 1923 attendances at the clinics numbered 40,356, in addition to which the nurses paid 5,952 visits in connexion with the after care of mothers and infants.

There are in the metropolitan area five kindergartens and five crèches where children may be left during the day. The Playgrounds' Association aims at providing playgrounds for children in the populous parts of towns and cities.

The Bush Nursing Association has seven nurses stationed in the country districts.

(v) *South Australia.* A School for Mothers is situated in Adelaide, and there are several branches in the suburbs, and at Port Pirie and Renmark. These schools receive a Government and municipal grant. During the year ended 31st July, 1923, the nurses paid 1,177 visits to expectant mothers and 17,228 to young babies. In August, 1921, baby clinics were established, to which in 1922-23 21,460 babies were brought for examination, advice and information being given where necessary to the mothers. There is a crèche at South Adelaide for the benefit of the children of women obliged to earn their own living.

The District Trained Nursing Society has over 30 branches, of which about half are in the metropolitan area. The nurses of this society paid 63,253 visits to homes. Nursing homes have been established by the Australian Inland Mission at Beltana and Oodnadatta in the far north of South Australia, and at three places in the Northern Territory.

(vi) *Western Australia.* The organizations which aim at improving the conditions of infant life include an ante-natal clinic established by the Government at the King Edward Maternity Hospital, a day nursery where children may be left and cared for while the mothers are away at work, and the Infant Health Association, which is subsidized by the government and local authorities, and which controls three centres, with a specially trained nurse in charge of each.

The Bush Nursing Trust maintains a rest-house for expectant mothers, and the Australian Inland Mission has nursing homes at Hall's Creek and Port Hedland.

(vii) *Tasmania.* There are three baby clinics in Hobart and two in Launceston controlled by the Child Welfare Association. During the year 1922, the nurses visited 6,574 homes. Attendances at the clinics for the same period numbered 14,891.

The Bush Nursing Association, which is subsidized by the Health Department, the Red Cross Fund, and municipal councils, has stationed nurses in eight country districts.

CHAPTER XIII.

LABOUR, WAGES AND PRICES.

§ 1. Trade Unions.

1. *Registration.*—(i) *Under Trade Union Acts.* The benefits obtained by registering trade unions under the Trade Union Acts in force in the various States are not considered of much value; consequently the statistics of registered trade unions of employees do not accurately represent the position of unionism. Further, the returns for past years are so defective as to be practically valueless, inasmuch as no reliable indication is afforded of the numerical and financial position of the unions. Some of the registered unions fail to supply returns; this non-supply may lead to cancellation of the registration. Others have obtained the cancellation of their certificates of registration, the apparent reason being that they proposed to register under the Commonwealth Conciliation and Arbitration Act or a State Arbitration Act. In Queensland, some of the largest labour unions withdrew from registration during 1911, mainly on account of the necessity for closer restriction of their objects as set forth in their rules, consequent on legal decisions affecting trade unions. In Victoria and in South Australia very few of the existing unions are registered under the Trade Union Acts. It will be seen, therefore, that the available information under this heading is too meagre for statistical purposes.

(ii) *Under Industrial Arbitration Acts.*—Information with regard to registrations of trade unions under the various State Industrial Arbitration Acts will be found in previous issues of the Year Book. The latest information available as to registrations is as follows:—New South Wales, 119 industrial unions of employers and 153 industrial unions of employees; Queensland, 76 industrial unions of employees with approximately 92,444 members; South Australia, 16 organizations of employees with 11,800 members; Western Australia, 43 organizations of employers with 900 members, and 125 organizations of employees with 34,084 members. Registration under Commonwealth legislation began in 1906. In that and the four following years, there was but one union of employers; another was registered in 1911. The unions of employees registered were 20 in 1906, with 41,413 members. On the 31st December, 1920, there were on the register 6 organizations of employers with 6,170 members, and 122 organizations of employees with 549,285 members. In August, 1923, there were on the register 10 organizations of employers with 5,663 persons, firms or corporations affiliated, and 147 organizations of employees with 573,095 members.

2. *Particulars regarding Trade Unions.*—(i) *Types.* The trade unions in Australia are very diverse in character, and range from the small independent association to the large interstate organization, which, in its turn, may be merely a branch of a British or international union. Broadly speaking, there are four distinct classes of labour organizations, viz. :—(i) the local independent, (ii) the State, (iii) the interstate, and (iv) the Australasian or International, but a number of variations occur from each of these classes. The leading characteristics of each of these types were briefly outlined in Labour Report No. 2 (pp. 7 to 9) issued by this Bureau.

(ii) *Number and Membership.* As already stated, the figures for trade unions registered under the Acts do not represent the position of unionism in Australia. In 1912 the Labour and Industrial Branch of the Commonwealth Bureau of Census and Statistics was established, and with the cordial co-operation of the officials of the labour organizations, comprehensive figures relating to the development of organized labour are now available. The following table shows the position at the end of 1923 :—

TRADE UNIONS, BRANCHES, AND MEMBERS, 1923.

State or Territory.	Number of Separate Unions.	Number of Branches.	Number of Members.
New South Wales	204	763	267,299
Victoria	160	388	206,049
Queensland	119	285	109,153
South Australia	110	78	60,786
Western Australia	115	170	42,319
Tasmania	87	59	14,065
Northern Territory	2	..	72
Total	797	1,743	699,743
Australia(a)	383(a)	2,157(b)	699,743

(a) Allowing for interstate duplication. (b) Number of distinct organizations and interstate groups of organizations in Australia—not the total number of organizations, which are practically independent and self-governing. (See below).

In the preceding table the number of separate unions in each State refers to the number of unions which are represented in each State, exclusive of branches within a State. That is to say, each union represented in a State is counted once only, regardless of the number of branches in that State. Except in the last line, the number of branches indicates the number of branches of State head offices, which may, of course, themselves be branches of an interstate or larger organization. In taking the total number of separate unions in Australia (see last line but one), it is obvious that, in the case of interstate and similar unions, there will be duplication, since each such union is counted once in each State in which it has any branches. In the figures given in the last line allowance has been made for this duplication. State branches of interstate or federated unions, as well as sub-branches within a State, are included under the heading "Branches" in the third column—last line. It should be observed, however, that the scheme of organization of these interstate or federated unions varies greatly in character, and the number of separate Commonwealth unions does not fairly represent the number of practically independent organizations in Australia. In some of these unions the State organizations are bound together under a system of unification and centralized control, while in others the State units are practically independent and self-governing, the federal bond being loose and existing only for one or two specified purposes. There are therefore 383 distinct organizations and interstate groups of organizations in Australia, having 2,157 State branches and sub-branches, and a total of 699,743 members.

(iii) *Classification in Industrial Groups.* The following table shows the number of unions and members thereof in Australia at the end of each of the last five years. The number of unions specified refers to the number of different unions represented in each State; that is to say, interstate or federated unions are counted once in each State in which they are represented, but sub-branches within a State are not counted.

TRADE UNIONS.—INDUSTRIAL GROUPS, AUSTRALIA, 1919 TO 1923.

Industrial Groups.	1919.	1920.	1921.	1922.	1923.
NUMBER OF UNIONS.					
I. Wood, Furniture, etc.	20	19	19	19	18
II. Engineering, Metal Works, etc.	77	76	75	69	70
III. Food, Drink, Tobacco, etc.	77	71	66	68	64
IV. Clothing, Hats, Boots, etc.	27	26	25	25	24
V. Books, Printing, etc.	29	26	18	17	14
VI. Other Manufacturing	84	84	85	84	79
VII. Building,	57	56	57	54	52
VIII. Mining, Quarrying, etc.	20	18	19	19	16
IX. Railway and Tramway Services	43	43	49	52	51
X. Other Land Transport	23	22	20	20	14
XI. Shipping, etc.	71	69	70	74	94
XII. Pastoral, Agricultural, etc.	8	9	9	10	8
XIII. Domestic, Hotels, etc.	20	23	24	26	26
XIV. Miscellaneous	215	254	260	276	267
Total	771	796	796	813	797

TRADE UNIONS.—INDUSTRIAL GROUPS, AUSTRALIA, 1919 TO 1923—
continued.

Industrial Groups.	1919.	1920.	1921.	1922.	1923.
NUMBER OF MEMBERS.					
I. Wood, Furniture, etc.	21,156	23,691	25,541	23,582	24,465
II. Engineering, Metal Works, etc. ..	49,043	53,870	57,012	53,637	59,032
III. Food, Drink, Tobacco, etc. ..	46,569	49,447	51,698	54,497	58,663
IV. Clothing, Hats, Boots, etc. ..	38,620	40,325	42,069	44,540	45,842
V. Books, Printing, etc.	13,259	15,136	15,059	15,341	16,249
VI. Other Manufacturing	34,901	39,710	38,873	37,942	38,554
VII. Building	37,301	40,348	42,244	42,177	46,231
VIII. Mining, Quarrying, etc.	40,278	41,777	39,967	38,082	37,063
IX. Railway and Tramway Services ..	83,183	89,069	88,731	92,152	89,405
X. Other Land Transport	15,903	17,862	16,944	20,376	16,386
XI. Shipping, etc.	48,598	41,668	40,840	41,510	38,006
XII. Pastoral, Agricultural, etc. ..	46,794	42,923	47,893	43,538	36,584
XIII. Domestic, Hotels, etc.	14,702	19,353	20,442	21,130	20,713
XIV. Miscellaneous	137,378	169,271	175,696	174,434	172,550
Total	627,685	684,450	703,009	702,938	699,743

Particulars are given in Labour Report No. 14 of the number of male and female members of unions and the percentage of such members on the total number of adult wage earners. Other tables in the same Report show the classification of unions according to the number of members and the number of central labour organizations.

(iv) *Interstate or Federated Unions.* The following table gives particulars as to the number and membership of interstate or federated unions in 1923 :—

INTERSTATE OR FEDERATED UNIONS.—AUSTRALIA, 1923.

Particulars.	Unions Operating in—					Total.
	2 States.	3 States.	4 States.	5 States.	6 States. (a)	
Number of Unions	20	13	16	19	39	107
Number of Members	23,698	38,664	80,970	134,057	285,085	562,474

(a) Certain unions in this group have, in addition to branches in each of the six States, a branch in the Northern Territory.

It appears, therefore, that 107 out of the 383 separate associations and groups of associations in Australia are organized on an interstate basis. The membership of these 107 unions amounts to 562,474, or no less than 80.4 per cent. of the total membership (699,743) of all unions.

3. Central Labour Organizations.—In each of the capital cities, and in a number of industrial centres elsewhere, delegate organizations, consisting of representatives from a group of trade unions, have been established. Their revenue is raised by means of a per capita tax on the members of each affiliated union. In most of the towns where such central organizations exist, the majority of the local unions are affiliated with the central organization, which is usually known as the Labour or the Trades Hall Council, or the Labour Federation. In Western Australia a unified system of organization extends over the industrial centres throughout the State. In this State there is a provincial branch of the Australian Labour Party, having a central council and executive, and metropolitan and branch district councils, to which the local bodies are affiliated. The central council, on which all district councils are represented, meets periodically. In the other five States, however, the organization is not so close, and while provision

usually exists in the rules of the central council at the capital city of each State for the organization of district councils or for the representation on the central council of the local councils in the smaller industrial centres of the State, the councils in each State are, as a matter of fact, independent bodies.

The table below shows the number of metropolitan and district or local labour councils, together with the number of unions and branches of unions affiliated therewith, in each State at the end of the year 1923 :—

CENTRAL LABOUR ORGANIZATIONS.—NUMBER, AND UNIONS AFFILIATED, 1923.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Number of Councils	3	6	4	3	9	2	1	28
Number of Unions and Branch Unions affiliated	84	182	73	73	174	35	3	624

The figures given in the preceding table as to number of unions do not necessarily represent separate unions, since the branches of a large union may be affiliated to the local trades councils in the several towns in which they are represented.

Between the trade union and the central organization of unions may be classed certain State or district councils organized on trade lines, and composed of delegates from separate unions, the interests of the members of which are closely connected by reason of the occupations of their members. Delegate councils of bakers, bread carters, and mill employees, or of unions connected directly or indirectly with the iron, steel, or brass trades, or with the building trades may be so classed.

4. Laws relating to Conditions of Labour.—In Official Year Book No. 16, pp. 538 to 566, a conspectus was given of Labour Laws in force in Australia at the end of the year 1922, and of Acts and Regulations relating to Factories and Shops.

Information was contained in the same issue with regard to employment under Mining Acts, followed by a brief reference to Employers' Liability and Workmen's Compensation Acts and miscellaneous legislation relating to conditions of labour enacted by the States. A conspectus of the Tribunals for the Regulation of Wages and Conditions of Labour was also included. Owing to considerations of space these references have been omitted from the present issue.

§ 2. Employers' Associations.

1. General.—Recent investigations show that the spirit of association is no less manifest in the case of employers than in the case of workers. Associations for trade purposes merely are not included in the present chapter, which deals with those associations only whose members are united for their own protection, and for representation in cases before Arbitration Courts, Wages Boards and other wage-fixing tribunals. Associations of employers and employees are recognized under the Commonwealth Conciliation and Arbitration Act as well as under several State Acts, and organizations of these bodies may be registered.

2. Employers' Associations in each State.—The following table gives particulars of the number of employers' associations in each State at the end of the years 1922 and 1923 :—

EMPLOYERS' ASSOCIATIONS—STATES, 1922 AND 1923.

State.	Number of Associations.		Number of Branches.		Membership.	
	1922.	1923.	1922.	1923.	1922.	1923.
New South Wales	115	137	135	102	18,187	27,027
Victoria	167	132	71	49	18,963	19,813
Queensland	60	85	39	54	7,648	12,918
South Australia	46	48	..	..	2,888	5,101
Western Australia	62	54	12	12	1,713	2,477
Tasmania	17	24	5	8	2,307	2,751
Total	467	480	262	225	51,706	70,087

The increase in 1923 in the number and membership of associations is partly explained by the inclusion of certain associations which were not included in 1922 although they were in existence in that year. The year 1922 was the first for which information was collected, and it was found impossible to secure complete returns.

3. Employers' Associations in Industrial Groups.—The figures in the table hereunder refer to Australia at the end of the years 1922 and 1923.

EMPLOYERS' ASSOCIATIONS—INDUSTRIAL GROUPS—AUSTRALIA, 1922 AND 1923.

Class.	Number of Associations.		Number of Branches.		Membership.	
	1922.	1923.	1922.	1923.	1922.	1923.
I. Wood, Furniture, etc. ..	28	22	..	2	1,081	1,183
II. Engineering, etc. ..	28	17	..	18	2,245	2,889
III. Food, Drink, etc. ..	95	102	55	29	13,885	13,583
IV. Clothing, Hats, etc. ..	30	21	11	6	2,596	5,278
V. Books, Printing, etc. ..	28	36	..	4	2,536	3,953
VI. Other Manufacturing ..	55	43	1	..	2,039	2,004
VII. Building	24	30	14	9	1,784	2,173
VIII. Mining, Quarrying, etc. ..	26	13	2	1	322	372
X. Other Land Transport ..	11	14	22	..	1,717	2,356
XI. Shipping, etc. ..	13	17	2	2	165	300
XII. Pastoral, Agricultural, etc. ..	31	25	153	151	15,364	18,058
XIII. Domestic, Hotels, etc. ..	19	22	..	..	1,843	3,994
XIV. Miscellaneous	79	118	2	3	6,129	13,944
Total	467	480	262	225	51,706	70,087

The female membership of these associations was 1,546 for 1922, and 936 for 1923.

The organization of employers is relatively strongest in the pastoral and agricultural industries and in the manufacture and distribution of articles of food and drink. In the former case there has been considerable growth in organization among small farmers, and in the latter the number of small shops purveying foodstuffs of which the proprietors are members of grocers', butchers', and other similar associations accounts for the large membership.

4. Federations of Employers' Associations.—In addition to the associations in various industries, there are Central Associations in each State, to which many of these separate organizations are affiliated. Examples of this kind of association are provided in the Chamber of Manufactures, Chamber of Commerce, and Employers' Federation in each State. Further, these State Associations are, in some cases, organized on a Federal basis, *e.g.*, there is an Associated Chamber of Manufactures, an Associated Chamber of Commerce, or a Central Employers' Association, to which State branches are affiliated.

The affiliation of these associations is, however, of a very loose nature when compared with that of the Federated Trade Unions. Whereas in the latter case the central body has complete control of its State branches, in the case of the Employers' Associations each State body enjoys complete independence, the central body acting in a more or less advisory capacity only.

The following table gives particulars, so far as can be ascertained, of inter-state or federated associations having branches in two or more States in 1923 :—

INTERSTATE OR FEDERATED EMPLOYERS' ASSOCIATIONS, 1923.

Particulars.	Associations Operating in—					Total.
	2 States.	3 States.	4 States.	5 States.	6 States.	
No. of Associations	4	4	4	5	12	29
No. of Members	679	2,028	465	16,521	26,832	46,525

§ 3. Operations under Wages Board and Industrial Arbitration Acts.

1. *General.*—Particulars regarding operations of Wages Boards, and Industrial and Arbitration Courts, under the Commonwealth and State Acts for the regulation of wages, hours, and conditions of labour were first compiled to the 31st December, 1913. These particulars have from time to time been revised, and reviews to the end of approximately quarterly periods have been published in Labour Bulletins and Quarterly Summaries to the 31st December, 1923.

2. *Awards, Determinations, Industrial Agreements.*—The following table gives a summary for each quarter of the years 1922 and 1923 :—

AWARDS, DETERMINATIONS, AND INDUSTRIAL AGREEMENTS, 1922 AND 1923.

State and Commonwealth.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Full Year.	
	Awards or Determinations made.	Agreements Filed.								
1922.										
New South Wales	9	10	11	4	26	8	23	14	69	36
Victoria ..	6	..	13	..	10	..	7	..	36	..
Queensland ..	37	1	19	7	13	5	2	2	71	15
South Australia	17	1	9	1	8	2	6	1	40	5
Western Australia	..	3	10	2	..	2	6	3	16	10
Tasmania ..	7	..	3	1	2	2	3	..	15	3
Cwlth. Court ..	7	10	5	3	1	2	29	19	42	34
Cwlth. Pub. Ser. Arbitrator ..	1	..	4	..	1	6	..
Total ..	84	25	74	18	61	21	76	39	295	103

AWARDS, DETERMINATIONS, AND INDUSTRIAL AGREEMENTS, 1922 AND 1923—*continued.*

State and Commonwealth.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Full Year.	
	Awards or Determinations made.	Agreements Filed.								
1923.										
New South Wales	8	16	18	9	15	13	19	15	60	53
Victoria ..	12	..	24	..	19	..	27	..	82	..
Queensland ..	4	..	6	5	7	4	14	6	31	15
South Australia	5	..	7	2	10	1	16	2	38	5
Western Australia	1	6	1	3	10	2	1	6	13	17
Tasmania ..	5	..	6	1	3	..	14	1
Cwlth. Court ..	4	7	18	14	22	5	20	8	64	34
Cwlth. Pub. Ser. Arbitrator ..	1	1	..	2	..	4	..
Total ..	40	29	80	33	84	26	102	37	306	125

3. Boards Authorized, Awards, etc., in Force.—(i) *Totals for Australia.* The following table gives particulars at the dates specified for all States—excepting Western Australia, in which State there is no provision for Boards—of Boards authorized, etc. and, including operations under the Commonwealth and the Western Australian Arbitration Acts, of the number of awards, determinations, and industrial agreements in force:—

BOARDS AUTHORIZED, ETC., AWARDS, ETC.—AUSTRALIA, 1913, 1922, AND 1923.

Dates.	Boards Authorized.	Boards Constituted.	Boards which had made Awards or Determinations.	Awards or Determinations in Force.(a)	Industrial Agreements in Force.
31st December, 1913	505	501	387(b)	401
30th June, 1922	572	561	499	859
31st December, 1922	569	561	508	780
30th June, 1923	572	564	517	731
31st December, 1923	574	566	523	749

(a) Including awards made by Arbitration Courts and the Commonwealth Public Service Arbitrator. (b) Owing to the fact that a number of awards under the New South Wales Industrial Disputes Act (1908) were still in force, the Boards constituted for such industries under the Industrial Arbitration Act (1912) had not made any awards. (c) Excluding awards or determinations which expired in New South Wales (under the Act of 1908) on 31st December, 1913.

Considerable expansion of the principle of the fixation of a legal minimum rate of wage and of working conditions took place during the ten years ending 31st December, 1923. At the end of 1923, 513 additional awards or determinations were in force in Australia. The number of industrial agreements* made and in force under the various Acts increased during the ten years under review by 339.

* The registration of industrial agreements is not provided for under the Act in force in Victoria, but such agreements may be registered and filed under the provisions of the Commonwealth Conciliation and Arbitration Act.

(ii) *Summary for States.* The following table gives particulars for each State and the Commonwealth of the number of Boards authorized, etc., at the 31st December of the years 1913, 1922, and 1923 :—

BOARDS AUTHORIZED, AWARDS, ETC.—SUMMARY, 1913, 1922, AND 1923.

Particulars.	At 31st Dec.	Commonwealth.		N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
		Court.	Pub. Ser. Arb.							
<i>Boards Authorized, etc. (a)—</i>										
Boards authorized ..	{ 1913 .. .. .	..	..	(b) 216	135	75	56	..	23	505
	{ 1922 .. .. .	..	..	272	174	..	76	..	47	569
	{ 1923 .. .. .	..	..	274	177	..	70	..	47	574
Boards constituted ..	{ 1913 .. .. .	..	..	(b) 223	132	74	51	..	21	501
	{ 1922 .. .. .	..	..	272	172	..	76	..	41	561
	{ 1923 .. .. .	..	..	274	175	..	70	..	41	566
Boards which have made Awards or Determinations ..	{ 1913 .. .. .	..	..	133	123	74	47	..	19	366
	{ 1922 .. .. .	..	..	256	161	..	66	..	25	508
	{ 1923 .. .. .	..	..	258	166	..	66	..	33	523
<i>Awards and Determinations—</i>										
Awards and Determinations in force ..	{ 1913	17	..	(c) 265	127	73	54	18	21	575
	{ 1922	104	27	331	166	208	81	77	48	1,042
	{ 1923	141	29	318	171	216	78	87	48	1,088
<i>State Awards and Determinations—</i>										
Applying to Whole State ..	{ 1913 .. .. .	..	..	32	8	3	..	..	15	58
	{ 1922 .. .. .	..	..	46	42	63	9	4	41	205
	{ 1923 .. .. .	..	..	31	43	65	9	5	39	192
Applying to Metropolitan area ..	{ 1913 .. .. .	..	..	58	28	53	13	1	1	153
	{ 1922 .. .. .	..	..	85	1	47	53	50	..	236
	{ 1923 .. .. .	..	..	85	1	48	47	49	..	230
Applying to Metropolitan and Country areas ..	{ 1913 .. .. .	..	..	49	105	1	..	1	5	161
	{ 1922 .. .. .	..	..	134	113	41	2	..	5	295
	{ 1923 .. .. .	..	..	137	116	43	2	7	7	312
Applying to Country areas ..	{ 1913 .. .. .	..	..	126	14	41	1	4	..	186
	{ 1922 .. .. .	..	..	66	10	57	17	23	2	175
	{ 1923 .. .. .	..	..	65	11	60	20	26	2	184
<i>Commonwealth Court Awards</i>										
Awards in force in each State ..	{ 1913 .. .. .	..	..	13	17	15	16	9	13	..
	{ 1922 .. .. .	..	..	55	71	25	57	34	41	..
	{ 1923 .. .. .	..	..	81	109	32	79	40	62	..
<i>Commonwealth Public Service Arbitrator—</i>										
Determinations in force in each State ..	{ 1922 .. .. .	..	..	23	23	23	24	24	22	..
	{ 1923 .. .. .	..	..	28	25	25	26	26	24	..
<i>Industrial Agreements—</i>										
In force ..	{ 1913	228	..	75	..	5	11	82	..	401
	{ 1922	516	..	105	..	47	42	66	4	780
	{ 1923	454	..	116	..	50	43	72	5	740
C'wealth Agreements in force in each State ..	{ 1913 .. .. .	..	..	132	120	68	62	57	61	..
	{ 1922 .. .. .	..	..	89	308	32	64	49	30	..
	{ 1923 .. .. .	..	..	64	284	24	48	38	18	..
Number of Persons working under State Awards and Determinations (estimated) ..	1923 .. .. .	..	..	275,000	184,500	100,000	32,000	35,000	15,000	641,500

(a) The figures for New South Wales are exclusive of Demarcation Boards.

(b) Including boards which were subsequently dissolved, owing to alteration in the sectional arrangement of industries and callings.

(c) Omitting a number of awards which expired on the 31st December, 1913.

§ 4. Fluctuations in Employment.

1. *General.*—The particulars given in the following tables are based upon information furnished by the secretaries of trade unions. The membership of the unions regularly reporting is approximately 400,000. Unemployment returns are not collected from

unions the members of which are in permanent employment, such as railway and tramway employees, and public servants, or from unions whose members are casually employed (wharf labourers, etc.). Very few of the unions pay unemployment benefit, but the majority of the larger organizations have permanent secretaries and organizers who are closely in touch with the members and with the state of trade within their particular industries. In many cases unemployment registers are kept, and provision is made in the rules for payment of reduced subscriptions by members out of work. In view of these facts, and of the large membership the unions of from which quarterly returns are received, percentage unemployment results based on the information supplied may be taken to show the general trend of unemployment. Seasonal fluctuations in unemployment have been provided for by collecting returns quarterly since the 1st January, 1913, the yearly figures quoted representing the average of the four quarters.

2. *Unemployment.*—(i) *States.* In addition to the qualifications referred to above, allowance must be made for the circumstance that the industries included in the returns from trade unions are not quite identical in the various States. The results may, however, be taken as representing fairly well labour conditions generally.

UNEMPLOYMENT.—STATES, 1923.

State.	Unions Reporting.		Unemployed.	
	Number.	Members.	Number.	Percentage.
New South Wales	123	158,400	14,551	9.2
Victoria	94	124,758	6,792	5.4
Queensland	51	34,652	2,452	7.1
South Australia	58	29,093	1,319	4.5
Western Australia	68	22,095	1,271	5.8
Tasmania	42	7,559	287	3.8
Australia	436	376,557	26,672	7.1

(ii) *Summary for Australia.* The following table gives a summary for Australia for the last five years:—

UNEMPLOYMENT.—AUSTRALIA, 1919 TO 1923.

Particulars.	Unions.	Membership.	Unemployed.	
			Number.	Percentage.
1919	464	310,145	20,507	6.6
1920	447	341,967	22,105	6.5
1921	449	361,744	40,549	11.2
1922	445	380,945	35,219	9.2
1923	436	376,557	26,672	7.1
1923, 1st Quarter	452	377,209	27,112	7.2
2nd „	431	378,161	26,931	7.1
3rd „	453	380,256	28,122	7.4
4th „	407	370,602	24,521	6.6

NOTE.—Similar figures for each of the four quarters of the years since 1912 will be found in the Labour Reports. The quarterly figures show the number of persons who were out of work for three days or more during a specified week in each quarter, and the annual figures the average of the four quarters; they do not include persons out of work through strikes or lockouts.

The highest percentage of unemployed yet recorded (12.5) was reached in the second quarter of 1921.

(iii) *Industrial Groups.* The following table shows the percentages unemployed in industrial groups. Industries in which employment is either unusually stable or exceptionally casual, such as railways, shipping, agricultural, pastoral, etc., and domestic, hotels, etc., are insufficiently represented in the returns owing to the impossibility of securing the necessary information from the trade unions. Particulars are not, therefore, shown separately for these groups, such returns as are available being included in the last group, "Other and Miscellaneous."

UNEMPLOYMENT IN INDUSTRIAL GROUPS.—AUSTRALIA, 1923.

Industrial Group.	Number Reporting.		Unemployed.	
	Unions.	Members.	Number.	Percentage.
I. Wood, Furniture, etc. ..	18	22,621	658	2.9
II. Engineering, Metal Works, etc. ..	62	54,954	5,095	9.3
III. Food, Drink, Tobacco, etc. ..	55	45,014	4,352	9.7
IV. Clothing, Hats, Boots, etc. ..	22	38,099	1,889	5.0
V. Books, Printing, etc. ..	19	14,893	210	1.1
VI. Other Manufacturing ..	76	33,496	3,231	9.9
VII. Building ..	48	40,594	1,207	3.0
VIII. Mining, Quarrying, etc. ..	21	26,493	2,142	8.1
X. Land Transport other than Rail- way and Tramway services ..	13	10,653	681	6.4
IX., XI., XII., XIII., and XIV., Other and Miscellaneous ..	102	89,740	7,207	8.0
All Groups ..	436	376,557	26,672	7.1

§ 5. Rates of Wage and Hours of Labour.

1. *General.*—The collection of information respecting the current rates of wage payable in different callings and in occupations in various industries was first undertaken by the Commonwealth Bureau of Census and Statistics in the early part of the year 1913. The particulars acquired were obtained primarily from awards, determinations and agreements, under Commonwealth and State Acts, and therefore show the minimum rates prescribed. They refer generally to the capital city in each State, but in industries which obviously are not carried on in the capital cities, *e.g.*, mining, agriculture, etc., the rates in the more important centres have been taken. In cases where no award, determination, or agreement is in force, particulars are given, where possible, of the ruling union or predominant rate as furnished by employers or secretaries of trade unions. The total number of occupations for which particulars of wages are available back to 1901 is 652. Since 1913, when the scope of the inquiry was extended to 930 specified industries and 4,256 adult occupations (3,948 male and 308 female), the number of occupations included in the comparative computations has been kept constant.

The index-numbers for male adult workers were computed with the weighted average wage in 1911 as base (=1,000) in order that comparisons might more readily be made between these index-numbers and the retail prices index-numbers which are also computed to the year 1911 as base. In the case of females, however, it has not been possible to secure information for years prior to 1914, and the index-numbers are therefore computed with the weighted average rate of wage payable to adult female workers in Australia at 30th April, 1914, as base (=1,000).

An extensive tabular presentation of the minimum rates of wage for adult male and female workers in the main occupations in the capital city of each State will be found in Labour Report No. 14, Appendixes IV. and V. Space will not permit of the inclusion of the detailed tables in this volume.

2. Weekly Rates of Wage, 1919 to 1923.—(i) *General.* The arithmetical average of the rates of wage given in the Appendixes referred to furnishes the basis for the computation of relative weighted wages in the different States and industrial groups.

(ii) *Adult Males—Each State.* Particulars are given in the following table of the weighted average nominal weekly rates of wage payable to adult male workers at the 31st December in the years 1919 to 1923 for a full week's work in each State and Australia, together with index-numbers computed with the average for Australia for the year 1911 as base (=1,000).

WAGES.—ADULT MALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE PAYABLE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS, 31st DECEMBER, 1919 TO 1923.

NOTE.—Index-numbers based on the average wage for Australia in 1911 (51s. 3d.) as base (=1,000). The index-numbers in this table are comparable throughout.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia. (a)
No. of Occupations Included ..	874	900	627	567	489	482	3,948

RATES OF WAGE.

	<i>s. d.</i>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
31st December, 1919 ..	76 9	72 0	78 7	70 5	77 8	69 0	74 11
31st December, 1920 ..	94 0	86 1	91 6	82 8	89 9	85 9	89 10
31st December, 1921 ..	95 10	93 7	96 8	89 5	95 0	91 8	94 6
31st December, 1922 ..	91 6	91 4	93 10	87 6	93 9	88 5	91 6
31st March, 1923 ..	91 5	91 2	93 9	87 5	93 5	88 5	91 4
30th June, 1923 ..	91 10	91 1	93 9	87 5	93 3	88 3	91 6
30th September, 1923 ..	92 9	93 6	94 0	89 2	94 9	90 11	92 11
31st December, 1923 ..	94 6	95 7	94 2	90 9	94 2	92 4	94 4

INDEX-NUMBERS.

31st December, 1919 ..	1,498	1,404	1,534	1,373	1,516	1,346	1,462
31st December, 1920 ..	1,835	1,679	1,785	1,613	1,751	1,674	1,752
31st December, 1921 ..	1,869	1,826	1,886	1,745	1,853	1,788	1,844
31st December, 1922 ..	1,785	1,783	1,830	1,708	1,829	1,726	1,785
31st March, 1923 ..	1,784	1,780	1,830	1,705	1,823	1,724	1,783
30th June, 1923 ..	1,791	1,778	1,829	1,705	1,820	1,723	1,785
30th September, 1923 ..	1,810	1,825	1,835	1,740	1,849	1,774	1,813
31st December, 1923 ..	1,844	1,865	1,837	1,770	1,838	1,802	1,840

(a) Weighted average.

The results show that at the 31st December, 1923, the weighted average nominal weekly rate of wage was highest in Victoria, followed in the order named by New South Wales, Western Australia, Queensland, Tasmania, and South Australia. In all States wages increased rapidly from December, 1919, to the end of 1921. During 1922, however, the average wage in each State declined on account of adjustments made in accordance with the decrease in the cost of living. In 1923 the average wage increased in each State.

The largest percentage increase during the period under review was in Tasmania with 33.9 per cent., followed by Victoria 32.8 per cent., South Australia 28.9 per cent., New South Wales 23.1 per cent., Western Australia 21.2 per cent., and Queensland 19.8 per cent. The increase in the weighted average for Australia was 25.9 per cent.

(iii) *Adult Males—Industrial Groups.* The following table shows (a) the average weekly rate of wage in each of the fourteen industrial groups, (b) the weighted average wage for all groups combined, and (c) index-numbers based on the average wage for all groups in 1911 (51s. 3d.), as base (=1,000) :—

WAGES.—ADULT MALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH INDUSTRIAL GROUP, 31st DECEMBER, 1919 TO 1923.

NOTE.—Index-numbers for each industrial group and all industrial groups, based on the average wage for all groups in 1911 (51s. 3d.), as base (=1,000). The index-numbers in this table are comparable throughout.

Industrial Group.	Weighted Average Nominal Weekly Rate of Wage, and Index-Number at—							
	31st Dec., 1919.	31st Dec., 1920.	31st Dec., 1921.	31st Dec., 1922.	31st March, 1923.	30th June, 1923.	30th Sept., 1923.	31st Dec., 1923.
I. Wood, Furniture, etc.	Wage ..	s. d. 75.9	s. d. 95.1	s. d. 98.2	s. d. 95.4	s. d. 95.6	s. d. 95.7	s. d. 95.9
	Index-No.	1,479	1,855	1,916	1,860	1,863	1,864	1,869
II. Engineering, etc.	Wage ..	77.6	92.5	98.2	93.10	93.8	94.4	95.1
	Index-No.	1,512	1,803	1,915	1,832	1,828	1,841	1,856
III. Food, Drink, etc.	Wage ..	75.6	89.3	93.10	91.10	91.9	91.10	93.0
	Index-No.	1,473	1,742	1,832	1,792	1,790	1,792	1,814
IV. Clothing, Boots, etc.	Wage ..	73.5	86.5	93.3	91.1	91.1	91.2	91.2
	Index-No.	1,433	1,637	1,819	1,777	1,777	1,778	1,779
V. Books, Printing, etc.	Wage ..	80.9	99.6	104.7	102.9	102.9	102.10	103.0
	Index-No.	1,576	1,941	2,040	2,004	2,004	2,006	2,011
VI. Other Manufacturing	Wage ..	75.4	88.11	95.0	91.11	91.11	92.0	93.4
	Index-No.	1,470	1,736	1,854	1,793	1,794	1,794	1,821
VII. Building	Wage ..	79.8	95.7	102.5	100.5	100.7	100.10	102.4
	Index-No.	1,554	1,865	1,999	1,960	1,962	1,968	1,996
VIII. Mining, etc.	Wage ..	88.4	103.10	105.4	103.8	103.6	103.7	104.6
	Index-No.	1,724	2,026	2,056	2,022	2,019	2,022	2,039
IX. Railways, etc.	Wage ..	78.6	93.1	97.5	93.4	93.0	94.0	95.8
	Index-No.	1,532	1,816	1,901	1,821	1,814	1,834	1,867
X. Other Land Transport	Wage ..	73.4	87.3	90.2	88.5	88.5	87.3	90.1
	Index-No.	1,431	1,702	1,760	1,725	1,725	1,702	1,753
XI. Shipping, etc. (a)	Wage ..	77.9	88.0	101.8	99.9	98.10	98.10	102.0
	Index-No.	1,518	1,716	1,984	1,947	1,928	1,928	1,991
XII. Agricultural, etc. (b)	Wage ..	70.3	87.1	89.0	83.11	83.11	83.11	85.10
	Index-No.	1,370	1,699	1,736	1,637	1,637	1,637	1,675
XIII. Domestic, etc. (b)	Wage ..	68.7	80.6	84.2	82.4	82.4	82.7	82.9
	Index-No.	1,338	1,571	1,642	1,606	1,606	1,611	1,614
XIV. Miscellaneous	Wage ..	71.3	84.11	91.1	88.8	88.6	88.5	90.1
	Index-No.	1,389	1,656	1,778	1,730	1,726	1,724	1,753
All Industrial Groups (c)	Wage ..	74.11	89.10	94.6	91.6	91.4	91.6	92.11
	Index-No.	1,462	1,752	1,844	1,785	1,783	1,785	1,813

(a) Including the value of victualling and accommodation where supplied.

(b) Including the value of board and lodging where supplied.

(c) Weighted average.

The foregoing table shows that the rate of increase in the weighted average weekly wage in occupations and callings classified in the fourteen industrial groups during the period 31st December, 1919 to 1923, was greatest in Group XI. (Shipping), 31.6 per cent., followed in the order named by Groups I. (Wood, Furniture, etc.), 30.8 per cent., VII. (Building), 30.2 per cent., and XIV. (Miscellaneous), 29.6 per cent. The smallest increase occurred in Group VIII. (Mining), 18.2 per cent. In eight of the groups the increase was more, and in six groups less than the increase in the weighted average for all groups.

During 1923 increases in average wages occurred in all industrial groups, the greatest being 4.7 per cent. in Groups IX. (Railways, etc.), and X. (Other Land Transport), followed by 4.0 per cent. in Groups I. (Wood, Furniture, etc.), and XIV. (Miscellaneous). The percentage increase during the year was least in Group VIII. (Mining), 0.7 per cent.

(iv) *Adult Females—Each State.* The following table shows the weighted average weekly rate of wage payable to adult female workers for a full week's work in each State and Australia at the dates specified. Index-numbers are given also for each State based on the average weekly wage at the end of each of the periods indicated, computed with the weighted average wage for all States at the 30th April, 1914, as base (=1,000).

WAGES.—ADULT FEMALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE PAYABLE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS, 31st DECEMBER, 1919 TO 1923.

NOTE.—Index-numbers based on the average wage for Australia at the 30th April, 1914 (27s. 2d.) as base (=1,000). The index-numbers in this table are comparable throughout.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.(a)
No. of Occupations Included ..	85	87	37	47	24	28	308

RATES OF WAGE.

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
31st December, 1919 ..	40 0	34 5	38 4	33 3	43 7	33 0	37 1
31st December, 1920 ..	46 0	43 1	44 11	40 7	52 11	41 10	44 6
31st December, 1921 ..	49 0	47 10	50 3	45 2	56 4	47 6	48 8
31st December, 1922 ..	47 8	48 0	48 2	44 0	56 4	47 7	47 11
31st March, 1923 ..	47 3	48 0	48 2	44 0	56 4	47 7	47 9
30th June, 1923 ..	47 6	48 0	48 2	44 0	56 4	47 7	47 10
30th September, 1923 ..	47 6	48 2	48 2	44 0	56 4	47 7	47 11
31st December, 1923 ..	49 3	49 5	50 5	46 4	56 4	48 6	49 6

INDEX-NUMBERS.

31st December, 1919 ..	1,474	1,268	1,412	1,225	1,605	1,215	1,365
31st December, 1920 ..	1,695	1,586	1,652	1,495	1,947	1,540	1,637
31st December, 19 1 ..	1,803	1,761	1,849	1,661	2,074	1,749	1,790
31st December, 1922 ..	1,754	1,767	1,771	1,620	2,075	1,751	1,763
31st March, 1923 ..	1,740	1,767	1,771	1,620	2,075	1,751	1,758
30th June, 1923 ..	1,747	1,767	1,771	1,620	2,075	1,751	1,760
30th September, 1923 ..	1,749	1,774	1,771	1,620	2,075	1,751	1,764
31st December, 1923 ..	1,812	1,819	1,855	1,704	2,075	1,785	1,821

(a) Weighted Average.

As in the case of male occupations, female wages increased rapidly up to December, 1921, but in 1922 reductions were recorded. The decrease over the whole of Australia was relatively much less than in the case of males. There was an increase in each State during 1923, with the exception of Western Australia, where the wage remained stationary. The Australian average rose from 47s. 11d. to 49s. 6d., an increase of 1s. 7d. per week. The largest increase, 2s. 4d. per week, occurred in South Australia, followed by Queensland with 2s. 3d. per week. The advance in the Australian average during the period was 33.4 per cent.

(v) *Adult Females—Industrial Groups.* The following table gives particulars of the weighted average weekly rate of wage payable to adult female workers in the industrial groups in which they are mainly employed, and in all groups combined. Taking the average wage for all groups at the 30th April, 1914, as base (=1,000), index-numbers are given computed on the average rate of wage ruling at the end of each period indicated.

WAGES.—ADULT FEMALES—WEIGHTED AVERAGE NOMINAL WEEKLY RATE PAYABLE FOR A FULL WEEK'S WORK, AND WAGE INDEX-NUMBERS IN EACH INDUSTRIAL GROUP, 31st DECEMBER, 1919, TO 1923.

NOTE.—Index-numbers for each Industrial Group and all Industrial Groups, based on the average wage for all groups at 30th April, 1914 (27s. 2d.), as base (=1,000). The index-numbers in this table are comparable throughout.

Date.	Industrial Group.					
	III. Food, Drink, etc.	IV. Clothing, Boots, etc.	I., II., V. and VI., All Other Manufacturing.	XIII. Domestic, Hotels, etc. (a).	XIV. Miscel- laneous.	All Groups (b).
RATES OF WAGE.						
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
31st December, 1919 ..	34 8	37 4	36 9	38 2	36 2	37 1
31st December, 1920 ..	41 10	43 5	44 0	46 3	46 2	44 6
31st December, 1921 ..	43 9	48 7	48 0	48 6	50 0	48 8
31st December, 1922 ..	43 3	47 10	47 4	48 3	48 9	47 11
31st March, 1923 ..	43 1	47 8	47 2	48 3	48 8	47 9
30th June, 1923 ..	43 2	47 8	47 3	48 5	48 9	47 10
30th September, 1923..	45 8	47 8	47 9	48 8	48 9	47 11
31st December, 1923 ..	44 1	50 1	48 10	49 5	49 6	49 6
INDEX-NUMBERS.						
31st December, 1919 ..	1,277	1,373	1,353	1,403	1,332	1,365
31st December, 1920 ..	1,538	1,597	1,619	1,701	1,700	1,637
31st December, 1921 ..	1,609	1,789	1,766	1,787	1,841	1,790
31st December, 1922 ..	1,593	1,762	1,741	1,777	1,794	1,763
31st March, 1923 ..	1,587	1,754	1,737	1,777	1,792	1,758
30th June, 1923 ..	1,588	1,755	1,739	1,783	1,795	1,760
30th September, 1923..	1,608	1,754	1,757	1,791	1,795	1,764
31st December, 1923 ..	1,622	1,842	1,799	1,819	1,821	1,821

(a) Including the value of board and lodging, where supplied. (b) Weighted Average.

The greatest increase in the weekly rate of wage occurred in Group XIV. (Miscellaneous), 36.7 per cent., followed in the order named by Groups IV. (Clothing, Boots, etc.), 34.2 per cent.; I., II., V., and VI. (All Other Manufacturing), 33.0 per cent., XIII. (Domestic), 29.7 per cent., and III. (Food, Drink, etc.), 27.0 per cent. The weighted average weekly rate for all groups was 33.4 per cent. higher at the end of 1923 than at the 31st December, 1919.

The average wage for females in each industrial group increased during the year 1923, the largest increase being 4.5 per cent. in Group IV., followed in the order named by Groups I., II., V., and VI., 3.3 per cent., XIII., 2.4 per cent., III., 1.8 per cent., and XIV., 1.5 per cent. The weighted average for all groups increased by 3.3 per cent.

3. Relative Hours of Labour and Hourly Rates of Wage, 1919 to 1923.—(i) General. The rates of wage referred to in preceding paragraphs relate to the minimum payable for a full week's work. The number of hours constituting a full week's work differs, however, in many instances between various trades and occupations in each State, and between the same trades and occupations in the several States. In order to secure what may be for some purposes a more adequate standard of comparison, it is desirable to reduce the

comparison to a common basis, viz., the rate of wage per hour. Particulars are given in the following table classified according to States, for male and female occupations separately, at the end of the years 1919 to 1923. These particulars relate to (a) the weighted average nominal weekly wage, (b) the weighted average number of working hours constituting a full week's work, and (c) the weighted average hourly wage. The weighted average weekly wage relates to all industrial groups combined, and includes the value of board and lodging where supplied in land occupations, and the value of victualling in marine occupations; whereas the number of working hours and the hourly wage relate to all industrial groups other than Groups XI. (Shipping), and XII. (Agricultural, Pastoral, etc.). Many of the occupations included in these two groups are of a casual or seasonal nature, and the hours of labour are not generally regulated either by awards or determinations of industrial tribunals or otherwise, hence the necessary data for the computation of the average number of working hours are not available.

The general effect of reducing the rates of wage to a common basis (i.e., per hour) is to eliminate on comparison any apparent difference between the several States which may be due to unequal working time.

(ii) *Adult Males and Females.* Particulars for the last five years for adult males and females are given in the table hereunder:—

WEEKLY AND HOURLY WAGES AND HOURS OF LABOUR.—ADULT WORKERS, 1919 TO 1923.

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus.
MALE WORKERS.								
31st Dec., 1919	Weekly Wage (a)	s. d. 76 9	s. d. 72 0	s. d. 78 7	s. d. 70 5	s. d. 77 8	s. d. 69 0	s. d. 74 11
	Working Hours (b)	.. 47.77	47.86	46.19	47.58	47.60	47.89	47.41
	Hourly Wage (b)	.. 1/7½	1/6½	1/9	1/5½	1/7½	1/5½	1/7½
31st Dec. 1920	Weekly Wage (a)	s. d. 94 0	s. d. 86 1	s. d. 91 6	s. d. 82 8	s. d. 89 9	s. d. 85 9	s. d. 89 10
	Working Hours (b)	.. 47.51	47.19	45.63	47.29	46.53	47.33	47.07
	Hourly Wage (b)	.. 2/-	1/10	2/0½	1/8½	1/11½	1/10	1/11
31st Dec., 1921	Weekly Wage (a)	s. d. 95 10	s. d. 93 7	s. d. 96 8	s. d. 89 5	s. d. 95 0	s. d. 91 8	s. d. 94 6
	Working Hours (b)	.. 45.66	46.95	45.52	47.07	46.24	46.84	46.22
	Hourly Wage (b)	.. 2/1½	2/0¼	2/2	1/10½	2/1	1/11½	2/0½
31st Dec., 1922	Weekly Wage (a)	s. d. 91 6	s. d. 91 4	s. d. 93 10	s. d. 87 6	s. d. 93 9	s. d. 88 5	s. d. 91 6
	Working Hours (b)	.. 46.05	46.99	45.51	47.00	46.41	46.93	46.38
	Hourly Wage (b)	.. 2/0¼	1/11½	2/1¼	1/10½	2/0¼	1/10½	2/-
31st Dec., 1923	Weekly Wage (a)	s. d. 93 6	s. d. 98 0	s. d. 95 9	s. d. 91 8	s. d. 95 2	s. d. 93 3	s. d. 96 3
	Working Hours (b)	.. 46.73	47.06	45.51	47.00	46.63	47.27	46.70
	Hourly Wage (b)	.. 2/0½	2/1	2/1¼	1/11½	2/0½	1/11½	2/0½
FEMALE WORKERS.								
31st Dec., 1919	Weekly Wage	s. d. 40 0	s. d. 34 5	s. d. 38 4	s. d. 33 3	s. d. 43 7	s. d. 33 0	s. d. 37 1
	Working Hours	.. 47.53	47.63	46.76	47.67	48.12	49.28	47.54
	Hourly Wage	.. -/10	-/8½	-/9½	-/8½	-/11	-/8	-/9½
31st Dec., 1920	Weekly Wage	s. d. 46 0	s. d. 43 1	s. d. 44 11	s. d. 40 7	s. d. 52 11	s. d. 41 10	s. d. 44 6
	Working Hours	.. 46.83	46.23	46.09	46.51	46.20	47.86	46.47
	Hourly Wage	.. -/11½	-/11½	-/11½	-/10½	1/1½	-/10½	-/11½
31st Dec., 1921	Weekly Wage	s. d. 49 0	s. d. 47 10	s. d. 50 3	s. d. 45 2	s. d. 56 4	s. d. 47 6	s. d. 48 8
	Working Hours	.. 45.06	46.04	45.66	46.10	45.97	47.86	45.69
	Hourly Wage	.. 1/1	1/0½	1/1¼	-/11½	1/2½	1/-	1/0½
31st Dec., 1922	Weekly Wage	s. d. 47 8	s. d. 48 0	s. d. 48 2	s. d. 44 0	s. d. 56 4	s. d. 47 7	s. d. 47 11
	Working Hours	.. 45.33	46.14	45.60	46.10	45.97	47.86	45.82
	Hourly Wage	.. 1/0½	1/0½	1/0½	-/11½	1/2½	1/-	1/0½
31st Dec., 1923	Weekly Wage	s. d. 49 3	s. d. 49 5	s. d. 50 5	s. d. 46 4	s. d. 56 4	s. d. 48 6	s. d. 49 6
	Working Hours	.. 45.81	45.13	45.00	46.10	45.97	47.86	45.98
	Hourly Wage	.. 1/1	1/0½	1/1¼	1/0	1/2½	1/0½	1/1

(a) Weighted average weekly rate in all industrial groups combined. (b) Weighted average working hours per week, and computed hourly rates of wage for all industrial groups excepting Groups XI. (Shipping, etc.), and XII. (Agricultural, Pastoral, etc.). Working hours have not been generally regulated by industrial tribunals for occupations classified in industrial groups XI and XII.

(iii) *Index-numbers.* There has been a diminution in each of the States during the period 1919 to 1921 in the number of working hours constituting a full week's work for male and female occupations, but during 1922 and 1923 certain increases in hours were recorded, principally in New South Wales. The effect of these changes on the hourly rate of wage as compared with the general increase in the weekly wage is readily seen from the comparative index-numbers given in the following table. In each instance (male and female occupations separately) the basis taken is the weighted average for Australia at the 30th April, 1914 (=1,000)

WEEKLY AND HOURLY WAGE INDEX-NUMBERS.—ADULT WORKERS,
1919 TO 1923.

NOTE.—Weighted average for Australia at 30th April, 1914, as base (=1,000).

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
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MALE WORKERS.

31st Dec., 1919	{ Weekly Wage	..	1,398	1,306	1,426	1,277	1,409	1,251	1,359
	{ Hourly Wage	..	1,405	1,322	1,512	1,262	1,408	1,259	1,378
31st Dec., 1920	{ Weekly Wage	..	1,706	1,561	1,659	1,500	1,628	1,556	1,629
	{ Hourly Wage	..	1,725	1,570	1,753	1,492	1,686	1,567	1,655
31st Dec., 1921	{ Weekly Wage	..	1,738	1,697	1,753	1,623	1,723	1,663	1,715
	{ Hourly Wage	..	1,817	1,741	1,865	1,637	1,796	1,675	1,779
31st Dec., 1922	{ Weekly Wage	..	1,660	1,657	1,702	1,588	1,701	1,605	1,660
	{ Hourly Wage	..	1,735	1,709	1,803	1,621	1,766	1,628	1,726
31st Dec., 1923	{ Weekly Wage	..	1,714	1,734	1,708	1,646	1,709	1,675	1,711
	{ Hourly Wage	..	1,775	1,790	1,808	1,676	1,754	1,696	1,771

FEMALE WORKERS.

31st Dec., 1919	{ Weekly Wage	..	1,474	1,268	1,412	1,225	1,605	1,215	1,365
	{ Hourly Wage	..	1,523	1,307	1,483	1,262	1,639	1,211	1,410
31st Dec., 1920	{ Weekly Wage	..	1,695	1,586	1,652	1,495	1,947	1,540	1,637
	{ Hourly Wage	..	1,777	1,685	1,761	1,578	2,069	1,580	1,730
31st Dec., 1921	{ Weekly Wage	..	1,803	1,761	1,849	1,661	2,074	1,749	1,790
	{ Hourly Wage	..	1,965	1,878	1,989	1,770	2,215	1,794	1,923
31st Dec., 1922	{ Weekly Wage	..	1,754	1,767	1,771	1,620	2,075	1,751	1,763
	{ Hourly Wage	..	1,899	1,881	1,908	1,726	2,215	1,797	1,889
31st Dec., 1923	{ Weekly Wage	..	1,812	1,810	1,855	1,704	2,075	1,785	1,821
	{ Hourly Wage	..	1,943	1,937	1,997	1,815	2,215	1,831	1,944

4. *Weighted Average Nominal Weekly Hours of Labour, Adult Males.*—The following table shows the weighted average nominal hours of labour (exclusive of overtime) in a full working week for male workers in each State and Australia at the 31st December, 1919 to 1923. Index-numbers are given also for each State based on the weekly average hours at the end of each of the periods specified, computed with the weighted average hours of labour for Australia at the 30th April, 1914, as base (=1,000).

**HOURS OF LABOUR.—WEEKLY INDEX-NUMBERS, ADULT MALES,
1919 TO 1923.**

NOTE.—Index-numbers based on the Average Hours of Labour for Australia at the 30th April, 1914 (48.93) as base (=1,000). The index-numbers in this table are comparable throughout. Overtime is excluded.

Date.	Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
31st Dec., 1919	Weighted average weekly hours of labour (a) ..	47.77	47.36	46.19	47.58	47.60	47.89	47.41
	Index-numbers ..	976	968	944	972	973	979	969
31st Dec., 1920	Weighted average weekly hours of labour (a) ..	47.51	47.19	45.63	47.29	46.53	47.33	47.07
	Index-numbers ..	971	964	933	966	951	967	962
31st Dec., 1921	Weighted average weekly hours of labour (a) ..	45.66	46.95	45.52	47.07	46.24	46.84	46.22
	Index-numbers ..	933	960	930	962	945	957	945
31st Dec., 1922	Weighted average weekly hours of labour (a) ..	46.05	46.99	45.51	47.00	46.41	46.93	46.38
	Index-numbers ..	941	960	930	961	948	959	948
31st Dec., 1923	Weighted average weekly hours of labour (a) ..	46.73	47.03	45.51	47.00	46.66	47.27	46.70
	Index-numbers ..	955	962	930	931	954	966	954

(a) Weighted average working hours per week for all industrial groups excepting Groups XI. (Shipping), and XII. (Agricultural, Pastoral, etc.), in which working hours have not been generally regulated by industrial tribunals.

There was a considerable diminution in each State during the period 1919 to 1921 in the number of working hours constituting a full week's work for male occupations, but during 1922 and 1923, in certain States, especially in New South Wales, hours of labour were increased. The weighted average weekly hours index-number for Australia at the 31st December, 1923, was 954, as compared with 1,000 at 30th April, 1914, a reduction of 4.6 per cent. The lowest weighted average nominal weekly hours index-number at the 31st December, 1923, was that for Queensland (930), followed in the order named by Western Australia (954), New South Wales (955), South Australia (961), Victoria (962), and Tasmania (966).

5. Nominal and Effective Wages, 1901 to 1923.—(i) *Nominal Weekly Wage Index-numbers—Each State.* The following table shows the progress in nominal weekly rates of wage for all industries in each State, the weighted average wage for Australia in 1911 being taken as the base (=1,000). These results are based generally upon rates of wage prevailing in the capital city of each State, but in certain industries, such as mining, rates are necessarily taken for places other than the capital cities.

NOMINAL WAGE INDEX-NUMBERS, ADULT MALES, 1901 TO 1923.

(WEIGHTED AVERAGE WAGE FOR AUSTRALIA IN 1911=1,000.)

States.	Number of Occupations included.		1901.	1911.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
	1901 to 1912.	1913 to 1923.												
New South Wales ..	158	874	858	1,003	1,096	1,124	1,208	1,257	1,286	1,498	1,835	1,869	1,785	1,844
Victoria ..	150	909	796	985	1,065	1,078	1,148	1,229	1,278	1,404	1,679	1,826	1,783	1,865
Queensland ..	87	627	901	997	1,042	1,060	1,177	1,273	1,356	1,534	1,785	1,886	1,830	1,837
South Australia ..	134	567	819	1,013	1,062	1,067	1,151	1,231	1,278	1,373	1,613	1,745	1,708	1,770
Western Australia ..	60	489	1,052	1,152	1,226	1,236	1,272	1,345	1,372	1,516	1,751	1,853	1,829	1,833
Tasmania ..	54	482	719	799	1,028	1,039	1,112	1,163	1,193	1,346	1,674	1,788	1,726	1,802
Australia (a) ..	652	3,948	848	1,000	1,085	1,102	1,184	1,252	1,296	1,462	1,752	1,844	1,785	1,840

(a) Weighted average.

NOTE.—The figures in the above table are comparable both horizontally and vertically.

During the period 1911 to the end of the year 1923 the average weekly rate of wage in New South Wales increased 84 per cent., in Victoria 89 per cent., in Queensland 84 per cent., in South Australia 75 per cent., in Western Australia 60 per cent., and in Tasmania 126 per cent., while the weighted average weekly rate for Australia increased 84 per cent.

(ii) *Effective Weekly Wage Index-numbers—Each State.* In comparing wages, two elements are of obvious importance, viz., (i) hours worked per day or week, and (ii) the cost of commodities and housing. Thus 60s. per week of 60 hours represents the same hourly rate as 48s. per week for 48 hours. Similarly, if the cost of commodities and housing increases 25 per cent., e.g., if the prices index-number rises from 1,000 to 1,250, then 60s. per week (the index-number being 1,250), is effectively equal only to 48s. (when the index-number was 1,000). Or, again, if the prices index-number falls from 1,000 to 750, then 60s. per week, when the index-number is 750, would have the same purchasing power as 80s. when the index-number was 1,000. Ignoring for the present the number of hours worked, and assuming that the real value of the average wages is to be measured by their purchasing power, the actual average wages paid may be reduced to their effective value by applying the prices index-numbers to the nominal wages index-numbers. The following table shows the effective wage index-numbers so ascertained in each State for each of the years indicated from 1901 to 1923.

In computing these effective wage index-numbers for years prior to 1914, the nominal wage index-numbers given in the preceding table have been divided by the price index-numbers in §9, Sub-section 3. iv hereinafter. The resulting index-numbers show for each State and for Australia for the years specified the variations in effective wages. The nominal wage index-numbers for these earlier years are based on rates of wage current at the end of December, the only data available. For the years 1914 onward, however, the nominal wage-index numbers used are based on the average wage for the four quarters in each year, and in this respect differ from those in the preceding sections. However, so far as the years 1901 and 1911 are concerned, as the movement in wages during any one year prior to 1914 was very slight, it is possible even if the wage data were available in quarters, that the index-numbers used would approximate very closely to those based on averages for the year.

EFFECTIVE WEEKLY WAGE INDEX NUMBERS.—ADULT MALES, 1901 TO 1923.(a)

Particulars.	1901.	1911.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
New South Wales	961	973	906	838	835	882	890	875	911	1,079	1,113	1,040
Victoria	915	1,037	961	839	858	929	925	904	875	1,038	1,102	1,036
Queensland	1,172	1,090	1,038	902	944	1,041	1,042	990	1,036	1,244	1,273	1,214
South Australia	948	957	929	842	863	961	934	901	853	1,027	1,090	1,036
Western Australia	1,024	1,023	1,070	1,009	985	1,051	1,095	1,008	1,012	1,139	1,226	1,192
Tasmania	827	838	942	836	839	875	869	840	830	977	1,053	1,000
Australia (b)	964	1,000	948	854	864	930	932	907	911	1,076	1,126	1,062

(a) As to the effect in abnormal periods, see Labour Report No. 6, pp. 20-2, Section IV., par. 3.

(b) Weighted average.

In the table above the effective wage index-numbers are computed to the one base, that of Australia for 1911. Subject to the qualification already referred to, which, as has been pointed out, does not materially affect the figures, the index-numbers are comparable in all respects, and comparisons may be made as to the increase or decrease in the effective wage index-number for any State over a period of years. Thus, comparing 1923 with 1901, and also with 1911, there has been an increase in the effective wage in all States.

(iii) *Effective Wages and Standard of Comfort.* In the preceding table particulars are given as to variations in effective wages in each State, due allowance having been made for variations in retail prices of commodities, though not for unemployment.

For years prior to 1913 the data available as to unemployment are so meagre that comparative results allowing for variations both in prices of commodities and in unemployment cannot be accurately computed for the several States. In the subjoined table, for these earlier years the percentage of unemployment for Australia and the nominal wage index-numbers relate to the end of the year. For 1914 and subsequent years the wages index-numbers, percentages of unemployment, and retail price index-numbers are the average for the year. Column I. shows the nominal

wage index-numbers, and Column II. the relative percentages unemployed. Applying these percentages to the numbers shown in Column I., and deducting the results from each corresponding index-number, so as to allow for relative loss of time, the figures in Column III. are obtained. These figures are then re-computed with the year 1911 as base, and are shown in Column IV. In Column V. the retail prices index-numbers are shown, and in Columns VI. and VII. the effective wage index-numbers are given, firstly, for full work, and secondly, allowing for lost time. These are obtained by dividing the figures in Columns I. and IV. respectively by the corresponding figure in Column V. The resulting index-numbers show for Australia for the years specified the variations in effective wages, or in what may be called the "standard of comfort."*

A comparison between the figures in Columns I. and VI. gives the relation between the nominal rates of wage and the purchasing efficiency of these rates. The figures in Column VII. show variations in effective wages after allowing not only for variations in purchasing power of money, but also for the relative extent of unemployment.

WAGE INDEX-NUMBERS, NOMINAL AND EFFECTIVE, 1901 TO 1923.(a)

Year.	I. Nominal Wage Index- Numbers.	II. Percentage Unem- ployed.	Rate of Wage Index- Numbers, Allowing for Lost Time.		V. Retail Price Index- Numbers.	Effective Wage Index-Numbers.	
			III. Actual.	IV. Re-com- puted. (1911 = 1,000).		VI. Full Work.	VII. Allowing for Unemploy- ment.
1901 ..	848	6.6	793	832	880	964	945
1906 ..	866	6.7	808	848	902	960	940
1907 ..	893	5.7	842	884	897	996	986
1908 ..	900	6.0	846	888	951	946	934
1909 ..	923	5.8	870	913	948	974	963
1910 ..	955	5.6	901	945	970	985	974
1911 ..	1,000	4.7	953	1,000	1,000	1,000	1,000
1912 ..	1,051	5.5	993	1,042	1,101	955	946
1913 ..	1,076	5.3	1,021	1,071	1,104	975	970
1914 ..	1,081	8.3	991	1,040	1,140	948	912
1915 ..	1,092	9.3	990	1,039	1,278	854	813
1916 ..	1,144	5.8	1,078	1,131	1,324	864	854
1917 ..	1,226	7.1	1,139	1,195	1,318	930	907
1918 ..	1,270	5.8	1,196	1,255	1,362	932	921
1919 ..	1,370	6.6	1,280	1,343	1,510	907	889
1920 ..	1,627	6.5	1,521	1,596	1,785	911	894
1921 ..	1,826	11.2	1,621	1,701	1,697	1,076	1,002
1922 ..	1,801	9.3	1,634	1,715	1,600	1,126	1,072
1923 ..	1,805	7.0	1,679	1,762	1,700	1,062	1,036

(a) As to the effect in abnormal periods, see Section IV., par. 3, of Labour Report No. 6.

NOTE.—For years prior to 1914, the nominal wage index-numbers and the percentage unemployed relate to the end of the year only, but from 1914 onward these figures, in addition to those for retail prices, are averages for the whole year.

Compared with 1911 the effective wage in 1901 was 3.6 per cent. less for full work and 5.5 per cent. less after allowance for unemployment. In connexion with the index-numbers in Column VII. unemployment was less in 1911—the base year, than in any other year. During the period 1912 to 1920, while wages increased steadily, prices increased at a greater rate, with the result that the purchasing power of wages was less in each of these years than in 1911, the lowest point reached being in 1915 when the full time index number was 14.6 per cent. less, or, allowing for unemployment, 18.7 per cent. less than for the base year. The first occasion on which the effective wage was higher than in

* This expression must not be confused with "standard of living." A change in the standard of living necessarily involves a change in regimen (see Labour Report No. 1), that is, a change in the nature or in the relative quantity of commodities purchased, or both. A change in the "standard of comfort" merely implies a variation in effective wages, which variation may, or may not, result in, or be accompanied by, a change in the "standard of living."

1911 was in 1921, when wages increased considerably while prices declined, the increase in effective wages being 7.6 per cent., but only 0.2 per cent. allowing for unemployment. Unemployment reached its "peak" during 1921. Both wages and prices fell in 1922, but the former less than the latter, resulting in a further increase in the effective wage.

The average nominal wage index-number for 1923 was practically the same as the average for 1922. Prices, on the other hand, increased appreciably, and, in consequence the effective wage index-number declined both for full time and allowing for unemployment. As unemployment was less than in 1922 the effective wage index-number allowing for this factor fell less than that for full time. In 1923 the effective wage was 6.2 per cent. (full time) and 3.6 per cent. (allowing for unemployment) higher than in 1911.

§ 6. Changes in Rates of Wage.

1. **General.**—A change in rate of wage is defined as a change in the weekly rates of remuneration of a certain class of employees, apart from any change in the nature of the work performed and apart from any revision of rates due to increased length of service or experience. It is obvious that under this definition certain classes of changes are excluded, such, for example, as (a) changes in rates of pay due to promotion, progressive increments, or, on the other hand, to reduction in pay or grade to inefficient workers, and (b) changes in average earnings in an occupation due to a change in the proportions which more highly-paid classes of workers bear to those paid at lower rates. Bonuses to employees have not been taken into account in the tabulations. Each single change recorded relates to a change in the rates of wage effected in a specific industry or calling, and includes any and all changes to workers in that industry, irrespective of the different number of separate occupations or trades affected. Moreover, in some instances a change may relate to the employees of a single employer or to those of a number of employers, according to the instrument or method operating to bring about the change.

2. **Methods by which Changes were Effected, and Results.**—(i) *Summary, Australia, 1923.* The following table gives for Australia the number of changes in rates of wage, the number of work people affected, and the total net amount of increase in the weekly wage distribution brought about either without, or after, stoppage of work during the year 1923, as a result of the application of one or other of the methods set out in the tables:—

CHANGES IN RATES OF WAGE.—METHODS AND RESULTS, AUSTRALIA, 1923.(a)

Methods by which Changes were Effected.	Without Stoppage of Work.			After Stoppage of Work.			All Changes.		
	No. of Changes.	No. of Work-people Affected.	Total Net Amount of Increase per week.	No. of Changes.	No. of Work-people Affected.	Total Net Amount of Increase per Week.	No. of Changes.	No. of Work-people Affected.	Total Net Amount of Increase per week.
By direct negotiations	27	17,954	2,198	6	651	290	33	18,605	2,488
By negotiations, intervention or assistance of third party (a) .. .	32	51,350	727	3	948	397	35	52,298	1,124
By award of Court under Commonwealth Act (a) .. .	169	360,765	46,438	..	..	..	169	360,765	46,438
By agreement registered under Commonwealth Act (a) .. .	64	46,974	6,633	..	..	..	64	46,974	6,633
By award or determination under State Acts .. .	569	477,137	42,614	..	..	..	569	477,137	42,614
By agreement registered under State Acts .. .	69	35,073	4,721	..	..	..	69	35,073	4,721
TOTAL (a)	930	989,253	103,331	9	1,599	687	939	990,852	104,018

(a) In this section of the table an Award or Agreement under the Commonwealth Conciliation and Arbitration Act, the Arbitration (Public Service) Act, the Industrial Peace Act, or an Order of the War Precautions Coal Board is counted as one change only, although such Award, Agreement, or Order may be operative in more than one State.

The total number of changes recorded during the year 1923 was 939, of which 569 or 60.6 per cent. of the total number were brought about by award or determination under State Industrial Acts. Of these 569 changes, 418 occurred in New South Wales, 54 in Victoria, 23 in Queensland, 40 in South Australia, 24 in Western Australia, and 10 in Tasmania.

(ii) *Summary, Australia, 1919 to 1923.* Comparative particulars are given in the following table regarding the total number and effect of all changes in rates of wage brought about throughout Australia during the last five years, as a result of the application of one or other of the specified methods :—

CHANGES IN RATES OF WAGE.—METHODS AND RESULTS, AUSTRALIA.
1919 TO 1923.

Particulars.	By Voluntary Action of Employers.	By Direct Negotiations.	By Negotiations, Intervention or Assistance of Third Party.	By Award of Court under C'wealth Act.	By Agreement Registered under C'wealth Act.	By Award or Determination under State Act.	By Agreement Registered under State Act.	TOTAL.(a)
1919.								
Number of Changes ..	36	238	29	42	141	582	100	1,168
Number of Workpeople affected	10,285	84,535	45,049	67,741	27,244	337,625	31,412	603,891
Amount of Increase per week £	4,373	28,937	24,233	29,584	10,017	148,632	10,669	256,445
1920.								
Number of Changes ..	28	333	23	64	163	978	135	1,724
Number of Workpeople affected	15,193	169,973	64,691	75,048	26,733	648,083	27,565	1,027,286
Amount of Increase per week £	4,597	85,469	38,441	24,807	11,608	315,728	14,058	494,708
1921.								
Number of Changes ..	4	148	18	66	55	594	87	972
Number of Workpeople affected	2,000	77,210	73,704	139,773	24,166	391,215	24,197	732,265
Amount of Increase per week £	565	20,711	26,286	44,360	12,209	76,814	4,713	185,658
1922.								
Number of Changes ..	..	21	36	65	53	595	54	824
Number of Workpeople affected	..	7,186	54,878	125,195	43,002	376,994	20,861	628,116
Amount of Increase per week £	..	1,905	5,122	b 12,307	b 4,242	b 58,266	b 2,774	b 70,562
1923.								
Number of Changes ..	..	33	35	169	64	569	69	939
Number of Workpeople affected	..	18,605	52,298	334,180	46,974	503,722	35,073	990,852
Amount of Increase per week £	..	2,488	1,124	46,438	6,633	42,614	4,721	104,018

(a) See footnote to preceding table. (b) Decrease.

The greatest number of changes was effected through the instrumentalities of the State Acts, and these show an increase from 58.4 per cent. of all changes in 1919 to 67.9 per cent. in 1923, while the changes made under the Commonwealth Acts increased from 15.7 per cent. to 24.8 per cent. "Direct negotiations" between parties shows a marked decline in the later years. In 1919, 238 changes, or 20.4 per cent., of the total affecting only 14 per cent. of all persons concerned in the changes of that year, were so brought about, whereas in 1923, only 33 changes (3.5 per cent.), affecting 18,605 persons, or 1.9 per cent. of the whole, resulted from this agency. So far as possible, the effect of awards or agreements is recorded in the figures for the year in which such awards or agreements are made and filed. In certain cases, however, the awards or agreements are made retrospective as to the date on which the increased rate of wage has to be paid, and in others the particulars as to the number of workpeople affected and the effect of the change are difficult to ascertain.

3. **Number and Effect of Changes.**—(i) *General.* The following tables give particulars of changes which occurred in each State during the years specified. As regards the number of persons affected, the figures refer to the total number of persons ordinarily engaged in the various industries. The results as to the amount of increase in wages are computed for a full week's work for all persons ordinarily engaged in the several industries and occupations affected. In cases of changes in existing minimum rates under awards or determinations of industrial tribunals it has been assumed (in the absence of any definite information to the contrary) that the whole of the employees in each occupation received the minimum rates of wage before and after the change.

The figures given in regard to the amount of increase per week do not relate to the increase each week, but only to the increase in a single week on the assumption that the full number of persons ordinarily engaged in the particular trade or occupation affected by the change were employed during that week. It is obvious, therefore, that the aggregate effect per annum cannot be obtained without making due allowance for unemployment and for occupations in which employment is seasonal or intermittent. It is also clear that since unemployment and activity in all branches of industry may vary from year to year, and in many branches from season to season also, no accurate estimate of the actual effect of the changes in the total amount of wages received or paid per annum can be made until the determining factors have been investigated. These factors are (a) the amount of unemployment, and (b) the period of employment in seasonal industries.

Changes brought about by awards and agreements under the Commonwealth Conciliation and Arbitration Act, the Arbitration (Public Service) Act, and the Industrial Peace Act 1920 are necessarily included hereunder as changes in each State to which such awards and agreements apply. The average increase per head per week is computed to the nearest penny.

(ii) *Summary for States, 1923.* During the year 1923 the number of increases in rates of wage recorded was in excess of the decreases. The following table gives particulars of the number and effect of increases and decreases in rates of wage in each State during the year :—

CHANGES IN RATES OF WAGE.—NUMBER AND EFFECT, 1923.

State.	INCREASES.			DECREASES.			TOTAL RESULT OF ALL CHANGES.		
	Changes.	Work-people Affected.	Increase Per Week.	Changes.	Work-people Affected.	Decrease Per Week.	Changes.	Work-people Affected.	Net Increase Per Week.
			£			£			£
New South Wales	518	491,916	57,520	60	27,524	3,652	578	519,440	53,868
Victoria ..	203	195,200	44,797	43	80,394	7,863	246	276,094	36,934
Queensland ..	55	12,178	1,693	10	17,873	3,870	65	30,051	(a) 2,177
South Australia ..	124	52,251	10,858	24	10,958	1,074	148	63,209	9,784
Western Australia	71	18,235	2,830	19	13,772	2,899	90	32,057	(a) 69
Tasmania ..	31	18,829	2,338	19	7,089	1,083	100	25,918	1,755
Northern Territory	..	..	..	1	71	20	1	71	(a) 20
Federal Capital Territory ..	1	1,002	298	..	..	..	1	1,002	298
Common to all States ..	16	31,195	4,545	8	11,815	900	24	43,010	3,645
Total ..	1,069	820,856	125,379	184	169,996	21,361	1,253	990,852	104,018

(a) Decrease.

The preceding figures for changes in wages include all those which have occurred either through the operations of wage tribunals or as the result of direct negotiations between employers and employees. In five States there have been general increases in the basic wage which affected all employees working under State awards or agreements. In New South Wales the Board of Trade increased the basic wage from £3 18s. to £4 2s. for males and from £1 19s. 6d. to £2 1s. for females; in Queensland no reduction was made by the Arbitration Court; and in South Australia an increase for males from £3 17s. 6d. to £3 18s. 6d. was made by the Board of Industry. Many workers in all States come under the jurisdiction of awards made by the Federal Arbitration Court. The principle of quarterly adjustments adopted by that Court led to increases in wages during the first three quarters of the year, and decreases in the last quarter.

CHANGES IN RATES OF WAGE.—NUMBER AND EFFECT, 1919 TO 1923.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	F.C.T.	(a) All States.	Aust.	
No. of Changes	1919	457	218	216	136	112	128	13	..	4	1,284
	1920	734	354	300	231	209	154	7	..	10	1,999
	1921	353	247	233	166	108	77	..	..	16	1,200
	1922	444	137	132	131	60	64	..	1	3	972
	1923	578	246	65	148	90	100	1	1	24	1,253
No. of Persons Affected	1919	280,021	125,693	116,627	35,377	26,673	16,108	1,287	..	2,095	603,891
	1920	454,610	258,211	145,464	76,605	55,489	28,317	703	..	7,887	1,027,286
	1921	272,782	238,084	115,722	44,696	22,695	14,783	..	..	23,503	732,265
	1922	363,909	90,172	78,791	35,722	18,547	16,038	..	337	24,600	628,146
	1923	519,440	276,094	30,051	63,209	32,057	25,913	71	1,002	43,010	990,852
Total Net Amount of Increase per Week	£	£	£	£	£	£	£	£	£	£	£
	1919	137,642	43,930	43,718	11,939	10,249	7,350	618	..	949	256,445
	1920	228,186	119,706	69,748	30,316	25,195	14,593	684	..	6,280	494,708
	1921	38,371	77,425	30,790	13,409	11,395	6,370	..	..	7,898	185,658
	1922	642,930	66,625	614,836	62,637	61,589	61,701	..	656	6,138	670,562
1923	53,868	36,934	62,177	9,784	689	1,755	620	298	3,645	104,018	
Average Increase per Head per Week	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	1919	9 10	7 0	7 6	6 9	7 8	9 2	9 7	..	9 1	8 6
	1920	10 0	9 3	9 7	7 11	9 1	10 4	19 6	..	15 11	9 8
	1921	2 10	6 6	5 4	6 0	10 1	8 7	..	..	6 9	5 1
	1922	62 4	61 6	63 9	61 6	61 9	62 1	..	63 4	60 1	62 3
1923	2 9	2 8	61 5	3 11	60 1	1 4	65 8	5 11	1 9	3 0	

(a) Changes recorded in this column are common to all States, as the particulars relating to the number of workpeople affected and the net amount of increase per week in each State were not ascertainable. (b) Decrease.

The number of changes recorded during the year 1920 is higher in each State than during any other year. There was a noticeable decrease in the number during 1921 as compared with 1920, the reduction being general in all States, while in 1922 there was a further reduction in all States with the exception of New South Wales. In 1923 an increase is shown in all States except Queensland (where, as pointed out above, no reduction was made by the Arbitration Court), while the position in the Federal Capital Territory remained the same as in 1922. The relative position of the States in regard to the numbers of changes effected, and also in regard to the numbers of workers affected in each year depends, of course, largely on the magnitude of the different industries and callings in which changes took place.

(iii) *Industrial Groups, Australia. Total Workpeople (Male and Female) affected by Changes.* In the following table particulars are given of the number of changes, the number of persons (males and females) affected, and the total amount of increase per week, classified according to Industrial Groups throughout Australia during the years 1919 to 1923 :—

CHANGES IN RATES OF WAGE.—INDUSTRIAL GROUPS, AUSTRALIA,
1919 TO 1923.(a)

Particulars.	Industrial Groups.							
	I. Wood, Furniture, Timber, etc.	II. Engineering, Metal Works, etc.	III. Food, Drink, Tobacco, etc.	IV. Clothing, Hats, Boots, etc.	V. Books, Printing, etc.	VI. Other Manufacturing.	VII. Building.	VIII. Mines, Quarries, etc.
1919.								
Number of Changes ..	39	89	156	31	41	138	42	29
Number of Persons affected ..	13,616	44,133	72,603	26,905	9,335	50,530	19,053	34,501
Amount of increase per week £	4,890	20,381	23,551	11,308	4,449	17,829	8,941	17,434
1920.								
Number of Changes ..	68	123	241	56	83	245	82	61
Number of Persons affected ..	44,732	74,853	81,876	55,345	19,757	71,671	61,552	47,865
Amount of increase per week £	19,015	29,145	41,383	21,271	11,088	31,126	41,059	30,385
1921.								
Number of Changes ..	22	81	105	45	28	156	27	22
Number of Persons affected ..	11,915	58,632	55,555	89,542	12,116	55,766	24,717	6,322
Amount of increase per week £	2,650	17,244	13,658	16,143	4,000	14,666	10,196	2,896
1922.								
Number of Changes ..	17	90	74	24	32	116	29	27
Number of Persons affected ..	14,824	68,844	34,987	13,793	13,533	64,285	48,603	17,716
Amount of decrease per week £	62,028	614,399	65,805	61,412	61,722	66,784	68,069	62,330
1923.								
Number of Changes ..	25	91	103	16	22	120	33	21
Number of Persons affected ..	60,724	102,475	72,851	19,593	10,445	82,785	79,685	18,223
Amount of increase per week £	6,209	12,258	3,594	(b)333	1,021	9,144	13,034	828

Particulars.	Industrial Groups—continued.						
	IX. Rail and Tram Services.	X. Other Land Transport.	XI. Shipping, etc.	XII. Pastoral, Agricultural, etc.	XIII. Domestic, Hotels, etc.	XIV. Miscellaneous.	ALL GROUPS. (a)
1919.							
Number of Changes ..	74	37	59	11	49	373	1,168
Number of Persons affected ..	114,365	20,871	34,294	9,030	25,799	128,856	603,891
Amount of increase per week £	56,872	8,701	18,168	5,739	7,620	50,562	256,445
1920.							
Number of Changes ..	82	52	76	19	55	481	1,724
Number of Persons affected ..	136,854	28,532	16,842	26,580	34,285	326,542	1,027,286
Amount of increase per week £	54,959	11,605	11,871	20,701	12,258	158,842	494,708
1921.							
Number of Changes ..	67	32	44	10	39	294	972
Number of Persons affected ..	127,860	24,885	37,904	1,815	17,904	207,332	732,265
Amount of increase per week £	18,573	2,717	17,986	853	4,339	59,737	185,653
1922.							
Number of Changes ..	66	36	23	14	28	248	824
Number of Persons affected ..	86,161	12,603	28,432	56,292	15,663	152,380	628,116
Amount of increase per week £	615,311	62,075	6559	4,136	61,288	612,916	670,562
1923.							
Number of Changes ..	105	31	71	7	25	269	939
Number of Persons affected ..	155,830	23,510	79,466	24,720	21,724	238,821	990,852
Amount of increase per week £	11,960	237	6,873	9,647	3,117	26,399	104,018

(a) In this table an Industrial Award or Agreement under the Commonwealth Conciliation and Arbitration Act, the Arbitration (Public Service) Act, the Industrial Peace Act, or an Order of the War Precautions Coal Board is counted as one change only, although such Award, Agreement or Order may be operative in more than one State. (b) Decrease.

(iv) *Male and Female Occupations.* Included in the changes in rates of wage recorded in the table on page 555 are those which in the whole or part thereof affected female occupations. Particulars in respect of these changes in so far as they relate to the numbers of male and female workers affected, etc., are set out hereunder:—

CHANGES IN RATES OF WAGE.—EFFECTS IN MALE AND FEMALE OCCUPATIONS, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	All States. (a)	Australia.
NUMBER OF MALE EMPLOYEES AFFECTED.										
1919	253,077	106,389	99,167	32,162	24,185	13,906	1,287	..	2,025	532,198
1920	385,118	202,972	126,306	66,824	48,088	24,213	703	..	7,812	862,036
1921	219,813	185,895	90,918	37,062	19,988	13,484	..	..	21,710	588,870
1922	322,813	85,005	64,473	34,085	18,248	14,473	..	337	24,600	564,034
1923	465,446	256,666	27,421	60,967	31,507	24,931	71	1,002	42,830	910,841

NET AMOUNT OF INCREASE PER WEEK TO MALE EMPLOYEES.										
	£	£	£	£	£	£	£	£	£	£
1919	132,237	38,115	38,200	10,690	9,560	6,560	618	..	920	236,908
1920	207,403	98,778	63,432	27,498	22,157	13,105	684	..	6,192	439,249
1921	26,735	68,087	26,649	12,079	10,737	6,119	..	..	6,891	157,297
1922	(b)40,245	(b)6,943	(b)13,965	(b)2,626	(b)1,640	(b)1,818	..	(b) 56	(b) 138	(b) 67,431
1923	50,954	33,902	(b) 2,290	9,270	(b) 123	1,893	(b) 20	298	3,654	97,538

AVERAGE INCREASE PER HEAD PER WEEK TO MALE EMPLOYEES.										
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1919	10 5	7 2	7 8	6 8	7 11	9 5	9 7	..	9 1	8 11
1920	10 9	9 9	10 1	8 3	9 3	10 10	19 6	..	15 10	10 2
1921	2 5	7 4	5 10	6 6	10 9	9 1	..	..	6 4	5 4
1922	(b) 2 6	(b) 1 8	(b) 4 4	(b) 1 6	(b) 1 10	(b) 2 6	..	(b) 3 4	(b) 0 1	(b) 2 5
1923	2 2	2 8	1 8	3 1	(b) 0 1	1 6	(b) 5 8	5 11	1 9	2 2

NUMBER OF FEMALE EMPLOYEES AFFECTED.										
1919	26,954	19,304	17,460	3,215	2,488	2,202	..	..	70	71,693
1920	69,492	55,239	19,158	9,781	7,401	4,104	..	..	75	165,250
1921	52,969	52,189	24,804	7,634	2,707	1,299	..	..	1,793	143,395
1922	41,096	5,167	14,318	1,637	299	1,565	..	..	..	64,082
1923	53,994	19,428	2,630	2,242	550	987	..	..	180	80,011

NET AMOUNT OF INCREASE PER WEEK TO FEMALE EMPLOYEES.										
	£	£	£	£	£	£	£	£	£	£
1919	5,405	5,815	5,518	1,299	689	790	..	..	29	19,545
1920	20,783	20,928	6,316	2,818	3,038	1,488	..	..	88	55,459
1921	11,636	9,338	4,141	1,330	658	251	..	..	1,007	23,361
1922	(b) 2,685	318	(b) 871	(b) 61	51	117	..	..	..	(b) 3,131
1923	2,914	3,032	113	514	54	(b) 138	..	..	(b) 9	6,480

AVERAGE INCREASE PER HEAD PER WEEK TO FEMALE EMPLOYEES.										
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1919	4 0	6 0	6 4	8 1	5 6	7 2	..	..	8 3	5 5
1920	6 0	7 7	6 7	5 9	8 3	7 3	..	..	23 6	6 9
1921	4 5	3 7	3 4	3 6	4 10	3 10	..	..	11 3	3 11
1922	(b) 1 4	1 3	(b) 1 4	(b) 0 9	3 5	1 6	..	..	..	(b) 1 0
1923	1 1	3 2	0 10	4 7	2 0	(b) 0 3	..	..	(b) 1 0	1 8

(a) Changes recorded in this column are common to all States, as the particulars relating to the number of workpeople affected and the net amount of increase per week in each State were not ascertainable. (b) Decrease.

§ 7. Industrial Disputes.

1. *General.*—Information with regard to the collection of particulars and methods of tabulation of industrial disputes involving stoppage of work has appeared in previous issues of the Year Book, and is also given in the Annual Reports of the Labour and Industrial Branch of this Bureau.

In *annual** tabulations, particulars are included of all disputes which either *commenced* or were *current* during the year under review. As regards "number of disputes," and "number of establishments involved," therefore, duplication will take place in respect of those disputes which started in and were uncompleted at the end of a preceding year; the number involved will, however, be indicated in a footnote, to permit of due allowance being made therefor in any calculations made from the tables.

2. *Industrial Disputes Involving Stoppage of Work, Classified in Industrial Groups, 1923.*—The following tables give particulars of industrial disputes which either commenced or were current during the year 1923, classified according to industrial groups. Similar information for the years 1913 to 1922 was published in Labour Reports Nos. 5 to 13.

INDUSTRIAL DISPUTES CLASSIFIED ACCORDING TO INDUSTRIAL GROUPS, 1923.

Class.	Industrial Group.	No. of Disputes.	No. of Estab. Involved.	No. of Workpeople Involved.			No. of Working Days Lost.	Estimated Loss in Wages.
				Directly.	Indirectly.	Total.		
NEW SOUTH WALES.								
I.	Wood, sawmill, timber, etc. . .	1	18	150	..	150	3,150	2,888
II.	Engineering, metal works, etc. . .	9	308	2,381	901	3,282	63,052	48,131
III.	Food, drink, etc., manufacturing and distribution . . .	5	35	553	66	619	1,560	1,291
V.	Books, printing, etc. . .	1	5	44	..	44	484	369
VI.	Other manufacturing . . .	3	3	41	..	41	76	67
VII.	Building . . .	6	15	340	85	425	1,062	986
VIII.	Mines, quarries, etc. . .	157	183	50,412	4,233	54,645	818,108	931,001
IX.	Railway and tramway services . . .	9	9	474	4	478	2,061	1,573
XI.	Shipping, wharf labour, etc. . .	3	3	132	..	132	967	715
XII.	Pastoral, agricultural, etc. . .	2	18	150	70	220	1,100	910
XIV.	Miscellaneous . . .	4	4	132	31	163	686	588
	Total . . .	(a)200	601	54,809	5,390	60,199	892,306	1,038,519
VICTORIA.								
I.	Wood, sawmill, timber, etc. . .	2	51	964	..	964	4,296	3,814
II.	Engineering, metal works, etc. . .	1	1	48	19	67	134	100
III.	Food, drink, etc. . .	5	30	573	750	1,323	8,242	6,866
IV.	Clothing, hats, boots, etc. . .	1	1	11	..	11	160	70
VI.	Other manufacturing . . .	4	4	903	..	903	1,671	1,014
VII.	Building . . .	1	1	25	2	27	324	256
VIII.	Mines, quarries, etc. . .	3	3	1,950	..	1,950	75,550	90,720
IX.	Railway and tramway services . . .	1	1	572	..	572	3,432	2,415
XI.	Shipping, etc. . .	2	2	32	..	32	491	354
XII.	Pastoral, agricultural, etc. . .	1	30	80	..	80	1,360	680
XIV.	Miscellaneous . . .	8	9	1,121	..	1,121	3,220	2,223
	Total . . .	(a)29	133	6,279	771	7,050	98,880	108,512

(a) Seven disputes in New South Wales (involving 306 establishments and 3,212 workers), one dispute in Victoria (1 establishment and 23 workers), three disputes in Queensland (14 establishments and 342 workers), one dispute in Western Australia (80 establishments and 473 workers), commenced in 1922.

* In respect of years prior to 1922, the figures include complete particulars of industrial disputes which commenced during any calendar year; and where any such dispute extended into a subsequent year, the relative figures were also incorporated in those for the year in which the dispute commenced.

INDUSTRIAL DISPUTES CLASSIFIED ACCORDING TO INDUSTRIAL GROUPS,
1923—continued.

Class.	Industrial Group.	No. of Disputes.	No. of Estab. In-volved.	No. of Workpeople Involved.			No. of Working Days Lost.	Estimated Loss in Wages.
				Directly.	In-directly.	Total.		
QUEENSLAND.								
I.	Wood, sawmill, timber, etc. . .	1	1	13	12	25	3,225	2,890
II.	Engineering, metal works, etc. . .	1	1	86	21	107	3,959	2,683
III.	Food, drink, etc. . .	1	1	500	..	500	2,500	2,125
IV.	Clothing, hats, boots, etc. . .	1	1	2	..	2	120	100
VI.	Other manufacturing . . .	1	1	106	..	106	318	250
VII.	Building . . .	1	10	125	..	125	5,500	5,042
VIII.	Mines, quarries, etc. . .	8	8	549	120	669	8,862	10,635
IX.	Railway and tramway services . . .	5	5	119	..	119	1,709	1,317
XI.	Shipping, wharf labour, etc. . .	2	4	225	87	312	18,312	18,818
XII.	Pastoral, agricultural, etc. . .	1	1	420	..	420	2,100	1,600
XIV.	Miscellaneous . . .	3	3	579	100	679	8,526	7,621
	Total . . .	(a)25	36	2,724	340	3,064	55,131	53,081
SOUTH AUSTRALIA.								
III.	Food, drink, etc. . .	3	3	392	750	1,142	20,152	15,933
VI.	Other manufacturing . . .	1	1	14	7	21	123	100
X.	Other land transport . . .	1	5	90	200	290	3,190	2,486
XI.	Shipping, wharf labour, etc. . .	4	8	306	..	306	2,415	1,880
XII.	Pastoral, agricultural, etc. . .	1	6	4	18	22	88	41
	Total . . .	10	23	806	975	1,781	25,971	20,440
WESTERN AUSTRALIA.								
II.	Engineering, metal works, etc. . .	2	81	518	25	543	36,336	30,216
V.	Books, printing, etc. . .	1	2	34	..	34	3,492	1,220
VIII.	Mines, quarries, etc. . .	1	3	101	497	598	4,186	3,274
XIV.	Miscellaneous . . .	2	2	602	2,230	2,832	23,260	18,693
	Total . . .	(a)6	88	1,255	2,752	4,007	72,274	53,408
TASMANIA.								
VIII.	Mines, quarries, etc. . .	2	2	181	..	181	1,061	1,274
XI.	Shipping, etc. . .	1	1	16	..	16	32	22
	Total . . .	3	3	197	..	197	1,093	1,296
FEDERAL CAPITAL TERRITORY.								
XIV.	Miscellaneous . . .	1	1	23	..	23	322	250
	Total . . .	1	1	23	..	23	322	250
ALL STATES.								
I.	Wood, sawmill, timber, etc. . .	4	70	1,127	12	1,139	10,671	9,592
II.	Engineering, metal works, etc. . .	13	391	3,033	966	3,999	103,481	81,130
III.	Food, drink, etc., manufacturing and distribution . . .	14	69	2,018	1,566	3,584	32,454	26,215
IV.	Clothing, boots, etc. . .	2	2	13	..	13	280	170
V.	Books, printing, etc. . .	2	7	78	..	78	3,976	1,589
VI.	Other manufacturing . . .	9	9	1,044	7	1,071	2,191	1,431
VII.	Building . . .	8	26	490	87	577	6,886	6,284
VIII.	Mines, quarries, etc. . .	171	199	53,193	4,850	58,043	907,767	1,036,904
IX.	Railway and tramway services . . .	11	11	1,085	4	1,089	7,202	5,305
X.	Other land transport . . .	1	5	90	200	290	3,190	2,486
XI.	Shipping, wharf labour, etc. . .	16	22	791	87	878	22,217	21,789
XII.	Pastoral, agricultural, etc. . .	5	55	654	88	742	4,643	3,231
XIV.	Miscellaneous . . .	18	19	2,457	2,361	4,818	41,014	29,380
	Total for Australia . . .	(a)274	885	66,093	10,228	76,321	1,145,977	1,275,506

(a) See footnote (a), page 558.

3. **Industrial Disputes.* Australia, 1919 to 1923.**—The following table gives particulars of the number of industrial disputes, the number of workpeople involved, and the losses in working days and wages caused by disputes which either commenced or were current during each calendar year 1919 to 1923, classified according to industrial groups:—

INDUSTRIAL DISPUTES—AUSTRALIA, 1919 TO 1923.(a)

Calendar Year.	Manu- facturing. (Groups I. to VI.)	Building. (Group VII.)	Mining. (Group VIII.)	Transport, Land and Sea. (Groups IX. to XI.)	Miscel- laneous. (Groups XII. to XIV.)	ALL GROUPS.
NUMBER OF DISPUTES.						
1919..	94	12	231	67	56	460
1920..	89	17	316	75	57	554
1921..	30	9	509	46	30	624
1922..	69	4	307	45	20	445
1923..	44	8	171	28	23	(a) 274
1919 to 1923 ..	326	50	1,534	261	186	2,357

NUMBER OF WORKPEOPLE INVOLVED.						
1919..	19,550	2,810	86,607	36,386	12,238	157,591
1920..	21,092	6,527	81,043	15,043	31,861	155,566
1921..	3,161	1,421	133,547	22,694	4,278	165,101
1922..	15,215	287	96,151	2,882	1,797	116,332
1923..	9,884	577	58,043	2,257	5,560	76,321
1919 to 1923 ..	68,902	11,622	455,391	79,262	55,734	670,911

NUMBER OF WORKING DAYS LOST.						
1919..	272,405	124,003	1,826,694	1,898,900	181,736	4,303,738
1920..	367,296	103,373	1,944,038	626,826	545,734	3,587,267
1921..	47,385	36,406	467,867	666,517	68,010	1,286,185
1922..	366,134	3,720	383,414	85,693	19,724	858,685
1923..	153,053	6,886	907,767	32,609	45,662	1,145,977
1919 to 1923 ..	1,206,273	274,388	5,529,780	3,310,545	860,866	11,181,852

ESTIMATED LOSS IN WAGES.						
1919..	£ 167,502	£ 73,643	£ 1,280,265	£ 977,494	£ 119,924	£ 2,618,828
1920..	215,057	70,006	1,418,193	357,786	309,345	2,370,387
1921..	39,416	24,719	459,450	397,169	49,721	970,475
1922..	242,159	3,280	427,363	64,597	14,108	751,507
1923..	120,127	6,284	1,086,904	29,580	32,611	1,275,506
1919 to 1923 ..	784,261	177,932	4,672,175	1,826,626	525,709	7,986,703

(a) See footnote (a), page 558.

4. **Summary of Disputes (involving Stoppage of Work), 1919 to 1923 (a).**—The following table gives particulars of the number of industrial disputes in each State in various years from 1919 to 1923, together with the number of workpeople involved, the number of working days lost, and the total estimated loss in wages.

(*) This table shows the full effect of all disputes which either occurred or were current during each calendar year, and the footnote * on page 558 does not, therefore, apply.

INDUSTRIAL DISPUTES—SUMMARY, 1919 TO 1923.(a)

State or Territory.	Year.	No. of Disputes.	Establishments Involved in Disputes.	No. of Workpeople Involved.			No. of Working Days Lost.	Total Estimated Loss in Wages.
				Directly.	Indirectly.	Total.		
							£	
New South Wales ..	1919	267	678	64,956	35,040	99,996	4,324,686	2,856,259
	1920	349	650	68,033	22,349	90,382	587,156	432,988
	1921	535	567	108,578	29,921	138,494	547,838	493,267
	1922	342	657	88,257	14,042	102,299	586,520	579,491
	1923	(b) 200	601	54,809	5,390	60,199	892,306	1,058,519
Victoria ..	1919	62	372	15,169	7,437	22,606	733,333	392,796
	1920	53	809	15,274	24,534	39,808	783,286	465,244
	1921	20	118	4,113	2,161	6,280	109,595	69,629
	1922	29	412	5,819	311	6,130	64,701	47,695
	1923	(b) 29	135	6,270	771	7,050	98,850	108,512
Queensland ..	1919	69	295	9,078	6,336	15,414	586,661	327,537
	1920	55	71	3,775	2,033	5,808	68,298	44,943
	1921	33	97	3,367	1,512	4,879	95,560	69,798
	1922	38	49	2,611	620	3,231	36,730	32,589
	1923	(b) 25	36	2,724	340	3,064	55,131	53,081
South Australia ..	1919	32	75	4,437	3,409	7,846	238,378	127,303
	1920	40	126	4,732	1,067	5,799	232,402	140,326
	1921	19	45	2,158	1,002	3,160	57,058	37,315
	1922	19	229	2,294	929	3,223	114,334	43,222
	1923	10	23	806	975	1,781	25,971	20,440
Western Australia ..	1919	20	157	5,516	4,460	9,976	359,987	213,867
	1920	45	434	9,095	2,918	12,013	146,640	108,055
	1921	12	56	1,906	10,157	12,063	145,103	86,038
	1922	8	71	91	643	806	43,472	38,208
	1923	(b) 6	88	1,255	2,752	4,007	72,274	53,408
Tasmania ..	1919	5	127	1,098	588	1,686	63,271	32,738
	1920	12	14	1,610	146	1,756	54,283	32,160
	1921	5	5	75	150	225	1,483	986
	1922	5	5	382	4	386	9,284	7,497
	1923	3	3	197	..	197	1,093	1,296
Fed. Cap. Territory	1922	2	2	217	..	217	2,604	2,035
	1923	1	1	23	..	23	322	250
	1919	5	9	46	21	67	1,910	1,436
Northern Territory	1920	..	..	..	..	..	..	..
	1922	..	..	..	..	..	..	..
	1923	..	..	..	..	..	..	..
Australia ..	1919	460	1,713	100,300	57,291	157,591	6,308,226	3,951,936
	1920	554	2,104	102,519	53,047	155,566	1,872,065	1,223,716
	1921	624	888	120,198	44,903	165,101	956,617	757,028
	1922	445	1,447	100,263	16,069	116,332	858,085	751,557
	1923	(b) 274	885	66,093	10,228	76,321	1,145,977	1,275,506

(a) See footnote *, page 558. (b) See footnote (a), page 558.

The disruption to industry during 1919 was the most serious experienced since records of such matters were instituted in 1913. Prior to 1919 the greatest loss in wages occurred in 1917, and amounted to £2,594,808.

Three serious dislocations occurred during the year 1919. The stoppage of work at Broken Hill, in which metalliferous miners and others were involved, was the most prolonged dispute recorded by this Bureau. The mines closed down during May, 1919, and work was not resumed until November, 1920. Over 7,000 workpeople at Broken Hill were out of work, and it is estimated that the loss in wages to employees at the mines at Broken Hill and at the smelters, Port Pirie, exceeded £2,500,000. Seamen and marine engineers were also involved in protracted disputes which caused heavy losses of working days and wages during the year. Detailed particulars of these important disputes have been published in Labour Reports, Nos. 10 and 11.

The more important of the disputes which contributed to the losses during 1920 were the dislocations of work involving marine stewards on interstate vessels; factory engine-drivers and firemen, Melbourne; gas workers, Melbourne; brown-coal miners, Morwell; ironstone quarrymen and others, Iron Knob and Whyalla; and State civil servants, Western Australia. The number of disputes during 1921, while greater than for any of the previous years for which information is given, affected a less number of workpeople and involved less loss in wages than in either 1919 or 1920. The principal disputes in this year were in the coal-mining industry, shipping, building, and sugar-cane cutting.

In 1922 efforts were made by various bodies of workers (particularly in the engineering trades) to secure a permanent working week of 44 hours. The Commonwealth Court of Conciliation and Arbitration had decided upon 48 hours for all industries (with the exception of certain specified trades), and the application of this decision to trades which had been enjoying the 44 hour week resulted in disputes, which, however, in the majority of instances, were unsuccessful.

What threatened to be an extensive dispute occurred in the shearing industry, but information in regard thereto was so indefinite that no reliable record could be made. The trouble arose in connexion with an award of the Commonwealth Court of Conciliation and Arbitration, which fixed the rate for shearing at 35s. per 100 sheep, as against 40s. per 100 prevailing in Queensland. Conflicting reports were published by the employers' and the employees' organizations, but no definite instance was recorded of an actual stoppage of work. Shearing was completed, but how far it was paid for at award or higher rates, and how far it was done by members of the union or by volunteer labour could not be ascertained.

With the exception of the year 1913 (when the machinery for collection was incomplete), the number of disputes in 1923, viz., 274, was the lowest yet recorded by the Bureau. The working days lost, however, were greater than in the preceding two years, the longer duration of several of the disputes largely accounting for the excess.

The most extensive dispute in 1923 was that which affected 15 coal mines in the northern coal-fields of New South Wales. The trouble arose from an objection by the miners to the further sitting in the district of a police magistrate who had judicially dealt with several miners in what was considered an unduly harsh manner. The stoppage lasted 88 days, and the men ultimately resumed work on antecedent conditions.

A dispute occurred in November, 1923, in the Victorian Police Force, as the result of the men's objection to a recently introduced system of supervision. The occurrence was not regarded as an industrial dispute in the ordinary acceptation of the term, but as a mutiny, and for that reason no particulars were included in the tabulations of the Bureau. It was officially stated, however, that 637 members of the Force were dismissed as the result of the trouble, and their places filled by permanent recruits.

Fuller information in regard to the many important disputes during these years is given in the Labour Reports issued by this Bureau.

It is, of course, obvious that the mere number of disputes cannot by itself be accepted as a proper basis of comparison, nor does the number of workpeople afford a satisfactory basis. A better idea as to the significance and effect of industrial disputes may be obtained from the number of working days lost and the estimated loss in wages.

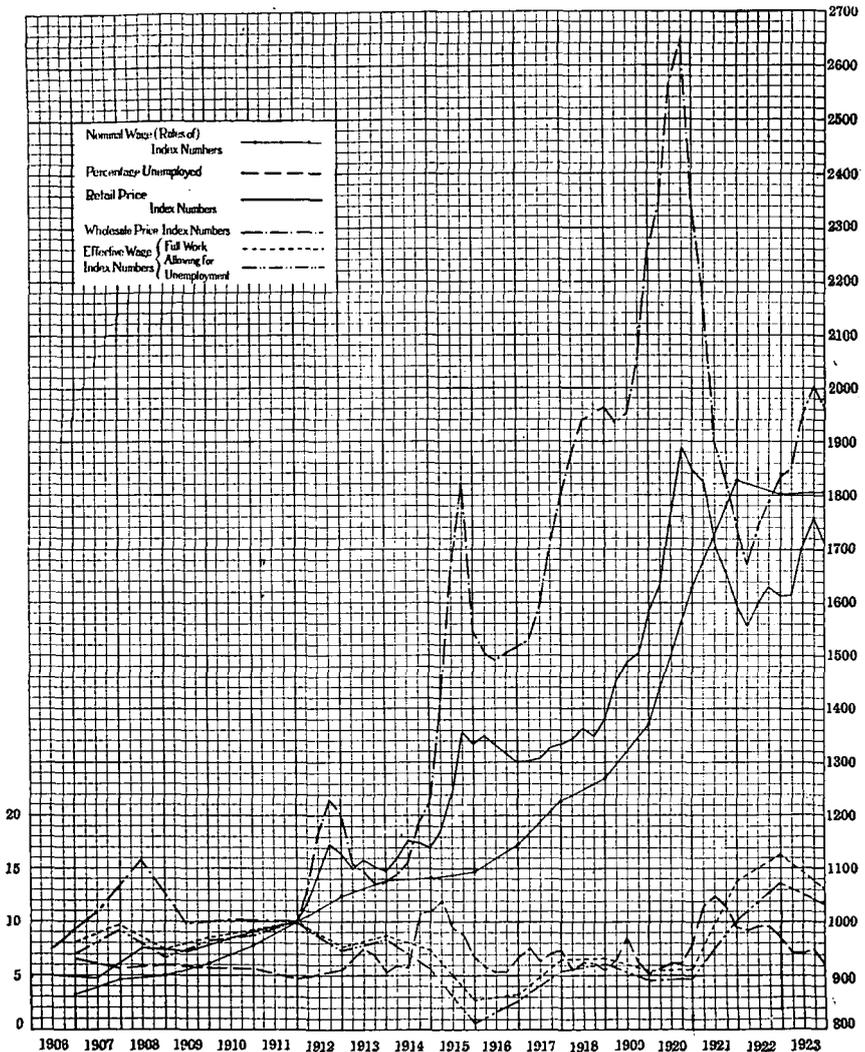
The position which New South Wales occupies in comparison with the other States is almost entirely due to the prevalence of disputes in connexion with coal-mining, and attention has frequently been drawn to the preponderating influence exercised by these disputes on the total number of industrial disputes. In making any comparison as to the number of disputes in this industrial class in each State, it should be observed that the number of workers engaged in the mining industry is very much larger in New South Wales than in any of the other States.

Apart from these stoppages, the number of disputes in all other industries, whilst still in excess of that for each of the other States, does not compare unfavourably if the number of workpeople in each State is taken into consideration.

In regard to extensive dislocations of industry prior to the institution of systematic inquiries by this Bureau, efforts were made to obtain statistical data relating to the shearers' disputes in 1890, 1891, and 1894, and the maritime dispute in the early part of 1891, but precise information was not obtainable.

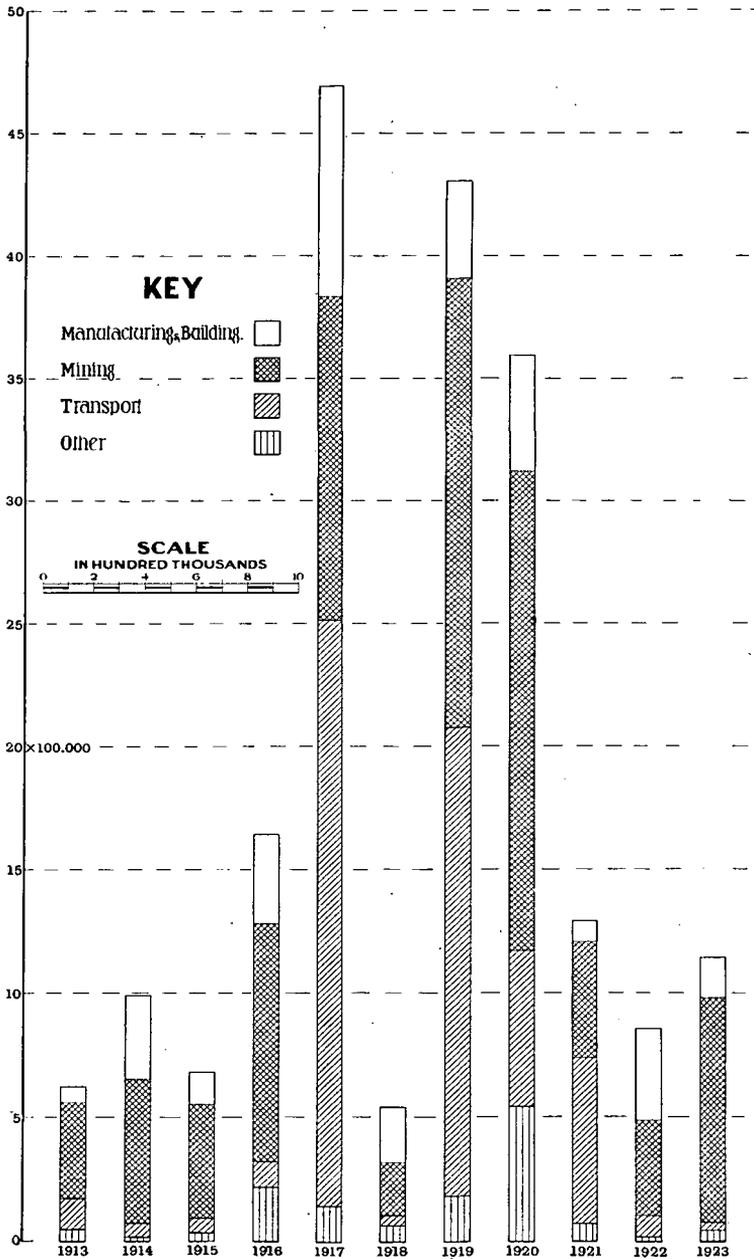
5. Duration of Industrial Disputes, 1923.—The following table gives particulars respecting the number of disputes, workpeople directly and indirectly involved, working days lost, and estimated amount of loss in wages respectively, consequent on the cessations of work recorded for Australia during the year 1923, classified under the adopted limits of duration :—

RETAIL AND WHOLESALE PRICES, NOMINAL AND EFFECTIVE WAGE INDEX-NUMBERS,
AND PERCENTAGE OF UNEMPLOYED—AUSTRALIA, 1906 TO 1923.



NOTE.—The figures on the left represent the scale for the percentage unemployed according to trade union returns. The figures on the right represent the scale for the several index-numbers, the year 1911 being taken in each case as base (= 1000). Since the end of the year 1911, the Retail Price Index-numbers (weighted average cost of food, groceries, and housing for the six capital cities), and the Wholesale Price Index-number (Melbourne) are shown each quarter, while unemployment percentages are shown quarterly since the end of the year 1912 only. The other index-numbers since 1913 refer to the average for the whole year, but for purposes of convenience are plotted on the graph as at the end, not the middle, of the year. Retail Price and Wholesale Price Index-numbers show the average level during the whole of each quarter, and they also for convenience are plotted at the end, and not the middle, of each quarter.

INDUSTRIAL DISPUTES.—WORKING DAYS LOST IN INDUSTRIAL GROUPS,
AUSTRALIA, 1913 TO 1923.



EXPLANATION.—The scale refers to working days lost in hundred thousands. Thus, taking the year 1917, and comparing the shaded and blank sections with the scale, it will be observed that about 870,000 working days were lost in Manufacturing and Building, over 1,300,000 in Mining, over 2,300,000 in Transport, and about 150,000 in other industries.

INDUSTRIAL DISPUTES—DURATION, AUSTRALIA, 1923.

Limits of Duration.	No. of Disputes.	No. of Workpeople Involved.			Number of Working Days Lost.	Total Estimated Loss in Wages.
		Directly.	Indirectly.	Total.		
1 day and less	92	27,573	22,335	29,908	29,678	£ 35,358
2 days and more than 1 day	32	6,790	891	7,681	15,275	16,219
3 days and more than 2 days	25	2,934	8	2,942	8,768	9,369
Over 3 days and less than 1 week (6 days)	34	6,751	273	7,024	30,750	32,783
1 week and less than 2 weeks	39	6,817	3,798	10,615	86,736	78,205
2 weeks and less than 4 weeks	20	2,759	1,222	3,981	68,844	68,327
4 weeks and less than 8 weeks	18	5,194	917	6,111	190,616	197,523
8 weeks and over	14	7,909	150	8,059	715,310	837,732
Total	274	66,727	9,594	76,321	1,145,977	1,275,506

(a) See footnote (a) on page 558.

Similar figures for the years 1913 to 1922 will be found in previous issues of the Year Book and in the Labour Reports.

6. Causes of Industrial Disputes, 1914 to 1923 (a).—The following table shows the number of disputes, number of workpeople involved, and the total number of working days lost in disputes during the years 1914 to 1923, classified according to principal cause :—

INDUSTRIAL DISPUTES.—CAUSES, AUSTRALIA, 1914 TO 1923.(b)

Causes of Disputes.	1914.	1918.	1919.	1920.	1921.	1922.	1923(b).
NUMBER OF DISPUTES.							
1. Wages—							
(a) For increase	50	54	99	94	19	15	35
(b) Against decrease	3	4	2	..	2	18	4
(c) Other wage questions	67	69	100	106	161	83	37
2. Hours of Labour—							
(a) For reduction	1	1	4	16	12	12	10
(b) Other disputes <i>re</i> hours	13	11	5	9	16	2	2
3. Trades Unionism—							
(a) Against employment of non-unionists	13	7	19	20	5	6	4
(b) Other union questions	11	19	29	27	22	15	11
4. Employment of particular Classes or Persons	83	92	118	135	169	155	68
5. Working Conditions	72	34	54	106	162	89	57
6. Sympathetic	3	1	6	2	13	8	9
7. Other Causes	21	6	24	39	43	42	37
Total	337	298	460	554	624	445	274(b)
NUMBER OF WORKPEOPLE INVOLVED.							
1. Wages—							
(a) For increase	7,362	7,095	58,532	41,748	2,659	843	9,816
(b) Against decrease	534	57	667	..	850	4,432	174
(c) Other wage questions	15,243	12,737	26,222	21,139	52,704	24,459	8,698
2. Hours of Labour—							
(a) For reduction	220	26	578	20,758	2,313	5,935	6,488
(b) Other disputes <i>re</i> hours	3,237	4,214	961	2,137	2,113	124	485
3. Trades Unionism—							
(a) Against employment of non-unionists	5,807	710	9,001	2,752	1,353	1,072	473
(b) Other union questions	1,593	6,673	17,509	7,534	6,607	4,264	2,310
4. Employment of particular Classes or Persons	14,863	14,576	21,488	26,163	45,408	36,194	11,269
5. Working Conditions	17,053	7,757	11,582	21,204	35,790	27,334	15,605
6. Sympathetic	675	200	3,080	1,397	3,251	1,119	875
7. Other Causes	4,462	2,394	7,971	10,734	12,053	10,556	20,130
Total	71,049	56,439	157,591	155,566	165,101	116,332	76,321

(a) See footnote *, page 558.

(b) See footnote (a), page 558.

INDUSTRIAL DISPUTES.—CAUSES, AUSTRALIA 1914 TO 1923—*continued.*

Causes of Disputes.	1914.	1918.	1919.	1920.	1921.	1922.	1923.
NUMBER OF WORKING DAYS LOST.							
1. Wages—							
(a) For increase ..	99,451	198,323	5,403,581	793,935	13,731	8,694	64,493
(b) Against decrease ..	32,965	316	10,013	..	25,700	154,791	1,012
(c) Other wage questions ..	169,847	97,561	96,118	101,219	192,858	149,129	81,749
2. Hours of Labour—							
(a) For reduction ..	9,240	312	10,372	534,458	13,315	164,794	101,807
(b) Other disputes re hours ..	16,855	20,551	15,760	37,486	13,260	1,701	36,092
3. Trades Unionism—							
(a) Against employment of non-unionists ..	92,720	21,894	279,804	24,900	17,890	5,485	784
(b) Other union questions ..	6,968	24,341	329,205	21,999	117,199	18,976	17,748
4. Employment of particular Classes or Persons ..	64,367	113,466	87,225	129,215	431,130	198,256	63,094
5. Working Conditions ..	584,289	93,468	32,029	123,967	69,732	123,665	134,830
6. Sympathetic ..	2,125	7,200	21,050	72,940	6,150	9,438	6,357
7. Other Causes ..	11,568	3,421	23,069	26,946	55,652	23,756	638,016
Total ..	1,090,395	580,853	6,308,226	1,872,065	956,617	858,685	1,145,977

The main causes of industrial disputes are "Wage" questions, "Working Conditions," and "Employment of Particular Classes or Persons." In each of the ten years, 1914 to 1923, with the exception of 1922, the number of dislocations concerning wages exceeded those caused by any other question, and varied between a minimum proportion of 26 per cent. in 1922 and a maximum of 45 per cent. in 1916. The majority of the disputes classified under the heading, "Employment of Particular Classes or Persons," are stoppages of work for the purpose of protesting against the dismissal of certain employees, who, in the opinion of their fellow-workers, have been unfairly treated or victimized. This class of dispute occurs very frequently in the coal-mining industry. The number of disputes over "Trade Union" questions and "Hours of Labour" has represented a fairly uniform proportion of the total number of disputes during the years under review. "Sympathetic" disputes were numerous during the year 1917, but the figures for this year were abnormal, and were largely due to the "time card system" dispute in New South Wales.

7. Results of Industrial Disputes.—The following table shows the number of disputes, number of workpeople involved, and the number of working days lost in disputes throughout Australia during the five years 1919 to 1923, classified according to results:—

INDUSTRIAL DISPUTES CLASSIFIED ACCORDING TO RESULTS.—AUSTRALIA, 1919 TO 1923.(a)

Year.	No. of Disputes.				Number of Workpeople Involved in Disputes.				Total Number of Working Days Lost by Disputes.			
	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.	In Favour of Workpeople.	In Favour of Employer.	Compromise.	Indefinite.
1919 ..	154	157	140	9	54,810	43,140	55,445	4,196	2,398,252	406,361	3,483,571	20,042
1920 ..	183	199	168	4	30,399	61,947	62,811	409	180,345	911,156	777,175	3,389
1921 ..	126	274	216	8	25,244	63,380	73,887	2,590	76,381	162,331	714,501	3,404
1922 ..	81	268	82	2	18,050	77,785	16,366	81	175,379	383,342	132,615	738
1923a b	77	156	24	8	12,951	54,926	5,787	1,784	65,625	917,162	132,135	2,392

(a) See footnote (a), page 558.

(b) The following particulars of disputes which were incomplete at the 31st December, 1923, should be added to the above figures to effect a balance with those published in the preceding table:—

State.	No. of Disputes.	Workpeople Involved.	Working Days Lost.	Wages Lost.
New South Wales ..	6	633	23,246	£ 27,893
Victoria ..	1	27	324	256
Queensland ..	1	125	4,125	4,950
Tasmania ..	1	88	968	1,162
Total ..	9	873	28,663	34,261

8. Methods of Settlement.—The following tables show for Australia the number of disputes, number of workpeople involved, and number of working days lost in industrial disputes during the years 1914 and 1918 to 1923, classified according to the adopted schedule of methods of settlement :—

INDUSTRIAL DISPUTES.—METHODS OF SETTLEMENT, AUSTRALIA, 1914 TO 1923.(a)

Methods of Settlement.	1914.	1918.	1919.	1920.	1921.	1922.	1923.(b)
NUMBER OF DISPUTES.							
Negotiations—							
Direct between employers and employees or their representatives	247	171	291	380	412	249	140
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	11	21	35	25	65	52	25
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference	7	20	33	33	18	7	4
By reference to Board or Court	17	14	5	8	4	7	2
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference	5	8	9	8	11	5	2
By Filling Places of Workpeople on Strike or Locked Out	16	26	22	22	10	11	5
By Closing-down Establishment Permanently	4	8	7	4	2	6	1
By Other Methods	30	30	58	74	102	96	86
Total	337	298	460	554	624	433	(c)265

NUMBER OF WORKPEOPLE INVOLVED.

Negotiations—							
Direct between employers and employees or their representatives	48,204	34,680	76,070	101,404	93,912	62,000	30,213
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	8,054	4,155	47,849	6,278	20,775	15,554	10,277
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference	770	2,958	6,926	9,312	11,229	1,222	615
By reference to Board or Court	7,308	3,392	1,380	1,711	1,083	1,128	544
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference	205	3,042	1,997	766	12,037	446	58
By Filling Places of Workpeople on Strike or Locked Out	629	1,933	2,202	2,141	334	790	315
By Closing-down Establishment Permanently	86	538	401	182	53	171	18
By Other Methods	5,793	5,741	20,766	33,772	25,678	30,971	33,408
Total	71,049	56,439	157,591	155,566	165,101	112,282	75,448

NUMBER OF WORKING DAYS LOST.

Negotiations—							
Direct between employers and employees or their representatives	803,799	222,846	632,269	827,985	245,765	353,336	229,503
By intervention or assistance of distinctive third party—not under Commonwealth or State Industrial Act	128,231	37,444	5,379,655	217,916	156,076	187,164	582,929
Under State Industrial Acts—							
By intervention, assistance, or compulsory conference	4,256	57,559	94,557	69,436	136,735	16,016	25,531
By reference to Board or Court	120,685	151,472	8,460	19,236	22,752	13,767	8,484
Under Commonwealth Conciliation and Arbitration Act—							
By intervention, assistance, or compulsory conference	1,421	23,289	74,018	34,205	327,048	8,081	473
By Filling Places of Workpeople on Strike or Locked Out	4,402	35,298	46,029	160,562	3,542	11,759	2,517
By Closing-down Establishment Permanently	3,646	4,270	5,737	12,919	538	603	18
By Other Methods	23,955	48,675	67,501	529,806	64,161	101,348	267,859
Total	1,090,395	580,853	6,308,226	1,872,065	956,617	692,074	1,117,314

(a) See footnote *, page 558.

(b) See footnote (a), page 558.

(c) See footnote (b), page 566.

The majority of the disputes were settled by direct negotiations between employers and employees, the proportion so settled ranging between 53 per cent. in 1917 and 76 per cent. in 1921; in 1923 the proportion was 53 per cent. The number of dislocations settled by compulsory conferences or the intervention and assistance of officials under State or Commonwealth Arbitration Acts has slightly decreased during the period under review. In connexion with the comparatively large number of disputes which are classified as having been settled "By other methods," many stoppages of work occur each year, principally at collieries, but the cause for such stoppages is not officially known to the employers or their representatives. Such stoppages usually last for one day, and work is resumed without negotiations for a settlement of the trouble.

§ 8. Apprenticeship.

In *Year-Book* No. 16, pp. 602-3, information was given with regard to legislation relating to the question of apprenticeship. Tables were included showing the periods of apprenticeship fixed in the Awards of the various industrial tribunals of the States and Commonwealth, and also the proportion of apprentices to journeymen and journeywomen. This information has been omitted from the present issue, but further investigations are being made, and additional and more comprehensive information will be incorporated in next issue.

§ 9. Retail Prices and House Rents.

1. *Introduction.*—(i) *General.* In Labour Report No. 1, issued in December, 1912, the results of certain investigations into the subjects of Prices, Price-Indexes and Cost of Living in past years were published, and some account was given of the methods employed for the collection of the data and of the technique adopted in the computation of the results. A detailed examination of the theory upon which the calculation of the index-numbers is based was given, but being necessarily too technical for the ordinary reader, was relegated to Appendixes. In Labour Reports Nos. 2, and 5 to 14, results of further investigations were included, and in Labour Bulletins Nos. 1 to 18, and in Quarterly summaries of Statistics, Nos. 70 to 96, information was incorporated regarding variations in retail and wholesale prices, house rent, and purchasing-power of money up to the end of 1923.

(ii) *Computation of Index-Numbers.* The method adopted for the computation of the index-numbers is what is termed the "aggregate expenditure" method. Thereunder the average price of each commodity included is ascertained, and numbers (called "mass-units") representing the *relative* extent to which each commodity was on the average used or consumed are also computed. The price in any year of each commodity multiplied by its corresponding "mass-unit" represents, therefore, the relative total expenditure on that commodity in that year *on the basis of the adopted regimen*. It follows, therefore, that by taking for any year the sum of the price of each commodity multiplied by its corresponding "mass-unit," a figure is obtained which represents the relative aggregate or total expenditure of the community in that year on all the commodities, etc., included. By computing these aggregate expenditures for a series of years and taking the expenditure in any selected year as "base," that is, making the expenditure in that year equal to 1,000 units, the relative expenditure in any other year, that is to say, the "index-numbers," are readily ascertained. Numerical examples of the technique and methods adopted for the computation of index-numbers were given in Report No. 2 (pp. 44 and 45), and in Report No. 9 Appendixes I. to IV., pp. 174 to 229.

2. *Scope of Investigation.*—As noted in Report No. 1 distinction must be drawn between (a) Variations in the *purchasing-power* of money, and (b) Variations in the *standard of living*, and in Report No. 2 attention was directed to the factors which must be taken into consideration in dealing with these matters in order to arrive at a satisfactory aggregate expenditure. The various Reports deal with the list of commodities selected and the reasons for their adoption, while paragraph 11 of this chapter deals with the extension of the inquiry to cover all ordinary household expenditure.

3. *Variations in Index-Numbers for Retail Prices and House Rents, Capital Cities, 1901 to 1923.*—(i) *General.* In Labour Reports and Bulletins, and in recent issues of the Quarterly Summaries of Statistics, index-numbers were given for each of the four groups and for all groups combined for each capital city since 1901, the expenditure in 1911

being taken in each case as base (=1,000). In this sub-section summarized results only are given, firstly, for food and groceries; secondly, for house rent; and thirdly, for the groups combined—the weighted average expenditure for all capital cities in 1911 being taken in each case as base (=1,000). The index-numbers in each table are fully comparable with one another since they show not only the variations from year to year in each capital, but also the relative cost as between the cities.

(ii) *Food and Groceries.* The index-numbers thus computed for the three groups comprising groceries and food are shown in the following table:—

RETAIL PRICE INDEX-NUMBERS, FOOD AND GROCERIES.—CAPITAL CITIES, 1901 TO 1923.

City.	1901.	1911.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Sydney ..	917	989	1,156	1,396	1,520	1,540	1,549	1,783	2,148	1,898	1,703	1,820
Melbourne ..	965	935	1,091	1,411	1,462	1,412	1,466	1,620	2,056	1,901	1,644	1,802
Brisbane ..	965	1,018	1,078	1,373	1,426	1,406	1,495	1,762	2,052	1,812	1,608	1,693
Adelaide ..	1,028	1,020	1,215	1,487	1,532	1,445	1,554	1,719	2,132	1,906	1,723	1,823
Perth ..	1,184	1,346	1,302	1,483	1,542	1,505	1,486	1,772	2,050	1,995	1,776	1,823
Hobart ..	1,011	1,058	1,212	1,445	1,523	1,544	1,635	1,748	2,162	2,025	1,794	1,863
Weighted Average(a) ..	972	1,000	1,144	1,416	1,495	1,472	1,514	1,716	2,101	1,902	1,684	1,805

(a) For all capital cities.

The figures quoted are directly comparable in every respect; thus, the same quantity of food and groceries, which cost £1,000 in the capital cities considered as a whole in 1911, would have cost £917 in Sydney in 1901, £1,346 in Perth in 1911, or £1,802 in Melbourne in 1923.

In 1923 increases were experienced in all the capitals. Comparing the results for 1923 with those for 1911, the extent by which prices increased varied from 92.7 per cent. in Melbourne to 35.8 per cent. in Perth. Prices, however, were abnormally high in Perth in 1911.

(iii) *Housing.* The following table gives index-numbers computed for the weighted average house rent in each of the capital cities from 1901 to 1923, taking the average rent for the six capitals in 1911 as the base (=1,000). The average rent has been obtained for each city separately by multiplying the average predominant rent for each class of house (*i.e.*, houses having less than 4 rooms, 4 rooms, 5 rooms, 6 rooms, 7 rooms, and over 7 rooms) by a number ("weight") representing the relative number of houses of that class in the particular city. The sum of the products thus obtained, divided by the sum of the weights, gives the weighted average for all houses. The number of houses in each class for each city was obtained from the results of the 1911 census, and the index-numbers are based on the weighted average rents for all houses, and do not refer to any particular class of house. The actual predominant rents for each class were given in appendices to Labour Reports Nos. 1, 2, and 5 to 14, and an examination of these figures shows that for some classes of houses the increase has been greater, and in some less, than the general increase indicated in the following table.

INDEX-NUMBERS.—HOUSING, CAPITAL CITIES, 1901 TO 1923.

City.	1901.	1911.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Sydney ..	858	1,090	1,279	1,220	1,212	1,215	1,252	1,289	1,415	1,474	1,535	1,617
Melbourne ..	733	970	1,126	1,085	1,089	1,124	1,180	1,283	1,405	1,502	1,597	1,672
Brisbane ..	488	767	882	859	847	859	905	983	1,061	1,079	1,206	1,247
Adelaide ..	629	1,112	1,040	932	930	959	1,022	1,108	1,216	1,289	1,360	1,450
Perth ..	801	810	914	848	869	874	885	916	996	1,055	1,092	1,124
Hobart ..	667	805	914	928	928	951	956	1,134	1,373	1,440	1,445	1,602
Weighted Average(a) ..	751	1,000	1,135	1,081	1,081	1,098	1,143	1,215	1,333	1,404	1,480	1,551

(a) For all capital cities.

NOTE.—The above figures are directly comparable in every respect.

A striking feature in the rent index-numbers is the decline in the years 1915 to 1917. This fall was probably, in some measure, due to the circumstance that wives and other dependents of soldiers shared houses or apartments, thus reducing the demand for accommodation. Government regulations forbidding increase in rents of houses tenanted by soldiers' dependents also had a restraining influence on any tendency towards a rise. In 1918 rents were again at the 1914 level, but in the years 1920 to 1923 fairly substantial increases occurred.

(iv) *Food, Groceries, and Housing combined.* The weighted averages for all groups are of importance, as indicating the general results of this investigation so far as the purchasing-power of money is concerned. The following table shows the index-numbers for groceries, food, and house rent for each capital city, the weighted average cost for the six capitals in 1911 being taken as base (=1,000):—

RETAIL PRICE INDEX-NUMBERS^(a)—FOOD, GROCERIES, AND HOUSING.—
CAPITAL CITIES, 1901 TO 1923.

City.	1901.	1911.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Sydney ..	893	1,031	1,206	1,323	1,394	1,406	1,427	1,530	1,847	1,724	1,634	1,737
Melbourne ..	870	950	1,105	1,277	1,309	1,294	1,349	1,481	1,788	1,737	1,625	1,749
Brisbane ..	769	915	997	1,162	1,188	1,181	1,252	1,442	1,845	1,511	1,442	1,510
Adelaide ..	864	1,058	1,143	1,259	1,285	1,245	1,335	1,468	1,756	1,653	1,574	1,670
Perth ..	1,027	1,126	1,143	1,222	1,266	1,246	1,239	1,420	1,617	1,609	1,495	1,538
Hobart ..	869	954	1,090	1,233	1,278	1,301	1,356	1,496	1,837	1,785	1,651	1,756
Weighted Average ^(b) ..	880	1,000	1,140	1,278	1,324	1,318	1,362	1,510	1,785	1,697	1,600	1,700

(a) As the price index-number increases, the purchasing-power of money diminishes.

(b) For all capital cities.

NOTE.—The above figures are directly comparable in every respect.

On the basis of the weighted averages, prices of food and groceries rose in 1915 by about 24 per cent. over 1914, and continued during the war years on a somewhat higher level, whereas the weighted average for housing fell in 1915 by 4.8 per cent., and remained below the 1913 level until 1918. The combination of housing with prices of food and groceries has had the effect of considerably modifying the index of prices, or, in other words, the purchasing-power of money, as compared with the similar index based on food and groceries only. In 1918, 1919, and 1920 there were increases in prices of food and groceries and housing, the combined results for 1920 being an increase of 18.2 per cent. over 1919, 56.6 per cent. over 1914, and 78.5 per cent. over 1911. The increase in the index-number between 1920 and 1914 varied between the capital cities from 41 per cent. in Perth to 69 per cent. in Hobart, while between 1920 and 1911 it varied between 44 per cent. in Perth and 93 per cent. in Hobart. The decrease in cost in 1921 was very slight in Perth compared with the decrease in the remaining cities. In 1922 there was a further decline in the combined cost of food, groceries, and housing in all the cities, the weighted average index-number being 1,600 as compared with 1,697 in 1921. The index-number for 1923 shows a rise of 6.3 per cent. on that for 1922, both food and groceries and housing contributing to the increase.

4. *Retail Price Index-numbers in Terms of Currency.*—The tables in sub-section 3 give the relative cost in the six capital cities of food, groceries, and housing from 1901 to 1923 in the form of index-numbers. The figures have been converted into a monetary basis in the next table, and show the sums which would have to be paid in each city and in each year in order to purchase such relative quantities (indicated by the mass-units) of the several commodities, and to pay such sums for housing as would in the aggregate cost £1, according to the weighted average prices and rents in the six capitals in 1911.

RETAIL PRICES.—AMOUNTS NECESSARY ON THE AVERAGE IN EACH YEAR FROM 1901 TO 1924 (1st QUARTER) TO PURCHASE IN EACH CAPITAL CITY WHAT WOULD COST ON THE AVERAGE £1 in 1911 IN THE AUSTRALIAN CAPITALS REGARDED AS A WHOLE.

Year.	Sydney.	Melb'ne.	Brisbane.	Adelaide.	Perth.	Hobart.	Weighted Average of 6 Capital Cities.
FOOD AND GROCERIES (46 COMMODITIES).							
1901	s. d. 18 4	s. d. 19 4	s. d. 19 4	s. d. 20 7	s. d. 23 8	s. d. 20 3	s. d. 19 4
1907	18 9	18 6	18 11	19 0	23 11	20 2	19 1
1911	19 9	18 8	20 4	20 5	26 11	21 2	20 0
1919	35 8	32 5	35 3	34 5	35 5	35 0	34 4
1920	43 0	41 1	41 1	42 8	41 0	43 3	42 0
1921	38 0	38 0	36 3	38 1	40 0	40 6	38 0
1922	34 1	32 11	32 2	34 6	35 6	35 11	33 8
1923	36 5	36 1	33 10	36 6	36 7	37 3	36 1
1923 { 1st Quarter	34 2	32 9	32 4	34 1	34 9	35 6	33 7
2nd	36 6	36 6	33 6	36 11	38 5	37 2	36 6
1923 { 3rd	38 2	39 0	34 5	37 10	37 4	38 3	38 0
4th	36 9	35 11	35 2	37 0	35 9	38 1	36 4
1924 1st	35 8	34 7	35 2	36 11	37 6	37 11	35 7

HOUSING ACCOMMODATION (WEIGHTED AVERAGE—ALL HOUSES).

1901	17 3	14 8	9 9	12 7	16 0	13 4	15 1
1907	18 4	16 1	11 6	16 3	13 8	14 2	16 4
1911	21 10	19 5	15 4	22 3	16 3	16 1	20 0
1919	25 9	25 8	19 8	22 2	18 4	22 8	24 4
1920	28 4	28 1	21 3	24 4	19 11	27 5	26 8
1921	29 6	30 0	21 7	25 9	21 0	28 10	28 1
1922	30 8	31 11	24 1	27 2	21 10	28 11	29 7
1923	32 4	33 5	24 11	29 0	22 6	32 1	31 0
1923 { 1st Quarter	31 8	32 9	24 11	28 6	22 5	30 5	30 4
2nd	32 6	33 5	24 11	29 1	22 7	32 4	31 0
1923 { 3rd	32 7	33 7	24 11	29 2	22 5	32 7	31 2
4th	32 7	34 0	25 0	29 2	22 6	32 11	31 4
1924 1st	33 1	34 1	24 10	29 4	22 7	33 3	31 7

FOOD, GROCERIES, AND HOUSING COMBINED.

1901	17 10	17 5	15 5	17 3	20 6	17 5	17 7
1907	18 6	17 6	15 11	17 11	19 9	17 9	17 11
1911	20 7	19 0	18 4	21 2	22 6	19 1	20 0
1919	31 7	29 7	28 10	29 4	28 5	29 11	30 2
1920	36 11	35 9	32 11	35 1	32 4	36 9	35 8
1921	34 6	34 10	30 3	33 1	32 2	35 8	33 11
1922	32 8	32 6	28 10	31 6	29 11	33 0	32 0
1923	34 9	35 0	30 2	33 5	30 9	35 1	34 0
1923 { 1st Quarter	33 2	32 9	29 2	31 10	29 8	33 5	32 3
2nd	34 11	35 3	30 0	33 9	31 11	35 2	34 3
1923 { 3rd	35 10	36 9	30 6	34 3	31 2	35 11	35 2
4th	35 1	35 1	31 0	33 9	30 4	36 0	34 3
1924 1st	34 7	34 4	30 11	33 10	31 4	36 0	33 11

5. Variations in Index-numbers, Retail Prices and Housing, Thirty Australian Towns, 1923.—The index-numbers given in the preceding sub-sections show changes in the cost of food, groceries, and housing separately for each capital city during the years 1901 to 1923. The figures given in the next table show the relative cost of food and groceries, and of housing in 1923 in the thirty towns for which particulars are now collected. The weighted aggregate expenditure for the six capitals for the year 1911 has been taken as base and made equal to 1,000, hence the columns are comparable both horizontally and vertically. The index-numbers in the last column are the same as in previous tables where the period and town are comparable.

RELATIVE INDEX-NUMBERS.—FOOD, GROCERIES AND HOUSING, THIRTY TOWNS, 1923.

(NOTE.—Weighted Average Cost all Groups, Capital Cities, 1911, taken as a base = 1,000.)

TOWN.	Food and Groceries.	HOUSING.				FOOD, GROCERIES, AND RENT OF—			
		Four-roomed Houses.	Five-roomed Houses.	Six-roomed Houses.	All Houses.	Four-roomed Houses.	Five-roomed Houses.	Six-roomed Houses.	All Houses.
NEW SOUTH WALES—									
Sydney	1,072	521	616	743	665	1,593	1,688	1,815	1,737
Newcastle	1,083	411	560	709	554	1,494	1,643	1,792	1,637
Broken Hill*	1,177	283	359	429	309	1,460	1,536	1,606	1,486
Goulburn	1,093	476	575	703	637	1,569	1,668	1,796	1,730
Bathurst	1,040	280	369	477	409	1,320	1,409	1,517	1,449
Weighted Average	1,076	503	602	729	643	1,579	1,678	1,805	1,719
VICTORIA—									
Melbourne	1,062	475	619	804	687	1,537	1,681	1,866	1,749
Ballarat	1,056	275	380	471	442	1,331	1,436	1,527	1,498
Bendigo	1,058	302	399	531	437	1,360	1,457	1,589	1,495
Geelong	1,035	373	503	629	547	1,408	1,538	1,664	1,582
Warrnambool.. .. .	1,031	377	499	615	535	1,408	1,530	1,646	1,566
Weighted Average	1,060	457	596	773	662	1,517	1,656	1,833	1,722
QUEENSLAND—									
Brisbane	997	333	448	576	513	1,330	1,445	1,573	1,510
Toowoomba	989	289	373	482	480	1,278	1,362	1,471	1,469
Rockhampton	1,024	243	287	397	363	1,267	1,311	1,421	1,387
Charters Towers	1,075	258	336	407	317	1,333	1,411	1,482	1,392
Warwick	988	273	381	448	434	1,261	1,369	1,436	1,422
Weighted Average	1,001	318	422	544	489	1,319	1,423	1,545	1,490
SOUTH AUSTRALIA—									
Adelaide	1,074	442	592	716	596	1,516	1,666	1,790	1,670
Moonta, etc.	1,047	280	377	442	364	1,327	1,424	1,489	1,411
Port Pirie*	1,066	320	416	500	398	1,386	1,482	1,566	1,454
Mt. Gambier	1,033	235	303	377	312	1,268	1,336	1,410	1,345
Peterborough	1,061	309	386	487	399	1,370	1,447	1,548	1,460
Weighted Average	1,072	427	571	690	575	1,499	1,643	1,762	1,647
WESTERN AUSTRALIA—									
Perth, etc.	1,077	399	492	583	461	1,476	1,569	1,660	1,538
Kalgoorlie, etc.	1,238	343	407	477	333	1,581	1,645	1,715	1,571
Northam	1,156	352	451	557	343	1,508	1,607	1,713	1,499
Bunbury	1,084	362	468	556	368	1,446	1,552	1,640	1,452
Geraldton	1,130	437	528	644	402	1,567	1,658	1,774	1,532
Weighted Average	1,096	393	483	573	443	1,489	1,579	1,669	1,589
TASMANIA—									
Hobart	1,097	452	629	796	659	1,549	1,726	1,893	1,756
Launceston	1,072	376	545	688	573	1,448	1,617	1,760	1,645
Burns	1,109	411	582	718	535	1,520	1,691	1,827	1,644
Devonport	1,093	417	530	646	568	1,510	1,623	1,739	1,661
Queenstown	1,150	263	342	369	256	1,413	1,492	1,519	1,406
Weighted Average	1,092	421	589	740	612	1,513	1,681	1,832	1,704
Australia, Weighted Average, 30 Towns	1,065	452	570	710	612	1,517	1,635	1,775	1,677

* See remarks on page 43 of Labour Report, No. 13, with reference to house rents.

§ 10. Retail Price Index-Numbers, 200 Towns.

1. General.—To supplement the information collected each month for the 30 towns specified in the preceding paragraph, a special investigation was initiated in November, 1913, into retail price index-numbers in 70 additional towns. This investigation was repeated in November, 1914, and again in November, 1915, when the number of additional towns was increased to 120. In November, 1923, the number of additional towns was further increased to 170, and it is intended to institute inquiries in November in each year, thus making information available annually for 200 towns. The results

of the first investigation were published in Labour Bulletin No. 5 (Section IV., pages 26 to 33), where some description was given of the methods adopted in making the investigation and in computing the index-numbers. The results of the succeeding yearly investigations have appeared in the Labour Bulletins and Reports of this Bureau.

2. Detailed Results, 1921 to 1923.—The results of the investigation made in November, 1923, are set out in the following tables. The aggregate expenditure on food and groceries separately is shown in the form of index-numbers for each year in column A. In columns B and C the corresponding aggregate expenditure on food, groceries and rent of 4 rooms, and food, groceries, and rent of 5 rooms are shown for each year for each individual town. The index-number 1,642 represents the weighted average expenditure in 200 towns on food, groceries, and rent of 5-roomed houses; 1,526 represents the average weighted expenditure on food, groceries, and rent of 4-roomed houses in November, 1923. Similarly, in column A, the index-number 1,083 represents the relative weighted average expenditure on food and groceries only for November, 1923. The figures given in the table are comparable throughout. Thus, taking the average weighted expenditure for all 200 towns on food, groceries, and rent of 5-roomed houses as equal to 1,642, the expenditure on the same items in Melbourne is 1,689, while if 4-roomed houses were substituted for 5-roomed the expenditure in Melbourne would be represented by 1,547.

A change has been made in the basis on which the index-numbers in this table are computed. Previously, the weighted average expenditure on food, groceries, and rent of 5-roomed houses for the 150 towns in each year was taken as base. In the tables on the following pages the same basis is taken as in the case of the tables referring to 30 towns and 6 capital cities given in the preceding section, *i.e.*, the weighted average expenditure on food, groceries, and housing accommodation in the 6 capital cities in 1911 is made equal to 1,000.

INDEX-NUMBERS.—COST OF FOOD, GROCERIES AND HOUSING IN 150 TOWNS FOR NOVEMBER, 1921 AND 1922, AND 200 TOWNS IN 1923, COMPARED WITH THE WEIGHTED AVERAGE COST OF FOOD, GROCERIES, AND RENT FOR ALL HOUSES IN THE SIX CAPITAL CITIES IN 1911 AS BASE (=1000).

State and Town.	1921. November.			1922. November.			1923. November.		
	Food and Groceries only.	Food, Groceries and Rent of 4 Roomed Houses.	Food, Groceries and Rent of 5 Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4 Roomed Houses.	Food, Groceries and Rent of 5 Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4 Roomed Houses.	Food, Groceries and Rent of 5 Roomed Houses.
	A	B	C	A	B	C	A	B	C
NEW SOUTH WALES—									
Sydney	1,015	1,506	1,589	1,034	1,553	1,641	1,087	1,608	1,705
Newcastle	1,029	1,408	1,574	1,008	1,419	1,574	1,120	1,531	1,676
Broken Hill	1,023	1,305	1,376	1,050	1,331	1,402	1,227	1,510	1,587
Goulburn	1,001	1,373	1,490	986	1,409	1,527	1,095	1,570	1,661
Bathurst	985	1,232	1,328	986	1,187	1,309	1,045	1,325	1,414
Albury	1,003	1,431	1,521	986	1,519	1,594	1,060	1,636	1,754
Armidale	1,031	1,314	1,411	974	1,332	1,404	1,073	1,424	1,536
Ballina .. .. .	..	..	..	..	..	..	1,169	1,511	1,564
Bega	1,073	1,300	1,398	983	1,259	1,358	1,132	1,408	1,530
Berry .. .. .	..	..	..	..	..	..	1,117	1,413	1,512
Blackheath .. .. .	..	..	..	..	..	..	1,199	1,633	1,725
Bourke	1,066	1,211	1,277	1,055	1,232	1,285	1,228	1,425	1,505
Bowral	1,060	1,461	1,524	1,061	1,495	1,594	1,141	1,701	1,760
Casino	1,089	1,431	1,516	1,011	1,373	1,439	1,133	1,541	1,643
Cessnock .. .. .	..	..	..	..	..	..	1,111	1,576	1,659
Cobar	1,133	1,232	1,265	1,043	1,141	1,174	1,152	1,251	1,284
Cooma	1,101	1,393	1,509	1,006	1,292	1,390	1,220	1,611	1,709
Coonamble	1,049	1,365	1,474	1,045	1,352	1,435	1,142	1,405	1,475
Cootamundra	1,053	1,472	1,562	921	1,337	1,440	1,098	1,558	1,690
Corimal	1,052	1,328	1,387	1,013	1,309	1,381	1,106	1,435	1,527
Cowra	967	1,312	1,434	974	1,372	1,484	1,074	1,505	1,599
Cronulla .. .. .	..	..	..	..	..	..	1,155	1,506	1,579
Cudjiegong .. .. .	..	..	..	..	..	..	1,167	1,364	1,463
Deniliquin	997	1,298	1,367	1,008	1,309	1,378	1,087	1,405	1,474
Dubbo	1,045	1,428	1,557	1,018	1,445	1,542	1,204	1,657	1,791
Forbes	1,016	1,385	1,477	1,014	1,398	1,569	1,105	1,559	1,737

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 190
TOWNS, ETC.—*continued.*

State and Town.	1921. November.			1922. November.			1923. November.		
	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.
	A	B	C	A	B	C	A	B	C
NEW SOUTH WALES—<i>continued.</i>									
Gilgandra .. .. .	..	..	..	..	..	..	1,136	1,426	1,505
Glen Innes	958	1,285	1,384	957	1,266	1,400	1,015	1,326	1,423
Grafton	1,070	1,360	1,455	1,006	1,359	1,478	1,149	1,544	1,643
Grenfell	1,014	1,422	1,500	977	1,444	1,569	1,179	1,541	1,771
Griffiths .. .. .	..	..	..	..	..	..	1,214	1,872	2,004
Gulgong .. .. .	..	..	..	..	..	..	1,092	1,388	1,451
Gunnedah	1,024	1,320	1,432	990	1,296	1,358	1,039	1,434	1,566
Hay	1,066	1,342	1,476	1,004	1,280	1,405	*	*	*
Inverell	1,044	1,395	1,403	1,001	1,363	1,407	1,102	1,452	1,521
Junee	1,042	1,453	1,555	991	1,418	1,517	1,117	1,561	1,676
Katoomba	1,110	1,631	1,752	1,060	1,584	1,371	1,205	1,728	1,859
Kempsey	1,042	1,421	1,519	961	1,290	1,427	1,021	1,350	1,383
Kurri Kurri .. .. .	..	..	..	..	..	..	1,131	1,477	1,550
Leeton	1,110	1,453	1,574	1,047	1,402	1,563	1,198	1,914	1,949
Lismore	1,035	1,416	1,486	1,018	1,355	1,472	1,162	1,517	1,678
Lithgow	1,001	1,349	1,415	994	1,350	1,402	1,166	1,547	1,655
Maitland	1,073	1,395	1,481	1,079	1,487	1,605	1,086	1,554	1,596
Moree	1,026	1,470	1,569	999	1,394	1,559	1,288	1,692	1,797
Moss Vale	1,031	1,411	1,483	995	1,414	1,504	1,112	1,622	1,704
Mudgee	1,036	1,370	1,442	992	1,292	1,395	1,115	1,515	1,611
Narrabri .. .. .	..	..	..	..	..	..	1,109	1,427	1,563
Narrandera .. .. .	..	..	..	..	..	..	1,187	1,621	1,746
Nowra	1,073	1,402	1,468	1,052	1,578	1,657	1,164	1,559	1,717
Orange	991	1,318	1,411	955	1,307	1,410	1,032	1,432	1,535
Parkes	1,019	1,420	1,503	1,000	1,434	1,559	1,120	1,604	1,696
Penrith .. .. .	..	..	..	..	..	..	1,083	1,440	1,557
Port Kembla .. .. .	..	..	..	..	..	..	1,145	1,467	1,540
Portland .. .. .	..	..	..	..	..	..	1,106	1,402	1,494
Queanbeyan	1,044	1,343	1,393	1,014	1,376	1,458	1,172	1,577	1,676
Quirindi .. .. .	..	..	..	..	..	..	1,128	1,437	1,562
Richmond .. .. .	..	..	..	..	..	..	1,121	1,492	1,583
Scone .. .. .	..	..	..	..	..	..	1,028	1,462	1,587
Singleton .. .. .	..	..	..	..	..	..	1,117	1,470	1,548
Tamworth	952	1,383	1,498	921	1,339	1,497	1,065	1,427	1,582
Taree	1,062	1,424	1,523	1,006	1,467	1,532	1,088	1,598	1,687
Temora .. .. .	..	..	..	..	..	..	1,099	1,555	1,687
Tenterfield .. .. .	..	..	..	..	..	..	1,137	1,499	1,565
Tumut .. .. .	..	..	..	..	..	..	1,149	1,511	1,643
Ulmara .. .. .	..	..	..	..	..	..	1,163	1,571	1,623
Wagga Wagga	986	1,385	1,447	951	1,350	1,477	1,132	1,856	1,988
Walcha .. .. .	..	..	..	..	..	..	1,009	1,305	1,436
Wellington	1,032	1,319	1,412	944	1,226	1,313	1,129	1,414	1,506
Weston .. .. .	..	..	..	..	..	..	1,198	1,487	1,527
Windsor .. .. .	..	..	..	..	..	..	1,108	1,483	1,634
Wollongong	1,051	1,387	1,449	1,018	1,399	1,465	1,137	1,560	1,652
Wyalong	1,110	1,389	1,472	983	1,329	1,445	1,148	1,595	1,681
Yass	1,093	1,411	1,483	1,069	1,385	1,449	1,249	1,567	1,648
Young	1,014	1,310	1,387	950	1,306	1,408	1,014	1,412	1,511
Weighted Average for State	1,020	1,463	1,553	1,024	1,493	1,589	1,099	1,585	1,636
VICTORIA—									
Melbourne	972	1,418	1,543	967	1,431	1,570	1,062	1,547	1,689
Ballarat	977	1,178	1,284	976	1,217	1,320	1,080	1,356	1,463
Bendigo	968	1,170	1,315	977	1,284	1,381	1,075	1,375	1,473
Geelong	991	1,330	1,432	959	1,322	1,439	1,054	1,427	1,556
Warrnambool	999	1,335	1,484	932	1,273	1,431	1,067	1,448	1,578
Ararat	1,084	1,327	1,426	1,002	1,303	1,395	1,150	1,472	1,540
Bacchus Marsh .. .. .	..	..	..	..	..	..	1,081	1,459	1,640
Bairnsdale	1,048	1,377	1,504	1,009	1,371	1,494	1,166	1,528	1,692
Beechworth	979	1,196	1,262	996	1,223	1,275	1,114	1,364	1,433
Benalla	1,004	1,304	1,406	947	1,276	1,385	1,081	1,413	1,489
Camperdown	982	1,324	1,426	963	1,339	1,539	1,055	1,450	1,581
Casterton .. .. .	..	..	..	..	..	..	1,073	1,345	1,446
Castlemaine	1,001	1,241	1,360	997	1,280	1,375	1,069	1,358	1,454
Colac	1,028	1,489	1,604	973	1,500	1,582	1,135	1,675	1,793
Creswick	970	1,075	1,121	921	1,053	1,092	1,035	1,154	1,206
Daylesford	1,013	1,221	1,329	995	1,247	1,329	1,080	1,376	1,458
Dunolly	939	1,058	1,097	934	1,092	1,131	1,067	1,212	1,298
Echuca	1,020	1,260	1,365	973	1,235	1,327	1,069	1,364	1,464

* Figures not available for 1923.

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 150 TOWNS, ETC.—*continued.*

State and Town.	1921. No vember.			1922. No vember.			1923. No vember.		
	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.
	A	B	C	A	B	C	A	B	C
VICTORIA—continued.									
Euroa	982	1,226	1,259	1,011	1,243	1,296	1,131	1,414	1,476
Hamilton	1,050	1,395	1,487	1,018	1,402	1,534	1,140	1,557	1,667
Healesville							1,147	1,588	1,700
Horsham	1,053	1,458	1,623	987	1,417	1,536	1,103	1,673	1,827
Kerang							1,126	1,652	1,784
Koroit							1,096	1,372	1,458
Korumburra	1,013	1,338	1,362	939	1,273	1,376	1,124	1,387	1,519
Kyneton	1,012	1,271	1,381	951	1,273	1,331	1,064	1,380	1,459
Lilydale							1,127	1,555	1,653
Maffra							1,146	1,733	1,870
Maldon	972	1,110	1,133	950	1,093	1,137	1,086	1,243	1,279
Maryborough	1,022	1,200	1,302	977	1,154	1,270	1,108	1,315	1,407
Mildura	1,155	1,711	1,856	1,102	1,767	1,829	1,163	1,769	1,920
Morwell							1,108	1,733	1,832
Nhill	1,078	1,341	1,405	1,006	1,348	1,409	1,149	1,518	1,639
Orbost	1,042	1,371	1,437	1,020	1,415	1,547	1,104	1,433	1,499
Portland	1,057	1,374	1,480	1,023	1,346	1,467	1,097	1,412	1,525
Port Fairy							1,090	1,358	1,424
St. Arnaud	1,046	1,335	1,457	976	1,244	1,325	1,122	1,451	1,591
Sale	972	1,233	1,335	936	1,252	1,360	1,072	1,487	1,643
Seymour							1,090	1,370	1,462
Shepparton	1,040	1,405	1,517	1,010	1,454	1,569	1,092	1,487	1,566
Stawell	1,067	1,307	1,425	1,070	1,331	1,423	1,180	1,452	1,548
Swan Hill	1,008	1,436	1,567	982	1,574	1,739	1,086	1,612	1,777
Terang							1,105	1,447	1,552
Traralgon							1,067	1,426	1,518
Wangaratta	1,031	1,351	1,445	1,014	1,350	1,431	1,166	1,618	1,686
Warracknabeal	998	1,298	1,367	973	1,335	1,400	1,065	1,512	1,634
Warragul							1,099	1,595	1,735
Wonthaggi	996	1,360	1,435	1,000	1,439	1,527	1,204	1,674	1,761
Weighted Average for State	980	1,376	1,493	971	1,389	1,517	1,069	1,525	1,660
QUEENSLAND—									
Brisbane	1,006	1,298	1,385	942	1,275	1,385	1,039	1,376	1,487
Toowoomba	942	1,199	1,285	927	1,183	1,262	1,049	1,339	1,423
Rockhampton	1,000	1,225	1,270	946	1,194	1,239	1,085	1,329	1,437
Charters Towers	1,034	1,300	1,353	993	1,243	1,312	1,132	1,390	1,474
Warwick	986	1,253	1,315	919	1,175	1,230	1,023	1,296	1,404
Ayr							1,195	1,611	1,732
Barcaldine							1,237	1,582	1,681
Bowen							1,103	1,498	1,597
Bundaberg	953	1,170	1,263	940	1,192	1,278	959	1,211	1,293
Cairns	1,127	1,474	1,544	1,044	1,452	1,538	1,163	1,602	1,738
Charleville	1,138	1,565	1,697	1,072	1,466	1,624	1,145	1,573	1,671
Chillagoe	1,230	1,494	1,625	1,050	1,313	1,379	1,138	1,467	1,533
Cloncurry	1,169	1,572	1,660	1,115	1,488	1,585	1,174	1,510	1,653
Cooktown	1,224	1,325	1,330	1,126	1,233	1,270	*	*	*
Cunnamulla	1,102	1,312	1,391	1,047	1,363	1,441	1,155	1,484	1,550
Dalby							1,031	1,268	1,321
Gayndah							1,031	1,360	1,426
Gladstone							1,040	1,303	1,435
Goondiwindi	997	1,234	1,326	1,016	1,271	1,367	1,145	1,428	1,540
Gympie	1,036	1,247	1,313	998	1,251	1,336	1,054	1,305	1,405
Hughenden	1,172	1,665	1,797	1,092	1,586	1,750	1,194	1,638	1,770
Innisfail							1,309	1,814	1,923
Ipwich	1,048	1,361	1,458	951	1,241	1,326	1,063	1,406	1,458
Longreach	1,094	1,375	1,452	1,098	1,385	1,487	1,221	1,552	1,647
Mackay	1,106	1,453	1,567	962	1,327	1,436	1,066	1,448	1,571
Maryborough	1,006	1,245	1,304	962	1,231	1,363	998	1,251	1,353
Mount Morgan	1,000	1,211	1,250	965	1,183	1,222	1,127	1,357	1,384
Nambour							1,054	1,400	1,498
Roma	1,058	1,420	1,535	1,009	1,371	1,450	1,132	1,484	1,534
Stanthorpe							1,134	1,503	1,575
Townsville	1,138	1,529	1,663	1,079	1,493	1,632	1,149	1,603	1,731
Winton	1,168	1,607	1,738	1,090	1,551	1,715	1,235	1,735	1,834
Weighted Average for State	1,019	1,303	1,386	963	1,272	1,368	1,063	1,393	1,492

* Figures not available for 1923.

INDEX-NUMBERS.—COST OF FOOD, GROCERIES, AND HOUSING IN 150 TOWNS, ETC.—*continued.*

State and Town.	1921. November.			1922. November.			1923. November.		
	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.	Food and Groceries only.	Food, Groceries and Rent of 4-Roomed Houses.	Food, Groceries and Rent of 5-Roomed Houses.
	A	B	C	A	B	C	A	B	C
SOUTH AUSTRALIA—									
Adelaide	991	1,381	1,527	987	1,418	1,548	1,072	1,518	1,667
Kadina, etc. .. .	996	1,248	1,344	990	1,245	1,351	1,059	1,334	1,435
Port Pirie .. .	1,020	1,346	1,418	978	1,297	1,391	1,110	1,433	1,530
Mount Gambier ..	972	1,198	1,259	950	1,185	1,252	1,051	1,286	1,354
Peterborough .. .	1,050	1,343	1,442	1,013	1,303	1,373	1,079	1,395	1,470
Freeling .. .	..	..	..	..	..	..	1,006	1,269	1,375
Gawler .. .	1,003	1,266	1,329	955	1,294	1,389	1,014	1,326	1,400
Kapunda .. .	985	1,157	1,249	947	1,184	1,260	1,041	1,304	1,403
Koranga .. .	..	..	..	..	..	..	1,110	1,505	1,571
Millicent .. .	..	..	..	..	..	..	1,099	1,428	1,520
Murray Bridge ..	988	1,361	1,457	947	1,348	1,416	1,079	1,524	1,623
Port Augusta .. .	1,049	1,376	1,465	1,023	1,348	1,451	1,112	1,437	1,540
Quorn .. .	..	..	..	..	..	..	1,065	1,529	1,651
Victor Harbour ..	991	1,340	1,451	975	1,502	1,633	1,031	1,580	1,711
Renmark .. .	1,104	1,617	1,740	1,059	1,652	1,783	1,166	1,640	1,759
Weighted Average for State	995	1,364	1,498	986	1,392	1,515	1,073	1,408	1,630
WESTERN AUSTRALIA—									
Perth and Fremantle ..	1,058	1,440	1,530	998	1,389	1,577	1,046	1,446	1,538
Kalgoorlie and Boulder ..	1,179	1,535	1,611	1,154	1,493	1,557	1,233	1,580	1,645
Northam .. .	1,104	1,420	1,558	1,081	1,432	1,542	1,154	1,510	1,610
Bunbury .. .	1,105	1,422	1,485	1,046	1,397	1,497	1,056	1,420	1,525
Geraldton .. .	1,086	1,488	1,576	1,065	1,462	1,548	1,131	1,570	1,654
Albany .. .	1,153	1,461	1,547	1,099	1,395	1,467	1,172	1,468	1,567
Beverley .. .	..	..	..	..	..	..	1,072	1,281	1,360
Bridgetown .. .	..	..	..	..	..	..	1,149	1,560	1,626
Broome .. .	1,402	..	..	1,308	1,966	2,098	1,306	1,964	2,030
Carnarvon .. .	1,297	1,659	1,745	1,237	1,730	1,779	1,249	1,743	1,841
Collie .. .	..	..	..	..	..	..	1,105	1,467	1,533
Greenbushes .. .	..	..	..	..	..	..	1,193	1,378	1,404
Katanning .. .	1,019	1,397	1,476	1,009	1,388	1,549	1,009	1,404	1,467
Leonora and Gwalia ..	1,267	1,399	1,465	1,269	1,427	1,467	1,355	1,513	1,552
Meekatharra .. .	..	..	..	..	..	..	1,162	1,425	1,491
Narrogin .. .	..	..	..	..	..	..	1,136	1,636	1,794
Wagin .. .	..	..	..	..	..	..	1,104	1,338	1,453
York .. .	..	..	..	..	..	..	1,125	1,487	1,540
Weighted Average for State	1,095	1,458	1,546	1,045	1,416	1,506	1,078	1,466	1,555
TASMANIA—									
Hobart .. .	1,081	1,520	1,631	1,013	1,416	1,592	1,114	1,574	1,762
Launceston .. .	1,009	1,331	1,475	1,007	1,374	1,536	1,112	1,490	1,657
Burnie .. .	1,017	1,379	1,484	1,028	1,454	1,586	1,176	1,583	1,746
Devonport .. .	1,074	1,434	1,518	1,010	1,421	1,490	1,146	1,566	1,683
Queenstown .. .	1,134	1,397	1,476	1,092	1,356	1,435	1,214	1,478	1,556
Beaconsfield .. .	1,049	1,110	1,113	995	1,069	1,091	1,113	1,205	1,225
Campbelltown .. .	1,066	1,206	1,277	979	1,129	1,183	1,052	1,260	1,308
Deloraine .. .	..	..	..	..	..	..	1,019	1,197	1,457
Franklin .. .	1,088	1,335	1,398	1,024	1,257	1,327	1,082	1,314	1,351
New Norfolk .. .	..	..	..	..	..	..	1,043	1,372	1,465
Scottsdale .. .	998	1,261	1,327	1,051	1,315	1,380	1,129	1,392	1,458
Ulverstone .. .	..	..	..	..	..	..	1,128	1,450	1,558
Zeehan .. .	1,167	1,325	1,358	1,116	1,281	1,327	1,251	1,415	1,468
Weighted Average for State	1,063	1,416	1,525	1,020	1,375	1,519	1,120	1,526	1,689
Weighted Average for Australia ..	1,011	1,405	1,507	998	1,415	1,525	1,083	1,526	1,642

By deducting the index-number in column A from those in columns B and C, the relative aggregate expenditure on housing accommodation can be ascertained. Thus for November, 1923, the index-number for food and groceries in Melbourne (column A) is 1,062. Subtracting this from 1,547 (column B) gives a difference of 485, which is the relative cost of house rent for houses of 4 rooms, and from 1,689 (column C) gives a difference of 627, which is the relative cost of house rent for houses of 5 rooms. Similarly the relative cost of housing accommodation can be ascertained for each of the towns included.

A table showing the retail price index-numbers (food and groceries) for each of the thirty towns for various months in the year since July, 1914, appeared in previous issues, but consideration of space precludes its repetition in the present issue. This table is, however, given in Labour Report No. 14, issued by this Bureau.

§ 11. Variations in the Cost of Food, Groceries, Rent, Clothing and Miscellaneous Expenditure.

1. *General.*—The index-numbers in the preceding paragraphs show the variations in the cost of food, groceries, and house rent. The expenditure on these items covers approximately 60 per cent. of the total expenditure of the ordinary household. The balance is expended on clothing, boots, fuel, light, and such miscellaneous items as renewals of furniture, furnishings, drapery, crockery, lodge dues, trade union dues, recreation, newspapers, etc. The Royal Commission on the Basic Wage recommended in its Report that a method should be adopted of ascertaining from time to time the rise and fall in the purchasing-power of money in its relation to the total household expenditure. The Government adopted the recommendation, and the duty of carrying out the necessary investigations was entrusted to the Bureau of Census and Statistics, and the methods hereafter described have been adopted for the purpose of measuring variations in the cost of the whole household expenditure.

2. *Methods Adopted.*—The Commission was concerned principally with the ascertainment of variations in the cost of the regimen described in the Indicator Lists published in its Report. It is clear, however, that restriction of the investigations of the Bureau of Census and Statistics in the way suggested by the Commission, would limit their usefulness. It was decided, therefore, to apply to the extended investigation the method of index-numbers already used in the investigations into variations in the cost of food, groceries, and rent. The index-numbers may be used to determine accurately from time to time the rise and fall in the purchasing-power of money in relation to the reasonable standard of comfort for the typical family as outlined by the Commission, as well as for the determination of variations in any standard fixed by previous investigators, or which may be fixed in the future.

After careful investigation it was decided to adopt for food, groceries, and house rent the commodities, method, and weighting already in use for the investigations which have been and are being made by this Bureau. The commodities and quantities adopted for food and groceries conform very closely to those given in the Indicator Lists of the Commission. With regard to rent, the Commission adopted a certain type of five-roomed house as its standard for determining the amount allowed for housing. The investigations made by this Bureau were not confined to any particular type, but to the predominant house rent, and can with safety be used to show variations in the rent being paid for the type of house described by the Commission.

The investigations of this Bureau advisedly had been confined to food, groceries, and house rent,* and it was necessary, therefore, to make investigations into the cost of clothing and miscellaneous expenditure. With regard to clothing, the Basic Wage Commission collected a great deal of information as to prices and life of articles, and these have been utilized in computing the index-numbers given in the following tables. Forms were sent out to retailers on which the prices of the articles at November, 1920, were given. These prices, so far as the capital cities are concerned (being in general the prices quoted by the firms to whom the forms were sent), are the predominant prices, i.e., the price of the grade of the articles which is most in demand. The retailers were asked to quote for November, 1921, and for May, 1922, the prices of the same articles. In order to ascertain the change in expenditure, the quantities and life as given in the Indicator Lists of the Basic Wage Commission were used for "weighting" purposes to arrive at a weekly expenditure for clothing. This weekly expenditure is then multiplied by weights in the same manner as is the weekly expenditure on rent, thus giving an aggregate expenditure comparable with the aggregate expenditure on food and groceries and on rent.

With regard to Miscellaneous Expenditure, which covers a very wide field, inquiries were made as to variations in cost of fuel and light, household utensils, drapery, crockery, etc., and also with regard to other items included in the Indicator Lists for Miscellaneous Expenditure, and the aggregate expenditure on these items has been computed in the same manner as that for clothing.

The item Groceries (not Food) has been omitted from Miscellaneous Expenditure, though it was so described by the Commission, as the index-numbers already published by this Bureau cover the items allowed for, such as soap, starch, blue, etc.

3. Period Selected as Base.—For the purpose of making comparisons, it was necessary to fix some period as the base. In the case of index-numbers for food, groceries, and rent, already published, the base period is the year 1911. For the new index-numbers covering all the items of household expenditure, November, 1914, was adopted owing to the difficulty of securing information with regard to prices of clothing and miscellaneous items for earlier years. While the index-numbers for 1914 in the following tables relate to the month of November, they may be accepted as typical of immediately pre-war conditions. As in the case of the base period, 1911, the weighted average cost of the six capital cities has been taken, and the aggregate expenditure in November, 1914, made equal to 1,000.

4. Variations in Cost in the Capital Cities.†—The following table shows, by means of index-numbers, the variations in the cost of the commodities and services included in the investigation. The cost in November, 1914, in the six capital cities considered as a whole has been taken as the basis of the table and made equivalent to 1,000. The index-numbers are comparable, and show the variations not only in each city from period to period, but also as between the various cities at any given period. Thus, the increase in cost in the six capital cities from November, 1914, was greatest in November, 1920, when it amounted to 66.5 per cent. The increase in November, 1923, compared with November, 1914, was 44.6 per cent. Further, in November, 1923, the cost of the commodities and services included was greatest in Hobart (1,527) and least in Brisbane (1,356).

* See pages 22-25 of Labour Report No. 12.

† In Labour Report No. 14, index-numbers are given showing the relative cost from November, 1921, to November, 1923, in 30 of the principal towns in Australia.

INDEX-NUMBERS, TOTAL HOUSEHOLD EXPENDITURE, CAPITAL CITIES.—
1914 TO 1923.

(NOTE.—Weighted average cost in November, 1914, for all articles in capital cities taken as base =1,000).

Cities.	November.									
	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.
Sydney ..	1,037	1,159	1,187	1,266	1,328	1,505	1,681	1,477	1,440	1,456
Melbourne ..	986	1,117	1,124	1,194	1,294	1,437	1,704	1,475	1,417	1,471
Brisbane ..	898	1,046	1,016	1,114	1,222	1,408	1,511	1,330	1,275	1,356
Adelaide ..	997	1,114	1,140	1,186	1,265	1,447	1,657	1,411	1,370	1,455
Perth ..	1,001	1,059	1,123	1,166	1,238	1,404	1,552	1,409	1,301	1,339
Hobart ..	997	1,110	1,121	1,253	1,311	1,489	1,724	1,536	1,452	1,527
Weighted Average ..	1,000	1,123	1,140	1,213	1,295	1,461	1,665	1,454	1,402	1,446

§ 12. Wholesale Prices.

1. *General.*—The results of an investigation into wholesale prices in Melbourne from 1871 to the end of September, 1912, were given in some detail in Report No. 1 of the Labour and Industrial Branch. Summarized results for later years are included in later Reports of the same Branch.

The index-numbers up to the year 1911 are based on the prices of eighty commodities, but since that year the number has been increased to ninety-two.* The methods followed for the computation of the wholesale price index-numbers are the same as those adopted in regard to retail prices. The commodities included, the units of measurement for which the prices are taken, and the mass-units, indicating the relative extent to which each commodity is used or consumed, are shown in a tabular statement in Labour Report No. 13 (page 62).

2. *Index-Numbers.*—(i) *Index-Numbers.* Index-numbers have been computed for each group of commodities, as well as for all groups together. The index-numbers for the several groups, and for all groups together, are shown in the following table, and in each case were computed with the prices in the year 1911 as base. They show, for each of the years specified, the expenditure necessary, if distributed in purchasing the relative quantities (indicated by the mass-units) of the several commodities concerned, to purchase what would have cost £1,000 in 1911. Thus, from the last column it will be seen that the cost of the relative quantities of the various commodities was 1,229 in 1871, and 974 in 1901, as compared with 1,000 in 1911, 1,903 in 1921, and 1,944 in 1923. In other words, prices were lower in 1911 than in either 1871, 1921 or 1923, and the purchasing-power of money in 1911 was, accordingly, greater. Again, prices were lower in 1901 than in 1911, and the purchasing-power of money in the former year was, therefore, greater.

* In the computation of the index-numbers for years prior to 1911, the aggregate expenditure on 80 commodities in 1911 is taken as base (= 1,000), while for later years the aggregate expenditure on 92 commodities is taken.

INDEX-NUMBERS.—WHOLESALE PRICES, MELBOURNE, 1861 TO 1923.

Year.	I. Metals. and Coal.	II. Jute, Leather, etc.	III. Agri- cultural Produce, etc.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Mate- rials.	VIII. Chem- icals.	All Com- modities together.
1861 ..	1,438	1,881	1,583	1,008	1,963	..	1,070	2,030	1,538
1871 ..	1,096	1,257	1,236	864	1,586	..	1,044	1,409	1,229
1881 ..	1,178	1,115	1,012	935	1,421	..	1,091	1,587	1,121
1891 ..	895	847	1,024	995	1,032	888	780	1,194	945
1901 ..	1,061	774	928	1,029	1,048	1,345	841	917	974
1902 ..	1,007	756	1,193	1,215	945	1,447	837	881	1,051
1903 ..	923	834	1,209	1,059	936	1,443	875	921	1,049
1904 ..	821	885	754	876	916	1,427	845	875	890
1905 ..	772	850	894	980	942	1,209	801	859	910
1906 ..	882	978	916	972	923	1,110	896	864	948
1907 ..	1,037	1,017	973	1,020	948	1,294	968	961	1,021
1908 ..	1,033	901	1,312	1,198	968	1,335	935	891	1,115
1909 ..	1,014	907	1,000	1,119	978	1,088	911	815	993
1910 ..	1,004	1,052	969	1,100	999	1,008	996	898	1,003
1911 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1912 ..	1,021	991	1,370	1,206	1,052	1,357	1,057	978	1,170
1913 ..	1,046	1,070	1,097	1,054	1,024	1,252	1,128	995	1,088
1914 ..	1,099	1,032	1,207	1,137	1,021	1,507	1,081	1,253	1,149
1915 ..	1,284	1,017	2,162	1,530	1,133	2,435	1,275	1,528	1,604
1916 ..	1,695	1,423	1,208	1,485	1,322	2,515	1,491	1,760	1,504
1917 ..	2,129	2,008	1,157	1,423	1,343	2,403	1,884	2,171	1,662
1918 ..	2,416	2,360	1,444	1,454	1,422	2,385	2,686	3,225	1,934
1919 ..	2,125	2,363	1,985	1,651	1,516	2,348	2,851	2,898	2,055
1920 ..	2,293	2,624	2,439	2,209	1,918	3,279	3,226	2,825	2,480
1921 ..	2,173	1,362	1,767	2,000	1,976	2,158	2,733	2,303	1,903
1922 ..	1,942	1,681	1,628	1,648	1,869	1,787	2,005	1,965	1,758
1923 ..	1,826	2,148	1,778	1,837	1,746	2,579	2,025	1,933	1,944

NOTE.—The figures given in this table are comparable in the vertical columns, but are not directly comparable horizontally. The index-numbers are reversible.

3. Fluctuations, July, 1914, to May, 1924.—Since the outbreak of war, prices of many commodities have increased considerably. This is shown in the following table in which the index-numbers are given for each group for the months of July, 1921 to 1923, and May, 1924, taking July, 1914, the last month before the outbreak of war, as base (=1,000) for each group:—

INDEX-NUMBERS.—WHOLESALE PRICES, MELBOURNE, JULY, 1914, to 1923, AND MAY, 1924.

Particulars.	I. Metals. and Coal.	II. Jute, Leather, etc.	III. Agri- cultural Produce, etc.	IV. Dairy Produce.	V. Gro- ceries.	VI. Meat.	VII. Building Mate- rials.	VIII. Chem- icals.	All Groups.
July, 1914 ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
July, 1921 ..	1,945	1,107	1,579	1,655	1,881	1,191	2,377	2,198	1,589
July, 1922 ..	1,764	1,555	1,532	1,564	1,810	1,185	1,681	1,991	1,569
July, 1923 ..	1,658	1,876	1,691	1,668	1,693	2,229	1,780	1,923	1,799
May, 1924 ..	1,665	2,287	1,506	1,398	1,661	1,323	1,720	1,758	1,652

§ 13. Control of Trade, Prices, and House Rents.

In previous issues of the Year Book information was given as to the legislative measures enacted by Federal and State Parliaments for the control of trade, prices, and house rents.

In Queensland the Profiteering Prevention Act 1920, and the Fair Rents Act 1920, and in New South Wales the Fair Rents Act 1915, amended in 1920, are still in force. Similar legislative measures enacted by the other States and by the Federal Parliament have been repealed or allowed to expire by effluxion of time.

§14. CO-OPERATION IN AUSTRALIA.*

1. **General.**—The word “Co-operation” is used vaguely and with different significations in Australia. Sometimes the adjectival form is adopted as a trade name by ordinary joint stock companies which have merged into a single concern. At other times the term is applied to schemes of co-partnership, profit-sharing, or welfare work. The usage in both instances is incorrect, for, to the student of economic development, co-operation has a very definite and restricted meaning.

As the word itself suggests, co-operation generally means the voluntary united effort of men to further some common interest. It is an expression of the desire for freedom, especially freedom from some real or imagined exploitation. Consequently co-operation is of two kinds :—

- (a) *Co-operation of Producers*, who band together to secure some benefit by liberating themselves from dependence upon an employer, a middleman, a manufacturer, or a bank ; and
- (b) *Co-operation of Consumers*, who unite to protect their interests as consumers.

2. **Co-operation of Producers.**—(i) *Agriculture and Dairying.* Co-operation of producers has secured its greatest triumphs in agriculture. The farmer, even if he owns the land on which he works, is dependent on many other persons, both before and after his goods are produced. Often he has little capital, and may not be able, therefore, to afford the necessary equipment. He cannot buy his fertilizer or seed in bulk. Then, in preparing his produce for market, there is often some necessary process of manufacturing or packing, e.g., butter making, bacon curing, &c., which is most economically done on a large scale with adequate factory equipment. Moreover, he is at the mercy of the agent who handles his goods in the market. His financial success depends not merely upon his efficiency in production, but also upon the cheapness with which he can get his buying, selling, and manufacturing done, and his credit facilities arranged. To secure this result farmers have combined. By so doing, they have been able to employ their own middlemen, establish their own banks, buy in bulk, manufacture on a large scale, and sell to the best advantage through the factories and agencies which they control.

Agricultural co-operation may, therefore, be vary varied in character. In some parts of the world, Co-operative Credit Banks can be found in thousands, especially along the valley of the Rhine. But co-operative credit has received very little attention in English-speaking countries. In Australia, the outstanding example of agricultural co-operation is found in the dairying industry, in connexion with which butter and cheese factories have been established, and co-operative milk distributing agencies have been set up, while the sale of products is controlled by co-operative societies in the local market and also overseas. During the last ten years many new co-operative societies have been formed by farmers to provide such services as slaughtering and freezing for export, sale of wheat, fruit, hay, manufacture of superphosphate, insurance, &c.

The capital is usually subscribed by the farmers who expect to benefit from the formation of the society, and sometimes the amount of capital taken up by any person is proportionate to the quantity of business he expects, or is allowed to do with the society. On this capital, he may receive a fixed rate of interest, and, in addition, a bonus on all transactions he has with the society. In other cases, no attempt is made to pay a bonus in proportion to the volume of business done by each member, but any profit made by trading is distributed in the form of an ordinary dividend on share capital. There were in 1922, 228 producers' co-operative societies in Australia: the number of shareholders was 192,470, and the share capital £3,301,000. The total sales were nearly £34,000,000, and a net profit of £261,000 was made. The average rate of interest paid on loan capital was 5 per cent., that on share capital was 3.5 per cent. The latter figure is probably much lower than usual, as the year was an unsuccessful one for many important societies. In addition to the dividends, thirteen societies paid bonuses to their members in proportion to the volume of trade done with the society. These bonuses were all deferred payments for milk supplied to co-operative butter factories.

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Although the last decade has witnessed a rapid growth in producers' co-operation throughout the continent, Australia still lags far behind other countries. As yet, virtually no attention has been given to the enormous possibilities of co-operative banking, and the export trade in meat, wool, and wheat is still largely in the hands of non-co-operative companies.

(ii) *Industrial*.—One form of producers' co-operation which has been almost entirely neglected in Australia is that of industrial co-operation among wage-earners. The idea of the self-governing workshop, where capital and labour are supplied by the same persons, has fascinated many men during the past eighty years. In the bitter class struggles of that period, wage-earners have often felt that social salvation could be attained only when those who provided the labour supplied also the capital. Such sentiments are especially popular during or after an unsuccessful strike, for then men vow that never again will they work for any employer. These ideas have often found practical support from social reformers and philanthropists, while to some conservative statesmen productive co-operation has seemed a pleasant and easy way to economic freedom. Hence the number of experiments in self-governing workshops has run into thousands during the past eighty years. France is the home of the idea, but experiments have been made in almost every country of Western Europe. Generally, the ventures have been made in industries where the amount of capital required is small, *e.g.*, cabinet-making, house-painting, tailoring, printing, or general labouring. A few isolated instances of such experiments in Australia can be traced; but the records are scanty, and the results were always the same, namely, eventual failure after a pathetic struggle against inadequate capital, defective management, and non-existing markets. Australian organized labour has fought shy of any large attempt to use its resources or man-power in securing the ownership and control of any important industry.

3. *Co-operation of Consumers*.—(i) *General*. Co-operation of consumers aims at bringing under the control of the consumer the production and distribution of the goods he wishes to buy. The individual consumer requires a great variety of commodities, which are provided by some entrepreneur who as producer, manufacturer, or distributor brings the goods within reach of the consumer, and, in return, endeavours to extract a profit from the transaction. In so far as competition is restricted, the consumer may find himself more and more at the mercy of monopolistic price control, and the profits extracted from him may be excessive. But, if a few hundred consumers pool their small savings, they can provide the capital with which to establish their own store, and supply themselves with goods at virtually wholesale cost price. When the hundreds become thousands, the capital subscribed by the consumers may be sufficient to erect and equip factories in which the goods required may be produced: and as the consumers become organized in larger and larger bodies, it may be possible for them to provide the capital required for every stage of production from the raw material to the commodity on the shop shelf. In so far as this can be done, consumers have their requirements met by a system from which profit has been eliminated.

(ii) *Robert Owen's Ideals*. The co-operative ideal came into prominence during that period of social and economic unrest which followed the Industrial Revolution and the Napoleonic wars. It found its greatest exponent in Robert Owen, whose panacea for social ills was common property and co-operation, in place of private property and competition. Owen's influence was large, but vague, and the numerous model communities which were established on the basis of the Owenite creed all came to grief.

(iii) *The Rochdale Society*. Out of the wreckage, the consumers' co-operative movement emerged, and had its first permanent success in the society formed at Rochdale in 1844. This society not only succeeded where many earlier attempts had failed, but it laid down certain fundamental working rules which have become the tenets of consumers' co-operative societies throughout the world. These working rules may be stated briefly as follows:—

- (a) All capital is to be provided by the members, and bears virtually a fixed rate of interest. Membership implies the holding of one or more £1 shares. This share capital may be supplemented by loan capital, and members may thus use their society as a Savings Bank. Loan and share capital alike are withdrawable on notice.

- (b) The amount of share capital which may be held by any one person is limited by law. Co-operative societies generally enjoy a special position under Industrial and Provident Societies Acts, and by these Acts the amount of share capital per member is limited, generally to £200.
- (c) Whatever the amount of capital held, the general rule is that of "one member one vote." This is in contradiction to the voting principle in ordinary joint stock companies, but the apparently absurd rule is essentially democratic and works well. In one or two isolated instances the rule is slightly departed from in Australia, but the general principle of "one man one vote" is kept to the forefront in the formation of most new societies.
- (d) Goods are generally sold at the prevailing market rates. In some parts of the world co-operative societies insist on cash transactions, but in America and Australia, where the habit of buying on credit is deeply ingrained, this rule is not generally observed. Since ordinary market rates are charged, the problem arises of the disposal of the net surplus. After the commodity has been bought, rent paid, interest on capital allotted, depreciation, wages, and other charges met, there may still be a net surplus. This surplus goes back to the pocket from which it came. It might be regarded as an "intentional accidental" overcharge, but the extent of the overcharge is not discovered until the books are made up at the end of the half year, and the member then receives back the sum of which he has been mulcted. In practice, this dividend in proportion to purchases is the vertebral column of consumers' co-operation. It is obvious that the prospect of receiving a refund of 1s. to 3s. on each £1 spent is a great inducement, and has been an important factor in causing the phenomenal growth of the consumers' co-operative movement in Europe since the forties of last century.
- (e) In addition to the principle of "one member one vote," that of equality of sexes in membership was adopted. They also decided that a definite percentage of the net surplus should be allotted to education. These principles have been fairly well honoured since they were formulated, and British co-operative societies spend nearly £200,000 a year on educational work.

(iv) *The European Movement.* The European movement began with the small retail store. As these stores became larger and more numerous they found it necessary to combine and form co-operative wholesale societies. These wholesale societies acted at first as buying agencies for the retail bodies, but from buying they passed to manufacturing, shipping, packing, farming, fishing, mining, banking, and insurance. Hence in Germany and Great Britain the co-operative movement has become in some directions self-sufficing, and is an excellent illustration of the modern tendency towards integration of all allied processes.

(v) *History of the Movement in Australia.* In 1922 there were 137 consumers' co-operative societies in Australia, with a total membership of 111,000. In proportion to population, consumers' co-operation in Australia is weak. It is interesting to consider why this is so, since the greater part of the Australian population came from countries in which co-operation has been for many years a powerful factor in economic and social life. If, for instance, we compare the position in the United Kingdom with that in Australia, we find one-tenth of the total inhabitants of the United Kingdom enrolled in consumers' co-operative societies, while in Australia only one-fiftieth of the population is so enrolled. It may be that the conditions of life in Australia are not so stern as in older countries, consequently it has not been so necessary to unite to protect the consumers' interests. At the same time, there can be little doubt that the atmosphere of all new countries is far more individualistic than that of older lands, and where men think largely of their own personal advancement there is little inclination towards concerted action.

No detailed study has yet been made of the history of consumers' co-operation in Australia, and, unfortunately, the minute books, &c., of some of the earlier societies have been lost. Many unsuccessful societies were formed, some of them being extremely short-lived. So far as can be traced, there was no attention given to co-operation on the Rochdale plan until the late sixties. During the sixties, the Australian wage-earners were struggling with only fair success to retain the high standard of living reached in the

boom years of the gold rush. There was much unemployment and a certain amount of poverty, especially in urban areas, and discussion arose as to how far co-operative activity might improve conditions. Consequent on this at least one society emerged, and still exists (*i.e.*, the Adelaide Co-operative Society Ltd., founded in 1868). During subsequent years, co-operation received an increasing amount of attention, but few actual successes were secured. Organized labour discussed and approved of the movement at its various intercolonial trade union congresses, but it is doubtful whether any important trade union officially took steps to help in establishing a co-operative store.

The second outburst of co-operative activity took place immediately after the maritime strike of 1890. Owing to the defeat of organized labour in that struggle, many wage-earners reached the conclusion that the strike should be abandoned as a weapon of industrial progress, and other methods sought, and many men turned to co-operation as a "way out." In Adelaide, a scheme was drawn up and submitted to all the trade unions for the establishment of a new co-operative society which would "commence the manufacture of all the requirements of the workers," starting with the sale of "articles of food, clothing, firewood, drugs, liquors, &c," and extending its activities when possible so that, "when sufficient funds are accumulated, the society shall embrace every branch of trade whereby its members may be benefited." The motive which prompted the distribution of this circular was stated as follows:—"As trade unionists we cannot close our eyes to the fact that strikes have failed to accomplish the end long desired by us as workers, *i.e.*, to secure to every man a fair share of the profits he has laboured to produce. During the late maritime strike nearly £10,000 was contributed by the workers of South Australia towards the strike fund. If this amount had been contributed for the purpose of commencing a co-operative society, I believe we should now be on the way to a successful future, and strikes would soon be a thing of the past."

Similar statements might be found after almost every big industrial dispute in Australian history. Trade unionists as individuals have played a not unimportant part in founding or building up the societies now in existence, and in the mining areas of New South Wales, where co-operation is most vigorous, the miners are its most stalwart supporters.

The third wave of co-operative activity was caused by the rapid increase in the cost of living during and after the war. Wage-earners found that even the increased wages secured were insufficient to keep pace with the rising prices. The position was also extremely serious for many of the salaried workers, *e.g.*, public servants, and brought about the formation of a Public Service Co-operative Society in South Australia. [It may be pointed out, however, that so far back as 1871 Civil Service Stores were established in Sydney, New South Wales, the original shareholders being mainly civil servants.] At the same time a group of returned soldiers endeavoured to reduce the cost of living by forming a co-operative society in South Australia, using the war gratuity bonds as capital. In Melbourne the formation of the Housewives' Association was due to the desire to check the rising tide of prices. It is probable that more co-operative societies were formed between 1916 and 1921 than during any other similar period in Australian history.

(vi) *Methods of Formation of Societies.* Some Australian societies began in a very small way, and their early history closely resembles that of the Rochdale Pioneers. Others started with large capital and imposing premises.

In the first class, one or two interesting examples may be given. For instance, the Adelaide Co-operative Society began its career in 1868 with nine members, who wished to do something to secure for the wage-earner a more economical disposal of his scanty wage. Between them they managed to raise an initial capital of £5; with this they purchased a chest of tea, which was then retailed to themselves at virtually cost price. The first week's takings were 7s. 6d. and the first year's, £150. Ten years later there was a share capital of £4,500 and a membership of about 700, and the society has now become one of the largest in Australia, with over 9,000 members, nearly 400 employees, a capital of £170,000, and an annual turnover of about £400,000. Another illustration of small beginnings is recorded from Port Adelaide, where the railway workers took the initiative in 1896 in calling a meeting of representatives of various trade unions. At this meeting it was decided to open a subscription list, each member present to contribute sixpence. A sum of £1 10s. was collected, and the money was invested in butter, which two committeemen hawked from door to door. The business was continued on these lines until the funds had grown to £40, when a room was rented and stocked. Within

four years the annual turnover had grown to £3,200, and by 1920 to £60,000. The members in this year numbered about 1,600. Many similar illustrations could be given from other States.

The early years of these societies were often beset with difficulties; progress was impeded by lack of funds, and disaster was almost always imminent. Some societies were formed only after vigorous canvassing and the accumulation of thousands of pounds of capital. Societies with such origins usually have an easier early history; they often bought some existing business, were able to afford satisfactory premises in a central position, could afford to allow credit, and had little difficulty in establishing connexions with wholesale houses or banks. The conditions of modern commerce make the fate of the small society very uncertain, and its history, though romantic, is likely to be chequered and end in disaster. Where success has been achieved it is due to the loyalty of the members, the ability of the directors, and the missionary fervour permeating the whole venture.

4. **Mixed Societies.**—In a few cases Australian co-operative societies, especially in rural communities, are mixed, combining the work of producers' and consumers' organizations. On the one hand they purchase wholesale and distribute retail the materials required by their members, *e.g.*, superphosphate, wire netting, machinery, seed, salt, as well as groceries, drapery, &c. On this trade they pay a dividend of (say) 2s. in the £1 on customer-members' purchases, and are a consumers' society. At the same time they handle the produce of their members, selling it either with or without some preliminary process of packing or manufacturing, *e.g.*, eggs, milk, firewood. On this trade they pay their members a certain price for the goods sent in, and later on a bonus representing the net profit the society has made in selling goods for its members. One or two societies may even go further, and allot a share of the surplus to their employees, thus combining co-operation and profit sharing. For instance one fruit-growers' society recently paid (a) 7 per cent. on members' capital, (b) 4 per cent. on members' purchases of goods, (c) 4 per cent. on members' sales of fruit, (d) 4 per cent. to employees on their wages.

One of the most interesting mixed societies in Australia began in a very small way as a producers' society. During the depression following 1893 the farmers of the "Lower North" and Murray districts of South Australia were in very difficult circumstances. Cattle and crops gave little return, and the staple commodity of the district was firewood, cut from the partly cleared lands of the district. For this wood the farmers had to accept the low price of 3s. 6d. a ton from the storekeepers of Eudunda, and were compelled to take payment in goods. Eventually in 1896, 103 farmers joined hands, raised a capital of £85, and established a society to buy the firewood for cash. Gradually the society was able to increase the return on the wood to 5s. 6d. a ton and even higher. Meanwhile members were asking the society to buy goods for them, and the establishment of country stores was undertaken. In spite of enormous obstacles, the number of stores and volume of business grew steadily, and at the latest available date there were 24 stores scattered throughout the area. In addition, a floating store-ship calls at 60 river-landings on the Murray, supplying members living along the banks.

The future of Australian rural co-operation probably lies in this combination of producers' and consumers' interests.

5. **Financial Results.**—Taking the consumers' co-operative movement as a whole, the financial results for 1922 were as follows:—

Total sales	.. ..	..	..	£6,563,000
Interest on loan capital	.. ..	..	..	4.2 per cent. = £12,108
Interest on share capital	.. ..	..	..	4.5 per cent. = £55,514
Dividends on purchases	.. ..	..	..	10.9d. in the £1 = £292,705

Under a non-co-operative system of trading, the whole of this £292,705 would have gone as profit on capital. As there were 110,979 members of co-operative societies, evidently each member spent about £59 at his store in 1922, and received (apart from the return on his share capital) a refund of about £2 13s. on his purchases. This figure is an average for the whole movement. The figures for individual societies, however, show that some of them paid only 6d. in the £1 dividend, while other returned as high as 3s. in the £1. The rate of dividend varies largely with the cost of delivery and the amount of credit allowed. The British tradition of "cash and carry" is retained in many of the societies in New South Wales, and it is possible, therefore, to make a large

refund on purchases; but, in other parts, elaborate delivery systems absorb large sums of money, while the grant of credit to customers results in losses through bad debts or lack of adequate liquid capital.

The returns for 1922 will probably represent the low-water mark of co-operative trading. The depression which began in 1920-21 compelled societies to "write down" stocks, and several small struggling societies were driven into liquidation, *e.g.*, at Broken Hill.

Consumers' co-operation has scarcely passed yet out of the first stage, that of the retail store. But in New South Wales in 1913 a co-operative wholesale society was formed, the retail societies providing the capital. This wholesale organization at once began to buy and pack on behalf of its member societies, and, while progress was impeded during the war, the volume and value of trade grew rapidly after 1918. By 1922 over £400,000 worth of goods was being obtained annually for the retail societies, and manufacture had been begun, the first article made being brooms. The organization works on exactly the same principle as the retail society, *i.e.*, after a fixed interest has been paid to capital the net surplus is distributed as dividend on purchases. The retail societies have given no attention to manufacturing, except in the case of bread. They sell chiefly the goods of private manufacturers, and import very little from the co-operative factories of other lands.

6. **Co-operative Education and Propaganda.**—In Great Britain and other countries co-operative societies spend large sums of money in educational and propaganda work. Lectures, study circles, and classes are arranged at which co-operative principles, history, and practice are taught, in addition to such technical subjects as accountancy. Australian co-operative societies have done little in this direction until within the last ten years. No society earmarks a fixed proportion of its net surplus for education. In New South Wales a co-operative union was formed some years ago to undertake propaganda work, arrange lectures and conferences, publish a journal, &c. But the union soon expired, and its work was taken over by the propaganda committee of the Co-operative Wholesale Society. A co-operative union, formed in South Australia in 1920, has done much useful work, and recent political events, *e.g.*, the attempt of the Federal Government to tax members' dividends as income, and the sudden attempt of the South Australian Government to amend the Industrial and Provident Societies Act (1923) have revealed the vital need for joint action and consultation throughout the whole movement.

7. **Conclusions.**—The fanatical co-operator finds in co-operation the solution of all social problems. A more detached view, however, does not lead to such optimism, and it is probable that the field open to consumers' co-operation is distinctly limited. Certain industries, as, for instance, lighting, transit, machine-making, and industries generally concerned in making "producers' goods" are probably out of its range; but in the big staple occupations which produce the goods required by millions of consumers there is still abundant room for expansion in Australia. For instance, the greater part of Australian production of manufactured foodstuffs might be regarded as a suitable field for control by consumers' co-operative societies. Co-operation, moreover, does not eliminate all possibility of exploitation. The consumers' society, intent on paying to its members the largest possible dividend, may endeavour to do so by keeping the wages of its employees as low as possible, and by sweating them in every direction. Such circumstances are not unknown in the history of the movement, and the lot of the wage-earner in a co-operative society may be quite as bad and as unfree as the lot of a man working for a profit-seeking capitalist. Producers' co-operative societies may easily develop into combines or trusts. When the producers gain complete control over a market they may use their power to extort monopoly prices from the consumer, while at the same time sweating their own employees. Co-operative societies are democratically governed, and show in practice all the virtues and weaknesses of democratic government. Members tend to be apathetic, except when the dividend drops a few pence in the pound. Shareholders' meetings are badly attended, expenditure of money in any way likely to reduce the dividend is vetoed, while through the apathy of the rank and file the periodical shareholders' meetings may be dominated by the employee members, who may dictate a policy which aims rather at their own well-being than at the progress of the society as a whole. But these criticisms are not fatal. Within the limits suggested, co-operation can make great advances and contribute substantially to social progress. While its future depends largely on efficiency of management, it rests in the last resort on the keenness of the co-operative spirit of its members.

CHAPTER XIV.

DEFENCE.

§ 1. Military Defence.

1. *State Systems.*—A detailed historical account of the Australian defence forces prior to federation will be found in *Official Year Book No. 2*, pp. 1075-1080. See also *Official Year Book No. 12*, p. 999.

The strength of the military forces of the States prior to federation was generally nearly up to establishment. On the 31st December, 1900 (the eve of Federation), it was:—New South Wales, 9,338; Victoria, 6,335; Queensland, 4,028; South Australia, 2,932; Western Australia, 2,696; Tasmania, 2,024; total for Australia, 27,353. This total is exclusive of cadets, reservists, and rifle club members.

2. *Commonwealth System.*—(i) *General.* Under the terms of the Constitution Act 1900, the Commonwealth took over control of defence matters in March, 1901. The growth of the Commonwealth Military Forces may be considered to have taken place in three phases, viz. :—

- (a) The first phase, *i.e.*, the welding together of the military forces of the States into one homogeneous army, was entrusted by the Government in 1902 to Major-General Sir Edward Hutton, K.C.B., K.C.M.G., and a sound foundation was laid, upon which the subsequent organization and training was based.
- (b) The second phase was the introduction of Universal Training in 1911. During the year 1909 a measure providing for universal training was passed by the Commonwealth Parliament, and the scheme came into force in 1911 after the advice and recommendations of the late Lord Kitchener had been obtained. By the Defence Acts of 1903 and 1904 all male inhabitants between the ages of 18 and 60 years were made liable to serve in Australia with the defence forces *in time of war*. The more recent Acts make training and service compulsory up to the age of 26 years *in time of peace*. By the Act of 1909 the principle of universal liability to training was made law for the first time in any English-speaking community. More detailed reference to these matters will be found in *Official Year Book No. 12*, p. 999 *et seq.*
- (c) The third phase, ¹Divisional Organization, came into operation from the 1st May, 1921. Under this system a war organization, evolved from the Australian Imperial Force, is applied to peace conditions, with a minimum of permanent staff and forces. Numbers of units and formations have been altered to correspond with those of the A.I.F. and every effort is being made to maintain the traditions established by those units in the Great War.

(ii) *Military Population.* In connexion with the numbers available, the figures of male population are of interest. The total number at cadet age, *i.e.*, between 12 and 18, at the Census of 1921 (4th April) was about 300,000, at citizen soldier age, *i.e.*, between 18 and 26, 353,000; these latter, with 409,000 at ages between 26 and 35, give 762,000 as the total males at the best period for military service. It is estimated that 529,000 of those available between the ages of 18 and 35 were not married or widowers without children, and 233,000 were married or widowers with children. In addition, there were about 762,000 between the ages 35 and 60.

(iii) *Allotment of Units.* The organization is territorial, and the divisions based upon infantry units. There are 62 battalions, forming 15 brigades. The areas have approximately equal numbers of males of citizen soldier age, and each furnishes a battalion of infantry, and a proportion of other troops.

ALLOTMENT OF UNITS TO AREAS, 1st FEBRUARY, 1924.

State.	Brigade Areas.	Battalion Areas.										Training Areas.		
		Number of Areas.	Providing the undermentioned Units—											
			Infantry Battalions.	Light Horse Regiments.	Field Artillery Batteries.	Engineers.		Signallers.		A.A.M.C.				
						Companies.	Troops.	Sections.	Troops.	A.A.S.C. Companies.	Field Amb.		Sanitary Section.	A.A.V.C. Sections.
N.S. Wales ..	5	21	21	7	17	7	3	18	4	10	8	3	4	35
Victoria ..	5	21	21	6	17	7	3	18	4	10	7	2	4	27
Queensland ..	2	8	8	4	7	2	1	9	1	3	3	1	1	10
S. Aust. ..	1	5	5	4	4	1	1	2	1	2	2	1	1	9
W. Aust. ..	1	4	4	1	3	1	..	4	..	1	1	1	..	7
Tasmania ..	1	3	3	1	3	1	..	3	..	1	1	1	..	4
Total ..	15	62	62	23	51	19	8	54	10	27	22	9	10	92

(iv) *Strength of Military Forces.* (a) *Districts.* There was little alteration in the numbers serving in the Australian military forces from the institution of the Commonwealth to the year of the introduction of the compulsory training system. From 1913 to 1918, however, the annual increase was considerable. As a result of the International Conference which met at Washington on the 11th November, 1921, it was decided by the Australian Government in 1922 that the universal training law is to be continued, but its operation is to be restricted to the more populous centres and to certain quotas only, viz. :—Citizen Force training will be confined to youths of 18 and 19 (representing two quotas annually instead of seven as previously). Senior Cadet training will be confined to boys of 16 and 17 (representing two quotas annually instead of four as previously). Junior Cadet training ceased as an activity of the Defence Department on the 30th June, 1922. The existing Divisional Organization of the Field Force is being retained in skeleton form, units being maintained at considerably below war strength.

TRAINING STRENGTH OF MILITARY FORCES, 1901, 1913, AND 1919 TO 1923.

(a) District.	1901. (b) 1/3/01	1913. 30/6/13.	1919. 30/6/19.	1920. 30/6/20.	1921. 31/12/21.	1922. 31/12/22.	1923. 31/12/23.
Hd.-Qrs.(c) ..	..	277	362	463	458	499	58
1st Q'ld. ..	4,310	4,625	13,938	13,323	14,752	4,319	4,212
2nd N.S.W. ..	9,772	12,105	37,851	38,558	46,924	14,561	15,211
3rd Vict. ..	7,011	10,840	34,770	30,762	41,484	11,117	11,825
4th S. Aus. ..	2,956	3,228	12,867	10,590	12,495	3,452	3,828
5th W. Aus. ..	2,283	1,685	5,508	4,400	6,540	2,018	2,170
6th Tas. ..	2,554	1,777	4,585	4,569	5,307	1,190	1,299
Total ..	28,886	34,537	109,881	102,665	127,960	37,156	38,603

(a) Approximately coterminous with boundaries of States. (b) Date of taking over the military forces from States by Commonwealth. (c) Including cadets at Royal Military College of Australia.

(b) *Various Arms.* The numbers of the different arms of the service on the 31st December, 1923, were as follows :—

ARMS OF THE COMMONWEALTH DEFENCE, 31st DECEMBER, 1923.(a)

Light Horse ..	3,561	Australian Instructional Corps ..	591
Field Artillery ..	3,979	Ordnance (including Armament Artificers) ..	81
Garrison Artillery ..	980	R.A.E. Survey Section ..	14
Field Engineers ..	1,558	R.A.E. Works Section ..	18
Signallers ..	1,180	Royal Military College (Cadets) ..	24
Fortress Engineers ..	201	Provost Staff ..	14
Infantry ..	23,825	Legal Department ..	37
Army Service Corps ..	1,128		
Army Medical Corps ..	1,020		
Army Veterinary Corps ..	139	Grand Total ..	38,579
Staff Corps ..	229		

(a) Excluding civilian staff.

(c) *Classification of Land Forces.* The following table shows the strength of the land forces in each State, classified according to nature of service, on the 31st December, 1923 :—

CLASSIFICATION OF LAND FORCES,(a) 31st DECEMBER, 1923.

Branch of Service.	Army Head-quarters.	1st Military District. (Qld.)	2nd Military District. (N.S.W.)	3rd Military District (Vic.)	4th Military District. (S. Aus.)	5th Military District. (W. Aus.)	6th Military District. (Tas.)	Total.
Permanently employed ..	(b)58	153	669	527	93	134	69	1,703
Citizen Soldiers .. ..	..	4,059	14,542	11,298	3,735	2,036	1,230	36,900
Unattached List of Officers ..	..	50	155	202	31	26	19	483
Engineer and Railway Staff Corps .. ..	..	9	12	10	5	8	3	47
Reserve of Officers .. ..	..	1,671	4,854	4,757	1,108	900	338	13,628
Chaplains .. ..	..	56	65	80	27	36	21	285
Total	58	5,998	20,297	16,874	4,999	3,140	1,680	53,046

(a) Excluding civilian staff.

(b) Including Cadets at Royal Military College of Australia.

(d) *Numbers Serving under Compulsory Provisions.—(1) General.* The following tables show the numbers registered and training under the compulsory system, distinguishing Citizen Forces and Senior Cadets. Junior Cadet training ceased as an activity of the Department of Defence on 30th June, 1922.

(2) *Citizen Forces 1904 and 1905 Quotas.* Registrations under these quotas as at the 31st December, 1923, are given hereunder.

UNIVERSAL TRAINING.—CITIZEN FORCES REGISTRATIONS, 1904 AND 1905 QUOTAS, AS AT 31st DECEMBER, 1923.

Military Formations and Districts.	1905 Quota.	1904 Quota.	Total Registrations.
1st Division (2nd M.D.)	4,400	4,319	8,719
2nd Division (2nd M.D.)	7,275	7,733	15,008
3rd Division (3rd M.D.)	5,298	5,394	10,692
4th Division (3rd M.D.)	3,833	3,946	7,779
4th Division (4th M.D.)	3,171	3,261	6,432
11th Mixed Brigade (1st M.D.)	4,205	4,154	8,359
12th Mixed Brigade (6th M.D.)	1,312	1,300	2,612
13th Mixed Brigade (5th M.D.)	2,154	2,095	4,249
Total	31,648	32,202	63,850

(3) *Registrations, 1898 to 1903 Quotas.* Figures relating to these quotas have been included in the next table :—

REGISTRATIONS, 1898 TO 1903 QUOTAS, AS AT 31st DECEMBER, 1921.(a)

Military District.	Total Registrations in Training Areas.						Total.
	Quota, 1898.	Quota, 1899.	Quota, 1900.	Quota, 1901.	Quota, 1902.	Quota, 1903.	
1st	4,584	4,915	4,865	4,453	4,260	3,673	26,750
2nd	9,346	9,607	10,058	9,970	10,451	10,968	60,400
3rd	6,044	6,747	7,325	7,390	7,248	8,359	43,113
4th	2,914	3,014	3,226	2,878	2,805	2,874	17,711
5th	1,146	1,222	1,178	1,244	1,347	1,989	8,126
6th	1,144	1,248	1,381	1,222	1,181	1,204	7,380
Total	25,178	26,753	28,033	27,157	27,292	29,067	163,480

(a) Latest particulars available, as no training is required of these quotas.

(4) *Exemptions and Missing Trainees.* Particulars for the 1904 and 1905 quotas are given hereunder :—

CITIZEN FORCES, EXEMPTIONS AND MISSING TRAINEES, 31st DECEMBER, 1923.

Military Formations and Districts.	Exemptions.			Missing Trainees.
	1905 Quota.	1904 Quota.	Total.	1905 and 1904 Quotas.
1st Division (2nd M.D.) ..	1,977	1,782	3,759	187
2nd Division (2nd M.D.) ..	3,154	3,133	6,287	576
3rd Division (3rd M.D.) ..	2,140	2,098	4,238	511
4th Division (3rd M.D.) ..	1,874	2,044	3,918	239
4th Division (4th M.D.) ..	1,597	1,620	3,217	71
11th Mixed Brigade (1st M.D.) ..	2,567	2,553	5,120	43
12th Mixed Brigade (6th M.D.) ..	778	757	1,535	67
13th Mixed Brigade (5th M.D.) ..	1,292	1,261	2,553	18
Total	15,379	15,248	30,627	1,712

(5) *Trainees Serving with Senior Cadets.* The number of Citizen Force trainees serving with Senior Cadets at the end of 1923 is given in the next table :—

**TRAINEES OF CITIZEN FORCE AGE SERVING WITH SENIOR CADETS,
31st DECEMBER, 1923.**

Military Formations and Districts.	Trainees of Citizen Forces serving with Senior Cadets as Officers.			Number serving under Reg. 375.
	1905 Quota.	1904 Quota.	Total.	
1st Division (2nd M.D.) ..	22	11	33	5
2nd Division (2nd M.D.) ..	35	25	60	25
3rd Division (3rd M.D.) ..	22	29	51	21
4th Division (3rd M.D.) ..	15	17	32	29
4th Division (4th M.D.) ..	19	3	22	37
11th Mixed Brigade (1st M.D.) ..	13	9	22	22
12th Mixed Brigade (6th M.D.) ..	3	1	4	..
13th Mixed Brigade (5th M.D.) ..	7	5	12	12
Total	136	100	236	151

(6) *Senior Cadets—Registrations, etc.* Registrations and numbers in training from the 1906 and 1909 quotas at the end of 1923 are shown in the next table :—

**SENIOR CADETS.—REGISTRATIONS AND NUMBER ACTUALLY IN TRAINING,
31st DECEMBER, 1923 (1906 TO 1909 QUOTAS).**

Military Formations and Districts.	Total Registrations.—Senior Cadets.					Number actually in Training.—Senior Cadets.		
	1909 Quota.	1908 Quota.	1907 Quota.	1906 Quota.	Total.	1907 Quota.	1906 Quota.	Total.
1st Division (2nd M.D.) ..	2,418	3,604	4,421	4,719	15,162	2,969	2,837	5,806
2nd Division (2nd M.D.) ..	4,725	6,733	7,374	7,407	26,239	4,847	4,483	9,330
3rd Division (3rd M.D.) ..	3,010	5,001	5,416	5,434	18,861	3,777	3,547	7,324
4th Division (3rd M.D.) ..	1,844	2,827	3,397	3,601	11,669	1,880	1,779	3,659
4th Division (4th M.D.) ..	1,752	2,911	3,081	3,254	10,998	1,971	1,791	3,762
11th Mixed Brigade (1st M.D.) ..	2,502	3,802	4,044	4,097	14,445	2,128	1,880	4,008
12th Mixed Brigade (6th M.D.) ..	619	992	1,071	1,251	3,933	477	399	876
13th Mixed Brigade (5th M.D.) ..	1,263	2,043	2,144	2,105	7,555	1,273	1,017	2,290
Total	18,133	27,913	30,948	31,868	108,862	19,322	17,733	37,055

(7) *Senior Cadets—Exemptions and Missing Trainees.* Figures regarding these at the end of 1923 are shown below:—

SENIOR CADETS.—EXEMPTIONS AND MISSING TRAINEES, 31st DECEMBER, 1923.

Military Formations and Districts.	Exemptions.					Missing Trainees.
	1909 Quota.	1908 Quota.	1907 Quota.	1906 Quota.	Total.	
1st Division (2nd M.D.) ..	9	673	1,404	1,827	3,913	107
2nd Division (2nd M.D.) ..	40	1,389	2,451	2,760	6,640	248
3rd Division (3rd M.D.) ..	19	749	1,512	1,730	4,010	292
4th Division (3rd M.D.) ..	40	791	1,463	1,722	4,016	162
4th Division (4th M.D.) ..	20	803	1,088	1,439	3,350	52
11th Mixed Brigade (1st M.D.)	18	980	1,899	2,202	5,099	33
12th Mixed Brigade (6th M.D.)	7	356	583	828	1,774	36
13th Mixed Brigade (5th M.D.)	7	309	867	1,079	2,262	13
Total	160	6,050	11,267	13,587	31,064	943

(8) *Citizen Forces—Medical Examinations.* The following table shows the results of examinations of the 1905 quota as at the end of 1923:—

CITIZEN FORCES, MEDICAL EXAMINATIONS, 1905 QUOTA, YEAR ENDED 31st DECEMBER, 1923.

Military Formations and Districts.	Number of Examinations carried out.	Fit.		Unfit (A.M.R. 369).		Unfit (including those under A.M.R. 375, but excluding those under A.M.R. 369).	
		Number.	Per-centage.	Number.	Per-centage.	Number.	Per-centage.
1st Division (2nd M.D.)	2,786	2,480	89.01	63	2.27	243	8.72
2nd Division (2nd M.D.)	4,841	4,093	84.55	138	2.85	610	12.60
3rd Division (3rd M.D.)	3,990	3,315	83.08	171	4.29	504	12.63
4th Division (3rd M.D.)	2,165	1,893	87.44	19	0.87	253	11.69
4th Division (4th M.D.)	1,993	1,668	83.69	13	0.65	312	15.66
11th Mixed Brigade (1st M.D.) ..	2,030	1,754	86.41	91	4.48	185	9.11
12th Mixed Brigade (6th M.D.) ..	643	526	81.74	17	2.71	100	15.55
13th Mixed Brigade (5th M.D.) ..	1,055	951	90.14	52	4.93	52	4.93
Total	19,503	16,680	85.53	564	2.89	2,259	11.58

(v) *Administration and Instruction.* The staff provided for the administration and training of the various arms consists of 229 officers (Staff Corps), 44 quartermasters, and 547 warrant and non-commissioned officers (Australian Instructional Corps).

(vi) *Royal Military College, Duntroon.* This College was established at Duntroon in the Federal Capital Territory for the purpose of providing trained officers for the permanent forces. Admission is by open competitive examination, a definite number of vacancies being allotted to each State of Australia on a population basis. Further particulars respecting the College are given on page 915 of Official Year Book No. 15. In January, 1924, the staff numbered—military, 20; civil, 11.

(vii) *Railways and Defence.* A War Railway Council, consisting of military and railway officers, was instituted in 1911. Its chief duties are to furnish advice and information regarding railway transport for military purposes, and to secure co-operation between the Defence Department and the Railway Departments in regard to concentration and mobilization of troops. To prevent delay in the transport of troops, particularly that caused by the transhipment of baggage and implements of war, the Council has recommended the adoption of a uniform railway gauge on lines linking up the States' capitals. An Engineer and Railway Staff Corps has been instituted, and numbered 50 officers on 31st December, 1923. Fuller details will be found in Official Year Book No. 6, pp. 1070-1.

(viii) *Rifle Clubs.* On the 31st December, 1923, there were 1,174 rifle clubs with a membership of 41,638, and 99 miniature rifle clubs having a membership of 3,912. Applications to form rifle clubs are made to the commandant of a district, and must be signed by not less than thirty male persons between the ages of 16 and 60, who must be natural-born or naturalized British subjects not undergoing training under the universal clauses of the Defence Act. Persons, however, who are temporarily exempted from universal training may be permitted to join rifle clubs during the period of their temporary exemption. Members of rifle clubs must fire an annual course of musketry, but do not undergo any systematic drill.

On the 3rd August, 1921, the administration of rifle clubs was transferred from military to civil control, and rifle clubs ceased to form part of the military organization.

§ 2. Naval Defence.

1. *State Systems.*—Information regarding naval defence systems prior to 1901 will be found in Official Year Book No. 12, p. 1011, but considerations of space preclude its insertion in the present volume.

2. *Commonwealth System from 1901.*—Australian defence, in both its branches (naval and military), passed to the Commonwealth in 1901. Prior to 1905 a naval officer commanding administered the naval forces under the Minister. When the Council of Defence was established in 1905, the Naval Board was constituted, and took over the administration of the Commonwealth naval forces, thereby ensuring continuity of policy and administration. His Majesty the King approved of a flag, similar to that used by the Board of Admiralty, being flown when the Naval Board is present in an official capacity, and this flag has taken its place amongst the naval flags of the nations.

3. *The Present System.*—(i) *General.* An outline of the development of Australian naval policy was given in Official Year Book No. 3, pp. 1060-61, and No. 12, p. 1012. Some account of the building of the Australian Fleet, the proposed and modified cost thereof, the compact with the Imperial Government, etc., appears in Official Year Book No. 15, pp. 921 *et seq.* Up to the 30th June, 1923, the expenditure on construction amounted to £6,899,000.

The Washington Conference of 1921 has had a marked effect on Naval Defence schemes, and all warship building and naval base construction has been suspended. The Fleet personnel was reduced from 4,843 in 1921 to 3,500 in 1923, and the ships in commission were reduced from 25 to 13. H.M.A.S. *Australia* was sunk in accordance with the provisions of the Washington Treaty on 12th April, 1924.

(ii) *Naval College.* A naval college has been established at Captain's Point, Jervis Bay, New South Wales. The course is similar to that carried out in naval colleges in England. In December, 1923, there were 46 cadet midshipmen under training. A boy whose thirteenth birthday falls in the year in which the entrance examination is held is eligible to compete provided he is the son of natural-born or naturalized British subjects. From amongst those qualified, the Selection Committee chooses the number required. The Commonwealth Government bears the whole expense of uniforms, victualling, travelling, as well as that of the educational course. Altogether 127 officers who have passed through the College are now serving with the Fleet. Others have been transferred to the Emergency List under the "Retirement" scheme of 1922.

(iii) *Training Ships.* H.M.A.S. *Tingira*, moored in Rose Bay, Sydney, was commissioned in April, 1912, to train boys for the personnel of the Royal Australian Navy. The age of entry is 14½ to 16 years. Only boys of very good character and physique are accepted, after a strict medical examination, and they must engage to serve until they reach the age of 30. The training lasts about one year, and trainees are then drafted to a sea-going warship of the Australian Fleet. Recruiting has been satisfactory, and 166 boys were under training on 15th March, 1924.

(iv) *The Naval Station.* The following are the limits of the Naval Station which, since 1st June, 1919, has been controlled by the Commonwealth Government, acting through the Naval Board:—North: From a point in 95 degrees East longitude and 13 degrees South latitude along that parallel to the Eastward to the meridian of 120 degrees East longitude; thence along that meridian to the Northward to 11 degrees South latitude; thence in an easterly direction to the southern termination of the eastern boundary of Dutch New Guinea in about 141 degrees East longitude; thence along the meridian of the boundary to the Northward to the Equator; thence along the Equator to the Eastward to 170 degrees East longitude. East: From a point on the Equator on the meridian of 170 degrees East longitude along that meridian to the Southward to 32 degrees South latitude; thence along that parallel to the Westward to the meridian of 160 degrees East longitude; thence along that meridian to the South Pole. South: The South Pole. West: From the South Pole by the meridian of 80 degrees East longitude to the Northward of 30 degrees South latitude; thence along that parallel to the Eastward to the meridian of 95 degrees East longitude; thence along that meridian to the Northward to 13 degrees South latitude.

(v) *Vessels.* The following table shows the vessels of the Royal Australian Navy:—

SHIPS OF THE ROYAL AUSTRALIAN NAVY, JUNE, 1924.

Vessel.	Description.	Displacement.	Power.
		Tons.	H.P.
<i>Adelaide</i>	Light Cruiser	5,500	25,000
<i>Anzac</i>	Flotilla Leader	1,660	36,000
<i>Brisbane</i>	Light Cruiser	5,400	25,000
<i>Cerberus</i>	Motor-boat	61	220
<i>Penguin</i>	Dépôt Ship	5,880	12,500
<i>Geranium</i>	Sloop	1,250	2,000
<i>Huon</i>	T.B. Destroyer	700	11,300
<i>Mallow</i>	Sloop	1,200	1,800
<i>Marguerite</i>	"	1,250	2,200
<i>Melbourne</i>	Light Cruiser	5,400	25,000
<i>Parramatta</i>	T.B. Destroyer	700	9,000
<i>Platypus II.</i>	Turret Ship	3,480	1,660
<i>Stalwart</i>	T.B. Destroyer	1,075	27,000
<i>Success</i>	"	1,075	27,000
<i>Swan</i>	"	700	10,000
<i>Swordsman</i>	"	1,075	27,000
<i>Sydney</i>	Light Cruiser	5,400	25,000
<i>Tasmania</i>	T.B. Destroyer	1,075	27,000
<i>Tattoo</i>	"	1,075	27,000
<i>Tingira</i>	Boys' Training Ship	1,800	..
<i>Torrens</i>	T.B. Destroyer	700	10,000
<i>Warrego</i>	"	700	9,000
<i>Yarra</i>	"	700	9,000
FLEET AUXILIARIES—			
<i>Biloela</i>	Fleet Collier	5,700	2,300
<i>Kurumba</i>	Fleet Oiler	3,970	..

(vi) *Naval Forces.* Besides the sea-going forces, there is a R.A.N. Reserve, which is composed of Citizen Naval Trainees. The personnel of the sea-going forces, which was originally largely composed of Imperial officers and men, is now mainly Australian and will become more so as time goes on. The strength of the naval forces is given hereunder.

**STRENGTH OF NAVAL FORCES (PERMANENT AND RESERVES),
15th MAY, 1924.**

Description of Force.	Numbers Borne.		
	In Training.	Officers.	Men.
Royal Australian Navy (Sea-going) .. .. .	..	377	3,290
Cadet Midshipmen undergoing training at R.A.N. College ..	46	..	..
Boys undergoing training on H.M.A.S. <i>Tingira</i>	164	..	..
Royal Australian Naval Reserve (Sea-going) .. .. .	..	60	..
Royal Australian Naval Reserve .. .. .	..	106	4,864

§ 3. Air Defence.

1. *General.*—Having regard to the development in aircraft, the Australian military authorities, as early as 1911, were considering the question of providing for local air defence. In 1912 approval was given for the establishment, as part of the army organization, of a Central Flying School for the training of aeroplane pilots. An area of land was acquired at Point Cook, Victoria; hangars and workshops were erected, and two flying instructors, four mechanics, and five aeroplanes were obtained from England. In June, 1914, the work at Point Cook was sufficiently advanced to permit the commencement of training, and the first course was arranged to begin on the 14th August, 1914. The training of pilots at the School continued actively throughout the War, but after the cessation of hostilities the staff was reduced to a small nucleus.

No steps were taken towards the establishment of a Naval Air Service beyond the appointment, in 1918, of an Air Adviser to the Navy Department.

In 1920 it was resolved to establish an Australian Air Force. Pending the passing of an Air Defence Bill, the Australian Air Force was constituted by proclamation issued under the powers contained in the Defence Act 1903–1918, as part of the Australian Military Forces. This was effected as from 31st March, 1921, and from 13th August, 1921, the Force was designated the Royal Australian Air Force. The Air Defence Bill was passed by the Senate in May of that year, but lapsed on the prorogation of Parliament. The Air Defence Bill was presented to Parliament again in 1923 and after debate was withdrawn and a short Bill drafted—entitled the Air Force Act 1923. This Bill passed through all stages and was assented to on 1st September, 1923. It is a temporary measure constituting the Royal Australian Air Force an autonomous arm of the Defence Forces, and will probably be superseded by a more comprehensive measure during the 1924 session of Parliament.

Under the new Air Board Regulations issued in October, 1922, the Royal Australian Air Force is administered by a Board consisting of two Air Force members and a Finance member. To this Force is entrusted the air defence of Australia, the training of personnel for co-operation with the naval and military forces, and the refresher training of pilots engaging in civil aviation. The present establishment of the Force includes the following units:—

- (a) Head-Quarters, Royal Australian Air Force, with representation at the Air Ministry in London;
- (b) One Station at which are located an Aircraft Dépôt with store and repair facilities, and a Flying Training School; and
- (c) An Experimental Section at Randwick, New South Wales.

In deciding all matters of policy the Minister is assisted by a representative Air Council, which includes officers of the Navy, Army, and Air Force, and the Controller of Civil Aviation.

2. **Establishment.**—The approved establishment of the Permanent Air Force comprises 71 officers and 300 airmen, whilst the strength is 51 officers and 297 airmen.

The policy of the Air Force is to form in peace an efficient nucleus which in time of war will be capable of rapid expansion to meet war requirements.

3. **Aerial Routes.**—Aerodromes and Alighting Sites have been prepared between the capital cities and on certain parts of the coast for service and civil purposes. The total number prepared to date is 120.

4. **Civil Aviation.**—Details regarding the formation and activities of the Civil Aviation Department will be found in Chapter VII., Section D. Aircraft.

§ 4. Expenditure on Defence.

1. **Expenditure, 1901-2 to 1923-24.**—The following table shows Defence expenditure for the whole Commonwealth period 1901-2 to 1922-23 and the estimate for the year 1923-24. Details of the expenditure of the Defence Department and the cost of the war and repatriation are given in Chapter VIII.—Finance.

DEFENCE EXPENDITURE.—AUSTRALIA, 1901-2 TO 1923-24.

Year.	Naval.		Military.		Air.		Total Defence Expenditure. (a) (b)
	Under Ordinary Votes and Appropriations.	Total Naval. (a)	Under Ordinary Votes and Appropriations.	Total Military. (a)	Under Ordinary Votes and Appropriations.	Total Air. (a)	
	£	£	£	£	£	£	£
1901-2 ..	178,819	178,819	777,620	780,260	..	..	959,079
1902-3 ..	149,701	149,701	595,115	600,652	..	..	750,353
1903-4 ..	240,005	240,001	502,517	615,673	..	..	855,764
1904-5 ..	200,394	206,036	533,945	728,562	..	..	934,548
1905-6 ..	250,273	252,016	548,439	718,329	..	..	970,345
1906-7 ..	255,120	256,066	585,516	779,729	..	..	1,035,795
1907-8 ..	259,247	510,205	634,579	824,539	..	..	1,334,744
1908-9 ..	263,207	267,262	686,365	783,330	..	..	1,050,592
1909-10 ..	269,051	329,739	928,393	1,205,666	..	..	1,535,405
1910-11 ..	303,493	1,465,034	1,092,305	1,540,992	..	..	3,006,026
1911-12 ..	461,546	1,634,466	1,667,103	2,443,382	..	4,000	4,081,848
1912-13 ..	806,881	1,360,616	1,802,734	2,680,466	3,072	5,223	4,346,305
1913-14 ..	1,006,424	1,987,101	1,941,285	2,756,404	3,012	8,795	4,752,300
1914-15 ..	1,526,351	6,821,091	1,471,133	12,715,471	6,742	18,217	19,554,779
1915-16 ..	1,550,012	8,470,036	1,501,840	37,444,879	10,503	46,162	46,961,077
1916-17 ..	1,510,542	6,641,249	1,532,619	59,364,998	12,156	30,758	66,043,005
1917-18 ..	1,544,590	3,766,056	1,268,403	66,884,734	14,660	29,096	70,679,886
1918-19 ..	1,650,375	9,412,918	1,388,708	77,431,327	4,151	135,686	86,979,931
1919-20(b) ..	1,728,327	5,633,578	1,136,979	68,102,458	26,813	Cr. 34,880	73,701,156
1920-21(b) ..	2,550,609	3,668,589	1,553,045	59,300,435	62,888	139,926	63,098,950
1921-22(b) ..	2,375,965	3,212,736	1,925,924	41,726,436	155,082	235,686	46,224,858
1922-23(b) ..	2,124,491	2,575,131	1,481,751	33,351,819	179,337	273,031	36,200,011
1923-24(b) (Estimated)	2,179,814	2,543,911	1,620,836	37,469,177	267,382	422,882	40,435,970

(a) During the war years and subsequently, war expenditure and war expenditure on works included in total. (b) Not including War Gratuity (see p. 598).

NOTE.—In the year 1900-1 the approximate Defence Expenditure by the States was:—

Ordinary Services ..	£800,000
Works, Arms, Equipment, etc. ..	200,000
Total	£1,000,000

2. **Comparison with Other Countries.**—The total expenditure on defence and the expenditure per inhabitant in various countries according to estimates made immediately prior to the late war and for the latest available year are as follows:—

**ESTIMATED PRE-WAR AND POST-WAR EXPENDITURE ON DEFENCE.—
VARIOUS COUNTRIES.**

Country.	Year.	Total Expenditure.	Per Inhabitant.	Year.	Total Expenditure.(c)	Per Inhabitant.
		£	s. d.		£	s. d.
Great Britain ..	1913-14	77,179,000	33 9	1923-24	122,011,000	51 2
Germany ..	1913-14	97,845,000	30 2	(b)	(b)	(b)
France ..	1913	56,738,000	28 7	1924	59,656,000	30 5
Italy ..	1913-14	23,614,000	13 7	1923-24	25,071,000	12 11
Austria-Hungary ..	1913	19,600,000	7 8	1923	(a)2,150,000	6 7
Switzerland ..	1913	1,772,000	9 1	1924	3,265,000	16 10
Russia ..	1913	86,953,000	10 5	(b)	(b)	(b)
Spain ..	1913	9,218,000	9 3	1923-24	18,811,000	17 5
Portugal ..	1913-14	3,041,000	10 3	1923-24	1,617,000	5 4
Norway ..	1913-14	1,204,000	9 11	1923-24	1,548,000	11 8
Sweden ..	1913	4,510,000	16 0	1923-24	9,121,000	30 6
Denmark ..	1913-14	1,625,000	11 5	1923-24	1,777,000	10 11
Holland ..	1913	4,458,000	14 6	1924	8,616,000	24 4
Belgium ..	1913	3,260,000	8 7	1923	5,047,000	13 5
United States ..	1913-14	64,537,000	14 0	1923-24	149,304,000	28 3
Canada ..	1912-13	1,872,000	5 2	1923-24	2,886,000	6 7
Japan ..	1913-14	12,039,000	3 6	1923-24	32,736,000	11 0
Australia ..	1913-14	4,752,000	19 5	1923-24	4,491,000	15 7
New Zealand ..	1913-14	539,000	9 11	1922-23	496,000	7 6

(a) Austria. (b) Not available. (c) Excluding expenditure in connexion with the late War.

§ 5. Munitions Supply and Remount Depot.

1. **Munitions Supply.**—(i) *General.* Owing to the necessity for the creation of Australian sources for the supply of munitions of war, authority was given for the establishment of a Munitions Supply Board consisting of a Controller-General and two Controllers, who are charged with the following:—

- (a) Provision of such armament, arms, ammunition, equipment, supplies and stores of all kinds as may be demanded by the various Naval, Military and Air Services.
- (b) Research—chemical and physical investigation of raw materials and products, and of the manufacturing processes to which such materials are subjected.
- (c) Inspection and examination of supplies obtained in Australia other than food, forage and fuel supplies up to point of issue to service.
- (d) Administration of industrial establishments and factories established or to be established.

The Contract Board, which is a part of the Munitions Supply organization, consists of a Chairman appointed by the Munitions Supply Board and a representative from each of the three arms of the service. This Board has branches in all States and is the chief purchasing agent of the Department. Apart from the existing munition factories, the Board has set up and controls a Research Laboratory at Maribyrnong (Victoria) and an Inspection Branch at Footscray (Victoria) and Lithgow (New South Wales) and has at present in course of construction a Gun Ammunition Factory for the manufacture of Field Artillery Ammunition, an Ordnance Factory which will supply 18-pdr. guns and shells, a T.N.T. and Filling Factory for the manufacture of high explosives and loading artillery ammunition, and a Machine Gun and Pistol Factory at the Small Arms Factory.

These factories will provide for normal peace requirements only. They will, however, serve a dual purpose, inasmuch as they will afford an opportunity of preparing for war by training staff and employees in the technique of manufacture according to local conditions, while providing models for expansion and duplication should the occasion arise, in addition to acting as technical schools for commercial establishments in the event of the latter being converted to war purposes.

(ii) *Factories.* The Commonwealth Harness, Saddlery, and Leather Accoutrements Factory was opened in September, 1911, and provided harness and saddlery, and leathes and canvas equipment for the Defence and other Commonwealth and State Departments until it was closed on 31st March, 1923. At that date it provided employment for a staff of 40, including 12 females.

The Cordite Factory, Maribyrnong, Victoria, which manufactures cordite for cartidges, was established in 1911. The staff at 30th June, 1923, numbered 65.

The Acetate of Lime Factory, established at Bulimba, Brisbane, in September, 1918, provides acetate of lime (a raw material used in the manufacture of acetone) and is at present extending operations to provide for the production of industrial alcohol. The number of employees at 30th June, 1923, numbered 30.

The Clothing Factory at Melbourne, Victoria, which had a staff of 271 employees on 30th June, 1923, commenced output in July, 1912, and since that date has been able to supply the whole of the uniform clothing required for the Defence forces, the Postmaster-General's Department, State Departments, and local public bodies.

The Small Arms Factory at Lithgow, New South Wales, which was opened on 1st June, 1912, and delivered the first instalment of Australian arms in May, 1913, had on its pay roll on 30th June, 1923, 327 employees.

The Commonwealth Woollen Cloth Factory, Geelong, Victoria, commenced the manufacture of woollen fabrics and materials for uniforms late in 1915, and was giving employment to 321 persons, including 151 females, when it was sold to a public company on 4th June, 1923.

On 1st January, 1921, by virtue of an agreement with the Colonial Ammunition Company Limited, the Defence Department entered into possession on lease of the Company's works at Footscray, Victoria, and had at 30th June, 1923, 177 persons employed there.

(iii) *Expenditure on Factories.* The expenditure up to 30th June, 1923, on land, buildings, machinery and plant, factory fittings and furniture in connexion with the factories now in operation was approximately as follows:—Small Arms Factory, £381,235; Cordite Factory, £298,337; Clothing Factory, £36,444; Harness Factory, £20,493; Woollen Cloth Factory, £205,177; Acetate of Lime Factory, £153,155.

2. Remount Depot.—The Defence Act of 1910 authorized the establishment and maintenance of remount depots, farms, and stations for the breeding of horses. A few thoroughbred stallions are maintained by the Department for the service, at a low fee, of approved privately-owned mares. The horses are maintained primarily to supply the requirements of the Field Artillery Batteries, but are also available for the use of other mounted units. Remount depots have been purchased or are leased in each of the military districts, veterinary hospitals have been established, and stables have been built in all States. A remount section of the Army Service Corps has been formed for the purpose of breaking, training and looking after remounts generally. These sections are so organized as to be capable of rapid expansion in case of emergency. When war was declared in 1914 little difficulty was experienced by the Remount Service in coping with the enormous task of obtaining and training horses for the mounted units of the A.I.F. and in providing for the shipment of horses to Egypt and India as required.

§ 6. Australian Contingents.

1. **General.**—In previous issues of the Year Book an account was given of the composition, etc., of the Australian contingents despatched for service in the New Zealand and Sudan Campaigns, in South Africa, China, and the Great War of 1914–18 (see Official Year Book No. 12, pp. 1019 *et seq.*).

2. **Australian Troops (Great War).**—Particulars of the enlistments, casualties, honours and decorations won, and engagements of the Australian Imperial Force during the Great War were given in Official Year Book No. 16, pp. 628 *et seq.* Limits of space, however, preclude the repetition of this information in the present volume.

§ 7. War Gratuity.

Reference was made in preceding Year Books (see No. 15, p. 930) to the bonus payable in accordance with the War Gratuity Acts of 1920 as a war service gratuity to soldiers and sailors who served in the Great War. Owing to limitations of space this information cannot be repeated, but it may be noted that the gratuity was paid in Treasury bonds, maturing not later than 31st May, 1924, and bearing interest at 5½ per cent. In necessitous cases, payment was made in cash, when desired by the person entitled. The first gratuities were made available about the beginning of June, 1920. The gratuities numbered 360,000, and the total amount paid was £27,424,247.

§ 8. Special Defence Legislation.

Information regarding special defence legislation enacted by the Commonwealth Government during the War was given in Official Year Book No. 15, p. 930. It may be pointed out here that the War Precautions Act Repeal Act of 1920 repealed the Act 1914–18, but a limited number of matters dealt with under the original Act are now provided for under the War Precautions Act Repeal Act of 1920 or by regulations made thereunder.

§ 9. Repatriation.

1. **General.**—An outline of the activities leading up to the formation of the Commonwealth Department of Repatriation was given in Official Year Book No. 15, p. 931, but limits of space preclude its repetition in the present volume.

2. **Policy of the Department.**—The policy of the Department is based upon four main principles :—(a) To secure the re-establishment of returned soldiers in the industrial life of the community to the fullest extent that circumstances permit; (b) to sustain these soldiers until an opportunity for such re-establishment is assured; (c) to provide for the care and education of the dependents of soldiers who have died on active service, as well as the dependents of soldiers who, on account of injuries sustained, are unable to provide for those formerly dependent upon them; and (d) to provide medical treatment for nurses, sailors and soldiers who are suffering from disabilities caused or aggravated by war service.

To give effect to these principles the Department undertakes :—

- (a) To secure suitable employment for those who are able to follow their previous occupation or one similar to it, and to pay sustenance until such opportunities are presented;
- (b) To restore to the fullest degree of efficiency possible, by means of vocational training, those who on account of war service are unable to follow their pre-war occupations, and during the period of such training to assure adequate sustenance to trainees;

- (c) To supply gratis all necessary treatment, surgical aids, and medicaments; also all hospital fees, and transport expenses thereto and therefrom, with allowances for certain classes for the period of treatment (where hospital treatment is not feasible the same may be given in the home or in such place as may be approved);
- (d) To provide educational facilities and maintenance allowances for children of deceased and totally and permanently incapacitated soldiers so that they may ultimately engage in agricultural, industrial, commercial or professional occupations;
- (e) To provide a pension to the soldier and his dependents in accordance with the degree of war disability of the soldier.

3. *Activities.*—(i) *Assistance and Employment.* The activities of the Department range over a variety of matters such as employment, vocational training, land settlement, medical treatment, children's education and assistance. Under assistance, establishment in small businesses, furniture loans and grants, educational grants and equipment with tools of trade, and funeral expenses are provided. In co-operation with the State Governments a land settlement scheme has been devised under which the Commonwealth Government lends the States the necessary money to acquire the estimated number of holdings required, and to construct railways or other works necessary to their successful occupation. Under this scheme the Commonwealth Government will also make available working capital up to £625 per settler. This will afford every soldier possessing the natural aptitude and fitness an opportunity of ultimately owning his own farm. With the exception of South Australia all the States have agreed to extend the benefits of the Land Settlement Scheme to munition and war workers to whom the Commonwealth advance of £625 will be available.

(ii) *Treatment of War Service Disabilities.* For disabilities due to or aggravated by war service, discharged nurses, sailors and soldiers are entitled to free medical treatment, dressings, and necessary medicines as well as the supply, renewal and repair of artificial limbs, and surgical aids. The expenses of unavoidable travel for any medical or surgical purposes are defrayed by the Department, together with any necessary expenses in a hospital or other approved place. By arrangement with the Pharmaceutical Societies, upon the production to a pharmacist of the medical officer's prescription, such medicines, lotions or dressings as may be required will be immediately supplied free to the soldier. The following classes of medical treatment are provided for—

- (a) Treatment in hospitals in metropolitan areas where continuity of previous treatment is desirable for cases in which effective treatment cannot be obtained in a country hospital.
- (b) Treatment as out-patients in metropolitan areas and country centres.
- (c) Treatment in country hospitals where suitable, or in cases of emergency.
- (d) Treatment in own homes or elsewhere in cases of emergency within country districts.
- (e) Treatment in convalescent homes, hostels, farms, sanatoria, or other special institutions.

(iii) *Medical Benefits for Widows, Orphans, and Widowed Mothers.* Arrangements have been completed to provide medical benefits for widows and orphans of deceased soldiers and widowed mothers of deceased unmarried soldiers. The work will be carried out mainly through the medium of the Friendly Societies, who will accept such beneficiaries as members without medical examination or inquiry as to income.

4. *Sustenance Rates and Pensions.*—(i) *Sustenance Rates.* The sustenance rate that may be granted to applicants awaiting fulfilment by the Department of certain specified obligations is:—(a) To a soldier without dependents a weekly income inclusive of pension of £2 2s.; (b) To a soldier with a wife, a weekly income inclusive of their combined pensions of £2 17s. An additional allowance of 3s. 6d. per week is made for each child up to four, the maximum sum payable being £3 9s. per week.

The present sustenance rates for vocational trainees are as follow :—

- (a) To a trainee without dependents a weekly income inclusive of pension of £2 2s. (similar to above).
- (b) To a trainee with a wife a weekly income inclusive of combined pensions of £3. An additional allowance of 5s. per week is made for each child up to four, the maximum sum payable being £4 per week (eligible students training in professional courses may receive £2 2s. per week inclusive of pension).

(ii) *Pensions.* The general pension rates payable to a widow or widowed mother on death of a member of the forces, or to a member, or to the wife of a member, upon his total incapacity, are as follows :—

PENSIONS PAYABLE.—SOLDIERS, DEPENDENTS, ETC.

Rate of Pay of the Member per Day at Date of Death or Incapacity.	Fortnightly Pension Payable to Widowed Mother on Death of Member.	Fortnightly Pension Payable to Widow on Death of Member.	Fortnightly Pension Payable to Member upon Total Incapacity.	Fortnightly Pension Payable to Wife of Member who is Totally Incapacitated.
s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
6 0	2 0 0	2 7 0	4 4 0	1 16 0
7 0	2 3 0	2 7 0	4 4 0	1 16 0
9 0	2 9 0	2 9 0	4 4 0	1 16 0
10 0	2 12 3	2 12 3	4 4 0	1 16 0
10 6	2 13 9	2 13 9	4 4 0	1 16 0
11 6	2 16 0	2 16 0	4 4 0	1 16 0
12 0	2 17 3	2 17 3	4 4 0	1 16 0
13 0	2 19 6	2 19 6	4 4 0	1 16 0
17 6	3 10 0	3 10 0	4 4 0	2 0 0
22 6	3 17 6	3 17 6	4 5 0	2 2 6
30 0	4 9 0	4 9 0	4 15 0	2 7 6
37 6	5 0 9	5 0 9	5 5 0	2 12 6
45 0	5 12 3	5 12 3	5 15 0	2 17 6
50 0	6 0 0	6 0 0	6 0 0	3 0 0

Proportionate pensions are paid to soldiers not totally incapacitated, according to the assessment of their disabilities. In addition to any pension received in accordance with the assessment of the ex-member's disability, special allowances are granted in amputation cases at such rates as are shown in the Fifth Schedule provided for in the Amending Act No. 23 of 1922.

In respect of each child (son, daughter, stepson, stepdaughter, or adopted child under 16 of a member of the forces) :—£1 per fortnight for the first child, 15s. per fortnight for the second child, and 10s. per fortnight for the third and each subsequent child, if the father is fully incapacitated; or *pro rata* on the assessment of the father's pension.

In cases of (a) Widows with dependent children, and (b) Widows without children whose circumstances are such as in the opinion of the Commission justify an increase of the rates specified in this schedule, and whose rate of pension, as specified in column three of this schedule, is less than £4 4s. per fortnight, the Commission may, for such period as it thinks fit, increase the rate of pension to an amount not exceeding £4 4s. per fortnight.

A special rate of pension, amounting to £8 per fortnight, may be granted to members of the forces who have been blinded as the result of war service, and to members who are totally and permanently incapacitated (*i.e.*, incapacitated for life to such an extent as to be precluded from earning other than a negligible percentage of a living wage).

The Commission may grant a pension not exceeding the special rate of pension to any member of the forces who is suffering from tuberculosis, and who has been for at least six months an inmate of an establishment for persons so suffering, and has been discharged from that establishment.

The special rate of pension shall not be payable to any pensioners who are maintained in an establishment at the public expense.

In the case of a member who has been granted the special rate of pension, the wife of such member shall not be entitled to receive a pension exceeding the rate specified above.

The total number of pensions in force on 20th June, 1924, was 237,707, and the amount expended during the eleven months ending 31st May, 1924, was £6,622,710.

5. **Summary of Work of Department from 8th April, 1918, to 31st May, 1924.**—The following is a summary of the work of the Department from its inception to the latest available date:—(i) *Employment.*—Number of applications, 243,371, number of positions filled, 131,005.

(ii) *Vocational Training.*—Vocational training is designed for—(a) Soldiers incapacitated from following their usual occupations; (b) Apprentices whose indentures were interrupted by war service; (c) Widows without children. (In cases where a widow with children satisfies the State Board that adequate arrangements can be made for the care of her children during training hours, applications for vocational training may be approved); (d) Students whose studies were interrupted by war services; (e) Members of the A.I.F. who enlisted under the age of twenty years. Classes representing 95 trades and callings have been established, with results as follows:—Number of men completed training, 23,745; number in training, 4,464.

(iii) *Assistance other than Vocational Training and Employment.*—Applications received, 550,736; applications approved, 474,368.

(iv) *Soldiers' Children's Education Scheme.* With the aid of the leading educational experts of Australia, a scheme has been devised by which facilities are provided for the instruction of children of deceased and totally and permanently incapacitated soldiers. Provision is made for preparing such children for agricultural, industrial, commercial and professional occupations. Supervision and administration are undertaken by Soldiers' Children Education Boards, which have been established in each State.

From the inauguration of the scheme in February, 1921, up to 31st May, 1924, 4,994 applications for assistance had been received. Of these 4,079 had been approved, of which 397 recipients of the benefits had completed their training, 100 applications were pending, and the remainder had been refused or withdrawn. The trades undertaken include boiler-making, cabinet-making, engineering, saddlery, dress-making, tailoring, book-binding, etc.; whilst the professional students have taken up such courses as arts, science, engineering, theology, medicine, law, pharmacy, teaching and music. Progress reports indicate that the work of the Boards has been very successful.

It is estimated that the scheme will involve an outlay of £1,250,000, of which the Commonwealth has undertaken to provide £800,000, while it is hoped that the balance will be forthcoming from private and public funds and benefactions. Under the Sir Samuel McCaughey Bequest a large sum was set apart for educational purposes, and the closest co-operation exists between the Commission and the McCaughey trustees by which duplication, overlapping, and unnecessary expenditure will be avoided. Up to 31st May, 1924, the expenditure was £216,566. The estimate for 1923–24 is £105,000.

6. Assistance Granted.—The table hereunder shows the sums granted by way of assistance during the period from the inauguration of the Department (8th April, 1918) to 31st May, 1924 :—

REPATRIATION COMMISSION.—ASSISTANCE GRANTED, 8th APRIL, 1918, TO 31st MAY, 1924.

Particulars.	Gift.	Loan.	General.	Total.
	£	£	£	£
Expenses in providing employment ..	2,298,697	20,519	41,684	2,360,900
Vocational training	3,716,564	136,946	921,782	4,775,292
Furniture	74,441	1,020,076	..	1,094,517
Small businesses	1,664	217,656	4	219,324
Live stock	70	19,099	..	19,169
Plant	775	173,587	41	174,403
Settlers' sustenance and other expenses	580,898	24	14,106	595,028
Homes and rental allowances ..	1,438	..	2,624	4,062
Passages beyond Australia	79,611	66	427,985	507,662
Living allowances	773,074	34,712	3,497	811,283
Educational grants for children ..	8,393	65	3,884	12,342
Medical treatment	908,534	..	686,593	1,595,127
Funeral expenses	33,786	64	..	33,850
Miscellaneous	35,855	9,030	36,970	81,855
Expenses of allotment	21	5,574	15,822	21,417
Maintenance of institutions .. ..	..	..	858,543	858,543
Grants to local committees .. ..	..	..	64,569	64,569
Payments to trainees in advanced building trades, etc.	6,775	..	17,090	23,865
Co-operative businesses .. ..	..	1,025	..	1,025
Losses by fire, Departmental insurance scheme .. ..	..	..	1,193	1,193
Grants to local government bodies to provide employment for returned soldiers	..	..	450,757	450,757
Expenditure under the reciprocal agreement .. ..	..	..	11,055	11,055
Total	8,520,596	1,638,443	3,558,199	13,717,238

7. Reciprocity Arrangements.—Arrangements have been made with Great Britain, Canada, South Africa, New Zealand, Newfoundland, and the United States of America for the provision of medical treatment and certain other benefits for Australian soldiers who are residents of the countries mentioned, and similar benefits to ex-soldiers of these countries domiciled in Australia.

8. Settlement of Soldiers on the Land.—At the Premiers' Conference in Melbourne in 1917 it was agreed that the States should undertake the work of settling on the land returned soldiers and munition and war workers who left Australia under engagement with the British Government to undertake war work, but that the Commonwealth should finance them for this purpose.

The original arrangement provided that the Commonwealth should take the responsibility of finding up to £500 per settler as working capital for improvements, implements, seed, etc., an amount which was subsequently increased to £625 per settler, together with £375 per settler for resumptions and works incidental to land settlement approved by the Commonwealth. Particulars of the advances to the States are shown in the following table :—

ADVANCES TO STATES FOR SOLDIER SETTLEMENT, AT 30th JUNE, 1923.

State.	No. of Settlers.	Advances agreed upon.	Advanced during 1922-23.	Advanced to 30th June, 1923.	Advances outstanding, 30.6.23.
	No.	£	£	£	£
New South Wales	8,405	11,905,291	..	9,826,203	9,806,602
Victoria	11,000	15,708,514	..	11,968,176	11,799,840
Queensland	3,898	3,290,789	200,000	2,779,451	2,762,653
South Australia	5,000	6,070,644	270,807	2,857,780	2,833,380
Western Australia	4,872	5,975,897	780,000	4,863,782	4,831,722
Tasmania	2,772	3,478,673	40,335	2,149,023	2,110,972
Total	35,947	46,429,808	1,291,142	34,444,415	34,145,169

Prior to the occupancy of the land, the Repatriation Department may pay sustenance for a limited period subject to certain conditions, and during the first 2 years of occupancy sustenance may be paid for 6 months while awaiting actual production.

The fares of a man and his family to his place of settlement are paid by the Repatriation Department, and a limited amount is allowed towards the cost of removal of his household effects.

Where men are given rural training, the cost of maintenance is shared between the State Lands Department and the Repatriation Department acting on behalf of the Commonwealth.

9. **Conspectus of State Laws affecting Settlement of Returned Soldiers on the Land.**—In Official Year Book No. 13, pp. 1018 *et seq.*, will be found a table giving particulars of the laws of the various States relating to returned soldiers' land settlement.

Later modifications have been made with a view to simplifying procedure and liberalizing the conditions under which holdings may be acquired.

§ 10. **War Service Homes.**

The operations of the War Service Homes Commission at 31st May, 1924, may be briefly set out as follows:—26,447 applications involving advances amounting to approximately £17,297,442 had been approved; 10,256 houses had been completed; 109 applicants had been assisted to complete or enlarge dwelling-houses partly owned; 1,112 houses were in course of construction; and 1,274 building applications had been approved in respect of which building operations had not been commenced.

In addition, the Commission had purchased on behalf of eligible applicants 11,918 already-existing properties, and had taken over mortgages existing on 1,833 dwelling-houses, but in a number of cases actual settlement and transfer has not taken place. Applications in respect of 55 completed houses had not, however, been definitely approved, but pending this action the majority of the houses are occupied by the applicants under a weekly tenancy agreement.

The foregoing figures include the operations of the State Bank of South Australia, which is now carrying out the provisions of the War Service Homes Act in South Australia, the Commonwealth's obligations being to make available to the Government as a loan the funds required for the purpose.

CHAPTER XV.

THE TERRITORIES OF THE COMMONWEALTH.

A. GENERAL.

1. **Classification.**—The Territories of, or under the control of, the Commonwealth. are of three classes—

- (a) Territories originally parts of the States which have been surrendered by the States to the Commonwealth. These are the Northern Territory (formerly part of the State of South Australia) and the Federal Capital Territory (formerly part of the State of New South Wales).
- (b) Territories, not parts of States, which have been placed under the authority of the Commonwealth by Order in Council under section 122 of the Constitution. These are Papua and Norfolk Island.
- (c) Territories which have been placed under the administration of the Commonwealth by Mandate issued by the League of Nations. These are the Territory of New Guinea and (administered in conjunction with the British and New Zealand Governments) Nauru.

The Territories in class (a) only are parts of the Commonwealth.

2. **Forms of Executive Government.**—The Territories differ in their forms of Government. Papua is administered by a Lieutenant-Governor and a nominated Executive Council, who, except in matters of high policy and in certain matters prescribed by law, are not controlled by the Commonwealth Government; the Northern Territory, Norfolk Island, and the Territory of New Guinea are each under an Administrator who is controlled by the Commonwealth Government; in the Federal Capital Territory, such local institutions as existed under the law of New South Wales continue, and no other provision for Executive Government has yet been necessary; in Nauru the Executive Government is vested in an Administrator who is subject only to the general control of the Government controlling the Administration.

3. **Legislative Power.**—The laws of the Parliament of the Commonwealth are in force in the Territories which are parts of the Commonwealth, but are not applicable to the Territories not parts of the Commonwealth unless expressly extended thereto.

In Papua, there is a nominated Legislative Council, which has full power of legislation, subject to the assent of the Governor-General. In New Guinea, the Northern Territory,* Norfolk Island and the Federal Capital Territory, there are no Councils, and Ordinances are made for these Territories by the Governor-General, subject to such Acts of the Parliament of the Commonwealth as are in force there; but most of the Ordinances of the Northern Territory, Norfolk Island, and New Guinea give power to the Administrators to make any regulations necessary for giving effect to them.

In Nauru the legislative power is vested in the Administrator, subject to instructions from the Government controlling the Administration.

4. **Laws.**—In the Northern Territory, Papua and Norfolk Island, the laws existing at the date these territories came under the control of the Commonwealth have remained in force, subject to later legislation by or under the authority of the Commonwealth Parliament; in the Federal Capital Territory there remain in force most of the laws of the State of New South Wales; in New Guinea, the former German law was repealed at the date of the establishment of civil government.

Three volumes containing the "Statute Law of the Territory of Papua" in force on 31st December, 1916, were published by the Government Printer, Port Moresby, in 1918 and 1919; subsequent Ordinances and the regulations under Acts and Ordinances are published in the *Government Gazette* of Papua and in annual volumes. The South Australian statutes in force in the Northern Territory will be found in the collected editions

* In the Northern Territory there is an Advisory Council.

and annual volumes of the State of South Australia : Ordinances made by the Governor-General are published in the *Commonwealth of Australia Gazette*, and regulations under Ordinances in the *Northern Territory Gazette*. The laws in force in Norfolk Island at the time of its coming under the control of the Commonwealth were collected in the *New South Wales Government Gazette* of 24th December, 1913, and printed separately as "The Consolidated Laws of Norfolk Island"; Ordinances made by the Governor-General, and regulations made by the Administrator, are published in the *Commonwealth of Australia Gazette*. Ordinances made by the Governor-General for the Federal Capital Territory are published in the *Commonwealth of Australia Gazette*. Ordinances made by the Governor-General for the Territory of New Guinea are published in the *Commonwealth of Australia Gazette*, and Regulations made by the Administrator in the *New Guinea Gazette*; the statute law in force in New Guinea on 31st December, 1922, has been published as Vols. I.—III. of "Laws of the Territory of New Guinea," and subsequent Ordinances and regulations will be collected in annual volumes. Ordinances made by the Administrator of Nauru are promulgated locally and are printed in the annual report to the League of Nations on the Administration of Nauru.

5. **Finances.**—Papua is autonomous in its finances, but receives an annual grant from the Commonwealth Government. The Administration of the Northern Territory is maintained by the Commonwealth Government; a grant is made towards the expenses of administration of Norfolk Island, but taxes are raised locally which meet part of the expenditure; expenditure in the Federal Capital Territory is defrayed by the Commonwealth; New Guinea has its own budget, and the local revenues have hitherto been sufficient to maintain the Administration; Nauru is self-supporting.

The sum expended by the Commonwealth Parliament in 1922–23 for the Territories outside the Commonwealth was £84,394, exclusive of £46,805 for mail services to these Territories and to other islands in the Pacific.

B. THE NORTHERN TERRITORY.

§ 1. Area and Population.

1. **Introductory.**—Upon the extension of New South Wales westward to the 129th meridian in 1827, the Northern Territory was incorporated in that colony (see Chapter I.), and in 1863 was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1st January, 1911.

2. **Area and Boundaries.**—The total area of the Territory is 523,620 square miles, or 335,116,800 acres. Its length from north to south is about 900 miles, while its breadth from east to west is 560 miles. Its eastern boundary, dividing it from Queensland, is the 138th meridian of east longitude; and its western boundary, separating it from Western Australia, the 129th meridian. Its southern boundary is the 26th parallel of south latitude, dividing it from South Australia. The northern boundary is the coast line of those parts of the Indian Ocean known as the Timor and Arafura Seas. Near the mouth of the Wentworth River, in the Gulf of Carpentaria, the coast line is met by the eastern boundary; at Cape Domett, near Cambridge Gulf, the western boundary cuts the northern coast line. The length of coast line is about 1,040 miles, or 503 square miles of area to one mile of coast line; an exact survey has, however, not yet been made.

3. **Population.**—(i) *Europeans.* The problem of increasing the European population of the Northern Territory is one of considerable difficulty. Its solution will, of course, depend on the economic development of the country, and past experience tends to show that the task of developing its resources will involve large expenditure. At the Census taken in 1881 there were only 670 Europeans in the Territory. The total increased slowly, reaching its maximum in 1919 with 3,767 persons. Owing mainly to the closing down of the meat works at Darwin a decline then took place, and at the Census taken in 1921 the white population had decreased to 2,459, while at the end of 1923 it was approximately 2,400. During the financial year 1922–23 the number of births exceeded that of deaths by 23; but simultaneously the number of departures by sea exceeded that of arrivals by 26.

(ii) *Asiatics.* With the exception of a few Japanese, Filipinos and others, the Asiatics in the Northern Territory consist mainly of Chinese. The South Australian Government

introduced 200 Chinese in the early seventies to assist in the promotion of agriculture; while the discovery of gold resulted in many others coming on their own account. Their numbers increased considerably in connexion with the construction of the railway from Darwin to Pine Creek, in 1887–88, and there were at that time upwards of 4,000 Chinese in the Territory. The total gradually dwindled thereafter, and the number at the Census of 1921 was only 722. The total number of all non-European persons (excluding Aborigines), is approximately 1,150.

(iii) *Total Population.* The highest recorded population of all races, except aborigines, was 7,533 in 1888, at the end of 1923 it was 3,555. The estimated population for the last five years is given in the following table :—

**NORTHERN TERRITORY.—POPULATION (EXCLUSIVE OF ABORIGINES),
1919 TO 1923.**

Year ended 31st December—			Male.	Female.	Total.
1919	..	..	3,377	1,168	4,545
1920	..	..	2,911	1,078	3,989
1921	..	..	2,718	1,016	3,734
1922	..	..	2,540	1,011	3,551
1923	..	..	2,527	1,028	3,555

The Census population (4th April, 1921) was 2,821 males, 1,046 females, total, 3,867.

(iv) *Movement of Population.* The following is a summary of movement of population in 1923 (excluding overland migration) :—

NORTHERN TERRITORY.—MOVEMENT OF POPULATION, 1923.

Inwards	438	Outwards	468	Excess of immigration over emigration ..	—30
Births	72	Deaths	38	Excess of births over deaths ..	+34
Increase	510	Decrease	506	Net result	+4

NOTE.—(—) signifies decrease.

The immigration and emigration of the Territory for the five years ending in 1923 are shown in the following table :—

NORTHERN TERRITORY.—MIGRATION, 1919 TO 1923.

Year.				Immigration.	Emigration.
1919	..	..	..	1,159	1,273
1920	..	..	..	606	1,161
1921	..	..	..	516	770
1922	..	..	..	406	599
1923	..	..	..	438	468

(v) *The Aborigines.* A special article contributed by Dr. W. Ramsay-Smith on the subject of the Australian aborigines, was incorporated in Year Book No. 3 (pp. 158–176). It deals with such matters as theories of origin, physical characteristics, manners, customs, religion, &c. The chapter “Population,” in the present issue, contains information regarding (a) the efforts made from time to time, in the various colonies, at forming correct ideas of the number and distribution of aborigines; (b) their approximate number at the taking of the Census in 1921, and (c) measures taken by the States (in the case of the Northern Territory, by the Commonwealth) to protect and preserve the aborigines.

In the Northern Territory large numbers of the aborigines are still outside the influence of Europeans. At the last Census, 2,050 full-blood aborigines, in the employ of whites or living in the vicinity of European settlements, were enumerated. Of these 1,184 were males and 866 females. The greatest difficulty which confronts the Administration in dealing with the natives is due to the circumstance that they are nomads without fixed abode, merely wandering about hunting for native food within the limits of their tribal boundaries, and making no attempt at cultivation or other settled industry. In their natural state, compared with those of other tropical countries the natives are very healthy, but in contact with new settlers, white or Chinese, they rapidly fall victims to disease, and to degradation from drink or opium.

§ 2. Legislation and Administration.

1. **Transfer to Commonwealth.**—(i) *The Northern Territory Acceptance Act.* A short historical sketch is given in Year Book No. 6, pp. 1113–4. On 1st January, 1911, the Territory was transferred by South Australia to the Commonwealth, upon terms previously agreed upon by the respective Cabinets, and ratified by the Commonwealth *Northern Territory Acceptance Act* (No. 20 of 1910). The terms were outlined in Official Year Book No. 15, page 940.

(ii) *The South Australian Surrender Act.* The State Act approved and ratified the agreement surrendering the Territory.

(iii) *The Northern Territory (Administration) Act 1910.* The Act provides for the appointment of an Administrator and officials. South Australian laws are declared to continue in force as laws of the Territory, and certain Commonwealth Acts to apply. Power is given to the Governor-General to make Ordinances having the force of law.

2. **Administration.**—A Resident Administrator, vested with supreme authority in internal affairs, was appointed in the Department of the Minister for External Affairs in February, 1912. The following Departments of the Public Service, however, are removed from his control and supervision:—Railways, Posts and Telegraphs, Customs, Taxation, Public Works, and Quarantine. The Railways are controlled by the Commonwealth Railway Commissioner at Melbourne, Posts and Telegraphs by the Deputy Postmaster-General at Adelaide, Customs by the Collector of Customs at Brisbane, Taxation by the Taxation Department at Melbourne, Public Works by the Works and Railways Department, Melbourne, and Quarantine by the Director-General of Health for the Commonwealth, Melbourne.

3. **Northern Territory Ordinances.**—(i) *General.* The main provisions of the Ordinances passed are as follows:—The powers and duties of the Administrator vested in the appointee, include custody of the public seal, appointment and suspension of officials, and execution of leases of Crown lands. A Supreme Court with original and appellate jurisdiction is instituted, the method of appointment of the Judge is prescribed, and provision is made for trial by jury, and for the registration and summoning of jurors. A Sheriff, a Registrar-General, and a Health Officer are provided for, also the registration of births, marriages and deaths, and of deeds and documents. Custody and control of aborigines, with extensive powers of supervision, are vested in the Chief Protector. Provision is made for the control of fisheries. Birds protected during the whole or part of the year are scheduled. Crown lands are classified, and their mode of acquisition, entry and holding defined. The prevention and eradication of diseases in plants have been provided for. Under the Stock Diseases Ordinance the Chief Inspector of Stock has wide powers in regard to the movements of stock, prevention and control of diseases, etc. A town council has been constituted for Darwin, and provision made for assessments, rates, etc. Mining is encouraged by the provision of rewards for the invention of new processes and the discovery of valuable deposits and of new mineral fields; subsidization of the industry and the issue of prospecting licences are also provided for. Licences to search for mineral oil, and leases for working, are available. A Board is constituted for the purpose of making advances to settlers who intend to improve and stock their holdings, to purchase farm implements, plant, etc., or to pay off mortgages, the rate of interest and terms of repayment being set out. Advances in aid of the erection of workmen's dwellings have also been provided for. A Council of Advice has been provided for, consisting of a chairman and seven members—four being non-official. Provision has

been made for the compensation of injured workers, for controlling the sale, etc., of necessary commodities, for the appointment of a public trustee, and for amendment of the "Taxation Act 1884" of South Australia in its application to the Territory. A new Land Ordinance was passed in May, 1923, which repealed the then existing Ordinances. Reference to this Ordinance is made in Chapter V.—Land Tenure and Settlement. Reference to the Liquor Ordinance was made in Year Book No. 16, p. 640. For Ordinances passed in 1923 see § 6, Chapter III.

4. Representation in Commonwealth Parliament.—Section 122 of the Commonwealth Constitution provides that "the Parliament may make laws for the government of any territory . . . and may allow the representation of such territory in either House of the Parliament to the extent and on the terms which it thinks fit." In pursuance of this provision an Act was passed in 1922 whereby the Northern Territory elects a member to the House of Representatives. As this member represents a very small number of electors, he is not entitled to vote, but may take part in any debate in the House.

§ 3. Physiography.

1. Tropical Nature of the Country.—The Territory is within the torrid zone, with the exception of a strip $2\frac{1}{2}$ degrees wide, which lies south of the Tropic of Capricorn.

2. Contour and Physical Characteristics.—The low flat coast line seldom reaches a height of 100 feet. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl, and ironstone form the occasional cliffy headlands. The sea frontage of more than 1,000 miles is indented by bays and inlets, and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries.

The principal features of the coast line are enumerated in Year Book No. 1, p. 66; the rivers in Year Book No. 2, p. 76; the mountains in Year Book No. 3, p. 67; the lakes in Year Book No. 4, p. 77; the islands in Year Book No. 5, pp. 71, 72, and the mineral springs in Year Book No. 6, p. 65.

Inland, the country generally is destitute of conspicuous landmarks. From the coast there is a general rise southwards to the vicinity of the 17th or 18th parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea and those that form the scanty supply of the interior systems. Towards the centre of the continent, the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east and west trend.

§ 4. Climate, Fauna and Flora.

1. The Seasons.—There are two main climatic divisions—the wet season, November to April, and the dry season, May to October, with uniform and regular changes of weather. Nearly the whole of the rainfall occurs in the summer months. Fuller particulars will be found in Year Book No. 6, p. 1116.

2. Fauna.—The ordinary types of native Australian fauna inhabit the Territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous), and frogs abound. There are many varieties of freshwater fish and littoral mollusca. Butterflies and beetles are strongly represented. The white ant is a pest, anthills in the Territory sometimes attaining great dimensions. Mosquitoes and sandflies are very troublesome, particularly in the wet season. Native fauna are in some cases protected. The domesticated animals have been introduced, and buffalo formerly existed in large herds, but their numbers have been greatly depleted by indiscriminate shooting in recent years.

3. Flora.—The vegetation is North Australian in type, but a number of the forms belong to the Malayan and Oceanic regions. The timber trees are not of great commercial value, but in the coastal regions tropical vegetation grows luxuriantly to the water's edge. On the wide expanses of plain country in the interior there is little vegetation. The principal orders represented in the Territory are:—*Euphorbiaceae*, *Compositae*, *Convolvulaceae*, *Rubiaceae*, *Goodeniaceae*, *Leguminosae*, *Urticaceae*.

Fuller particulars regarding fauna and flora are given in Year Book No. 6, pp. 1116–7.

§ 5. Production.

1. **Agriculture.**—Up to the present agriculture has made little progress in the Territory, although it has been proved that various industrial plants thrive. This is the case with rice, tobacco, coconuts, mangoes, cotton, various fodder plants and peanuts. Expense of harvesting is, at present, an obstacle to the economic production of rice, and until labour-saving machinery is procured it cannot be produced with profit. Tobacco has been successfully grown in small plots, but this crop needs skilful handling in curing. An avenue of coconut palms planted in Darwin in 1888 still gives a good return, though the trunks of the trees are badly scored by white ants. Much of the coastal area is suitable for the growth of coconuts, but as yet, there are no plantations except at the Mission Stations, and one or two small isolated plantations. The production of mangoes far exceeds the local demand. A little trade is done with Western Australian ports, but owing to insufficient shipping facilities most of the fruit is unused. In regard to cotton, not much headway has been made, but a few trial crops in various parts of the Territory have given promising indications. Fodder plants are not grown to any extent, excepting during the dry season in the coastal settlements. Peanuts have been successfully grown, and as Australia annually imports considerable quantities, the peanut industry is likely in the near future to expand.

2. **Pastoral Industry.**—The pastoral possibilities of certain parts of the Northern Territory were recognized at an early date, and in 1866 stock was brought into the Macdonnell Range country from South Australia. Six years later cattle were brought from Queensland to the northern parts of the Territory, and in 1879 Mr. Giles reached the Katherine River with 2,000 head of cattle and 12,000 sheep from South Australia. For various reasons sheep-raising did not succeed. It is, however, hoped that with a more regular supply of artesian and sub-artesian water, and the building of railways, parts of the Territory will become profitable sheep country. The cattle industry progressed slowly, and the number of cattle on 30th June, 1923, was about 760,000. A great impetus was given to this industry in 1917 by the opening of extensive meat works at Darwin. Unfortunately the works closed down in 1920, and the practice was resumed of over-landing surplus stock to neighbouring States. The number of cattle exported by land during the financial year 1922–23 was 48,939. Consignments of live cattle were exported to Manila, but this trade was interrupted owing to an alleged disease having broken out amongst Australian cattle after arrival in Manila. The embargo on Australian cattle has now been lifted. The cattle industry has been retarded by the ravages of ticks and by the difficulty of travelling stock through waterless country. These difficulties are, however, gradually being overcome, the former by the introduction of the practice of “dipping,” and the latter by adding to the number of artesian wells on the various stock-routes and the creation of stock reserves. Horses thrive well, and in 1923 there were about 40,000 horses in the Territory. Buffaloes thrive in the coastal districts, but their number has been greatly reduced through indiscriminate shooting for the sake of the hides of which 2,261 were exported during the year.

The estimated number of live stock in the Territory at various periods is given in the table hereunder :—

NORTHERN TERRITORY.—LIVE STOCK, 31st DECEMBER, 1910, 1915, AND 1919 TO 1922.

Year.	Horses.	Cattle.	Sheep.	Pigs.	Goats.	Camels.
Dec.,						
1910	24,509	513,383	57,240	996	..	..
1915	19,957	483,961	57,827	500	..	..
1919	35,539	610,534	8,811	1,675	12,582	..
1920	37,837	659,840	6,062	1,416	16,257	422
1921	39,565	568,031	6,349	452	19,385	494
1922	39,845	760,766	6,161	361	18,086	470

§ 3. Mining.—(i) *General.* Alluvial gold-digging in the Northern Territory commenced in 1869, and up to the end of 1880 gold to the value of £79,022 had been produced. In 1881 the gold production reached its maximum, the value for that year being £111,945. During the following years it fluctuated considerably, but as long as the alluvial fields lasted the output was satisfactory. In the transition period from alluvial to reef mining the industry declined considerably and the output dwindled from year to year, reaching its lowest ebb in 1921–22, when the value amounted to only £540. The production of metals other than gold has suffered from vagaries of prices, and from the disadvantages of high cost of transport and of white labour. Production of tin during 1922–23, however, showed improvement. The most important tin mines are at Marranboy, discovered in 1913. Some rich deposits of tin, discovered in 1919 about 80 miles southerly of Brock's Creek, last year attracted 60 to 70 European miners. Otherwise there is little change in the number of miners in the Territory from the previous year, the average being about 90 Europeans, a similar number of Chinese, and twenty others, mostly full-blood aboriginals who assisted the Europeans.

(ii) *Mineral Production.* The following table shows the total mineral production for the last five years.

NORTHERN TERRITORY.—VALUE OF MINERAL PRODUCTION, 1918–19 TO 1922–23.

Year.	Gold.	Tin Ore.	Wolfram.	Silver-Lead Ore.	Copper Ore.	Mica.	Total Value all Minerals.
	£	£	£	£	£	£	£
1918–19	4,234	30,021	34,805	132	2,349	150	71,697
1919–20	5,282	27,610	45,648	299	780	482	80,101
1920–21	1,299	7,793	9,752	..	..	159	19,003
1921–22	540	5,891	560	..	798	2,170	9,959
1922–23	714	13,886	18	..	30	1,926	16,533

(iii) *Coal and Mineral Oil.* On the 30th June, 1923, there were in force, under the provisions of Ordinance No. 2 of 1922, 205 licences to search for coal and mineral oil over an aggregate area of 196,718 square miles. On the discovery of bitumen at Elcho Island, a company was formed to bore for mineral oil and a plant for such purposes reached the island at the end of the year.

4. Pearl, Trepang, and Other Fisheries.—In 1884 mother-of-pearl shell was discovered in the harbour of Port Darwin. Difficulty in working, principally through heavy tides and muddy water, retarded the development of the industry for many years. Subsequently, however, the opening up of new patches led to a revival, but the outbreak of war gave the industry a setback, owing to the limited demand in the home markets. During 1922–23, the number of boats engaged was only 2, employing 4 Japanese and 8 aboriginals. Owing to the overstocking of the London market and the lack of demand elsewhere the prospect of a revival in the industry is uncertain.

It may be mentioned that the territorial waters abound in marketable fish, and, given transport facilities, it would be possible to establish a trade in fish dried or otherwise preserved. During 1922–23, 6 persons were licensed, principally Greeks. About 1½ tons of dried fish sent to Sydney and Melbourne averaged 9d. per lb. Little trepang fishing was carried on during 1922–23, only 3 boats being licensed employing 3 Europeans and 12 aboriginals.

§ 6. Land Tenure.

A description of the system of land tenure in force in the Territory will be found in Chapter V.—Land Tenure and Settlement.

§ 7. Commerce and Shipping.

1. Trade.—No record is kept of the direction of trade between the Commonwealth States and Territories. The value of the direct oversea trade for 1901 and for each of the years 1918–19 to 1922–23 is given hereunder :—

NORTHERN TERRITORY.—VALUE OF DIRECT OVERSEA TRADE, 1901 AND 1918–19 TO 1922–23.

Items.	1901.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
	£	£	£	£	£	£
Imports	37,539	25,140	29,056	19,857	12,115	12,804
Exports	29,191	377,258	277,627	14,752	5,036	14,627
Total	66,730	402,398	306,683	34,609	17,151	27,431

The principal items of oversea export in 1922–23 were cattle, £11,194 ; fish, smoked or dried, £2,084 ; hides and skins, £776. The large increase in 1918–19 and 1919–20 was due to the operation of the meat works at Darwin. Since the closing of these works in 1920 most of the surplus stock of cattle has as previously stated, been overlanded to neighbouring States.

2. Shipping.—The Territory is dependent for its shipping facilities chiefly on the services of vessels trading between Sydney and Singapore. Other vessels make occasional visits, while a quarterly service between Fremantle and Darwin is carried out by the "Bambra," belonging to the West Australian State Shipping Service.

NORTHERN TERRITORY.—SHIPPING, 1918–19 TO 1922–23.

Period.	Arrivals.		Departures.	
	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
1918–19	43	88,928	42	88,806
1919–20	41	83,086	43	83,264
1920–21	30	65,301	30	65,398
1921–22	32	93,421	30	84,835
1922–23	37	99,955	37	99,955

The foregoing figures are exclusive of particulars of coastwise shipping. During 1922–23, 32 vessels of 516 tons net were entered as coastwise.

The Government owns a small vessel, the "John Alce," 33 tons.

§ 8. Internal Communication.

1. Railways.—Under the agreement ratified by the Act, the Commonwealth is to construct the Northern Territory portion of the transcontinental railway line (connecting Adelaide and Darwin, via Port Augusta).

The Northern line from Adelaide terminates at Oodnadatta, about 100 miles south of the southern boundary of the Territory. The only line at present in the Territory is one from Darwin to Emungalan, Katherine River, a length of 198.68 miles, of 3 ft. 6 in. gauge. The line to connect Katherine River with Oodnadatta (about 1,012 miles) has been surveyed, the greater part of the survey being exploratory in character. The construction of the section between Emungalan and Daly Waters has been authorized by the Commonwealth Government at a cost not to exceed £1,545,000. The railway bridge across the Katherine River is being proceeded with, and the final survey of the above section taken in hand. The completion of the remainder of the gap would permit

of the development of the broad belts of pastoral and mineral country towards the centre of Australia. The Commonwealth also acquired on 1st January, 1911, the property in the line from Port Augusta to Oodnadatta (478 miles).

2. Posts.—Postal communication is maintained by vessels belonging to Burns, Philp and Co., which maintain a monthly service between the Territory and the Eastern States. In addition, the vessels belonging to the State Steamship Service of Western Australia give a service once every 60 days between Fremantle and Darwin. Inland, the northern part of the Territory receives its mail via Darwin, while the southern districts are served via Adelaide.

3. Telegraphs.—The transcontinental telegraph line, covering a length of 2,230 miles, was completed on the 22nd August, 1872, at a cost of nearly half-a-million sterling. The line runs in a northerly direction from Adelaide to Darwin, whence telegraphic communication is provided with Asia and Europe, via Banjoewangie (Java), Singapore, and Madras.

Between Darwin and Banjoewangie the submarine cable is duplicated.

§ 9. Finance.

1. Revenue and Expenditure, 1922-23.—In the Commonwealth finance statements separate accounts are given for Northern Territory administration. The following shows the receipts and expenditure for the financial year :—

REVENUE AND EXPENDITURE.—NORTHERN TERRITORY, 1922-23.

REVENUE.	£	EXPENDITURE.	£
Customs and Excise	4,921	Salaries and Contingencies ..	112,316
Postal, Telegraph, and Telephone	7,512	Darwin-Katherine Railway— Working Expenses	30,773
Darwin-Katherine River Railway	14,768	Melbourne Administrative Services	3,770
Territorial	19,792	Ministerial Visit	387
Land and Income Tax	Dr. 2,287	Interest and Sinking Fund, Commonwealth Stock, issued for Redemption of Loans, Railway Construction, etc.	6,053
Quarantine	47	Interest on Treasury Bills, issued for Redemption of Loans, Railway Construction, etc.	12,789
Lighthouses and Light Dues	516	Interest and Sinking Fund, Northern Territory Loans	90,776
Stamp Duties	334	New Works, Artesian Bores, Roads, etc.	11,568
Miscellaneous	10,349	Miscellaneous	14,152
Deficiency on year's transactions	227,132		
Total	283,084	Total	283,084

2. Northern Territory Debt.—The items making up the total debt of the Territory as at 30th June, 1923, are as follows :—

	£	£
Debt at date of transfer to the Commonwealth, 1st January, 1911		3,931,086
Redeemed under Commonwealth Loan Acts	1,261,167	1,721,917
Redeemed from Consolidated Revenue	460,750	
Balance, 30th June, 1923		2,209,169

In addition, the balance of the Port Augusta-Oodnadatta Railway Loans taken over from South Australia amounted at the same date to £1,693,745, making a total of £3,902,914. Under the provisions of the "Northern Territory Acceptance Act 1910" a sinking fund has been established in connexion with the transferred loans.

C. THE FEDERAL CAPITAL TERRITORY.

1. **Introductory.**—In Year Books Nos. 4 and 5, information was given in Section XXXI. as to the events leading to the selection of the Federal Capital Territory, and as to the necessary legislation and the progress of operations in connexion with the establishment of the capital city. The physiography of the Territory was dealt with *in extenso*, and topographical and contour maps accompanied the letterpress, as well as reproductions of the premiated designs for the laying out of the city. Considerations of space, however, preclude the repetition of this information. On the 12th March, 1913, the official ceremony to mark the initiation of operations in connexion with the establishment of the Seat of Government was carried out. At this ceremony the selection of "Canberra" as the name of the capital city was announced.

2. **Progress of Work.**—After an international competition, a design for the lay-out of the capital city was approved, and steps were taken to commence the construction in accordance therewith.

The survey of the main axial lines was carried out, areas for initial development were subdivided, and a scheme for water supply by impounding water on the Cotter River was completed. The construction of an outfall sewer was put in hand, the formation of the principal avenues was begun, and a power-house was built and equipped with modern plant in order that electricity might be transmitted to all activities connected with construction. An Afforestation Branch was established which made exhaustive experiments in regard to the varieties of trees that would be suitable for street, park and forest planting. These activities were greatly curtailed in 1916, and practically suspended until the year 1920.

In the early part of 1921, "with a view to enabling the Federal Parliament to meet, and the Central Administration of the Commonwealth Government to be carried on as early as practicable at Canberra," the Governor-General in Council approved of the appointment of a Committee of five, consisting of architectural and engineering experts, to inquire into and advise upon the works already executed and the data available, and to submit a scheme for progressive construction of the city. The Committee submitted a scheme of construction involving an expenditure of approximately £2,000,000, the main principles of which—that owing to the necessity for economy, buildings and works of a monumental character be deferred, and that Parliament House and other Governmental buildings be of a provisional character—were adopted by the Government, and work has since proceeded in accordance with this scheme.

The first objective was the completion of the basic engineering works, as it was desirable that the Capital, from the outset of its official life, should be provided with modern city services such as good roads, water supply, sewerage, and electric energy.

The construction of main avenues and roads according to the approved plan is proceeding, and many miles have been formed, and a considerable portion metalled or gravelled.

Residential areas are being laid out, and engineering services such as roads, sewerage, drainage and water supply from the Cotter scheme are being provided. The water supply and sewerage are being so arranged as to connect up with the main city services when completed. A water supply reservoir has been provided on Mt. Russell, and mains through the city are being laid as development occurs. The construction of the main outfall sewer is nearing completion, and the intercepting sewers within the city boundary are under construction. A large storm-water channel has been constructed along the foot of Mt. Ainslie to protect the northern residential area; and electric lighting and power services have been extended to serve the residential areas and those areas where various construction works are proceeding, many miles of transmission line having been erected. Fire services have been provided for the protection of buildings and depots. The construction of several new bridges to restore communication broken by floods of unusual magnitude in 1922 has been undertaken. Of these, the largest is of 300 feet span over the main stream of the Molonglo River. The capacity of the Power House is 1,350 kilowatts, and electrical energy is conveyed to the various factories where the manufacture of bricks, tiles, joinery, cement products, and other requirements, is carried on.

During the past year the erection of Parliament House was commenced. This building is being rapidly constructed with the object of completing it for occupation, if possible, during the early part of 1926.

An architectural competition is now being held for designs for a permanent Administrative Building which will provide for all office requirements for the central governmental offices for many years. Schemes for other official buildings, such as Government Printing Office, Post Office, Automatic Telephone Exchange, etc., are being developed.

The erection of a hostel for visitors, with accommodation for 200 persons, is proceeding on a site adjoining the Governmental Area, and the first portion will shortly be opened. A second hostel of a more popular kind is being erected, and tenders for a third will be called shortly.

The provision of cottages in the various residential localities is being proceeded with, and between seventy and eighty are complete. An architectural competition was held for the lay-out of a large residential area, and the construction of cottages thereon is now being undertaken.

A primary school to accommodate 200 children has been erected at Telopœa Park, and is being extended to provide for 500 scholars. Many other buildings of a minor character for the accommodation of workmen and for administrative purposes have been provided.

Quarries to supply road-making and building material have been established; considerable quantities of plant have been purchased for the manufacture of materials, road and sewer construction, transport, etc.; and a light railway has been laid to facilitate the transport of material and plant from stores depot and brickworks to the various localities.

Considerable survey work, involved in laying out areas, roads, sites for buildings and various engineering works has been carried out and is still in active progress.

Belts of trees for shelter and various city parks have been planted, and the formation of avenues and streets and other ornamental features has been carried out, as well as a large amount of afforestation work on the outskirts of the city proper. Work in this direction is still proceeding concurrently with the formation of roads and the development of the various areas.

Provision has been made for the maintenance of roads, buildings and other services in the Territory.

In order to speed up the work of construction, arrangements were made in 1923 to effect greater decentralization, and the Director-General of Works was transferred to Canberra to devote his entire attention to the project.

A Bill providing for the establishment of a Commission to control the administration of the Federal Capital Territory (including the Jervis Bay Territory) has recently been passed by both Houses of Parliament. The Commission will take over the assets as well as the liabilities of the Territory, will carry on construction, control the lands, and provide the various functions of municipal government. It will have power, subject to certain parliamentary and ministerial control, to borrow money, and its duty will involve the development and disposition of the resources of the Territory to the best economic advantage.

3. Lands in the Territory.—As a considerable portion of the Commonwealth lands within the Territory is not required in connexion with the establishment of the city, such areas are being made available for lease. A large number of leases has been disposed of under conditions requiring the extermination of rabbits, noxious animals and weeds. Reference has already been made in Chapter V. to the area of alienated, acquired and leased land within the Territory. All areas are classified into three classes of agricultural and three classes of grazing lands, and about 24,000 acres of these lands are at present leased to returned soldiers for periods varying from five to twenty-five years. The whole of the acquired lands in the Territory are being classified and the roads graded in order that leases of a permanent character may be granted.

4. **Lands at Jervis Bay.**—Sovereign rights over a certain area comprising about 28 square miles of land and water at Jervis Bay, to be used as a port in connexion with the Federal Capital, have been granted by the New South Wales Government, and accepted by the Commonwealth. The Royal Australian Naval College has been established in this area on a site known as Captain's Point.

5. **Railways.**—The line from Queanbeyan to Canberra, 4 miles 75 chains long, was opened for goods traffic on 25th May 1914, and for passenger traffic on the 15th October, 1923, and is being worked by the New South Wales Railways Commissioners for and on behalf of the Commonwealth. This line has been extended on to the Power House and also a further 2½ miles across the Molonglo River to the civic centre towards Yass. These extensions are at present only used for departmental purposes. The total length is approximately 8 miles. At present trains are not run farther than the power house and do not cross the Molonglo River in consequence of the destruction of the bridge during a flood. A trial survey of the Canberra-Jervis Bay line has been completed, and plans have been prepared to enable an approximate estimate of the cost of the line to be arrived at. The permanent survey from Canberra to the boundary of the Federal Territory towards Yass—a distance of 11 miles—has been effected, and the New South Wales Government has completed the permanent survey from Yass to the Territory boundary—about 32 miles. The proposal to construct this railway was referred by Parliament to the Commonwealth Public Works Committee, whose report on the matter has been presented, and is now under consideration.

6. **Population and Live Stock.**—The estimated population on the 31st March, 1924, was 3,677. The live stock, according to the latest return, comprises:—Horses, 1,345; cattle, 6,275; sheep, 139,063; pigs, 274.

7. **Educational Facilities.**—Arrangements have been made for the New South Wales Education Department to continue, for the time being, the administration of education in the Territory, the expenditure involved to be refunded annually by the Commonwealth to the State. Including the school at Jervis Bay, there are 15 schools in operation.

8. **Expenditure.**—The capital expenditure on the Seat of Government during the period 1901–11 and in each year thereafter up to the 30th June, 1923, is set out in detail in the appended table:—

FEDERAL CAPITAL TERRITORY.—CAPITAL EXPENDITURE TO 30th JUNE, 1923.

Period.	Expenditure.						
	Choosing Site.	Land Acquisition within Territory.	Land Acquisition outside Territory.	Queanbeyan to Canberra Railway.	Extension of Railway from Power House to Civic Centre.	Construction of Capita .	Total.
	£	£	£	£	£	£	£
1901–11 ..	22,915	..	..	..	..	16,413	39,328
1911–12	68,026	68,026
1912–13	179,625	..	12,575	..	124,718	316,818
1913–14	180,488	..	30,605	..	221,028	432,121
1914–15	36,770	2,850	2,926	..	210,607	253,153
1915–16	127,537	295	995	..	167,384	296,211
1916–17	112,120	8,865	17	15,134	101,533	237,669
1917–18	90,419	285	763	3,497	4,233	99,197
1918–19	1,323	72	241	919	936	3,491
1919–20	11,968	..	20	Cr. 72	3,575	15,491
1920–21	1,816	..	..	4,189	78,489	84,494
1921–22	8,861	..	..	Cr. 20	140,075	148,916
1922–23	1,475	..	200	956	332,694	335,325
Total ..	22,915	752,302	12,367	48,342	24,603	1,469,711	2,330,240

Details of expenditure in connexion with the building of the Federal Capital are given hereunder for the latest three years available:—

FEDERAL CAPITAL.—EXPENDITURE ON CONSTRUCTION, 1921 TO 1923.

Particulars.	1920-21.		1921-22.		1922-23.	
	£	£	£	£	£	£
Buildings—						
Parliament House .. ..	..	..	..		8	
Parliamentary Hostel .. ..	..	..	215		13,620	
Cottages	9,109		34,741		16,488	
Primary Schools .. ..	..	..	..		6,447	
		9,109		34,956		36,563
Water Supply and Sewerage—						
Water Supply .. ..	..	..	4,810		46,724	
Sewerage .. ..	..	..	21,164		64,729	
Intercepting Channels .. ..	..	..	2,989		7,023	
				28,963		118,476
Roads and Bridges—						
Roads	5,850		21,059		75,993	
Bridges .. ..	..	..	11		4,207	
		5,850		21,070		80,200
Railways .. ..	..	..		395		837
Electric Light and Power (Power House and Mains) .. ..	..	..	..	4,354		6,205
Tree Planting .. ..	..	1,992	..	2,447		4,832
Miscellaneous Minor Works .. ..	..	..	..	1,445		4,181
Miscellaneous—						
Manufacturing and Trading Accounts	9,458		28,338		11,259Cr.	
Suspense Account	14,884		1,543Cr.		54,710	
Plant	36,139		11,644		32,099	
Miscellaneous	1,051		7,514		5,850	
Incidental Works	6		492		..	
		61,538		46,445		81,400
Total		78,489		140,075		332,694

9. Revenue.—The revenue of the Federal Capital Territory for the year ended 30th June, 1923, was £58,565.

10. Military College.—In June, 1911, a Military College was opened at Duntroon for occupation by the cadets and staff. Particulars regarding the establishment of this College may be found in Year Book No. 4 (p. 1159). Previous reference has been made to it in Chapter XIV. dealing with Defence.

11. Naval College at Jervis Bay.—See chapter XIV. dealing with Defence.

D. NORFOLK ISLAND.

1. Area, Location, etc.—Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29° 3' 45" south, longitude 167° 58' 6" east. Its total area is 8,528 acres, the island being about 5 miles long and 3 miles wide. From Sydney it is distant 930 miles, and from New Zealand 400 miles. The coast line is 20 miles, and its form that of an irregular ellipse. Except on the south-west, inaccessible cliffs rise from the water's edge. The climate is equable, the temperature ranging between 56° and 82° with a mean of 68°. The average annual rainfall is 55 inches. It has been said that the salubrious climate, coupled with the beauty of its land and sea scapes, should combine to render Norfolk Island "the Madeira of the Pacific." At present the island is visited annually by a fair number of tourists, but with improved shipping facilities the traffic would undoubtedly increase.

2. **Settlement.**—The first colonization, in 1788, was by Lieutenant King, who in H.M.S. *Sirius* established a small penal station as a branch settlement of that at Port Jackson. The settlement was abandoned in 1806, and for 20 years thereafter its chief use was as a whaling station and place of call for British warships.

From 1826 to 1855 it was again made a penal station. In 1844 it was annexed to Van Diemen's Land (Tasmania).

The descendants of the *Bounty* mutineers, having become too numerous to subsist on Pitcairn Island, were removed thence to Norfolk Island in 1856. The new community numbered 193—94 males and 99 females—and were the descendants of British sailors and Tahitian women.

3. **Administration.**—In 1856 the island was severed from Tasmania, and created a distinct and separate settlement under the jurisdiction of New South Wales. In 1897 it was made a dependency under the Governor of that Colony, and was administered by the Chief Secretary's Department through a resident Chief Magistrate, in whom was vested the executive government of the settlement, and the penal supervision of its affairs. In 1913, however, a Bill was passed by the Federal Parliament providing for the taking over of the island as a territory of the Commonwealth. The Act came into force on the 1st July, 1914, and the island is now administered by the Department of Home and Territories, Melbourne, through an Administrator and Chief Magistrate. There is an Advisory Council, consisting of twelve members, presided over by the Administrator. Six of the members are elected by the residents, and six are nominated by the Administrator.

4. **Population.**—The population on 4th April, 1921, was 339 males and 378 females, a total of 717. During the year ended 31st December, 1922, there were 21 births 6 deaths, and 3 marriages.

5. **Live Stock.**—The latest returns of live stock show that there are on the island 1,720 cattle, 623 horses, 214 sheep, and 217 pigs. In addition, there are 6,689 head of poultry.

6. **Production, Trade, etc.**—The soil throughout is rich, and is specially suitable for the cultivation of citrus fruits, bananas, and (in parts) coffee. Various other sub-tropical fruits thrive well. During 1922–23 the production of oranges was 37,645 bushels; bananas, 364,480 dozen; passion fruit, 5,085 bushels; coffee, 29,385 lb.; and pineapples, 620 dozen. There are many thousands of lemon trees and guavas growing wild throughout the island.

Large numbers of whales pass the island throughout the season, but owing to old-fashioned methods very few are captured. With the employment of up to date appliances the whaling industry might be of great importance. The preserved fish industry also offers a field for commercial energy; such fish as trevalla, kingfish, snapper, and many others, are plentiful. A company already is in operation, but its output is restricted, owing to inadequate shipping facilities. Only one consignment of frozen fish was shipped in 1922. In order to improve conditions of marketing, and in other ways to promote the economic interests of the island, a Farmers' Association has been formed. In 1922–23 the imports were valued at £15,461. The exports were valued at £3,754, a large decline from previous years, owing to the diminished export of lemon juice and peel. A quantity of passion-fruit pulp and coffee was exported, and small shipments of fruit, lemon seed, and potatoes were forwarded to Sydney. The bulk of the export trade was with Australia, only small amounts going to New Zealand and the South Sea Islands. The progress of Norfolk Island is hampered by the poor shipping facilities. In the year 1922–23 Burns, Philp and Co.'s steamer *Makambo* called ten times from Sydney, while the *Southern Cross* called twice on its way from the New Hebrides to New Zealand. Arrangements are now being made by the Farmers' and Growers' Association to build a 50-ton ketch, with a view to carrying produce to New Zealand and other places. The "all red" cable from Great Britain via Vancouver, Fanning Island, and Fiji bifurcates at Norfolk Island, one line connecting with New Zealand, the other with Brisbane.

7. Social Condition.—Education is free and compulsory up to the age of fifteen years. The school is under the New South Wales Department of Public Instruction, with standards corresponding to the State public schools, but the salaries and allowances of the teachers are paid by the Norfolk Island Administration. The number of scholars enrolled on the 30th June, 1923, was 126.

The Magistrates' Court has criminal jurisdiction in all crimes except capital offences, civil jurisdiction in all matters, and authority to grant probate and letters of administration.

E. NEW GUINEA.

1. THE ISLAND OF NEW GUINEA.

1. Geographical Situation of New Guinea.—New Guinea, frequently described as the largest island in the world, lies to the north of Australia, between $0^{\circ} 25'$ and $10^{\circ} 40'$ S. latitudes, and between $130^{\circ} 50'$ and $150^{\circ} 35'$ E. longitudes. Its estimated area exceeds 300,000 square miles, the greatest length being 1,490 miles, and the greatest breadth 430 miles.

2. Discovery.—The island was probably sighted by Abreus in A.D. 1511. The first visit by Europeans was apparently either that by the Portuguese Don Jorge de Meneses on his way from Goa to Ternate in 1526, or that by the Spaniard Alvaro de Saavedra in 1528. In 1606 Torres, having parted company with De Quiros at the New Hebrides, sailed, on his way to the Philippines, through the strait which separates the island from Australia, and which now bears his name.

3. Colonization.—Little progress was made for many years in exploration and settlement. First the Portuguese, and afterwards the Dutch, who to a great extent replaced them as the principal European traders in the East, seem to have jealously excluded other traders and adventurers, and to have kept the knowledge of their discoveries to themselves. The coasts were visited by Roda, Schouten, Lemaire, Tasman, Dampier, Torres, Bougainville, and Cook; but the difficulties of navigation, the savagery of the islanders, and the tempting fields for enterprise in the more temperate regions further south, diverted the energy of traders and voyagers. Forrest describes a voyage by himself in 1774. In 1793, New Guinea was annexed by two commanders in the East India Company's service. Since that date the Dutch have made extensive surveys of the western portion, and the British and Germans have occupied and colonized the eastern. In September, 1914, German New Guinea was seized and occupied by Great Britain by means of a force raised and despatched by the Australian Government.

4. Partition.—The three colonizing powers agreed to the partition of New Guinea, each having suzerainty over islands adjoining its own territory. The whole of the portion west of the 141st degree of latitude, comprising about 150,000 square miles, or nearly half the island, belongs to the Dutch. The eastern half was divided in almost equal portions between Great Britain and Germany, the area possessed by each (with adjacent islands), being about 90,000 square miles. An Anglo-German boundary commission appointed for the purpose of defining the boundary between the territories of the two nations, started operations on 26th December, 1908, and completed the field-work on 27th October, 1909. The total length of boundary delimited was $66\frac{1}{2}$ miles. The work was both important and difficult. For a considerable portion of the survey, the country was exceedingly rough and mountainous, and the natives hostile. In one instance, the line was carried over a range at an elevation of 11,110 feet. The Dutch colony forms part of the residency of Ternate in the Moluccas, and has not been extensively developed. The German protectorate, where considerable commercial development had taken place, included the northern part of the eastern half of the mainland, known as Kaiser Wilhelm Land, and the large islands of the Bismarck Archipelago and the Solomon Group, as well as nearly 200 smaller islands. The south-eastern portion of New Guinea, nearest Australia, is a dependency of the Commonwealth of Australia. The German Pacific protectorate was terminated in 1914.

2. PAPUA.

§ 1. General Description of Papua.

1. **Early Administration.**—Surveys of the east coast of New Guinea by Stanley, Yule, Blackwood, Moresby, and others, brought home to Queensland, and to Australia generally, the danger to her commerce which would result from foreign possession of the islands and coasts opposite to Cape York, and from the holding by a hostile power of the entrance to the splendid waterway inside the Barrier Reef. The mainland opposite the shores of Queensland east of the 141st meridian was therefore annexed by that colony in 1883, but the action was disallowed by the British Government. In 1884, however, a British protectorate was authoritatively proclaimed by Commodore Erskine over the region lying east of the 141st meridian as far as East Cape, with the adjacent islands as far as Kosman island. In the year following, an agreement with Germany fixed the boundaries between the possessions of the two countries, and to Great Britain was assigned the portion now known as Papua, lying between the extreme limits of 5° and 12° S., and 141° and 155° E. The British protectorate was subsidized by Queensland, New South Wales, and Victoria, and lasted until 30th September, 1888, when it was proclaimed a possession of the Empire. Its constitution was then that of a Crown colony, in association, however, with Queensland. Administration was in the hands of a Lieutenant-Governor, aided by an Executive and a Legislative Council, and advised by a Native Regulation Board. Port Moresby, on the south coast, was made the head-quarters of the official establishment; a supreme court was established there, and magisterial courts in the districts; and an armed native constabulary force, under a European officer, was instituted for the maintenance of order. Native village constables, as well as native interpreters, warders, boats' crews, etc., are also employed by the Crown.

2. **Administration by Commonwealth of Australia.**—The Territory was placed under the authority of the Commonwealth on 1st September, 1906, by proclamation issued in pursuance of Letters Patent of the 18th March, 1902, and was accepted by the Commonwealth by the Papua Act 1905, which came into force by virtue of the proclamation aforesaid. The transfer was made under the authority of section 122 of the Constitution (see p. 35 hereinbefore). The Territory is now under the administration of the Commonwealth, but not included within it, and is divided into eleven magisterial districts.

3. **Physical Characteristics.**—Papua lies wholly within the tropics. The northernmost point touches 5° S. latitude; its southernmost portion, comprising Sudest and Rossel Islands, lies between 11° S. and 12° S. latitude. It is separated from Australia by Torres Strait. The length of Papua from east to west is upwards of 800 miles; towards either end the breadth from north to south is about 200 miles, but about the centre it is considerably narrower. The Territory comprises also the islands of the Trobriand, Woodlark, D'Entrecasteaux and Louisiade groups. The length of coast-line is estimated at 3,664 miles—1,728 on the mainland, and 1,936 on the islands. The total area is about 90,540 square miles, of which 87,786 are on the mainland, and 2,754 on the islands. From the eastern end of the territory rises a chain of mountains, which forms a great central ridge and attains its greatest altitude, as it extends westwards, in the Owen Stanley Range, the highest points of which are Mount Victoria (13,200 feet), Mount Scratchley, the Wharton Range, and Mount Albert Edward. The western end of the possession is for nearly 300 miles generally low and swampy for some distance along the coast. The whole territory is well watered. The great mountains and a large portion of the lower country are covered with forest. The islands are mountainous, and, with the exception of the low coral islands of the Trobriand Group, part of Murua, and a few others of small dimensions, principally of volcanic formation. The highest is Goodenough Island, 8,000 feet. The largest rivers of the mainland flow into the Gulf of Papua. The Fly River, with its tributaries, drains an extensive area of the territory of the Netherlands, as well as of the British. Its length in British territory is about 620 miles, and it is navigable by a steam launch for over 500 miles. Other important rivers are the Turama and the Purari. There are many excellent harbours. A map of the territory was published in *Official Year Book No. 16*, p. 665.

§ 2. Population.

The white population of Papua on 4th April, 1921, was 1,343, made up of 961 males and 382 females. Included in these figures were 79 persons, who were passengers and crew of the s.s. *Marsina*, which was at Samarai at the taking of the Census. The following table gives the white population of Papua for the last five years:—

WHITE POPULATION OF PAPUA, 1919 TO 1923.

YEAR ENDED 30TH JUNE.

1919.	1920.	1921.(a)	1922.	1923.
971	1,096	1,343	1,104	1,086

(a) The figure for 1921 is the Census return.

During the last two years the number of births has about equalled that of deaths, and the total decrease is due to the excess of departures over arrivals.

The chief occupations of the non-indigenous population at the taking of the Census were:—Government officials and employees, 132; commercial pursuits, 150; shipping, 124; tropical agriculture, 266; missionary work, 144; mining, 159.

It is not possible to make a reliable estimate of the number of natives, owing to the fact that much of the interior country is unexplored. The official estimate is 275,000. These speak many languages and dialects. The coloured population, other than Papuans, numbered on 4th April, 1921, 577, and included many mission teachers from Samoa, Fiji, and other Pacific Islands. On the same date, half-castes, with one of the parents a European, totalled 158. An Immigration Restriction Ordinance prohibits the immigration of persons who fail to pass the dictation test, or who are of bad character, or likely to become a charge upon the public. Exemptions may, however, be granted by the Lieutenant-Governor to persons of special skill required for employment as overseers or foremen.

§ 3. Native Labour, Taxation, Health, etc.

1. **Native Labour.**—(i) *General.* The rights of both employer and labourer are conserved by the Native Labour Ordinances. Service on the part of the native is voluntary, and he must be justly treated, and properly housed and fed. Employers may recruit personally, or obtain their natives through a licensed recruiter. Contracts of service must be in writing entered into before a magistrate or other qualified officer, and the natives must be returned to their homes on completion of engagement. During the period of service the recruiter or employer is personally responsible for the native's welfare. Refusal to work after an engagement, or desertion from service, renders the labourer liable to imprisonment. On the other hand, a magistrate may terminate an engagement where unjust or harsh treatment by the employer is proved. The term of indenture must never exceed three years, and in the case of miners and carriers eighteen months is the limit, but re-engagements may be made. The magistrate must satisfy himself that the remuneration is fair, that the native is willing to undertake the service, and that there is no probability of unfair treatment or detention. Wages must be paid in the presence of an officer. A medicine-chest, stocked with necessary drugs and first-aid instruments, must be kept by all employers.

The number engaged under contract of service during the year ended 30th June, 1923, was 6,278, as compared with 4,590 in the preceding year. Natives employed casually for periods not exceeding three months numbered 1,702. Papuans from the

islands of Purutu and Wabuda, in the Fly River, are now being engaged on the pearling luggers operating in Torres Strait, with base at Thursday Island. The labour requirements of the Territory in the near future will apparently not greatly exceed the supply. On some of the coconut plantations the practice has been adopted of importing cattle to keep down the grass and other undergrowth, and this will reduce the number of natives employed in the work.

(ii) *Skilled Workers.* The number of Papuans employed in skilled labour is gradually increasing. Most of the launches in the Territory have Papuan drivers, and natives have in some cases been entrusted with the sole charge of valuable sailing vessels. Moreover, they look after machinery on estates, while in Port Moresby they drive motor lorries, and undertake much of the carpentry work required by Europeans. A scheme of registration and certification of native engineer-mechanics is now in operation.

2. *Wages.*—The wages paid to a native under contract is seldom below 10s. per month, with rations. This is the usual wage also of a plantation labourer, but those engaged in mining frequently receive more. Domestic servants are paid from 10s. to 40s. per month, according to experience. Natives in charge of vessels owned by Europeans, and drivers of launches and motor lorries, receive from about £3 to £10 per month. The total amount of wages paid in 1922–23, according to the contracts of service, was £47,993.

3. *Native Taxes.*—Under the Native Taxes Ordinance, passed in 1918, a tax not exceeding £1 may be imposed on natives, excepting native constables, mission teachers, natives unfit for work, and those who have not less than four living children. The proceeds of the tax must be expended on education, or devoted to purposes directly benefiting the natives, as may be prescribed.

The taxes collected in 1922–23 amounted to £16,410, bringing the credit balance of the fund to £45,191. On primary and technical education a sum of £5,051 was spent in subsidies to missions. An amount of £3,052 was utilized in connexion with the establishment and development of native plantations and preliminary expenses in regard to a rice mill. Other expenditure included £4,562 for medical purposes, and £932 for bonuses to mothers with more than four living children.

4. *Care of Half-caste Children.*—An Ordinance was passed on the 11th September, 1922, to provide for the care and maintenance of neglected half-caste children. The Ordinance provides that a sum of £26 per annum shall be paid to the Commissioner for Native Affairs by the adjudged father of the child until the child, being a boy, shall be sixteen years of age, or, being a girl, shall be eighteen years of age.

5. *Health.*—During the year natives to the number of 1,976 were admitted to the hospitals. The chief complaints treated were yaws, ulcers, lung affections, and malaria. Two travelling medical officers and one European medical assistant are employed, and native medical assistants are being trained by them. The work done by the travelling officers consisted chiefly of dealing with cases of yaws, by means of the latest arsenical drugs, and in the distribution of hookworm treatment. In all 3,952 cases of yaws were treated, and 45,721 cases of hookworm. Out of 9,799 natives examined for venereal disease signs justifying detention for further investigation or treatment were found in 133 cases, or about 1.4 per cent. During an inspection of 16,534 natives 63 cases of elephantiasis were found, about 0.4 per cent. Phthisis is rarely mentioned by the travelling officers. Out of an average of 6,083 native labourers employed by Europeans, 117 died, as compared with 214 during the previous year, the decrease being probably due to the fact that the natives are developing greater resistance to the ravages of influenza.

§ 4. Land Tenure.

1. *Method of Obtaining Land.*—(i) *The Land Laws.* The broad principles upon which the land laws of Papua are based are :—(a) No land can be alienated in fee simple ; (b) the rental of the land leased is assessed on the unimproved value and is subject to reassessment at fixed periods.

A detailed account of the method of obtaining land was given in Official Year Book No. 6, pp. 1083–4.

(ii) *The Leasehold System.* With a view of attracting pioneer settlers, an ordinance was passed in 1906 under which leases were granted on very liberal terms. No rent was payable for the first ten years, the heavy expense of survey was borne by the Government, and no charge was made for the preparation and registration of the leases, that is to say, no payments whatever had to be made to the Government for ten years. Under this system, the area under lease increased in four years from 2,039 acres to 363,425 acres; about 140 plantations were started, and nearly 1,000 acres planted during that period.

After allowing free survey for three years, it was decided that all future applicants for agricultural leases exceeding in area 100 acres should be required to pay the cost of survey. It was also found desirable to check a tendency amongst a proportion of land applicants to obtain areas so great that the improvement conditions could not be carried out. It was therefore enacted that no leases should be granted after 1st June, 1910, exceeding 5,000 acres in extent, and that rent at the rate of 3d. per acre must be paid from the commencement of all leases exceeding 1,000 acres in area.

2. *Holdings.*—(i) *General.* On the 30th June, 1923, the lands of the Territory were held as follows:—

PAPUA.—HOLDINGS, 1923.

Description.	Area.
	Acres.
Land held by the natives ..	56,935,313
Crown land	793,708
Freehold land	23,085
Leasehold land	193,494
Area of Territory ..	57,945,600

Private sales of land in the Territory have now practically ceased. The Government buys from the natives, and then leases to planters, who are forbidden to have direct dealings in land with Papuans.

(ii) *Leaseholds.* The position as regards leasehold tenures may be seen from the following table:—

PAPUA.—LEASEHOLDS, 1918-19 TO 1922-23.

Year ended 30th June.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Land held under lease .. acres (as recorded)	218,951	230,002	229,283	219,181	193,494

Of the total area of 193,494 acres shown above, agricultural leases accounted for 179,818, pastoral leases for 11,687, and other leases for 1,989 acres.

The area of land acquired by the Crown in 1922-23 was 3,644 acres.

The total area surveyed in the Territory is 23,085 acres of freehold, and 282,094 acres of leasehold.

§ 5. Production.

1. *General.*—The products of the Territory are obtained from its agricultural, forestal fishing, mining, and manufacturing industries. There is a Papuan Court at the Imperial Institute, London, where, besides maps, handbooks and reports, a representative collection of products is shown, additions being made to the exhibits from time to time. Displays of Papuan produce are also made at exhibitions held in Australia. The industries of Papua are not numerous, but they are becoming more diversified.

2. Agriculture.—(i) *Soil and Rainfall.* The physical features of Papua are favourable to agriculture. Rich soils at varying elevations, and heavy and evenly-distributed rainfall, have ensured success in cultivating almost every tropical product of value. The Territory comprises immense areas of rich alluvial and volcanic soils along the coast, and equally fertile land at elevations up to 6,000 feet. Splendid rainfalls are recorded except over a belt of country which runs back from the coast to the hills, and which has its dry season from May to November: This “dry” area is admirably suited for the production of tobacco, fibres, cotton, etc. There are 16 meteorological stations throughout the Territory. An economic museum and agricultural library have been established.

(ii) *Plantations.* On 30th June, 1923, there were 278 plantations. Agricultural settlement has been mostly in the Central and Eastern Divisions, though plantations are spreading in other districts. The area planted was 60,044 acres, as against 60,314 in 1921. The principal plantation crops are coconuts, rubber, and sisal hemp. There is also some cultivation of bowstring hemp, kapok, coffee, tobacco, vanilla, cocoa, tapioca, cinnamon, tea, rice, and maize. The natives are compelled by an ordinance to plant coconuts for food supply. In the Kokoda district, which is not suitable for coconut planting, 8,000 rubber seeds and plants were distributed amongst the native villages in 1918. In addition to the coconuts in these plantations many more are planted over small and widely scattered areas by the older natives in accordance with custom. The following table shows the areas under the different cultures at the end of December, 1922 :—

PAPUA.—AREA OF PLANTATIONS, 1922.

Description.	Area.
	Acres.
Coconuts	46,366
Rubber	7,171
Hemp	5,822
Coffee	20
Rice	38
Cotton	230
Other cultures (including fruit trees)	397
Total	60,044

The yields of copra and rubber for the year ended 30th June, 1923, were :—Copra, 5,870 tons; rubber, 57 tons. The increase in the returns from coconuts is due to the better prices for copra, and to a reduction in freights. No planting was done during the year under review. In regard to rubber, the low price (7½d. per lb.) in the beginning of the year brought about a cessation of tapping operations. The price gradually rose to 16d., at which the plantations can operate, though without profit, and the area planted with rubber decreased during the year by about 300 acres. It may be noted that experiments in cotton culture have given encouraging results.

It was estimated in 1917 that over £1,000,000 had been expended in plantations, and, with the exception of two large British companies, practically the whole of the capital was subscribed in Australia and locally.

(iii) *Government Plantations.*—There are three Government plantations, consisting of 1,150 and 50 acres of coconuts, and 240 acres of rubber respectively. The net capital expenditure on these to the 30th June, 1922, was £40,550, or £28 per acre. Since that date the plantations have become practically self-supporting—they have paid working expenses and depreciation of building and plant, but no interest on capital invested.

(iv) *Indigenous Products.* There are many indigenous plants of great economic value. These comprise sandalwood and other timber trees, sugar-cane, cotton plants, rubber-both vine, nutmegs, ginger, bamboos, palms, bananas, bread-fruit, edible nuts, sago-palms, fruits, and vegetables. The classification of the indigenous flora has proceeded slowly, owing to the great difficulties of transport in jungle and mountainous country. During the year, however, the services of a competent forester were secured to report on the timber resources of the Territory. Previous investigations, though incomplete, have proved the existence of a large diversity of useful timber. Of 120 varieties catalogued, 16 are adapted to resisting heavy strains, and are suitable for girders, railway wagons, etc.; 10 for railway carriage and coach building; 15 for joinery, lining, flooring, etc.; 14 for butter boxes; 5 for boat building; 4 for piles; and 15 for cabinet work. Sandalwood is indigenous, and is largely used for cabinet work, while santal oil is distilled from the roots. Ebony is also produced for export. There are considerable areas of native rubber (*ficus Rigo*); but the planters generally prefer the imported Para rubber. Gutta-percha is obtained from a species of *palaquium*, which grows on the hills. Drugs, dyewoods, and spices are also obtained from indigenous plants. The mountain firs offer possibilities in the shape of turpentine oils and timbers, while the conifer *Agathis alba* yields a valuable resin. Saw-mills have been established, but the output has not been sufficient to supply the local demand for building and other timber. The Papua Co. Ltd. operates at Manu Manu, and supplies timber to various parts of the Territory.

3. *Live Stock.*—On 31st December, 1921, the live stock in the Territory consisted of 368 horses, 2,344 head of cattle, 123 mules, 3 donkeys, 1,407 goats, and 557 pigs. A Government stud-farm has been established for the breeding of horses. The introduction of rabbits, foxes, hares, and monkeys is prohibited.

4. *Fisheries.*—Pearl-shell fishing occupies an important place in the industries of Papua. A considerable number of luggers is licensed, but the returns are mostly credited to Queensland, whose boundary approaches to within a few miles of the Papuan coast. The species of tortoise which supplies the commercial tortoise-shell is also a native of the Territory. Bêche-de-mer and trochus are found along the shores and reefs, and form valuable articles of export.

5. *Mining.*—(i) *Variety of Minerals.* Minerals have been found over a wide range of country. Those discovered so far are—gold, copper, tin, lead, zinc, cinnabar, iron, osmiridium, gypsum, manganese, sulphur, graphite, chromite, brown coal, lignite, and petroleum. The existence of petroleum has been traced at scattered intervals over an area of country covering about 1,500 square miles between Yule Island and the Purari Delta, in the Gulf Division of Papua. Quantities of oil and inflammable gas have been met with in the test bores put down, but not in sufficient bulk as yet for commercial purposes. During the year 1922–23 further geological surveys have, however, been carried out between the Purari Delta and Aird Hill. Work at the Popo oil bore has been continued, and it is probable that a new bore will be put down in this locality.

Exploitation of the Papuan oil-fields by private companies is not permitted.

Of precious stones, only the topaz and beryl have been obtained. Large beds of apparently good coal also exist. A geologist was added to the Government service at the beginning of the year 1911.

(ii) *Gold.* In 1888 the first gold was discovered, and the search gradually spread over every division, finds being reported wherever the explorers went. During recent years gold-mining has declined. The principal mine, at Misima, in the Louisiade Group, employed about 50 white miners and 500 natives; but it was closed down in September,

1922, and has not since been re-opened. The total quantity, in fine ounces, and the value as returned of the gold yield for five years are given below :—

PAPUA.—GOLD YIELD, 1918-19 TO 1922-23.

1918-19.		* 1919-20.		1920-21.		1921-22.		1922-23.	
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
fine ozs. 5,303	£ 27,084	fine ozs. 3,866	£ 21,747	fine ozs. 2,047	£ 11,159	fine ozs. 14,645	£ 68,726	fine ozs. (a)	£ (b)22,494

(a) Not available.

(b) Figures from Annual Report.

* Most of the rivers, with the exception of those flowing into the Gulf of Papua, have been declared open to gold-dredging, and good yields have been obtained. The total value of gold won to 30th June, 1923, was £1,655,734.

(iii) *Copper.* At the New Guinea Copper Mines 80 white men and 700 natives are employed. Considerable progress was made with the erection of smelters and the aerial tramway, and it was expected that production would commence before the end of the year.

(iv) *Osmiridium.* The existence of osmiridium had been known for some years, but no serious attempt was made to collect it, the alluvial gold miner even picking out the larger slugs of the metal from his gold parcel and throwing them away. Production to date has been small.

(v) *Other Minerals.* Some good samples of galena (sulphide of lead) have been obtained, while cinnabar (sulphide of mercury), graphite (or plumbago), zinc-blende, native sulphur, and other minerals are known to exist.

A mineral laboratory and museum have been fitted up, and are available to prospectors and others interested.

6. *Water Power.*—Most of the rivers in Papua carry a large volume of water from a great height over a relatively short distance, thereby offering opportunities for the installation of hydro-electric power plants. It is estimated that there are at least 10,000,000 h.p. available for this purpose.

§ 6. Finance, Trade, Postal and Shipping.

1. *Finance.*—The revenue for 1922-23 was lower than that of the previous year by £2,664, the chief decrease being in Customs and Excise. The principal sources of revenue were as follows :—Commonwealth Grant, £50,000 ; Customs and Excise, £41,637 ; Fees of Office, £5,552 ; Miscellaneous, £4,438 ; Appropriation (former years), £7,500.

The expenditure was £1,221 less than that of the previous year. There was a decrease of nearly £12,000 in the Department of the Treasury, the figures for the previous year being inflated by the return of money borrowed from the Trust Funds to meet a deficit. The expenditure by the Public Works Department, however, increased by £9,000.

Returns of revenue and expenditure for the last five years, exclusive of Commonwealth grants, are given hereunder :—

PAPUA.—REVENUE AND EXPENDITURE, 1918-19 TO 1922-23.

Item.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Revenue	73,121	85,537	98,175	73,288	70,624
Expenditure	102,962	118,436	146,827	124,912	123,691

2. Trade.—The value of imports and exports for the last five years is shown in the table below :—

PAPUA.—VALUE OF IMPORTS AND EXPORTS, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Imports	258,112	422,741	484,770	305,705	315,423
Exports	176,247	270,481	172,672	220,236	179,452
Total Trade	434,359	693,222	657,442	525,941	494,875

As in all new countries, the imports consist chiefly of articles necessary for the primal needs of the community, such as agricultural products and groceries, drapery, machinery, tobacco, oils, paints, beverages, wood, wicker and cane, drugs, &c. The chief items of export during the last five years are as follows :—

PAPUA.—PRINCIPAL EXPORTS, 1918-19 TO 1922-23.

Article.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Gold	27,084	21,757	11,159	68,726	17,033
Copra	53,264	124,035	68,578	87,377	112,481
Rubber	33,010	41,542	28,966	5,826	5,907
Hemp	12,532	12,284	7,723	4,630	(a)
Copper Ore	1,613	..	1,830	13,514	(a)
Pearl Shell and Trochus Shell	9,375	24,255	4,464	4,043	(a)
Pearls	21,550	25,577	14,950	5,250	9,797
Bêche-de-Mer	2,240	612	7,922	15,045	13,453
Bark	4,847	2,686	1,408	752	(a)

(a) Not available.

3. Shipping.—The following table shows the number, tonnage, and nationality of oversea vessels entered and cleared at ports during the years 1917-18 to 1921-22. Figures for 1922-23 are not available :—

PAPUA.—OVERSEA SHIPPING, 1917-18 TO 1921-22.

Nationality.	Vessels.									
	Number.					Tonnage.				
	1917-18	1918-19	1919-20	1920-21	1921-22	1917-18	1918-19	1919-20	1920-21	1921-22
British	117	98	86	108	127	57,955	60,108	59,189	67,624	74,206
Foreign	20	..	..	..	..	63,772	..	..	..	..
Total	137	98	86	108	127	121,727	60,108	59,189	67,624	74,206

Throughout, the figures are exclusive of ships of war and Government vessels.

§ 7. Progress of Papua.

1. Statistical Summary.—As already stated (§ 2, *supra*) the Territory was placed under the Commonwealth control on 1st September, 1906. The following table indicates the progress that has been made since that date :—

PAPUA.—STATISTICAL SUMMARY, 1907 TO 1923.

Items.	Year ended 30th June—	
	1907.	1923.
White population	690	1,086
Native labourers employed (exclusive of Crown servants) ..	2,000	(a)
Number of white civil servants	65	(a)
Armed constabulary	185	(a)
Village constables	401	(a)
Territorial revenue	£ 21,813	70,624
Territorial expenditure	£ 45,335	123,691
Value of imports	£ 87,776	315,423
Value of exports	£ 63,756	179,452
Area under lease	acres 70,512	193,494
Area of plantations	acres 1,467	60,044
Meteorological stations ^a blished	3	16(b)
Gold yield	fine ounces 12,439	(a)
Copper ore shipped	tons 137	2,700(b)
Live stock in Territory—		
Horses	173	368(b)
Cattle	648	2,344(b)
Mules	40	123(b)

(a) Not available.

(b) 30th June, 1922.

3. THE TERRITORY OF NEW GUINEA.

§ 1. General Description.*

1. *Area and Geographical Position.*—The present Territory of New Guinea comprises that portion of the German New Guinea Protectorate which lay south of the equator (excepting only the island of Nauru, see F hereinafter), and which was known in German times as the “Old Protectorate.” The principal islands (with their German names if these differ from those now in use) and their approximate areas are as follows :—

AREA OF TERRITORY OF NEW GUINEA.†

Particulars.	Approximate Area.
	Square miles.
North-East New Guinea (Kaiser Wilhelm Land)	70,000
Bismarck Archipelago—	
New Britain (Neu Pommern)	13,000
New Ireland (Neu Mecklenburg)	3,000
Lavongai (New Hanover or Neu Hannover)	600
Admiralty Islands and North Western Islands.. ..	1,000
Solomon Islands—	
Bougainville	3,200
Buka	200
Total	91,000

2. *North-East New Guinea.*—(i) *General.* North-East New Guinea (Kaiser Wilhelm Land) is the north-eastern part of the island of New Guinea. Much of the interior, which is rugged and mountainous, with heights reaching to over 13,000 feet, is still unexplored. The mountain ranges approach the coast, leaving comparatively little flat land near sea level, but this narrow strip is very fertile. All trade and communications are by sea along the coast, and the interior is left almost wholly to the native population.

(ii) *Coast-line.* The coast-line, which is over 900 miles long, is in parts fringed with coral reefs, and there are many small, lofty islands along its course. Except for Huon Gulf in the little-developed east of the country there are no deep inlets. Langemak Bay has commodious anchorage in deep water, and Finsch Harbour has landlocked anchorage for small vessels. Astrolabe Bay has two or three sheltered harbours, including Melanua, Madang (Friedrich Wilhelm Harbour) and Sek, which are the best on the coast. There are many other anchorages suitable, in certain winds, for schooners and small steamers.

(iii) *Rivers.* There are many rivers, of which the most important are the Sepik (Kaiserin Augusta) and the Ramu (Ottilien). The Sepik rises near the junction of the boundaries of Dutch New Guinea and Papua, and flowing easterly reaches the coast in latitude 4° S. It is navigable for 60 nautical miles by large ocean steamers, and for 300 nautical miles by steamers drawing from 10 to 13 feet. In 1914, a vessel of 50 tons ascended the river for 450 miles; it was then in flood and 7 fathoms deep at this distance, while at low water the depth was said to be 4 fathoms.

The Ramu rises in about 6° S. latitude and, flowing northwards, enters the sea near the mouth of the Sepik. It has been navigated, though with great difficulty, by flat-bottomed steamers for nearly 200 miles from its mouth.

3. *Bismarck Archipelago and Solomon Islands.*—(i) *General.* The islands of the Bismarck Archipelago and the Solomons are generally mountainous, with level ground near the coasts alone. The only low-lying islands are some in the Duke of York and Admiralty Group. The islands of Bougainville and Buka (Solomons) are equally rugged :

* A map of the Territory was published in Official Year Book No. 16, p. 665, but considerations of space preclude its repetition in the present volume.

† In regard to geographical position, see Year Book No. 16, p. 660.

Bougainville contains mountains reaching 10,000 feet. The soil is usually fertile, except on the low coral islands, where fresh water is scarce.

(ii) *Coast Line.* The coasts of the large islands often rise steeply from the water, with bold headlands; but as a rule there is a beach, frequently overgrown with mangroves. Sunken rocks and coral reefs fringe many of the coasts, especially of the low islands. There are many good harbours, the chief being Blanche Bay, in New Britain, containing the good anchorages of Matupi Harbour and Simpson Harbour; Kavieng Harbour in New Ireland; Mioko in the Duke of York Islands; Peter Harbour in the Vitu Islands; Nares Harbour in Manus Island; and Queen Carola Harbour in Buka Island.

(iii) *Rivers.* Most of the streams in these islands are too shallow and too rapid for navigation.

4. *Revision of Geographical Names.*—A revision of geographical names, based on a list of names prepared by the Permanent Committee on Geographical Names for British Official Use, is in progress. A provisional list of names in the Territory is published in the Report for 1921-22. Among the changes already made are the use of North-East New Guinea for Kaiser Wilhelm Land, and Lavongai for New Hanover.

5. *Maps.*—A geological map, and maps showing the areas in which the native population has been counted or estimated, the areas of land alienated in freehold or leasehold, roads and Government stations, are published in the Report to the League of Nations for 1921-22. Admiralty Chart No. 2766 (North-East Coast of New Guinea, with Bougainville, New Britain, New Ireland, Admiralty Islands and adjoining reefs) is a useful general map of the Territory.

§ 2. Climate and Health.

1. *General.*—The Territory has a moist tropical climate, with small differences between daily and seasonal extremes of temperature. There is no cool season, rain falls in all months, and the humidity is high. The Territory is outside the area of typhoons, but strong winds are not uncommon, and damage is occasionally done to plantations.

2. *Temperature.*—The mean annual temperature on the coast is about 26° to 27.5° C. (79° to 81° F.)—a moderate temperature for the latitude—and the difference between the means of the coldest and warmest months is not more than 2° F.

3. *Rainfall.*—There is no really dry season. At Rabaul the period of the north-west monsoon, November to April, is wetter than that of the south-east trade from May to September or October; but in some other places, especially the south coast of New Britain and in the vicinity of Finsch Harbour, the south-east trade brings the principal rains. The position of the coasts with regard to the direction of the prevailing winds is the decisive factor in the rainfall. The annual rainfall amounts, at nearly all the stations at which observations have been made, to over 80 inches. In Bougainville, southern New Britain, and the island of New Guinea, the yearly average is from 100 to over 250 inches; but amounts as low as 66 inches have been reported from some stations on the coast of the island of New Guinea. The average rainfall at stations in the Gazelle Peninsula is about 95 inches. A region of high rainfall, reaching over 250 inches, is in the vicinity of Finsch Harbour. There are large variations from year to year, and some districts of the Territory are subject to unusually dry periods. Thus, in 1894, Kokopo (on Blanche Bay, north-east of New Britain) had only 65.6 inches, while in 1891 there were 133.3 inches; the average over a period of years was 74.4 inches. There is reason to believe that a severe drought which prevailed in New Ireland in the years 1914 and 1915 was in part responsible for the large decrease in the population of that island which took place during the period of the military occupation.

4. *Humidity.*—The humidity is very high. Observations taken at Rabaul during the years 1916 to 1921 showed an average humidity of 75 per cent., and the variation in the monthly means was only from 69 per cent. (October) to 80 per cent. (April). At Madang, during the same period, the yearly average was 80 per cent., the lowest monthly mean 77 per cent. (August), the highest 83 per cent. (April). During the same period at Kieta (Bougainville) the mean was 78 per cent., the minimum 74 per cent. (August and October), and the maximum 80 per cent. (June).

5. **Influence on Health.**—The climate in North East New Guinea and at many places in the Bismarck Archipelago and the Solomon Islands is enervating for Europeans. At some places, however, and notably at Rabaul, the heat and humidity are tempered by the constant breezes, and it is possible for Europeans, with careful attention to diet and exercise, and precautions against diseases, to maintain good health. When the measures taken against malaria and other diseases have produced their full effect, and use has been made of places in the mountains suitable for healthy sanatoria, it is hoped that a satisfactory average of health will be maintained.

§ 3. Government.

1. **The Military Occupation.**—On the 17th September, 1914, the Acting Governor of German New Guinea signed terms of capitulation with the officer commanding a Naval and Military Expedition sent from Australia, and thereafter the Territory was under military administration until the establishment of Civil Government in May, 1921.

2. **Mandate.**—In 1919 it was decided by the principal Allied and Associated Powers that the Territory of New Guinea, which Germany gave up as one of the terms of peace, should be entrusted under Mandate from the League of Nations to the Government of the Commonwealth of Australia. The issuing of the Mandate was, however, delayed; and it was not until 17th December, 1920, that its terms were settled, and the Mandate itself did not reach Australia until April, 1921.

The terms of the Mandate are given in Official Year Book No. 16, p. 662-3.

3. **New Guinea Act.**—In anticipation of the issuing of the Mandate, the Commonwealth Parliament had already, in September, 1920, passed the New Guinea Act 1920, by which the Governor-General was authorized to accept the Mandate when issued. The Territory was, by the Act, declared to be a Territory under the authority of the Commonwealth, by the name of the Territory of New Guinea.

The Act provided for an Administrator, while power to legislate for the Territory was to be exercised by the Governor-General.

Provision was also made for the observance of safeguards in the interests of the natives as set out in the Mandate.

4. **Establishment of Civil Government.**—On receipt of the Mandate, arrangements were made by the Prime Minister, under whose control the administration of the Territory was placed,* for the establishment of Civil Government, and on the 9th May, 1921, a proclamation was issued in Rabaul that the military occupation had that day terminated. On the same day the first Ordinances made by the Governor-General under the New Guinea Act 1920 came into force. The most important of these was the *Laws Repeal and Adopting Ordinance* 1921, which provided that German laws should cease to apply to the Territory, and substituted other statute laws (see 7. Statute Law, below), together with the principles and rules of common law and equity in force in England, as the basis of the law of the Territory, subject to modification by Ordinance made by the Governor-General.

The Ordinance also preserved the rights of natives in land, and the existing rights, privileges and customs of the natives in regard to cultivation, barter, hunting, and fishing; and it provided that tribal institutions, customs, and usages should continue, so far as they were not repugnant to the general principles of humanity.

Other Ordinances which came into force on the same day provided for the establishment of courts of law, and for the prohibition of the supply to natives of firearms, ammunition, intoxicating liquor, and opium.

5. **Expropriation.**—The Treaty of Peace provided that German nationals resident in her former colonies might be repatriated; and that the property rights and interests of German nationals in former colonies might be retained and liquidated by the Allies, the proceeds being credited to Germany in part payment of the reparation payable by her under the Treaty.

* Control of the administration was transferred in July, 1923, to the Department of Home and Territories.

In pursuance of these powers, in September, 1920, the property of the principal German companies in the Territory, and in March, 1921, that of a large number of German planters, was vested in the Public Trustee; and the management of their businesses and plantations was entrusted (pending the sale or other disposal of the properties) to the Expropriation Board. The total number dealt with to 30th June, 1923, was 625, the value of which in 1921 was estimated at about £4,000,000. The figures included 48 companies, 275 persons resident in the Territory, 256 residing outside the Territory or deported, and 46 estates of deceased persons. By an amendment of the Peace Treaty Regulations a Special Magistrate was appointed to inquire into appeals of persons whose properties had been expropriated. Inquiries were made into 135 cases. Reports on these cases have been considered, with the result that in 30 cases it was decided to release the property from expropriation; in 53 cases it was decided not to release the property; 27 cases were not proceeded with by appellants; and 25 cases were still under consideration as on 30th June, 1923. No sales of expropriated property have, however, yet taken place.

6. Departments and Districts.—The Administration is organized in eight Departments—Government Secretary; Treasury; Native Affairs; Public Health; Public Works; Customs and Shipping; Lands, Mines, Surveys, and Forestry; and Agriculture.

For administrative purposes, the Territory is divided into ten Districts, named after the principal stations in them, as follows:—In New Britain—Rabaul, Talasea, and Gasmata; on the Mainland—Morobe, Madang, and Aitape; in New Ireland and Lavongai (New Hanover)—Kavieng and Namatanai; in Admiralty Islands and adjoining islands—Manus; in Solomon Islands—Kieta. Each District is under a District Officer, assisted by a small staff.

7. Statute Law.—The Acts of the Commonwealth Parliament do not (unless expressly so stated) extend to the Territory, but the *Laws Repeal and Adopting Ordinance* 1921 provided that certain Acts and Ordinances should be applied thereto. The state of the statute law in force in the Territory on 30th June, 1923, may be summarized as follows:—

(a) Eleven Acts of the Commonwealth Parliament (the New Guinea Act, the Acts to enforce the Treaties of Peace, the Air Navigation Act, the Patents and Trade Marks Acts, the Service and Execution of Process Act, and other Acts) extend to the Territory of their own force. Portion of the Navigation Act also extends to the Territory, but no provision has been made for its enforcement.

(b) Twenty-six Acts of the Commonwealth Parliament apply by virtue of Ordinances made by the Governor-General.

(c) Four Acts of the Queensland Parliament, as well as the Acts and Statutes of England in force in Queensland on 9th May, 1921, apply by virtue of Ordinances made by the Governor-General.

(d) Nineteen Ordinances of the Territory of Papua apply by virtue of Ordinances made by the Governor-General.

(e) Fifty-five Ordinances, Orders, and Proclamations of the Military Administration remain in force.

(f) Ordinances have been made by the Governor-General under the New Guinea Act 1920, subsequently to the establishment of civil government. Amongst the most important of those proclaimed in 1923 and 1924 is one extending the Power of the Administrator to make Regulations; the other providing for the establishment of District Courts and the appointment of Justices of the Peace, etc.

The Acts of the Commonwealth and Queensland Parliaments, the Ordinances of Papua and of the Territory, and the regulations under them, in force on 31st December, 1922, have been published as Vols. I.—III. of Laws of the Territory of New Guinea.

8. Reports to the League of Nations.—Three Reports have been rendered to the League of Nations in compliance with Article 6 of the Mandate, the latest being for the year ended 30th June, 1923.

§ 4. Population.

1. **White Population.**—The increase in the white population at various intervals since 1885 is shown in the appended tabulation. On 4th April, 1921, it was 1,288, of whom about 250 were missionaries, and 262 were troops engaged in administration; 715 were British subjects, and nearly all the remainder were nationals of former enemy countries. At the present time the number of Europeans is about 1,300.

TERRITORY OF NEW GUINEA.—WHITE POPULATION, 1885 TO 1921.

Year.	Number.
1885	64
1895	203
1910	687
1914	1,027
1917	818 (a)
1921	1,288 (b)

(a) Does not include troops. (b) Including 262 troops (engaged in Administration at date of Census, 4th April, 1921).

2. **Asiatic Population.**—Malays seem to have been the first Asiatics brought by the Germans to German New Guinea; 37 of them are recorded on the mainland in 1885. About 1889 the New Guinea Company began to bring Chinese, Malays, and Javanese in growing numbers from Singapore and Java to work on its plantations; by 1892 there were about 1,800 on the mainland. By 1898 the number had decreased to 300 or 400.

About ten years later, Chinese from China were brought to the Protectorate; in 1911 there were 555, in 1914, 1,377, in 1921, 1,424, and in June, 1923, about 1,350. The number of Malays and Javanese in 1914 was 163, and in 1921, 221.

In 1895 there were 2 Japanese in the Protectorate, in 1911 there were 25, in 1914, 103, in 1921, 87, and in June, 1923, about 67 residents. The total Asiatic population was 1,681 in 1914, and 1,778 in 1921. There were also, in 1921, 28 Polynesians and 69 half-castes.

The number of Asiatics has slightly decreased. In 1922–23 the births of Chinese exceeded the deaths by 18, but departures exceeded arrivals by 36, so that the population decreased by 18. The number of Japanese decreased by 7.

The Chinese provide the skilled artisans and domestic servants of the Territory, and many of them are small traders. There is only one Japanese firm of any size, but it is not a serious competitor with European firms; most of the Japanese residents are employed in the plantations, shipyards, and stores.

The Immigration Act 1901–1920 of the Commonwealth is in force in New Guinea.

3. **Native Population.**—As a large portion of the Territory is not under Government influence it is not possible to obtain reliable figures in regard to the number of the natives. The results of a Census taken by the Administration in 1921, and again in part in 1922, are shown in the table below. The number in 1922 shows an increase, but new areas are being penetrated, and many natives not previously counted have come forward and given in their names. Except in a very few districts it cannot be definitely stated whether the native population is increasing or decreasing. In the Gazelle Peninsula (New Britain), however, the figures show a marked increase.

The system of Census-taking adopted in the Territory is the "Family Group" system, whereby families are grouped together in their respective family units. The "Hut" system could not be adopted in very many areas, as in some cases, especially amongst Papuan tribes, the natives live communally, *i.e.*, they build one long house, divided into cubicles. There are also different houses for the boys, unmarried females, etc. Administrative machinery for obtaining vital statistics has now been created. It can, of course, be applied only to areas under complete Government control.

The accuracy of the Census in respect of any particular portion of the Territory is necessarily dependent upon the degree of Government control or influence established over the area. The various portions of the Territory have been classified for Census purposes as follows:—(a) Country under complete Government control; (b) Country under Government influence; (c) Country under partial Government influence; (d) Country penetrated by patrols. In regard to the large areas not yet penetrated by patrols, no estimate can be made of the population.

The aim of the Administration is to remove, as far as practicable, the various causes which tend to a decrease of the population. In particular it is seeking to (a) bring about the discontinuance of the practice of abortion, which prevails to some extent; (b) induce the native mothers to devote to their children proper care and attention during their tender years; (c) prevent any interference with native marriage customs; (d) improve the health of the native population generally by systematically combating native diseases, and insisting upon the proper care and treatment of native labourers by their employers.

TERRITORY OF NEW GUINEA.—NATIVE POPULATION 1921 AND 1922.

Islands.	1921.			1922.		
	Counted.	Estimated, not Counted.(a)	Total.	Counted.	Estimated, not Counted.	Total.
New Britain, Duke of York, and Vitu Islands—						
Gazelle Peninsula and adjacent Islands	64,619	..	64,619	52,179	13,000	65,179
Remainder of New Britain ..						
Duke of York Group	2,685	..	2,685	2,685	..	2,685
Vitu Islands	(b)	..	(b)	2,603	..	2,603
Total New Britain, etc...	67,304	13,000	80,304	57,467	13,000	70,467
New Ireland and adjacent Islands—						
New Ireland	22,186	..	22,186	24,387	..	24,387
Lavongai	6,876	..	6,876	5,777	..	5,777
Mussau and Emirau	2,170	..	2,170	2,240	..	2,240
Tabar and Simberi Islands ..	2,769	..	2,769	2,617	..	2,617
Lihir Islands	2,875	..	2,875	2,764	..	2,764
Tanga Islands	1,040	..	1,040	947	..	947
Anir Islands	704	..	704	640	..	640
Total New Ireland and Lavongai, etc. ..	38,620	..	38,620	39,372	..	39,372
Admiralty and North Western Islands—						
Admiralty Islands	11,622	..	11,622	13,183	..	13,183
North Western Islands	780	..	780	810	..	810
Total Admiralty and North Western Islands ..	12,402	..	12,402	13,993	..	13,993
Total Bismarck Archipelago	118,826	13,000	131,326	110,832	13,000	123,832
Solomon Islands—						
Bougainville	17,976	..	17,976	21,712	20,000	41,712
Buka and adjoining islands ..	7,576	..	7,576	7,738	..	7,738
Nissan Islands	1,091	..	1,091	1,333	..	1,333
Kilinalau Islands	(c)	..	(c)	385	..	385
Tanu and Nukumanu Islands ..	180	..	180	182	..	182
Total Solomon Islands ..	26,823	20,000	46,823	31,350	20,000	51,350
North-East New Guinea—						
District of Morobe	13,736	30,500	72,868	16,102	30,000	46,102
District of Aitape	12,441			19,332	71,000	90,332
District of Madang	16,191			19,642	4,000	23,642
Total North-East New Guinea	42,368	30,500	72,868	55,076	105,000	160,076
Grand Total for the Territory	187,517	63,500(d)	251,017	197,258	138,000	335,258

The areas are, in some of the islands, not the same as for the count and estimate of 1922, and accordingly no direct comparison can be made between the totals for the two years. (a) These are rough estimates only. (b) Included in remainder of New Britain. (c) Included with Buka. (d) Not including any estimate of the population of North-East New Guinea not under Government influence.

§ 5. The Natives.

1. **General.**—A brief description of the native inhabitants of the Territory was included in Year Book No. 16, page 670. It may be noted here that the natives are divided into two main groups—Melanesian and Papuan—the former, with odd exceptions constituting the population of the Bismarck Archipelago, the Solomon Islands, and the coastal districts of the New Guinea mainland; while the latter inhabit the interior of the mainland. In the Admiralty Islanders there is a strain of Papuan, and, possibly, of Polynesian blood, while the Western Islanders and the inhabitants of the small islands east and south-east of New Ireland are Micronesians.

2. **Land Tenure.**—Native customs in regard to the ownership and use of land may be briefly outlined as follows:—The ownership and use of the land is generally individual although, in some rare cases, particularly in North Bougainville, the communal system exists. In districts where a great many coconut-bearing palms are growing on native lands it is often found that the land is the property of a chief or one of the old men of the tribe, and that the coconut palms growing thereon are divided into small groves, and are the property of several members of the tribe. Individual ownership has been testified to by the fact that in most contracts of purchase made with native owners, even of comparatively small areas, the signatures of a great many native vendors appear thereon. In almost every district large areas of secondary scrub growing on the sites of old taro fields, indicates that the native is more or less nomadic in his habits, and if new virgin forest is available, the native will rarely cultivate a second time. Customs with regard to the use of unoccupied forest lands differ according to situation. In some cases claims are made to vast unoccupied areas, with distinct and recognized boundaries. The native owner may utilize part of it for his nomadic culture, while, in regard to the remainder, he will jealously guard the forest product thereon, and barter trees (for making canoes), cane (for fish baskets), sac-sac (sago), etc., with neighbouring tribes. Members of his own tribe may, however, hunt there, cut wood or lianas, and collect fallen leaves and fruit, with the exception of coconuts and betel nuts. The owner alone may dig there, lay out plantations, or build a house. At some places, particularly on the New Guinea coast, there are vast areas not claimed by natives.

Right of inheritance is almost invariably through the maternal branch. Occasionally it may be found that the property of the father goes to the son, but this occurs very rarely. The rule is that it goes to his brother or sister, or nephew. The mother's land descends to her children. A woman inherits land only if she is a full sister to the owner, and then only where her male relatives are people of consequence. The brother of the deceased also inherits the products of the land, *i.e.*, coconuts, etc., but where the deceased had leased the land or held it on loan, the fruits revert back to the original owner. Land may be bought, leased, or loaned, or taken in satisfaction of debt. At the death of a purchaser, the former owner may take possession of the land, making a refund of the original purchase price or a part thereof. The same property rights exist over areas used as village sites as over plantation land.

While children do not inherit through the father, the father may in his lifetime give his sons blocks of land for planting and for building purposes, and on his death his sons may retain such land by joining his tribe.

Reefs are regarded as shell, and can be shared out amongst the villages. Fish may be caught by any one, but shell fish and coral can only be taken by members of the tribe claiming possession of the reef.

3. **Education.**—The education of the natives was provided for in the "Education Ordinance of 1922," under which the Administrator was authorized to establish schools to grant money therefor, prescribe instruction, arrange for the training of teachers, and other matters. Simultaneously a Native Education Trust Fund was inaugurated, over which the Administrator was given control, and for the benefit of which he was empowered, within certain limits, to levy taxes on the natives and on employers of native labour.

The Education Tax imposed on the natives realized in the first year £5,168, and that on the employers £156. In the second year the tax returned £16,357. The natives were in 1922-24 relieved of the tax, and in lieu thereof each employer will be required to pay into the Native Education Trust Fund a sum of 6s. for each native employee.

In 1923 three schools had been established as follows:—(1) *An Elementary School* at Kokopo, for (a) the education of native children generally; (b) the training of intelligent natives as assistant teachers; (c) to qualify a certain number for positions in the lower grades of the Government service; (d) to prepare some for entrance into the Technical School, and others to take positions in the economic and commercial industries of the Territory. (2) *A Technical School*, at Rabaul, for training natives as workers in the various handicrafts required in the Territory. (3) *A School of Domestic Economy*, at Rabaul, to train natives as domestic servants.

The Elementary School at Kokopo was placed in charge of a teacher loaned by the Education Department of Victoria, and the results obtained to the end of the year 1923 proved very satisfactory. As none of the many languages used in the Territory is known outside small areas, and "pidgin" English, though useful, is a crude and imperfect means of communication, all instruction is given in ordinary English. The number of pupils at the end of June, 1923, was 87.

In the Technical School instruction is given in printing, boat-building, carpentry, engineering, plumbing, and cane-work. Satisfactory progress is made; in the Government Printing Office two of the natives are doing work formerly done by Europeans, and the boat-building boys under the supervision of an instructor have, by their own efforts, completed a 16-foot dinghy.

The School of Domestic Economy was inaugurated largely for the purpose of providing wash-boys and cooks. A number of Government indentured labourers are placed in the school, and, as the demand arises, are transferred to employers. Boys belonging to private employers are admitted to the school free of charge.

It has been decided, for the time being, not to inaugurate schools in any of the districts other than Rabaul, but to concentrate the whole educational establishment of the Administration at Malaguna, on the outskirts of the township of Rabaul. An area of about 30 acres has been acquired there upon which modern school buildings, dormitories, instructors' quarters, workshops, and a home and school for half-castes are being erected.

The main educational activities in districts other than Rabaul will be left to the missions.

The expenditure on education for 1922-23 was £8,067. For 1923-24 the expenditure is estimated at £20,000.

The schools maintained by the various Missions are of three classes, Elementary schools in villages, intermediate boarding-schools at Mission head-quarters, and high schools. The village schools are under native teachers; the most promising pupils pass to the intermediate schools, where they are taught by European teachers assisted by native tutors. At the high schools, teachers are trained for the village schools and tutors for the intermediate schools. Technical training is provided by the Missions in the vicinity of Rabaul and in parts of the New Guinea mainland, the natives being trained in printing, bookbinding, tanning and bootmaking, carpentry and cabinet work, and the making of ropes, bricks, baskets and mats. At the end of June, 1923, the various missions maintained 856 schools, employing 231 European teachers and 1,012 native teachers. The pupils numbered 24,379.

The granting of assistance to Mission schools is authorized by the Education Ordinance.

4. Health of Natives.—The Department of Health is controlled by a Director of Public Health, with a staff of medical officers and medical assistants. There is a medical laboratory at Rabaul and a number of European and Native hospitals, etc. The staff of medical officers in 1923 numbered 7, and of medical assistants, 23. In addition there were a dispenser, a matron and 2 nurses, and a staff of native orderlies.

Much attention is being given to the health of the natives, both by curing as far as is possible those already suffering from tropical or introduced diseases, and by improving sanitary conditions.

In the case of 93 natives, chiefly work boys of the Rabaul District, it was found that 33 died from pneumonia, 21 from tuberculosis, 8 from dysentery, 9 from tropical ulcers and related conditions, 4 from meningitis, 9 from a variety of diseases, while in the case of

9 the causes of death were uncertain. These figures show that the natives in the Territory, as in many tropical countries, are very susceptible to pneumococcal infection, and possess little resisting power. Investigations are at present being carried out at the Medical Laboratory in Rabaul to ascertain the extent to which tuberculosis is prevalent amongst the native population, and the causes of its spread. So far as present information goes, it would appear that natives brought from inland to the plantations are comparatively free from the disease, and that they contract it from association with Europeans and Chinese. Of the total deaths in native hospitals during the year 1922-23, 14.2 per cent. were due to tuberculosis, and in Rabaul 20.7 per cent. In regard to dysentery the amoebic type is rare, and the bacillary type common. There have been several minor epidemics, strictly localized. These epidemics are apt to occur during the dry season, when the water supply is not so reliable as in the wet months. Tropical ulcer is extremely common amongst the natives, and their efficiency suffers more from this disease than from any other. One-third of the natives treated during the year suffered from ulcer, for which as yet there appear to be no specific cure. Meningitis is also a common cause of death. Pneumococcal meningitis, tubercular meningitis, and meningococcal meningitis were found in this order of frequency in young adults as well as at earlier ages. Malaria is widespread, though chiefly in a mild form, but it affects the general health of the native population. Hookworm seriously undermines the vitality of the natives, and an organized campaign against the disease has been instituted. Throughout the Territory 92,175 treatments were administered during the year. The provision everywhere of latrines of a suitable type is being insisted on. Framboesia of a secondary nature is a very common condition in native infants and children. It is treated by injections of novarsenobillon, 9,000 such injections being administered by the Government and 200 by the missions during the year under review.

In addition to the previously existing native hospitals at the district head-quarters, a new hospital capable of accommodating about 50 patients has been constructed at Marienberg, on the Sepik River. Small hospitals, for the emergency treatment of the sick, have also been established at various sub-stations, and are in the care of Deputy District Officers or Patrol Officers. The native hospitals are staffed with native orderlies, trained to carry out ordinary routine duties and to act as dressers. The disinclination of the natives to undergo hospital treatment is fast disappearing, and in many cases they now seek admission to the hospitals on their own initiative. One of the functions of the native hospitals is to train medical "tultuls," to act as village doctors, the Government supplying them with medicine. Last year 315 medical "tultuls" were in training.

Medical patrols constantly traverse the Territory. During such patrols the natives in each village are mustered, and the sick are in some cases sent to hospital and in others treated on the spot. Hookworm treatment is administered to all, and framboesia cases are injected with novarsenobillon. The villagers are instructed in generally elementary matters of cleanliness and sanitation.

5. Missions.—There are a number of mission societies working in the Territory. The Society of the Sacred Heart of Jesus works in the Bismarck Archipelago, the Society of the Holy Ghost along the coast of North-East New Guinea from Sek to the Dutch border, the Marists in Buka and Bougainville. These are Roman Catholic Missions. The Protestant Missions are the Australian Methodist Mission in New Britain and New Ireland, the Liebenzell Mission in the Admiralty Group, and the Rheinische Mission and the Neuendettelsauer Mission (now supported and staffed by the Lutheran Churches in Australia and America), which work along the coast of North-East New Guinea from Sek to the Papuan border. All these societies combine teaching and planting with their missionary work. They conduct native schools, and own extensive plantations. Between them they possess 80,705 acres of land, of which about 15,000 acres are planted with coconuts. The number of Europeans engaged in mission work is about 250, of whom more than half belong to the Holy Ghost and Sacred Heart Missions. Some of the societies have small printing plants by which reading matter in one or other of the native languages is produced.

§ 6. Land Policy.

1. **Acquisition of Land.**—Land, in pre-German days, was bought from the natives for a little “trade goods.” After the annexation by Germany land-laws and regulations were introduced which, in the course of years, were added to and made more stringent, eventually developing into the “Land Regulations of 1st January, 1914.” The policy of the German Government showed a preference for freehold tenure. A thirty years lease system was, however, introduced for Chinese planters, who could not own land. The access to land by Europeans, irrespective of nationality, was easy, and no limit was fixed to the areas they could own. Where ownership in the land was claimed by the natives, the purchaser had to satisfy these with the usual gifts, after which he had to pay the Government not more than 8s. an acre and not less than 5 pence, and bind himself to make certain improvements. Under these easy terms large areas were acquired by various companies, mission societies, and private persons. The total area held by Europeans (mainly Germans), when war broke out, measured upwards of 700,000 acres, of which about 145,000 acres had been planted.

During British military occupation the sale of land was suspended, while leases of land were issued only for twelve months at a time.

2. **Land Policy of the Present Administration.**—The Land Ordinance 1922 provides for sale as well as leasing of land belonging to the Crown. The divergence from the policy usually adopted by the British in the Pacific (including Papua), which provides for leasehold only, was made with a view to disposing by sale of the freehold properties taken over from Germans, and which are now controlled by the Expropriation Board. The general land policy of the Commonwealth Government is based on the leasehold principle, and the greater part of the Lands Ordinance is devoted to provisions therefor. All Crown grants or leases contain a reservation to the Crown of all minerals, including mineral oil. Leases are for a term not exceeding 99 years, except where a shorter period is provided. Crown lands, except in towns, are classified by a Land Board into land suitable for agriculture (Class A) and land not so suitable (Class B), and the unimproved value of the land is assessed. In the case of agricultural leases for more than 30 years, the rent is 5 per cent. of the unimproved value, with power to remit during the first ten years, and subject to re-appraisal every twenty years. The maximum area of land which may be held by any person under agricultural lease may not exceed 5,000 acres, and the unimproved value may not exceed £5,000. Pastoral leases of lands of Class B may be granted for terms not exceeding 30 years, at a rental of 2½ per cent. of the unimproved value, subject to re-appraisal every ten years. Agricultural leases are subject to improvement conditions, and pastoral leases to stocking conditions. Leases of town allotments may be granted for terms not exceeding 99 years, at a rent to be fixed at such percentage of the unimproved value as is prescribed. Leases may be granted to Missions rent free.

During the year 1922–23 leases covering a total area of about 8,600 acres were granted, and at the end of the year applications for agricultural leases of areas totalling about 34,000 acres were under consideration. In addition, nearly all the lands of which annual tenancies had been granted during military occupation have been brought under the Land Ordinance.

3. **Registration of Titles.**—Under German law there was a system of registration of titles in a “Ground Book,” but registration did not confer an indefeasible title. It is intended to replace this by a system of registration closely modelled on the Torrens system, and the matter is now engaging attention.

§ 7. Production.

1. **General.**—The Territory possesses great natural resources, but their development has barely commenced, and a limit to economic progress is much more likely to be found in the scarcity of labour than in the exhaustion of resources.

At present there are no manufactures in the Territory, except of articles for native use.

2. **Agriculture.**—(i) *General.* No estimate has yet been made of the area of land suitable for agriculture; but it is certain that the area already alienated, if planted to its full capacity, would be far greater than the present native population could cultivate. The earliest traders contented themselves with the collection of native products (including copra), for which they exchanged "trade" goods. It was not until 1883 that the first plantation was laid out, at Ralum on Blanche Bay; the first plantation on the mainland was that of the New Guinea Company at Finsch Harbour, where the first settlement was placed in 1885.

The natives have been described as a people of peasant proprietors, and everywhere they practise a low form of agriculture. Their gardens afforded but a small amount of produce for oversea trade, and the exports of the Protectorate grew only as European plantations were made. Plantations extended slowly, for the Protectorate is almost everywhere covered with forest, and the clearing and planting of the land, even if labour can be had, necessarily occupies considerable time.

In the early years of the Protectorate, the demand for copra was much smaller than recently, and it was not foreseen that it would become the chief export. Experiments were accordingly made—principally by the New Guinea Company, which spent a large part of its capital in this work—with a number of tropical crops.

(a) *Tobacco.* This crop has been cultivated with success at Astrolabe Bay in North-East New Guinea, and in the Bismarck Archipelago. Plantation managers were brought from Sumatra, but the Dutch Government, fearing competition, forbade the New Guinea Company to take skilled native labourers to their new plantations. Labourers were ultimately obtained from China and the Straits Settlements, and in 1892 there were over 1,800 Malay and Chinese coolies on the mainland; but, owing to the heavy mortality, the number soon dropped to less than 1,000. In 1893 there were 500 acres under tobacco, and the export reached 77 tons. Tobacco of high quality, rivalling the best Sumatra leaf, is said to have been produced. Later, the growing of tobacco on European plantations was abandoned, partly, it is said, for want of intelligent labour, although it continued to be grown by the natives for their own use.

(b) *Cotton.* The New Guinea Company also experimented in the growing of cotton, and it is said that a product of high quality was obtained. In 1896 the export amounted to 60 tons. In recent years this crop has been discontinued except for experimental purposes.

(c) *Sisal Hemp.* There was a steady although small export of sisal hemp in German times. The quantity exported in 1913 was 10 tons, but none seems to have been exported since 1914. The principal plantation was at Melanua (Konstantinhafen) on Astrolabe Bay.

(d) *Cocoa.* Cocoa has been successfully grown, principally at Vitu (French Islands); in 1913, 137 tons were exported, and in 1922–23, 83 tons as against 152 tons in the previous year.

(e) *Coffee.* Coffee has been grown with success, but there has been little production.

(f) *Rubber.* A limited area is still planted with rubber. The trees were, however, planted before it was known which species yielded the best product, and *Ficus elastica* was propagated instead of the more valuable *Hevea brasiliensis*. The low price of inferior rubber rendered the plantations unprofitable, and the trees are not being tapped.

(g) *Copra*. The mainstay of the Territory is the coconut palm. Indigenous in most of the islands, the coconut palm yielded copra to the traders from the beginning of European trade, and the plantations, commenced in 1883, have steadily extended in area and product, until 98 per cent. in value of the total exports of the Territory now consists of copra. The quantity exported in 1913 was 14,000 tons; in 1918, it was over 20,000 tons; and in 1922-23 it was 32,648 tons, an increase of 6,754 over the figures for the previous year. The area under coconuts increased during the Military Occupation from 76,845 acres in 1914 to 133,960 acres at the end of 1918, and was, on 30th June, 1923, 167,428 acres, of which 78,660 were in bearing. The price of copra in 1922-23 fluctuated from £23 a ton, f.o.b. Rabaul to £12, the average price for the whole year being £18 19s.

(h) *Other Crops*. The climate and soil of the Territory are also suitable for the cultivation of rice, Manila hemp, cinchona, nutmeg, vanilla and maize. It has been proved that nearly all these can be grown successfully, but hitherto their cultivation has either not advanced beyond the experimental stage or has been attempted on a small scale only. Sugar-cane of many varieties flourishes, and the natives cultivate extensive areas for their own use; other indigenous food-producing plants include the sago palm, and the cassava plant (which yields arrowroot and tapioca and is used in the making of glucose).

(i) *Plants Yielding Power Alcohol*. It seems probable that alcohol for power purposes will be obtainable economically from the Territory. The sago palm and nipa palm yield as much as 60 gallons a ton, and in places are very abundant.

(ii) *Area of Plantations*. The area of plantations and the crops grown thereon are shown in the table hereunder for the year 1922-23. The figures are exclusive of native plantations.

TERRITORY OF NEW GUINEA.—PLANTATIONS, 30th JUNE, 1923.

Particulars.	Government Plantations.	Privately owned Plantations.	Controlled by Expropriation Board.	Total.
Area of Holdings acres	6,938	97,154	290,545	394,637
Area cleared "	2,638	57,130	116,043	175,811
Area Cleared and Planted "	2,558	53,617	116,043	172,218
Coconuts—				
Area Planted acres	2,555	52,270	112,603	167,428
Area Bearing "	1,080	25,500	52,080	78,660
Rubber—				
Area Planted acres	..	381	3,001	3,382
Area Bearing (a) .. .. "	..	..	..	..
Cocoa—				
Area planted acres	..	1	972	973
Area Bearing (b) .. .. "	..	..	..	..
Coffee—				
Area Planted acres	..	..	10	10
Area Bearing (b) .. .. "	..	..	..	..
Cotton—				
Area Planted acres	2	..	..	2
Area Bearing (b) .. .. "	..	..	..	..
Maize—				
Area Planted acres	1	166	..	167
Area Bearing "	1	153	..	154
Native Food —				
Area Planted acres	63	2,358	1,472	3,893
Area Bearing "	62	1,406	(b)	1,468

NOTE.—(a) Rubber not tapped. (b) Not available. Native food of all kinds is mostly grown between young coconut palms not yet in bearing, therefore the total area cleared and planted does not agree with the detailed areas under various crops.

The area of plantations at various periods from 1885 to 1923 is shown hereunder. As in the case of the previous table, the figures are exclusive of native plantations :—

TERRITORY OF NEW GUINEA.—PLANTATIONS, 1885 TO 1923.

Year.	Total Area.	Area in Coconuts (including Area not in Bearing).
1885	Acres. 148	Acres. (a)
1895	2,152	(a)
1911	58,837	51,510
1912	63,300	56,133
1913	72,473	64,822
1914	84,941	76,845(b)
1918 (December)	..	133,960(c)
1922	173,272	168,060
1923	172,218	167,428

(a) Not recorded. (b) Of which 23,522 acres were in bearing. (c) Of which 44,169 acres were in bearing.

3. **Live Stock.**—There is little natural pasture in the Territory, but the coconut plantations are now of a sufficient area to maintain numerous live stock. In 1922 there were 727 horses, 6,972 cattle, 3,404 sheep, 3,955 goats, and 5,397 pigs (exclusive of the large number of pigs kept by the natives). See also Official Year Book No. 16, page 677.

4. **Timber.**—The timber resources of the Territory are not yet fully known. Both hardwood and softwood are found in several varieties, some of which are of excellent quality. At Henry Reid Bay, New Britain, a considerable quantity of hardwood (*Eucalyptus*) is obtainable, and negotiations were in progress at the end of June, 1923, to acquire an area of 5,000 acres for saw-milling purposes. The timber required for house and ship-building and for other purposes is mostly obtained locally. In North-East New Guinea the Neundettelsauer Mission and the Holy Ghost Mission both possess up-to-date saw-milling plants, while most of the timber required in the Archipelago is supplied by the Sacred Heart Mission's saw-mill, and by a privately-owned mill, both at the eastern end of New Britain.

The Timber Ordinance 1922 provides for the issue of permits and licences to cut timber. Timber growing on native lands cannot be acquired by private purchasers directly from the natives, but only through the Administration. A royalty (the amount to be fixed by regulation) is to be paid on all timber exported.

The services of a forestry expert have been secured under a special engagement for twelve months for the purpose of investigating and classifying the timber resources of the Territory.

5. **Fisheries.**—The wealth of the waters of the Territory has so far been little exploited. Fish are caught at many places along the coast, but only to supply the small local demand of the natives and of the few Europeans living there. Pearl-shell is exported in fair quantities, while trepang, shark fins, trochus-shell, and tortoise-shell are also articles of export. The value of the marine products exported in 1922–23 was £6,721. This figure shows a considerable falling off from previous years, and is probably due to the low price of trochus shell.

6. **Mining.***—There has been little mining in the Territory, and knowledge of the mineral resources is as yet but scanty. Gold has, however, been discovered on the Waria, the Ramu, the Francisco, and the Markham Rivers. Osmiridium is reported to have been found on the upper tributaries of the Ramu, and platinum on the Kabenau River. Copper has been discovered in the form of chalcopyrite and malachite in the Baining District. Iron occurs as magnetite and hæmatite in the Baining District, apparently in large quantities. Sulphur occurs in several localities in the volcanic regions of the Territory. Phosphates suitable for use in the making of manures are found in the Purdy Islands. Brown coal has been found on the mainland in the vicinity of Astrolabe Bay, and in the southern portion of New Ireland. Oil is known to exist in the Aitape district; but a preliminary geological survey undertaken in 1921, by the Anglo-Persian Oil Company, for the Commonwealth of Australia, indicated that the geological formations were unfavorable to oil being found in paying quantities.

Since the Mining Ordinance came into force, the following areas have been taken up on dredging and sluicing leases :—On the Lower Waria River, 3,120 acres; on the Upper Waria River, 6,100 acres; on the Bulolo River, 998 acres. On the Rai Coast, applications have been received for mineral leases over an area of 800 acres.

Up to the close of the year 1923 mining operations were confined to testing the ground to ascertain whether it was of sufficient value to warrant the expense, in the case of the Lower Waria, of erecting dredges, and, in the case of the Upper Waria and Bulolo, of transport by native carriers through rugged mountains. No land was registered as having been taken up under a miner's right. Twenty-six miner's rights were issued solely to Europeans.

§ 8. Trade.

1. **Total Trade.**—The value of the imports, exports, and total trade at various periods since 1887, and during each of the last five years, is given in the table hereunder :—

TERRITORY OF NEW GUINEA.—TRADE, 1887 TO 1923.

Year.	Imports.	Exports.	Total.
	£	£	£
1887	17,133	19,580	36,713
1897	36,713	31,352	68,065
1907	166,585	97,563	264,148
1918-19	271,861	269,666	541,527
1919-20	506,767	849,422	1,356,189
1920-21	661,441	673,992	1,335,433
1921-22	468,711	499,197	967,908
1922-23	516,855	630,892	1,147,747

The import values for the last five years are exclusive of money and Government stores, excepting those for the year 1921-22, in which the value of stores is included.

* Fuller details of the deposits of minerals in the Territory will be found in E. R. Stanley's Report on Salient Geological Features and Natural Resources of the Territory (printed as Appendix B. to the Report for 1921-22).

2. **Principal Items of Import.**—The principal items of import during each of the last five years are given in the following table:—

TERRITORY OF NEW GUINEA.—IMPORTS, VALUE OF ITEMS, 1918-19 TO 1922-23.

Commodities.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Foodstuffs	67,410	190,442	241,280	113,238	181,492
Beverages (non-alcoholic)	(a)	(a)	2,429	1,360	2,235
Alcoholic Liquors	16,021	31,744	39,841	29,703	30,414
Tobacco	20,618	44,936	53,446	41,392	50,746
Live animals	294	1,429	845	4,276	1,351
Copra Sacks	(a)	(a)	20,555	23,152	15,701
Apparel	74,806	76,935	125,177	37,842	82,113
Oils	14,033	23,835	39,048	26,506	21,923
Hardware and Machinery	48,942	64,912	69,386	27,949	37,999(f)
Motor Cars and Accessories	(a)	(a)	20,141	11,953	14,579
Firearms, Ammunition, and Explosives	(a)	(a)	3,678	1,704	4,049
Timber and Building Materials	(a)	(a)	21,471	7,200	12,308
Paper and Stationery	1,634	1,225	4,366	4,459	5,918
Medicines and Drugs	3,435	5,414	10,300	10,290	18,919
Miscellaneous	24,668	65,895	9,478	17,687	33,002
Coal and Coke	(b)	(b)	(b)	(c)	4,106
Money	(b)	(b)	(b)	(b)	(b)
Government Stores	(a)	(b)	(b)	110,000	(b)
Total	271,861(d)	506,767(d)	661,441(d)	468,711(e)	516,855

(a) Not separately recorded. (b) Not recorded. (c) Not separately recorded, included in Government Stores. (d) Not including money or Government Stores. (e) Not including money. (f) Machinery included with Motor Cars.

3. **Principal Items of Export.**—Values of the principal items of export for the last five years are shown hereunder:—

TERRITORY OF NEW GUINEA.—EXPORTS, VALUE OF ITEMS, 1918-19 TO 1922-23.

Commodity.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Copra	244,314	745,057	641,045	474,110	619,715
Cocoa	8,464	15,530	9,105	9,465	3,734
Stone and Ivory Nuts	333	271	531	..	336
Rubber	1,196	1,104	2,900	..	..
Other Agricultural Products	683	2	20	..	..
Birds of Paradise and other Feathers	100	34,133	5,812	2,027	..
Mother of Pearl and other Marine Products	14,576	53,285	14,579	13,595	6,721
Miscellaneous .. .. .	..	40	..	..	386
Total	269,666	849,422	673,992	499,197	630,892

4. **Exports of Copra, Cocoa, and Rubber.**—The next table shows the quantities, where available, of the exports of these items during the last five years:—

TERRITORY OF NEW GUINEA.—EXPORTS OF COPRA, COCOA, AND RUBBER,
1918-19 TO 1922-23.

Commodity.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Tons.	Tons.	Tons.	Tons.	Tons.
Copra	14,886	22,708	23,735	25,894	32,648
Cocoa	112	140	133	152	83
Rubber	(a)	(a)	29	..	..

(a) Not recorded.

Of the 32,648 tons of copra exported in 1922-23, 12,274 tons went to countries other than Australia.

§ 9. Shipping and Communication.

1. **General.**—A subsidized mail service between the Territory and Australia is maintained by Burns, Philp and Co. Ltd. Occasional cargo steamers take shipments of copra direct to European and American markets.

2. **Oversea Tonnage in 1922-23.**—The number and net tonnage of oversea vessels which entered and cleared the Territory during the year 1922-23 are shown hereunder :—

TERRITORY OF NEW GUINEA.—SHIPPING, 1922-23.

Nationality.	Entered.		Cleared.		Total.	
	No.	Net Tonnage.	No.	Net Tonnage.	No.	Net Tonnage.
British	29	42,787	30	43,970	59	86,757
French	1	4,848	1	4,848	2	9,696
Finnish	2	6,061	3	7,356	5	13,417
Norwegian	4	13,788	3	7,991	7	21,779
Total	36	67,484	37	64,165	73	131,649

Country from which Entered or for which Cleared.	Entered.		Cleared.		Total.	
	No.	Net Tonnage.	No.	Net Tonnage.	No.	Net Tonnage.
Australia	25	35,729	27	39,844	52	75,573
United Kingdom .. .. .	..	..	4	9,787	4	9,787
British Malaya	2	6,932	..	..	2	6,932
British Solomons	5	7,426	3	3,853	8	11,279
New Caledonia	1	5,797	..	..	1	5,797
Netherlands .. .. .	..	..	1	3,129	1	3,129
Japan	1	3,820	..	..	1	3,820
French Indo-China .. .. .	..	..	1	4,848	1	4,848
Ceylon	1	4,848	..	..	1	4,848
South African Union	1	2,932	..	..	1	2,932
United States .. .. .	..	..	1	2,704	1	2,704
Total	36	67,484	37	64,165	73	131,649

3. **Local Shipping.**—The Administration maintains a service of small steamers which bring cargo from outports to the ports of call of the oversea vessels, while there are also privately owned schooners and launches.

4. **Land Communication.**—Means of communication on land are scanty. There are no railways. Roads lead from Rabaul to places within 30 or 40 miles, and there is a road 170 miles long in New Ireland. Elsewhere there are few roads outside plantations

and the stations of the District Officers. The large rivers of the mainland are as yet but little used.

There is a high power wireless station at Bita Paka near Rabaul, and low power stations at Kavieng, Kieta, Manus, Madang, Aitape, and Morobe. Since 1st July, 1921, all these have been placed under the control of Amalgamated Wireless (Australasia) Limited.

§ 10. Revenue and Expenditure.

1. Revenue.—Details of the revenue collected from various sources during each of the last five years are given hereunder:—

TERRITORY OF NEW GUINEA.—REVENUE, 1918-19 TO 1922-23.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Trade and Customs—	£	£	£	£	£
Imports	35,161	} 98,658	{ 59,865	49,031	77,259
Exports	18,596		{ 33,035	38,422	35,965
Total	53,757	98,658	92,900	87,453	113,224
Taxes and Fees—					
Licences	6,838	7,587	7,977	5,588	5,816
Business Tax	6,019	8,134	8,860	20,989	10,317
Law Department	1,157	2,282	1,416	1,942	2,205
Lands Department	3,738	11,382	4,438	6,858	3,132
Stamp Duties .. .. .	..	..	..	1,000	507
Native Affairs—					
Head Tax	20,970	11,210	15,522	20,546	21,550
Indenture Fees	3,787	} 3,856	{ 2,580	} 1,689	(b)12,191
Fees and Fines	319		{ 240		
Income Tax .. .. .	..	..	..	209	644
Total	42,828	44,451	41,033	58,821	56,362
Miscellaneous—					
Trade and Customs	2,003	2,438	4,284	6,470	2,918
Post Office	3,084	4,061	3,852	6,348	2,328
Wireless Service	3,137	4,781	4,181	5,839	..
Receipts from Administration					
Shipping Services	20,700	28,061	23,921	36,599	26,951
Plantations	1,934	5,637	4,036	8,824	2,985
Hospital Receipts	3,050	3,027	4,845	2,884	7,148
Interest	218	81	164	..	..
Miscellaneous	12,925	10,965	14,741	(a)44,268	(a)29,815
Total	47,051	59,051	60,024	111,232	72,145
GRAND TOTAL	143,636	202,160	13,9957	257,506	241,731

(a) Including sale of stores.

(b) Including hire of labour.

2. Expenditure.—The expenditure for the financial year 1922-23 was distributed as follows:—

TERRITORY OF NEW GUINEA.—EXPENDITURE, 1922-23.

Secretary and Central Administration	£22,502	Public Works	£15,323
Government Printer	2,481	Trade and Customs	50,950
Justice	3,522	Agriculture	5,690
Treasury	24,673	Public Health	22,492
Audit	2,844	District Services	64,001
Lands and Survey	11,202	Wireless Service	7,152
Native Affairs	17,598	Total	250,430

F. NAURU.*

1. **General.**—Nauru is a circular atoll about 12 miles in circumference having an area of 5,400 acres, of which approximately four-fifths is phosphate bearing. Portion of the island between the sandy beach and the coral cliffs is fertile, and it is there that the native Nauruans have established themselves. With the exception of a small fringe round an inland lagoon, the plateau which contains the phosphate deposits possesses few food plants and is uninhabited, but the planting of portion of the area with fruit trees is being put in hand. The climate is healthy and equable; the lowest temperature recorded in the five years, 1916 to 1920, was 68 degrees, the highest 99.5 degrees. The rainfall is irregular; in 1916, 18.33 inches fell, in 1919, 167.64 inches.

2. **History.**—The island, which is situated in longitude 166° east and is only 26 miles south of the equator, was annexed by Germany in 1888, and prior to 1914, was part of the protectorate of German New Guinea.

In November, 1914, Nauru was occupied by a detachment from the Australian Expedition at Rabaul; and it was included in the cession of colonies made by Germany in 1919 to the Allied and Associated Powers, whose representatives agreed that a mandate over it should be given to His Majesty the King. On 2nd July, 1919, the British, Commonwealth, and New Zealand Governments agreed that the administration of the island (which, since 1915, had been in charge of an official appointed by the British Colonial Office) should be vested in an Administrator; the first Administrator was to be appointed for a term of five years by the Australian Government, and thereafter in such manner as the three Governments decided. This Agreement was approved by the Commonwealth Parliament in the Nauru Island Agreement Act 1919, and is printed in the Schedule to that Act, and the first Administrator appointed by the Commonwealth Government assumed duty in June, 1921.

The Mandate for Nauru, issued by the Council of the League of Nations in December, 1920, is in terms similar to that for the Territory of New Guinea (see § 3 of the section devoted to that Territory in Year Book No. 16).

3. **Administration.**—The Administrator has all the powers of government—administrative, legislative, and judicial—in the island. It has been decided to appoint a Committee of two Europeans and two Nauruans to form an Advisory Council. All expenses of administration are met from local revenue.

4. **Population.**—Figures for population from 1919 to 1923 are given hereunder:—

NAURU.—POPULATION, 1919 TO 1923.

Population.	1919.	1920.	Census of 24th April, 1921.	31st Decem- ber, 1922.	31st Decem- ber, 1923.
Europeans	88	91	119	128	110
Chinese	134	599	597	582	603
Nauruans (a)	1,279	1,068	1,084	1,156	1,179
Other South Sea Islanders ..	275	227	266	290	117

(a) The natives of Nauru are Micronesians.

The birth rate among the Nauruans in 1923 was 45 per 1,000, the death rate 26 per 1,000, and the rate of infantile mortality 257 per 1,000.

* See Map published with the Report for 1922. See also *Report on Administration of Nauru to 17th December, 1920* (P.P. No. 5 of 1922), *ditto, 17th December, 1920 to 31st December, 1921* (P.P. No. 4 of 1922), *ditto, 1922* (P.P. No. 20 of 1923), *Report and Accounts of British Phosphate Commission for year ended 30th June, 1921* (P.P. No. 23 of 1922), and *Nauru and Ocean Islands: Their Phosphate Deposits and Working*, by H. B. Pope (P.P. No. 148 of 1921).

5. **Health.**—There is no malaria, but cases occur of other diseases known in the Pacific. Venereal disease is rare, but in 1923 there were 151 leper patients, or about 13 per cent. of the total native population. An area has been set apart for the segregation of lepers, and the latest methods of treatment are applied to cope with the disease. Two hospitals are maintained on the island, one by the Administration for Nauruans, and one by the British Phosphate Commission for its employees. In common with other natives, the Nauruans are very susceptible to tuberculosis and influenza, and in 1921 an influenza epidemic caused the deaths of 230 islanders. The usual steps are being taken by the authorities to improve the water supply and to provide efficient sanitation generally. A baby clinic has been established to give help and advice to Nauruan mothers in regard to infant nurture.

6. **Education.**—On the 1st October, 1923, the Administration took over the education of the Nauruans and other native children, and native schools were established in four districts. Previously education had been looked after by the Missions subsidized by the Government. A school for European children, 15 of whom were in attendance in 1923, is presided over by a teacher on loan from the Education Department of Victoria, who also supervises educational matters generally. The curriculum is similar to that of corresponding schools in Australia, and the teaching is, as far as possible, wholly in English. Education is compulsory between the ages of six and sixteen. Officers from the Missions visit the schools to give religious and moral training.

7. **Religion.**—The London Missionary Society (Protestant) and the Sacred Heart of Jesus Mission (Roman Catholic) operate in Nauru, and in 1923 the adherents to the former numbered 823, and to the latter 333.

8. **Phosphate Deposits.**—(i) *General.* The deposits were discovered in 1900, and, were worked by the Pacific Phosphate Company, which also worked the deposits on Ocean Island (about 165 miles east of Nauru and part of the Gilbert and Ellice Islands Colony administered by the Colonial office). The quantity on the two islands has been estimated at not less than 100,000,000 tons, and the rock phosphate, as shipped, averages 85 per cent. to 88 per cent. of tribasic phosphate of lime. About 3,750,000 tons have already been removed; the area worked or partly worked is only about 97 acres.

The interests of the Pacific Phosphate Company in the two islands (though not in other islands in the Pacific in which it has workings) were bought by the British, Commonwealth, and New Zealand Governments in 1919 for £3,500,000, the purchase money being contributed in the proportions of 42, 42, and 16 per cent. respectively. The Agreement of 2nd July, 1919, provides for the working of the deposits by the British Phosphate Commission of three members, one appointed by each Government; and the three countries are to receive the output in the same proportions of 42, 42, and 16 per cent.

(ii) *Output.* The output from the two islands in 1913, the last year before the war, was 350,000 tons. During the first two years of the Commission's management it was as follows:—

NAURU AND OCEAN ISLAND.—OUTPUT OF PHOSPHATES, 1921, 1922.

Year.	To Australia.	To New Zealand.	To United Kingdom.	To other Countries.	Total.
	Tons. (72.96%)	Tons. (4.69%)	Tons. (4.59%)	Tons. (17.76%)	Tons.
1920-21	265,750	17,100	16,700	64,701	364,251
1921-22	170,489 (47.20%)	38,432 (10.64%)	16,074 (4.45%)	136,210 (37.71%)	361,205

From Nauru alone, during the calendar year 1923, the export was 212,300 tons, of which 177,950 tons went to Australia, and 23,950 tons to New Zealand.

(iii) *Accounts of Commission.* During the year 1920-21 receipts from sales, etc., amounted to £691,643, while the f.o.b. cost of phosphate, including interest on capital, sinking fund, and other charges came to £688,958, leaving a balance of £2,685. In 1921-22 receipts were £823,045, cost, etc., £732,407, balance £90,638. The f.o.b. cost of phosphate was 37s. 10d. in 1920-21 and 40s. 7d. in 1921-22.

The amount due by the Commission to the partner Governments for purchase money and other capital sums was £3,666,457 on 30th June, 1921; by 30th June, 1922, this was reduced to £3,607,495. The contribution to sinking fund paid by the Commission provides for interest at 6 per cent. and extinction of the capital sum in 50 years from 1st July, 1920.

(iv) *Charges for Phosphate.* Up to 30th June, 1922, the Commission's charge for phosphate landed in Australia was from 75s. to 80s. per ton: the price was reduced from 1st July, 1922, to 49s. 3d. in the Eastern States and 52s. 3d. in Western Australia. On 1st July, 1923, it was further reduced to 46s. in all States.

(v) *Employees.* The employees of the Commission at Nauru consist of 60 Europeans, about 590 Chinese, and about 125 natives of New Guinea and islands in the Pacific south of the equator. Only a very few Nauruans are employed.

9. *Trade.*—Information regarding imports and exports for years 1919 to 1922 is appended herewith.

NAURU.—IMPORTS AND EXPORTS, 1919 TO 1923.

Heading.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Imports	45,977	109,119	106,486	78,320	53,685
Exports—	tons.	tons.	tons.	tons.	tons.
Phosphate	69,336	149,609	187,680	182,170	212,300
Copra	124	189	..	93	121

10. *Revenue and Expenditure.*—The revenue and expenditure of the Administration during the years 1919 to 1923 were as follows:—

NAURU.—REVENUE AND EXPENDITURE, 1919 TO 1923.

Heading.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Revenue	6,761	10,611	10,192	11,182	11,837
Expenditure	4,727	4,818	12,712	11,424	10,266

Of the revenue in 1923, £4,458 was royalty on phosphate paid by the British Phosphate Commission, and a large part of the remainder was derived directly or indirectly from the Commission

[NOTE.]—Although of greater extent than those in other Pacific Islands and of higher quality than any large deposits elsewhere, the deposits in Nauru and Ocean Islands are not comparable, in extent or output, with those of Northern Africa and the United States. Of the world's output of 6,500,000 tons of phosphate rock in 1920, Tunis, Algeria and Egypt produced nearly 2,000,000 tons, and Florida and other fields in the United States over 4,000,000 tons. The price of the United States product varied from about \$14 for 78 per cent. phosphate to \$4 for lower grades (*Mineral Industry*, 1920).

CHAPTER XVI.

PASTORAL PRODUCTION.

§ 1. Initiation and Growth of Pastoral Industry.

1. **Early Statistics.**—In earlier issues of the Year Book will be found a brief reference to the pastoral industry in Australia prior to the year 1860. (See Year Book No. 6, page 330).

2. **Subsequent Statistics.**—While the statistical records of live stock in Australia prior to the year 1860 are somewhat defective, from that year onwards fairly complete particulars are available for most of the States. At the present time, statistics of live stock are collected annually in all the States principally through the agency of the police, but in the years 1885 to 1888 inclusive, and 1893 to 1895 inclusive, these particulars were not collected in South Australia, and similar gaps occur in the Victorian records for the periods 1895 to 1899 inclusive, and 1901 to 1903. In order to obtain totals for Australia for these years the missing numbers have been supplied by interpolation. The results so obtained probably differ but slightly from the actual numbers for the respective years.

3. **Increase in Live Stock.**—Particulars concerning the numbers of each of the principal kinds of live stock in Australia at decennial intervals from 1860 to 1910, and from 1917 onwards in single years, are given in the following table, and are shown continuously in the graphs hereinafter.

During the sixty-two years covered by the table the live stock of Australia increased considerably, horses 454 per cent., cattle 262 per cent., sheep 291 per cent., and pigs 181 per cent. The average annual increases which these aggregates represent are as follows:—Horses 2.85 per cent.; cattle 2.13 per cent.; sheep 2.26 per cent.; and pigs, 1.71 per cent.

LIVE STOCK.—AUSTRALIA, 1860 TO 1922.

Year.	Horses.	Cattle.	Sheep.	Pigs.
1860	431,525	3,957,915	20,135,286	351,096
1870	716,772	4,276,326	41,593,612	543,388
1880	1,061,078	7,523,000	62,176,027	815,776
1890	1,521,588	10,299,913	97,881,221	891,138
1900	1,609,654	8,640,225	70,602,995	950,349
1910	2,165,866	11,744,714	92,047,015	1,025,850
1917	2,497,903	11,829,138	84,965,012	1,169,365
1918	2,527,149	12,738,852	87,086,236	913,902
1919	2,421,201	12,711,067	75,554,082	695,968
1920	2,415,510	13,499,737	77,897,555	764,406
1921	2,438,182	14,441,309	82,226,470	960,385
1922	2,390,460	14,336,673	78,803,261	985,930

4. **Fluctuations.**—The increases referred to, however, have not been continuous, marked fluctuations having taken place during the period, mainly on account of the droughts which have from time to time left their impress on the pastoral history of Australia. These were in evidence in 1869, 1877, 1884, 1895, and subsequent years, 1902, 1908, 1912, 1914–15, 1918 to 1920, and again in 1922–23, in which latter years the interior of the Continent experienced one of the driest periods on record, and the mortality of stock was heavy.

As an offset to these visitations, the process of re-stocking is greatly facilitated by the large natural increases occurring in the good seasons which invariably supervene on dry periods, thus bearing convincing testimony to the extraordinary recuperative powers of the country.

The years in which the numbers of live stock attained their maxima are as follows:—Horses, 1918, 2,527,149; cattle, 1921, 14,441,309; sheep, 1891, 106,421,068; and pigs, 1917, 1,169,365.

5. Live Stock in Relation to Population.—The number of each kind of live stock per head of the population of Australia has varied during the past sixty-two years in the manner shown in the succeeding table:—

LIVE STOCK PER HEAD OF POPULATION—AUSTRALIA, 1860 TO 1922.

Year.	Horses.	Cattle.	Sheep.	Pigs.	Year.	Horses.	Cattle.	Sheep.	Pigs.
1860 ..	0.38	3.45	17.58	0.31	1917 ..	0.50	2.36	16.97	0.23
1870 ..	0.43	2.60	25.24	0.33	1918 ..	0.49	2.48	16.99	0.18
1880 ..	0.48	3.37	27.87	0.37	1919 ..	0.45	2.38	14.15	0.13
1890 ..	0.48	3.27	31.06	0.28	1920 ..	0.44	2.49	14.35	0.14
1900 ..	0.43	2.29	18.75	0.25	1921 ..	0.44	2.61	14.86	0.17
1910 ..	0.49	2.65	20.80	0.23	1922 ..	0.42	2.54	13.94	0.17

Considered in relation to population the most noticeable variations have been the largely reduced numbers of sheep and pigs in recent years, the reductions amounting to about one-half of the earlier figures. The number of cattle has also declined, though an upward trend has been in evidence since 1917, while the position of horses has remained stationary.

6. Live Stock in Relation to Area.—The numbers of live stock per square mile in the several States and Territories of Australia are given in the following table:—

LIVE STOCK PER SQUARE MILE.

States and Territories.	Date.	Horses.	Cattle.	Sheep.	Pigs.
New South Wales ..	30th June, 1923 ..	2.13	10.49	112.22	1.10
Victoria ..	1st March, 1923 ..	5.63	20.32	133.88	3.36
Queensland ..	31st Dec., 1922 ..	1.06	10.37	26.31	0.24
South Australia ..	30th June, 1923 ..	0.70	1.12	16.59	0.20
Western Australia ..	31st Dec., 1922 ..	0.19	0.96	6.83	0.07
Tasmania ..	1st March, 1923 ..	1.42	8.32	59.45	1.76
Northern Territory ..	31st Dec., 1922 ..	0.08	1.45	0.01	0.00
Fed. Cap. Territory ..	30th June, 1923 ..	1.43	6.68	147.94	0.29
Total ..	1922-23 ..	0.80	4.82	26.49	0.33

7. Minor Classes of Live Stock.—The numbers of minor classes of live stock returned for 1922-23 were as follows:—Goats, 230,481; camels, 11,079; mules and donkeys, 16,350; and ostriches, 816. Of these, goats were most numerous in Queensland; camels, mules and donkeys in Western Australia; and ostriches in South Australia. In the raising of goats, attention has in recent years been devoted to the angora goat and its product (mohair), and about 13,000 angora goats are included in the total of 230,481 goats shown above. Of these, 2,792 were in New South Wales, 1,627 in Western Australia, and 3,503 in Queensland, while the quantity of mohair produced in the latter State in 1922 was set down at 1,596 lbs., and the number of skins placed on the market was returned as 617.

8. Net Exports of Principal Pastoral Products.—The quantities by which the exports of the principal pastoral products of Australia exceeded the imports for the years 1918-19 to 1922-23 are as follows:—

NET EXPORTS OF PASTORAL PRODUCTS.—AUSTRALIA, 1918-19 TO 1922-23.

Products.	Unit of Quantity.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
QUANTITIES.						
Animals (living)—						
Cattle	No.	644	3,133	4,396	9,110	13,818
Horses	"	8,686	5,787	8,195	1,798	3,545
Sheep	"	18,001	21,601	19,307	36,111	37,959
Bones	cwt.	25,689	29,198	24,160	21,718	23,276
Glue Pieces and Sinews	"	3,878	8,158	-3,920	4,987	6,927
Glycerine	lb.	1,633,510	-21,745	-854,254	19,348	343,292
Hair	"	402,869	600,595	100,434	-126,037	(a)
Hoofs	cwt.	10,000	11,382	7,580	10,615	11,174
Horns	"	(a)	(a)	(a)	(a)	(a)
Meats—						
Frozen Beef	lb.	119,938,442	120,939,750	179,618,149	124,158,191	152,925,321
Frozen Mutton and Lamb	"	59,672,405	246,957,427	54,892,764	91,712,280	167,578,967
Frozen Rabbits and Hares	pair	5,132,933	9,622,150	3,925,004	4,857,404	4,264,054
Frozen, Other	lb.	12,329,539	11,397,792	7,901,468	6,676,605	13,062,037
Potted and Extract of	"	(a)	(a)	(a)	(a)	(a)
Preserved in Tins, etc.	lb.	65,118,256	47,550,045	8,296,500	9,133,860	10,583,164
Other (excluding Bacon and Ham)	"	424,777	755,141	482,317	344,167	495,116
Sausage Casings	cwt.	(a)	(a)	(a)	(a)	24,623
Skins—						
Hides	No.	26,819	540,415	-8,317	80,415	47,900
Sheep	"	6,663,978	10,143,952	5,117,431	6,780,522	10,237,162
Rabbit and Hare	cwt.	117,569	127,452	49,427	74,224	122,748
Other (including Undressed Furs)	"	(a)	(a)	(a)	(a)	(a)
Tallow	cwt.	870,950	712,307	524,220	893,772	1,016,831
Wool—						
Greasy	lb.	457,995,701	552,307,700	417,647,343	710,591,430	597,429,649
Scoured	"	106,313,411	84,900,446	61,525,697	102,346,835	106,319,965
Tops	"	2,822,578	6,148,118	6,598,681	6,200,505	6,374,922

NOTE.—The minus sign — signifies net imports. (a) Quantity not available.

The values of the net exports for the same five years are furnished in the next table, and amount to no less a total than £306,839,655 for the period, or an average of £61,367,931 per annum, of which wool represents 75 per cent. Meats, skins, and tallow rank next in order of importance.

NET EXPORTS OF PASTORAL PRODUCTS.—AUSTRALIA, 1918-19 TO 1922-23.

Products.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
VALUES.					
Animals (living)—	£	£	£	£	£
Cattle	3,567	-23,855	30,350	53,274	64,731
Horses	161,533	117,739	137,497	-1,148	27,978
Sheep	35,007	57,854	140,975	36,921	42,017
Bones	27,156	31,534	21,839	19,610	26,137
Glue Pieces and Sinews	6,904	15,340	302	7,883	13,725
Glycerine	58,073	1,351	-39,374	1,516	6,536
Hair	29,335	66,943	28,416	6,736	-62,830
Hoofs	11,091	14,526	8,180	7,120	8,137
Horns	18,474	52,383	29,609	34,418	35,388
Meats—					
Frozen Beef	2,471,136	2,474,904	3,819,094	1,867,681	1,794,104
Frozen Mutton and Lamb	1,298,086	5,482,263	1,578,634	2,139,537	4,320,977
Frozen Rabbits and Hares	308,965	762,936	432,745	407,143	321,329
Frozen, Other	381,780	305,948	190,795	128,451	189,170
Potted and Extract of	328,233	99,599	9,649	-49,636	-40,170
Preserved in Tins, etc.	3,771,373	2,778,503	380,694	324,275	266,273
Other (excluding Bacon and Ham)	15,380	37,845	16,741	10,852	10,577
Sausage Casings	101,400	212,427	-43,160	128,127	285,504
Skins—					
Hides	156,084	1,089,731	-113,202	122,471	249,208
Sheep	1,921,411	2,585,171	1,228,012	1,305,223	2,973,146
Rabbit and Hare	1,314,366	3,670,791	968,972	784,346	1,961,777
Other (including Undressed Furs)	313,472	2,268,748	715,656	288,633	785,467
Tallow	2,167,728	2,855,602	1,347,400	1,440,683	1,612,676
Wool—					
Greasy	31,477,707	38,414,608	25,298,176	38,970,130	45,769,295
Scoured	10,351,553	9,169,288	6,428,167	7,795,146	9,898,651
Tops	985,212	2,957,679	2,049,588	1,207,048	1,412,683
Total Values	57,665,116	75,499,858	44,663,755	57,036,440	71,974,486

NOTE.—The minus — sign signifies net imports.

§ 2. Horses.

1. *Suitability of Australia for Horse-breeding.*—From the earliest times the suitability of the climate and pastures of Australia for the production of serviceable breeds of horses has been fully recognized. By the importation of high-class sires, and the careful selection of breeding mares, these natural advantages are utilized to the fullest extent, all classes of horses being bred. As a consequence of this combination of advantages, the Australian horse, whether of the heavy draught, medium weight, or light saddle and carriage variety, compares more than favourably with the product of other lands. The Australian horse has been found suitable for the army in India, and large numbers are obtained annually for remount purposes. During the recent war Australian horses were found to be well adapted for all purposes, especially in Palestine.

2. *Distribution throughout Australia.*—As regards numbers, the State of New South Wales, the earliest settled of the group, established a lead, which it retained till the year 1914, when it gave place to Queensland, where rapid progress had been in evidence during the previous decade. New South Wales regained the lead during the next three seasons, but Queensland again replaced the latter State in 1919, and has strengthened its position during the past four seasons. Particulars for the several States during the past five years are as follows:—

HORSES—NUMBER, 1918 TO 1922.

Year.	N.S.W. (b)	Vic. (a)	Q'land.	S. Aust. (b)	W. Aust.	Tas. (a)	N.T.	F.C.T. (b)	Total.
1918	721,302	523,788	758,632	269,255	180,094	41,221	31,436	1,421	2,527,149
1919	660,751	513,500	730,326	264,901	174,919	39,452	35,839	1,513	2,421,201
1920	661,846	487,503	741,024	268,187	178,664	39,117	37,837	1,332	2,415,510
1921	668,501	496,124	746,281	267,639	180,334	38,439	39,565	1,299	2,438,182
1922	658,686	494,947	713,015	264,150	181,159	37,313	39,845	1,345	2,390,460

(a) 1st March year following.

(b) 30th June year following.

The number of horses in Australia from 1860 onwards, may be ascertained from the graph hereinafter.

3. *Proportions in the Several States and Territories.*—The percentages of the number of horses in the several States and Territories on the total for Australia for the past five years are as follows:—

HORSES.—PERCENTAGE IN EACH STATE, 1918 TO 1922.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	F.C.T.	Total.
	%	%	%	%	%	%	%	%	%
1918	28.53	20.72	30.05	10.65	7.12	1.63	1.24	0.06	100.00
1919	27.29	21.21	30.16	10.94	7.23	1.63	1.48	0.06	100.00
1920	27.40	20.18	30.68	11.10	7.40	1.62	1.57	0.05	100.00
1921	27.42	20.35	30.61	10.98	7.40	1.57	1.62	0.05	100.00
1922	27.55	20.70	29.83	11.05	7.58	1.56	1.67	0.06	100.00

The relative changes in distribution are insignificant, the only alteration during the last four years being a decrease of 1 per cent. in New South Wales, occasioned by slight increases in South Australia, Western Australia and the Northern Territory.

4. *Relation to Population.*—In proportion to population, horses are much more numerous in the Northern Territory than in any other of the principal divisions of Australia. Queensland is next in order, while Tasmania has the smallest number of

horses per head. The number per head of population has declined in all the statistical divisions, with the exception of Northern Territory, since 1918. Particulars for the past five years are as follows :—

HORSES.—NUMBER PER HEAD OF POPULATION, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	All States.
1918 ..	0.36	0.36	1.08	0.57	0.58	0.20	6.78	0.60	0.49
1919 ..	0.32	0.34	0.99	0.54	0.53	0.19	7.88	0.68	0.45
1920 ..	0.31	0.32	0.99	0.54	0.54	0.18	9.48	0.52	0.44
1921 ..	0.31	0.32	0.97	0.53	0.54	0.18	10.59	0.45	0.44
1922 ..	0.30	0.31	0.90	0.51	0.53	0.17	11.22	0.41	0.42

5. *Comparison with other Countries.*—The number of horses in some of the leading horse-breeding countries of the world, according to the latest available returns, are as follows :—

HORSES.—NUMBER IN PRINCIPAL COUNTRIES.

Country.	Date.	Number of Horses ('000 omitted.)	Country.	Date.	Number of Horses ('000 omitted.)
U.S. of America ..	1923	19,969	Turkey	1919	630
Russia in Europe ..	1921	17,109	Spain	1922	594
Argentina Republic ..	1921	9,432	Czecho-Slovakia ..	1920	592
Russia in Asia ..	1921	6,792	Denmark	1923	562
Brazil	1920	5,254	Uruguay	1919	555
China	1916	4,401	Colombia	1915	526
Germany	1922	3,648	Paraguay	1919	490
Canada	1923	3,531	Lithuania	1921	440
Poland	1921	3,201	India (Native States)	1920	432
France	1922	2,778	Bulgaria	1920	412
Australia	1922	2,390	Finland	1921	393
United Kingdom ..	1922	2,106	Chile	1919	392
Rumania	1922	1,802	Netherlands ..	1921	364
India (British) ..	1922	1,684	Latvia	1923	338
Japan	1921	1,511	New Zealand ..	1922	331
Jugo-Slavia	1923	1,034	Austria	1923	282
Italy	1919	990	Philippine Islands..	1920	269
Mexico	1920	929	Belgium	1922	230
Union of South Africa	1921	920	Norway	1920	216
Cuba	1923	840	Estonia	1923	210
Sweden	1920	728	Algeria	1920	201
Dutch East Indies ..	1921	702	Greece	1920	201
Hungary	1920	635			

6. *Oversea Trade in Horses.*—(i) *Exports.* Australia's export trade in horses is fairly considerable, though somewhat fluctuating. During the past five years it has varied in number between 8,832 in 1918-19 and 2,075 in 1921-22, and in value between £189,354 in the former and £68,234 during the latter year. The total number of horses exported during the five years amounted to 29,002, valued at £721,011, or equal to an annual average of 5,800 for £144,202. The average export price for the period was £24 17s. 3d. Nearly 90 per cent. of the horses exported went to India, where they are largely used for remount purposes.

(ii) *Imports.* The number of horses imported into Australia is comparatively small, consisting mainly of valuable animals introduced for breeding purposes, principally from the United Kingdom and New Zealand. The average value per head of the horses imported during the last five years was £279 18s. 8d., as compared with £24 17s. 3d. per head for the exports for the same period. The average number imported per annum was, however, only 198, and the average annual value, £55,482. The following table gives the imports, exports, and net exports of horses during each of the years from 1918-19 to 1922-23 :—

HORSES.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
		£		£		£
1918-19	146	27,821	8,832	189,354	8,686	161,533
1919-20	152	49,078	5,939	166,817	5,787	117,739
1920-21	107	49,446	8,302	186,943	8,195	137,497
1921-22	277	69,382	2,075	68,234	1,798	- 1,148
1922-23	309	81,685	3,854	109,663	3,545	27,978

NOTE.—The minus sign — signifies net imports.

§ 3. Cattle.

1. Purposes for which Raised.—In all the States, cattle-raising is carried out on a more or less extensive scale, the main object in certain districts being the production of stock suitable for slaughtering purposes, and in others the raising of profitable dairy herds. The great impetus which the development of the export trade in Australian butter gave to the dairying industry led to a considerable increase in numbers and improvement in quality of the dairy herds of Victoria, New South Wales, and Southern Queensland in particular, the portion of Australia in the temperate zone being the best adapted to this industry. On the other hand, by far the finest specimens of beef-producing cattle are those raised in the tropical districts, *i.e.*, in the northern parts of Queensland, in the Northern Territory, and in the Kimberley districts in the north of Western Australia.

2. Distribution throughout Australia.—Until 1880 New South Wales occupied the leading position as a cattle-raising State, but in that year Queensland took first place, which it has since maintained. The graph herewith shows a rapid increase in the number of cattle in Australia up to the year 1894, when 12,311,617 head were depastured. From 1895 onwards, however, the effects of droughts and the ravages of tick fever reduced the number to 7,062,742 in 1902. Following the disastrous drought which terminated in the latter year, the herds were gradually built up, and despite recurring droughts, they continued to increase in recent years until the maximum number of 14,441,309 cattle was attained in 1921. The drought of 1922-23 particularly affected the beef cattle areas of New South Wales and Queensland and decreases were recorded in both States during 1922, while the returns for 1923 will probably reveal further losses.

The numbers of cattle in the several States and Territories during each of the last five years are as follows:—

CATTLE.—NUMBER, 1918 TO 1922.

Year.	N.S.W. (b)	Victoria. (a)	Q'land.	S. Aust. (b)	W. Aust.	Tas. (a)	Nor. Ter.	Fed. Cap. Ter. (b)	Total.
1918	3,271,782	1,596,544	5,786,744	342,768	943,847	218,234	570,039	8,894	12,788,852
1919	3,075,954	1,631,120	5,940,433	349,562	880,044	214,442	610,534	8,378	12,711,067
1920	3,367,880	1,575,159	6,455,067	376,399	849,803	208,202	659,840	7,387	13,499,737
1921	3,538,240	1,750,369	7,047,370	419,107	893,108	216,704	568,031	8,290	14,441,309
1922	3,244,905	1,785,660	6,955,463	425,811	939,596	218,197	760,766	6,275	14,336,673

(a) 1st March year following.

(b) 30th June year following.

3. Proportion in each State.—Percentages showing the relative importance of the various cattle-breeding States during the years 1918 to 1922 are given hereunder:—

CATTLE.—PERCENTAGE IN EACH STATE, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Total.
	%	%	%	%	%	%	%	%	%
1918 ..	25.68	12.53	45.43	2.69	7.41	1.71	4.48	0.07	100.00
1919 ..	24.20	12.83	46.73	2.75	6.93	1.69	4.80	0.07	100.00
1920 ..	24.95	11.67	47.82	2.79	6.29	1.54	4.89	0.05	100.00
1921 ..	24.50	12.12	48.80	2.90	6.19	1.50	3.93	0.06	100.00
1922 ..	22.63	12.46	48.52	2.97	6.55	1.52	5.31	0.04	100.00

Queensland contains within its borders nearly one half of the cattle-herds of Australia. During the past four years substantial gains in numbers have increased its percentage to 48.52, or 3 per cent. more than in 1918. This increase has been won mainly at the expense of the next most important State, New South Wales, where, although the numbers have remained stationary, the proportion to the total in Australia declined by 3.05 per cent.

4. **Relation to Population.**—The number of cattle per head of population differs considerably in the several States, as may be seen from the following table:—

CATTLE.—NUMBER PER HEAD OF POPULATION, 1918 TO 1922.

Year.	N. S. W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	All States.
1918 ..	1.64	1.11	8.20	0.73	3.05	1.08	122.85	3.77	2.48
1919 ..	1.49	1.09	8.05	0.72	2.69	1.02	134.27	3.77	2.38
1920 ..	1.60	1.03	8.58	0.76	2.57	0.98	165.29	2.86	2.49
1921 ..	1.65	1.12	9.15	0.83	2.66	0.99	152.00	2.84	2.61
1922 ..	1.48	1.12	8.82	0.82	2.73	1.00	214.24	1.93	2.54

The maintenance of the ratio of cattle to population during the last four years must be regarded as highly satisfactory, in view of the depressed state of the beef export industry and the effects of the recent drought.

5. **Comparison with other Countries.**—In the following comparison of the herds of Australia with those of some of the principal cattle-raising countries of the world, the latest available figures have been inserted in each case:—

CATTLE.—NUMBER IN VARIOUS COUNTRIES.

Country.	Date.	No. of Cattle ('000 omitted).	Country.	Date.	No. of Cattle ('000 omitted).
India (British) ..	1922	116,665	Indo-China ..	1921	3,099
U.S. of America ..	1923	66,801	French Equatorial and West Africa ..	1922	2,950
Argentine Republic ..	1922	37,065	Siam ..	1922	2,864
Brazil ..	1920	34,271	Nigeria ..	1921	2,824
Russia in Europe ..	1921	28,805	Kenia ..	1922	2,814
India (Native States) ..	1920	24,877	Sweden ..	1920	2,736
Germany ..	1923	16,653	Denmark ..	1923	2,537
China ..	1921	15,973	Bulgaria ..	1920	2,288
Australia ..	1922	14,337	Austria ..	1923	2,163
France ..	1922	13,576	Chile ..	1919	2,163
United Kingdom ..	1922	12,059	Mexico ..	1920	2,163
Russia in Asia ..	1921	9,888	Venezuela ..	1920	2,078
Canada ..	1923	9,246	Netherlands ..	1921	2,063
Union of South Africa ..	1921	8,557	Hungary ..	1920	1,971
Poland ..	1921	7,895	Rhodesia ..	1922	1,801
Uruguay ..	1919	7,802	Finland ..	1921	1,792
Madagascar ..	1921	7,661	French Morocco ..	1923	1,683
Italy ..	1919	6,239	Japan ..	1921	1,587
Rumania ..	1922	5,746	Belgium ..	1922	1,517
Paraguay ..	1919	5,500	Korea ..	1920	1,490
Cuba ..	1923	4,976	Switzerland ..	1921	1,425
Czecho-Slovakia ..	1920	4,391	Ceylon ..	1921	1,386
Jugo-Slavia ..	1923	4,053	Peru ..	1921	1,302
Dutch East Indies ..	1921	3,791	Italian Somaliland ..	1921	1,246
Turkey ..	1919	3,740	Nicaragua ..	1921	1,200
New Zealand ..	1922	3,481	Norway ..	1920	1,095
Colombia ..	1915	3,305	Algeria ..	1920	1,093
Spain ..	1922	3,297	French Sudan ..	1922	1,025
Tanganyika Territory	1921	3,147			

6. Imports and Exports of Cattle.—Although the various products of the cattle-raising industry bulk largely in the export trade of Australia, the export of live cattle has never been considerable. The number of cattle imported is also small, consisting, as in the case of horses, mainly of valuable animals for breeding. Details are as follows:—

CATTLE.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Exports.	
	No	Value	No.	Value.	No.	Value.
		£		£		£
1918-19 ..	66	3,373	710	6,940	644	3,567
1919-20 ..	337	55,656	3,470	31,801	3,133	- 23,855
1920-21 ..	127	10,979	4,523	41,329	4,396	30,350
1921-22 ..	108	10,769	9,218	64,043	9,110	53,274
1922-23 ..	147	18,856	13,965	83,587	13,818	64,731

NOTE.—The minus sign - signifies net imports.

The average value of the cattle imported during the last five years was £126 18s. 5d. per head, while the average value of the cattle exported during the same period was £7 2s. 10d. As stated previously, the imported cattle were required principally for stud purposes.

7. Cattle Slaughtered.—The number of cattle slaughtered during each of the years 1918 to 1922 is given hereunder:—

CATTLE (INCLUDING CALVES) SLAUGHTERED, 1918 TO 1922.

Year.	N.S.W. (a)	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter. (a)	Total.
1918	437,046	223,340	498,737	73,148	48,707	22,419	31,511	141	1,335,049
1919	593,859	362,475	461,197	85,978	55,056	15,753	23,286	138	1,597,742
1920	525,981	374,545	449,103	90,944	68,055	27,468	1,330	74	1,537,500
1921	631,699	331,707	499,992	95,323	54,640	33,566	2,445	90	1,649,462
1922	738,908	424,199	504,394	127,294	79,823	31,026	1,587	142	1,907,373

(a) For year ended 30th June of year following.

8. Production and Consumption of Beef.—The production of beef in Australia during the years 1914-15 to 1920-1921 was calculated at 764,489,000 lbs. per annum. Of this quantity, local requirements absorbed 558,487,000 lbs., or more than 73 per cent., leaving a balance of about 27 per cent., which was exported as frozen and canned beef. The annual consumption of beef per head of population in Australia averaged 109.68 lbs. compared with 79.85 lbs. in the United States of America, and 58.30 lbs. in the United Kingdom.

9. Export of Beef Preserved by Cold Process.—A large export trade in beef preserved by cold process is carried on by Australia in normal times, mainly with the United Kingdom, Egypt, and the Philippine Islands. The quantities so exported during the five years 1918-19 to 1922-23 were as follows:—

BEEF PRESERVED BY COLD PROCESS.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
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QUANTITY.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	47,056,554	105,725,679	156,316,163	108,671,867	112,316,545	530,086,808
Egypt ..	68,681,034	6,616,637	10,202,633	1,904,187	5,228,357	92,632,848
Philippine Islands ..	1,994,336	2,928,722	2,479,724	8,093,851	4,780,134	20,276,767
Malaya (British) ..	1,480,201	2,366,035	3,305,162	2,392,991	2,215,561	11,759,950
Germany ..					17,321,705	17,321,705
Hawaiian Islands ..	489,640	2,104,769	2,437,135	554,698	2,089,605	7,675,847
Italy ..			3,096,341		67,315	3,163,656
Hong Kong ..	75,791	487,974	849,904	610,785	511,417	2,515,871
Ceylon ..	60,854	405,347	530,636	322,010	456,739	1,775,586
United States ..	40,086	301,673	133,304	71,615	99,878	646,556
Other Countries ..	111,021	162,075	291,477	1,545,349	7,863,411	9,973,333
Total ..	119,989,517	121,078,911	179,642,479	124,167,353	152,950,667	697,828,927

BEEF PRESERVED BY COLD PROCESS.—EXPORTS, AUSTRALIA—*continued.*

Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
VALUE.						
	£	£	£	£	£	£
United Kingdom ..	958,164	2,130,527	3,302,283	1,616,075	1,285,049	9,292,098
Egypt ..	1,415,713	133,583	207,643	24,431	67,884	1,849,054
Philippine Islands ..	44,225	65,331	56,032	133,696	60,843	360,127
Malaya (British) ..	33,284	53,363	71,099	44,687	34,552	236,985
Germany ..	..	..	..	..	202,119	202,119
Hawaiian Islands ..	14,058	62,818	77,784	7,280	28,412	190,352
Italy ..	..	..	62,575	..	842	63,417
Hong Kong ..	1,704	10,426	18,558	11,117	6,771	48,571
Ceylon ..	2,130	11,539	13,478	6,111	8,455	41,713
United States ..	1,023	7,422	3,429	1,130	1,269	14,273
Other Countries ..	2,485	4,239	6,965	23,400	98,739	135,828
Total ..	2,472,786	2,479,248	3,819,841	1,867,927	1,794,735	12,434,537

During the five years under review the United Kingdom has been Australia's largest customer for frozen beef and has taken nearly 76 per cent. of the total shipments. Egypt, the Philippine Islands and Malaya (British) ranked next in order of importance. The exporting States during 1922-23 were:—Queensland, 130,988,347 lbs., valued at £1,477,560; New South Wales, 7,705,605 lbs., valued at £110,274; Western Australia, 9,954,698 lbs., valued at £152,349; Victoria, 3,238,741 lbs., valued at £41,890; and South Australia, 1,063,276 lbs., valued at £12,662.

10. **Beef Subsidy.**—The prices ruling for frozen beef in England early in 1922 were so low that it became unprofitable to export Australian beef. A succession of good seasons had stocked the country to capacity, and the failure of the export treatment works to absorb the surplus greatly depressed the beef industry. In order to assist cattle growers, the Commonwealth Government in September, 1922, passed the Meat Export Bounties Act which provided for the payment of a subsidy of $\frac{1}{4}$ d. per lb. on all frozen or canned beef exported or placed in cool stores for export, and 10s. per head on live cattle exported for slaughter, from April to December, 1922. The granting of the subsidy was made conditional on reductions of $\frac{1}{4}$ d. per lb. being effected in both the cost of treating and of shipping the meat. The bounty was renewed in 1923 on the same conditions as in 1922. Although the amount of the bounty was small, it gave an acceptable measure of relief to the cattle industry. Many of the works were able to operate, and more than 200,000 head of cattle were treated each year, which would otherwise have remained to accentuate the existing depression. The bounty paid during 1922 amounted to £117,245 17s. 5d. for frozen beef, and £4,521 10s. for live cattle, while in 1923 £136,900 was distributed for frozen beef, and £3632 for live cattle. For the 1924 season the Government has decided to discontinue the bounty on frozen meat and to renew the provision for live cattle exported for slaughter.

§ 4. Sheep.

1. **Initiation of the Pastoral Industry.**—Fortunately for Australia, the suitability of its climate and general conditions for the production of a high class of wool was, at an early date in the history of its settlement, surmised and tested by Captain Macarthur, one of the pioneer sheep-breeders of New South Wales. To the energy of this enterprising pastoralist is due in large measure the rapid and extremely satisfactory development of Australia as a producer of fine wool, and though it would appear that the introduction of the merino sheep into Australia was not due to Macarthur, a great deal of the credit for having successfully established the pastoral industry in Australia must certainly be his.

2. **Distribution throughout Australia.**—With the exception of a short period in the early sixties, when the flocks of Victoria outnumbered those of the mother State, New South Wales has maintained the lead in sheep-raising which naturally attached to it as the portion of Australia in which settlement was first effected. From 1878 to 1901, the number of sheep in New South Wales represented more than half the total for Australia, but in recent years the proportion has fallen away considerably.

Fluctuations in the number of sheep recorded for each year in Australia from 1860 onwards may be seen from the graph accompanying this chapter. Five marked periods of decline greatly reduced the numbers at successive intervals, but these losses were as quickly regained, and, despite a decrease of $3\frac{1}{2}$ million during 1922, the number reported

amounted to nearly 79,000,000. In 1891 the number reached its maximum, viz., 106,421,068. There has been no approach to that number in recent years, but it has been considered that the flocks in 1891 were in excess of the reasonable sheep-carrying capacity of the country. The rapid growth of the frozen mutton and lamb industry precludes the building up of Australia's flocks to such large dimensions as heretofore, and it appears unlikely that the 1891 figures will be approached in the immediate future.

The number of sheep in the several States and Territories for each year from 1918 to 1922 was as follows:—

SHEEP.—NUMBER, 1918 TO 1922.

Year.	New South Wales. (b)	Victoria. (a)	Queensland.	South Australia. (b)	Western Australia.	Tasmania (a)	Nor. Ter.	Fed. Cap. Ter. (b)	Total.
1918	37,243,770	15,773,902	18,220,985	6,625,184	7,183,747	1,841,924	58,620	138,104	87,086,236
1919	29,077,514	14,422,745	17,379,332	6,014,565	6,697,951	1,781,425	8,811	171,739	75,554,082
1920	33,691,838	12,171,084	17,404,840	6,359,944	6,532,965	1,570,832	6,062	159,990	77,897,555
1921	37,025,716	12,325,818	18,402,399	6,257,052	6,506,177	1,551,273	6,349	151,686	82,226,470
1922	34,723,684	11,765,520	17,641,071	6,305,133	6,664,135	1,558,494	6,161	139,063	78,803,261

(a) 1st March, year following.

(b) 30th June, year following.

During the year 1919 the Avon Downs Pastoral Company in the Northern Territory disposed of the whole of their flock numbering about 50,000, and this property is now stocked with cattle only.

3. Proportion in the Several States and Territories.—Particulars concerning the relative positions of the several States and Territories with respect to the total flocks of Australia during the years 1918 to 1922 are given hereunder:—

SHEEP.—PERCENTAGE IN EACH STATE, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Total.
	%	%	%	%	%	%	%	%	%
1918 ..	42.77	18.11	20.92	7.61	8.25	2.11	0.07	0.16	100.00
1919 ..	38.49	19.09	23.00	7.96	8.86	2.36	0.01	0.23	100.00
1920 ..	43.25	15.62	22.34	8.16	8.39	2.02	0.01	0.21	100.00
1921 ..	45.03	14.99	22.38	7.61	7.91	1.89	0.01	0.18	100.00
1922 ..	44.06	14.93	22.38	8.00	8.46	1.98	0.01	0.18	100.00

Apart from the effect of drought the percentage of sheep depastured in the different States changes little. The most noteworthy alteration was a loss of 3.18 per cent. in Victoria, as the result of a decrease of 4,008,382 sheep in that State since 1918.

4. Relation to Population.—The relation of the flocks of the several States and Territories to the population at the end of each year from 1918 to 1922 is as follows:—

SHEEP.—NUMBER PER HEAD OF POPULATION, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	All States.
1918 ..	18.66	10.97	25.83	14.14	23.19	9.08	12.63	58.59	16.99
1919 ..	14.07	9.59	23.56	12.36	20.46	8.48	1.94	77.29	14.15
1920 ..	16.03	7.96	23.14	12.78	19.75	7.38	1.52	62.04	14.35
1921 ..	17.24	7.95	23.90	12.39	19.41	7.10	1.70	52.05	14.86
1922 ..	15.86	7.40	22.38	12.20	19.39	7.12	1.74	42.72	13.94

The ratio to population has decreased by more than three sheep per head since 1918. This, decline, however, is temporary, and has been caused by the losses during the droughts of 1919–20 and 1922–23.

5. Comparison with other Countries.—As regards the size of its flocks, and the quantity and quality of wool produced, Australia has long occupied a leading position amongst the sheep-raising countries of the world. From estimates published in the Year Book of the International Institute of Agriculture it would appear that the approximate number of sheep in the world is in the neighbourhood of 530,000,000, to which total Australia contributes about 15 per cent. The following comparison taken mainly from

the same source gives the latest available figures relative to the number of sheep in the principal wool-producing countries:—

SHEEP.—NUMBER IN VARIOUS COUNTRIES.

Country.	Date.	No. of Sheep (,000 omitted).	Country.	Date.	No. of Sheep (,000 omitted).
Australia	1922	78,803	Chile	1919	4,500
U.S. of America ..	1923	38,361	Portugal	1920	3,851
Russia in Europe ..	1921	34,986	Tanganyika Territory (a)	1921	3,405
Union of South Africa ..	1921	31,730	Tunis	1922	2,820
Argentine Republic ..	1922	30,672	Canada	1923	2,754
United Kingdom ..	1922	23,747	Kenia	1922	2,464
New Zealand	1922	23,081	Poland	1921	2,178
China	1916	22,232	French Soudan ..	1922	2,030
India (British) ..	1922	22,085	Nigeria	1921	1,909
Spain	1922	19,377	French West African Colonies	1922	1,873
Rumania	1922	12,321	Basutoland ..	1921	1,854
India (Native States) ..	1920	12,073	Eritrea	1922	1,701
Italy	1919	11,754	Italian Somaliland ..	1921	1,666
Uruguay	1919	11,473	Finland	1922	1,572
Turkey	1919	11,200	Sweden	1920	1,568
Peru	1921	11,056	Latvia	1923	1,461
Russia in Asia ..	1921	10,499	Bolivia	1910	1,449
France	1922	9,782	British S.-W. Africa ..	1922	1,350
Algeria	1920	9,140	Hungary	1920	1,284
Bulgaria	1920	8,906	French Equatorial Africa (a)	1922	1,126
Brazil	1920	7,933	Syria	1922	1,092
Jugo-Slavia	1923	7,542	Mexico	1920	1,090
French Morocco ..	1923	7,121			
Germany	1923	6,094			
Greece	1920	5,811			

(a) Including goats.

6. **Oversea Imports and Exports of Sheep.**—As in the case of cattle, the oversea exports of live sheep from Australia are of comparatively small importance. During the past five years the principal consignments of ordinary sheep have been made to the Malaya (British) from the State of Western Australia. The purchases by South African and Japanese buyers at the Australian Stud Sheep Sales during recent years have opened up a regular export trade with these two countries in stud sheep, the bulk of which have been secured from the leading flocks of New South Wales, Victoria and South Australia. The following are particulars of the imports and exports for the years 1918-19 to 1922-23:—

SHEEP.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Exports.	
	No.	Value.	No.	Value.	No.	Value.
1918-19	607	£ 4,776	18,608	£ 39,783	18,001	£ 35,007
1919-20	269	6,258	21,870	64,112	21,601	57,854
1920-21	3,038	8,828	22,345	149,803	19,307	140,975
1921-22	345	4,836	36,456	41,757	36,111	36,921
1922-23	235	3,378	38,194	45,395	37,959	42,017

7. **Sheep Slaughtered.**—The number of sheep slaughtered in the several States during each of the years from 1918 to 1922 was as follows:—

SHEEP (INCLUDING LAMBS) SLAUGHTERED, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter. (b)	Total.
	(b)			(b)		(a)			
1918 ..	4,271,396	3,581,460	542,479	1,187,578	630,117	295,844	c500	3,334	10,462,708
1919 ..	5,533,484	6,324,490	717,191	1,478,557	800,252	330,000	c100	3,800	15,187,874
1920 ..	3,847,498	4,244,798	461,449	1,058,977	839,963	387,346	c100	3,765	10,843,896
1921 ..	5,226,516	4,005,587	769,360	1,208,347	871,831	362,871	30	3,333	12,447,875
1922 ..	5,662,953	5,863,195	762,540	1,290,669	900,128	344,989	..	3,323	14,827,797

(a) Partly estimated.

(b) Year ended 30th June year following.

(c) Estimated.

8. **Production and Consumption of Mutton and Lamb.**—The annual production of mutton and lamb during the seven years ended 1920–21 averaged 469,056,000 lbs., of which 362,881,000 lbs., or 77.4 per cent., was consumed locally, the balance of 22.6 per cent. being exported. The consumption of mutton and lamb in Australia during the period amounted to 69.47 lbs. per head per annum, a figure considerably in excess of the consumption in the United Kingdom and the United States of America, where for latest dates the quantity consumed amounted to 26.65 and 6.00 lbs. per annum respectively.

9. **Exports of Mutton and Lamb Preserved by Cold Process.**—The export trade in mutton and lamb preserved by cold process grew rapidly until in 1913, the year immediately before the war, the value of the shipments amounted to nearly £3,000,000. The exports fell off considerably during the war years, but with the release of shipping space and profitable rates in England the record shipment of 246,971,346 lbs., valued at £5,482,564 was made in 1919–20. The dearth of supplies consequent upon the drought greatly reduced the consignments in 1920–21, but the trade expanded in 1921–22, and an exceptionally large volume of exports was dispatched in 1922–23. The heavy shipments of the latter year may be attributed to the high prices ruling in England for imported mutton and lamb, coupled with the unfavourable seasonable outlook for stock in Australia. Considerable attention is paid to the breeding of a class of sheep that will best meet the requirements of consumers. Crosses between the Merino and the Lincoln, or between the Merino and the Leicester breeds have proved exceedingly valuable, as they furnish both a good quality of wool and an excellent carcass for export purposes. The breeding of Shropshire and Southdown sheep with a view to combining meat production with that of wool is also on the increase. Special attention is being paid to the raising of lambs, as it has become widely recognized that with suitable breeds the export trade in lambs is very profitable.

As in the case of frozen beef, the principal customer in this trade is the United Kingdom, which absorbed nearly 95 per cent. of the total quantity exported from Australia during the last five years, while the balance was shipped mainly to Egypt, Malaya (British), and Sweden.

MUTTON AND LAMB PRESERVED BY COLD PROCESS.—EXPORTS, AUSTRALIA, 1918–19 TO 1922–23.

Country to which Exported.	1918–19.	1919–20	1920–21.	1921–22.	1922–23.	Total for 5 years.
QUANTITY.						
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom ..	49,784,705	239,154,276	47,792,058	88,631,613	162,653,301	588,015,953
Egypt ..	8,464,515	..	2,744,246	178,380	984,473	12,371,614
Malaya (British) ..	754,089	1,102,658	1,228,087	1,089,985	1,106,778	5,281,597
Sweden ..	..	2,119,602	1,217,551	..	..	3,337,153
Hong Kong ..	195,881	376,315	410,329	391,166	432,250	1,805,941
Union of South Africa ..	..	1,578,839	193,709	72,920	179,226	2,024,694
Ceylon ..	189,875	383,518	398,214	396,880	340,484	1,708,971
Philippine Islands ..	194,843	595,312	237,264	289,294	208,910	1,525,623
Canada ..	..	273,047	37,427	329,030	203,315	842,819
United States ..	..	148,304	124,535	..	..	272,839
Other Countries ..	103,547	1,239,475	510,401	335,731	1,503,824	3,992,978
Total ..	59,687,455	246,971,346	54,893,821	91,714,999	167,612,561	620,880,182

VALUE.						
	£	£	£	£	£	£
United Kingdom ..	1,082,646	5,292,542	1,393,179	2,073,276	4,205,189	14,046,832
Egypt ..	176,551	..	64,409	3,514	18,825	263,299
Malaya (British) ..	20,796	30,599	36,980	24,750	28,531	141,656
Sweden ..	..	49,303	29,805	..	..	79,108
Hong Kong ..	5,399	10,201	12,352	3,690	12,104	48,746
Union of South Africa ..	..	34,788	4,535	1,029	3,710	44,062
Ceylon ..	5,058	10,401	11,784	7,781	8,872	43,896
Philippine Islands ..	5,395	14,709	6,595	6,347	5,740	38,786
Canada ..	..	8,675	955	7,422	3,944	20,996
United States ..	..	3,603	4,684	..	..	8,287
Other Countries ..	2,586	27,743	13,380	6,806	35,002	85,517
Total ..	1,298,431	5,482,564	1,578,658	2,139,615	4,321,917	14,821,185

§ 5. Wool.

1. **Importance of Wool Production.**—Wool is the chief factor in the pastoral wealth of Australia, the value of the output for the season ended 30th June, 1923, being about £49,015,500. The bulk of the production is exported, but with the greater activity of the local woollen mills there has, in recent years, been an increasing quantity used in Australia, although even now the quantity so used represents only about 8 per cent. of the whole clip.

2. **Greasy and Scoured Wool.**—For the purpose of comparing the clips as a whole for a series of years, it is convenient to have the total production expressed in terms of greasy wool.

The quantity of Australian wool scoured and washed before export during recent years has been on the average about 15 per cent. of the total quantity shipped. The loss of weight in scouring varies largely with season, locality, breed, and condition. It seems preferable to express "scoured and washed" wool in terms of "greasy" rather than vice versa, since the absolute error arising from uncertainty as to average loss of weight is thereby minimized.

In the tables dealing with production "scoured and washed" wool has been converted into the estimated equivalent amount of "greasy" on the assumption that two pounds of "greasy" wool are on the average required to produce one pound of "scoured and washed."

3. **Production.**—(i) *Total.* The estimated production of wool in the several States, formerly based on the Customs returns, being no longer available from that source, an effort has been made to arrive at approximate figures from data collected by the State Statisticians from growers, fellmongers, etc. Particulars for years prior to 1918-19 will be found in earlier issues of the Year Book. The following table gives the estimates obtained for the five seasons ended 30th June, 1919 to 1923 :—

WOOL.—TOTAL PRODUCTION, 1918-19 TO 1922-23.

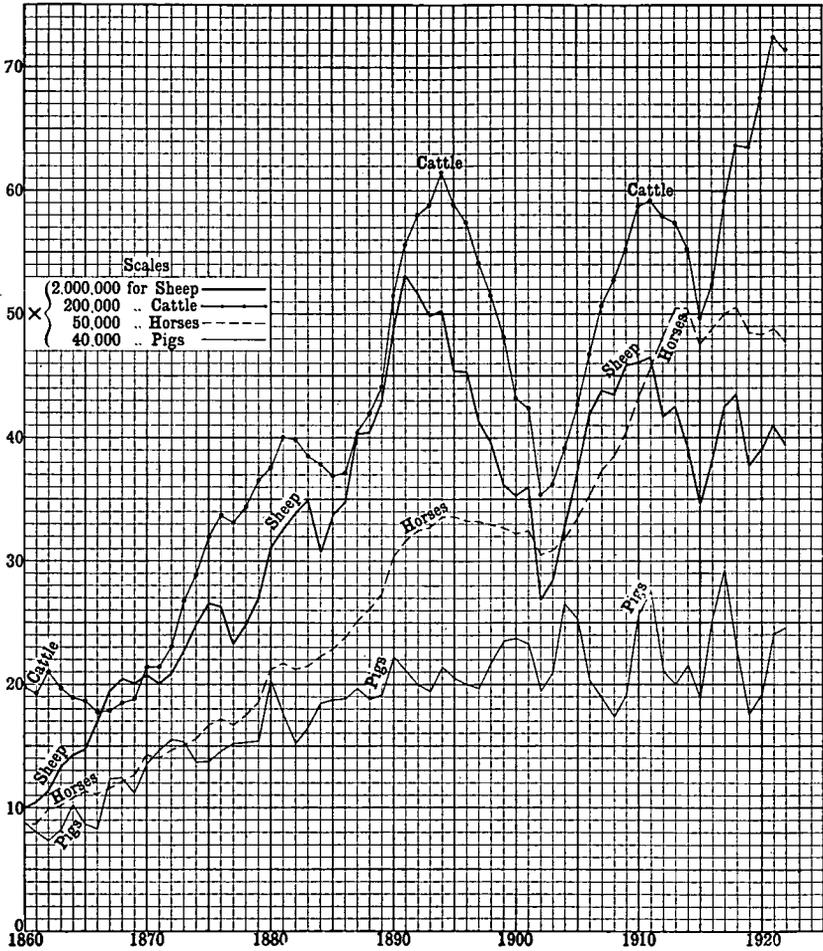
State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales (a)	305,613,000	296,641,000	240,231,000	285,418,000	293,571,000
Victoria ..	126,647,061	132,847,167	90,250,571	103,512,777	102,467,950
Queensland ..	113,777,272	118,035,461	114,809,963	132,579,733	134,971,150
South Australia ..	55,947,108	58,306,918	48,953,503	54,038,262	54,929,801
Western Australia ..	45,317,271	46,299,381	43,714,630	46,301,039	44,139,138
Tasmania ..	10,279,998	11,069,237	9,503,048	9,634,624	10,218,550
Northern Territory (b)	330,000	50,000	40,000	30,000	20,000
Total ..	657,911,710	663,249,164	547,502,715	631,514,435	640,317,589

(a) Including Federal Capital Territory.

(b) Approximate figures.

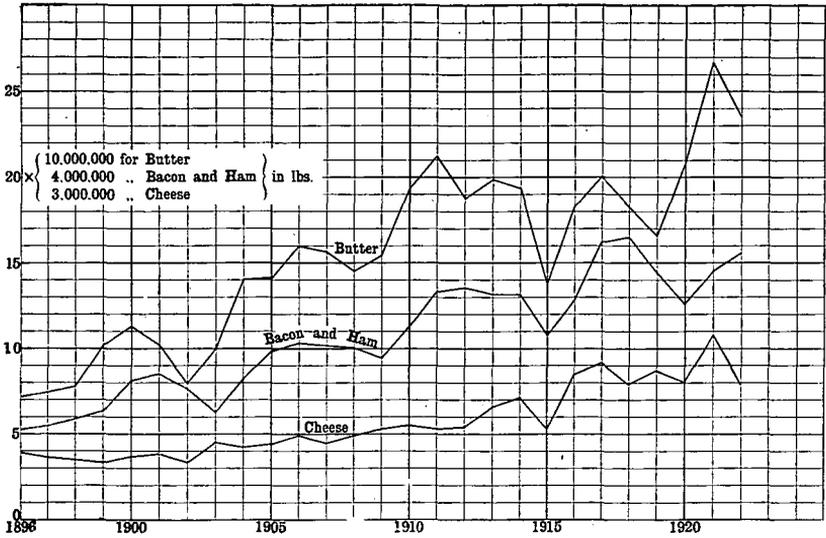
In connexion with the figures obtained by the State Statisticians, a slight deficiency is apparent when comparisons are made with totals obtained from oversea shipments plus local consumption, or with the returns published by the Central Wool Committee. The extent of the discrepancy in recent years cannot be estimated owing to the inclusion of carry-over wool in the export returns.

NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS—AUSTRALIA, 1860 TO 1922.



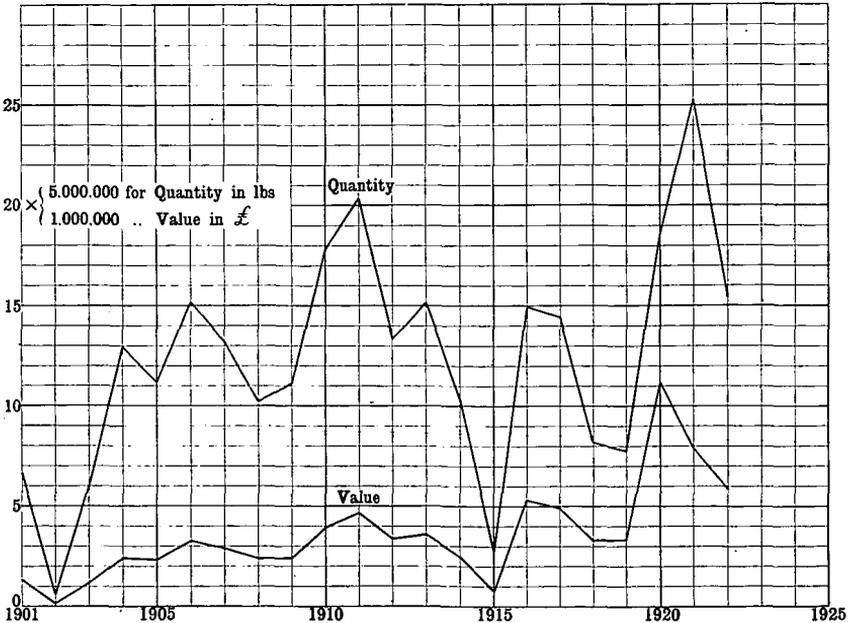
EXPLANATION.—The base of each small square represents an interval of one year, and the vertical side 2,000,000 in the case of sheep, 200,000 for cattle, 50,000 for horses, 40,000 for pigs.

PRODUCTION OF BUTTER AND CHEESE, AND BACON AND HAM—AUSTRALIA, 1896, TO 1922.



EXPLANATION.—The base of each small rectangle represents an interval of one year, and the vertical height of each denotes in the case of butter 10,000,000 lbs. ; in the case of bacon and ham 4,000,000 lbs. and in the case of cheese 3,000,000 lbs.

QUANTITY AND VALUE OF NET EXPORTS OF BUTTER FROM AUSTRALIA, 1900 TO 1922.



EXPLANATION.—The base of each small rectangle represents an interval of one year, and the vertical height of each 5,000,000 lbs. in weight, or £1,000,000 in value.

(ii) *Weight and Value per Sheep Shorn.* The weight and value of wool per sheep shorn in the past five seasons is shown in the following table :—

WOOL.—WEIGHT AND VALUE PER SHEEP SHORN, 1918-19 TO 1922-23.

Season ended 30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
WEIGHT.							
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1919	7.13	6.21	6.30	7.41	6.09	5.09	6.68
1920	7.03	6.38	6.59	7.89	5.71	5.32	6.73
1921	6.93	5.77	7.03	7.56	5.76	5.19	6.65
1922	7.49	6.23	7.57	7.70	6.19	5.77	7.18
1923	7.24	6.25	6.99	7.58	5.82	5.86	6.91
VALUE.							
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1919	8 11	8 3	8 10	9 0	7 4	7 9	8 7
1920	8 10	8 4	9 3	9 3	7 1	8 3	8 9
1921	7 11	7 10	8 9	8 6	6 3	7 3	8 0
1922	8 1	6 11	8 11	7 8	6 5	6 8	7 10
1923	10 9	9 8	11 3	11 3	9 0	10 6	10 7

4. *Care Needed in Comparing Clips.*—In comparing successive clips, allowance must be made for the circumstance that owing to climatic or other conditions the time of shearing may be so far delayed that one clip may include almost thirteen months' growth of wool, while the succeeding one may include little more than eleven months' growth.

5. *World's Wool Production.*—The following table compiled by the Textile Division of the United States Department of Commerce shows the importance of Australia as a wool-producing country. Out of a total production of 2,697,192,000 lbs. in 1922 Australia's contribution amounted to 631,514,000 lbs., or nearly one quarter of the world's supply.

WOOL(a).—WORLD PRODUCTION, 1921 AND 1922.

Countries.	Average Annual Pre-War Production.(b)	Production.	
		1921.	1922.(c)
	lbs.	lbs.	lbs.
North America—			
United States	314,110,000	273,064,000	261,095,000
Canada	11,210,000	21,251,000	19,125,000
Mexico	7,000,000	750,000	792,000
Total	332,320,000	295,065,000	281,012,000
Central America and West Indies	1,000,000	750,000	750,000
South America—			
Argentine Republic	358,688,000	286,000,000	231,483,000
Brazil	35,000,000	27,000,000	27,000,000
Chile	17,430,000	31,500,000	31,500,000
Peru	9,940,000	14,500,000	15,000,000
Falkland Islands	4,324,000	3,200,000	3,200,000
Uruguay	156,968,000	95,000,000	80,000,000
All other	5,000,000	5,000,000	5,000,000
Total	587,350,000	462,200,000	393,183,000

(a) Computed on greasy basis. (b) Average for years 1909 to 1913 inclusive. (c) Where 1922 figures were not obtainable an earlier figure or an unofficial estimate has been inserted.

WOOL(a).—WORLD PRODUCTION, 1921 AND 1922—continued.

Countries.	Average Annual Pre-War Production.(b)	Production.	
		1921.	1922.(c)
Europe—	lbs.	lbs.	lbs.
Austria	15,360,000	1,250,000	1,250,000
Belgium	1,060,000	1,205,000	825,000
Bulgaria	23,700,000	17,637,000	17,637,000
Czecho-Slovakia .. .. .	.. .. .	4,303,000	4,303,000
Denmark	3,508,000	1,598,000	1,323,000
Estonia .. .. .	.. .. .	13,224,000	13,224,000
Finland .. .. .	.. .. .	3,250,000	3,300,000
France	80,688,000	33,500,000	38,220,000
Germany	25,600,000	54,013,000	51,809,000
Greece	14,000,000	11,934,000	13,420,000
Hungary	17,637,000	9,370,000	9,370,000
Iceland	1,980,000	1,980,000	1,980,000
Italy	55,000,000	50,000,000	50,000,000
Jugo-Slavia	25,446,000	29,762,000	24,251,000
Netherlands	3,556,000	4,400,000	4,400,000
Norway	8,160,000	4,409,000	4,409,000
Poland .. .. .	.. .. .	6,725,000	6,725,000
Portugal	10,000,000	7,275,000	7,717,000
Rumania	13,228,000	14,000,000	18,032,000
Russia	320,000,000	150,000,000	150,000,000
Spain	52,000,000	165,347,000	165,347,000
Sweden	6,060,000	6,613,000	6,613,000
Switzerland	1,049,000	800,000	800,000
Turkey	28,000,000	.. .. .	.. .. .
United Kingdom	134,000,000	102,297,000	103,217,000
All other .. .. .	.. .. .	15,000,000	15,000,000
Total	840,032,000	714,892,000	713,172,000
Asia—			
British India	60,000,000	60,000,000	60,000,000
China	50,000,000	61,320,000	61,320,000
Persia	12,146,000	12,146,000	12,146,000
Russia in Asia	60,000,000	45,000,000	45,000,000
Turkey in Asia	90,000,000	60,000,000	60,000,000
All other	1,000,000	1,000,000	1,000,000
Total	273,146,000	239,466,000	239,466,000
Africa—			
Algeria	35,221,000	35,550,000	35,155,000
British South Africa	157,761,000	161,700,000	187,000,000
Tunis	3,735,000	6,930,000	6,765,000
Morocco	14,850,000	18,640,000	19,175,000
Total	211,567,000	222,820,000	248,095,000
Oceania—			
Australia	700,193,000	547,503,000	631,514,000
New Zealand	198,474,000	191,614,000	175,000,000
Total	898,667,000	739,117,000	806,514,000
Total all other Countries	13,000,000	13,000,000	15,000,000
GRAND TOTAL	3,157,082,000	2,687,310,000	2,697,192,000

(a) Computed on greasy basis. (b) Average for years 1909 to 1913 inclusive. (c) Where 1922 figures were not obtainable an earlier figure or an unofficial estimate has been inserted.

6. Wool Locally Used.—The quantity of wool used in the woollen and tweed mills of the various States during the past five years was approximately as follows :—

WOOL.—GREASY, USED IN LOCAL WOOLLEN AND TWEED MILLS, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales	6,769,284	7,054,962	7,206,896	6,648,224	4,882,740
Victoria	7,823,050	11,300,400	12,799,593	13,293,011	15,926,225
Queensland	268,917	634,376	556,232	1,822,494	1,358,888
South Australia	654,758	693,297	683,779	608,098	621,265
Western Australia					
Tasmania	1,301,006	997,542	1,129,722	1,043,706	1,502,060
Total	16,817,015	20,680,577	22,376,222	23,415,533	24,291,178

The total consumption of wool in Australia cannot be given, as particulars in respect of wool-combing and knitting establishments are not collected in all the States. An estimate, based upon the available particulars and the purchases made by manufacturers at local wool sales, places the figure in the vicinity of 50,000,000 lbs.

7. Exports of Wool.—(i) *Greasy-Quantities.* Prior to the war, about 31 per cent. of the exports of wool from Australia was despatched to the United Kingdom, whereas the shipments for the same destination during the past five years have averaged over 63 per cent. The other leading consignees during the latter period were France, United States of America, Belgium, Japan, Italy and Germany. The following table shows for the years 1918-19 to 1922-23 the quantities of "greasy" wool exported, and the principal countries of destination :—

WOOL IN THE GREASE.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom	352,282,663	397,688,435	283,583,260	337,775,993	259,230,707	1,630,561,058
France	3,719,125	32,243,017	32,484,058	138,751,611	137,742,458	342,940,269
United States of America	71,776,334	28,326,008	34,291,220	45,778,371	50,234,655	230,406,588
Belgium		39,189,760	26,021,710	55,690,271	34,180,045	155,081,786
Italy	10,036,918	44,597,155	15,975,186	39,629,626	28,646,259	138,885,144
Japan	5,319,577	8,928,971	9,856,174	50,775,592	50,043,561	124,923,875
Germany			8,715,299	39,830,067	32,940,661	81,486,027
Egypt	10,950,893			290	1,437	10,952,620
Canada	3,152,424		362,915	1,619,372	1,184,321	6,319,032
India	795,792		381,516	613,701	296,164	2,087,173
Other Countries		1,360,782	6,228,698	2,255,819	3,823,722	13,669,021
Total	458,033,726	552,334,128	417,900,036	710,720,713	598,323,990	2,737,312,593

(ii) *Scoured and Washed—Quantities.* Similar particulars concerning the exports of "scoured and washed" wool are as follows :—

WOOL, SCOURED AND WASHED(a).—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
United Kingdom	103,261,254	70,454,411	43,100,788	65,815,973	75,505,841	358,138,217
Belgium		13,931,527	10,648,048	16,153,469	3,938,725	44,671,769
France	27,239	105,177	1,544,101	13,271,181	13,533,782	28,481,480
Japan	3,447,825	3,676,467	3,719,499	5,051,529	6,435,286	22,330,606
United States of America	1,460,294	2,600,657	6,490,418	1,880,728	4,588,736	17,020,833
Germany			279,822	3,209,868	6,006,516	9,496,206
Italy			568,690	1,500,550	1,005,988	3,075,228
India	216,326		130,260	48,831	13,513	408,930
Other Countries	723,051	282,537	1,642,802	1,627,222	1,746,180	6,021,792
Total	109,135,989	91,050,776	68,124,378	108,559,351	112,774,567	489,645,061

(a) Including "tops."

The figures for "scoured and washed wool" include tops, amounting in 1918-19 to 2,822,578 lbs., valued at £935,212; in 1919-20, 6,148,118 lbs., valued at £2,957,679; in 1920-21, 6,598,681 lbs., valued at £2,049,588, in 1921-22, 6,200,505 lbs., valued at £1,207,048, and in 1922-23, 6,374,922 lbs., valued at £1,412,683. The total exports of wool tops during the last five years amounted to 28,144,804 lbs., valued at £8,562,210, of which 19,177,377 lbs., or more than 68 per cent., were shipped to Japan.

(iii) *Total Value of Exports.* The total value of the wool exported from Australia to the principal countries during the five years under review was:—

WOOL EXPORTS.—TOTAL VALUE, AUSTRALIA, 1918-19 TO 1922-23.						
Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
	£	£	£	£	£	£
United Kingdom ..	34,563,566	37,256,915	21,889,438	23,013,128	25,901,608	142,624,655
United States of America ..	4,982,056	2,516,142	3,836,987	4,347,360	5,618,652	21,301,197
France ..	304,410	2,352,749	1,357,358	6,842,265	10,408,195	21,264,977
Japan ..	1,400,192	2,010,732	2,107,473	4,438,672	6,095,616	16,052,685
Belgium ..	..	3,356,349	2,380,519	3,784,065	2,514,717	12,035,650
Italy ..	548,142	2,832,951	1,164,280	2,667,081	2,498,733	9,711,187
Germany ..	..	..	364,196	2,404,833	3,448,031	6,217,060
Canada ..	238,924	63,520	79,588	245,421	184,365	811,818
Egypt ..	613,814	..	..	8	48	613,870
India ..	78,336	..	45,198	50,243	11,487	185,264
Other Countries ..	37,315	154,445	555,723	184,167	457,312	1,388,962
Total ..	42,766,755	50,543,803	33,780,760	47,977,243	57,138,764	232,207,325

8. *Average Export Value.*—The average values per lb. of Australian greasy wool according to the export returns for the past five years have been as follows:—

AUSTRALIAN GREASY WOOL.—EXPORT VALUE PER LB., 1918-19 TO 1922-23.					
Year	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Average value per lb. ..	d. 16.49	d. 16.69	d. 14.53	d. 13.16	d. 18.38

9. *Exports and Local Sales of Wool, States, 1922-23.*—About 86 per cent. of the wool grown in Australia is sold in the local markets prior to export. Buyers from the United Kingdom, France, Germany, and other European countries, also from America, Japan, China, and India, attend the sales conducted in Sydney, Melbourne, Geelong, Brisbane, Adelaide, Perth, Hobart, and Launceston.

The following table shows the number of bales of wool exported overseas from each State during the season ended 30th June, 1923, and the number sold for shipment, for use in local woollen mills, for scouring, etc. As considerable quantities of wool grown in some States are sold in or shipped from others these figures do not therefore show actual local production, but total overseas shipments and sales.

WOOL.—EXPORTS AND LOCAL SALES, SEASON 1922-23.					
State.	Overseas Exports.		Local Sales.(a)		
	Bales.	%	Bales.	%	
New South Wales ..	925,421	39.97	818,992	42.38	
Victoria ..	690,867	29.84	(b)516,706	26.74	
Queensland ..	374,883	16.19	306,943	15.89	
South Australia ..	169,964	7.34	177,638	9.19	
Western Australia ..	125,293	5.41	82,298	4.26	
Tasmania ..	28,827	1.25	29,738	1.54	
Total ..	2,315,255	100.00	1,932,315	100.00	

(a) Including wool sold to local woollen mills, scourers, etc. (b) Including wool sold at Albury.

10. Exports and Local Sales of Wool, Australia, 1895 to 1923.—The number of bales of wool exported from Australia, and the number sold at local sales prior to shipment, or taken for local use from 1895 onwards are shown in the following table :—

WOOL.—EXPORTS AND LOCAL SALES, AUSTRALIA, 1895 TO 1923.

Year ended 30th June.			Overseas Exports.	Local Sales.(a)	Ratio of Wool sold locally to Exports.
			Bales.	Bales.	%
1895	..	..	1,595,652	817,333	51.22
1900	..	..	1,221,163	807,031	66.09
1905	..	..	1,218,969	926,940	76.04
1910	..	..	1,921,705	1,624,561	84.54
1911	..	..	1,975,378	1,642,555	83.15
1912	..	..	2,020,547	1,700,494	84.16
1913	..	..	1,718,486	1,518,650	88.37
1914	..	..	1,966,576	1,703,744	86.64
1922	..	..	2,579,484	2,226,758	86.33
1923	..	..	2,315,255	1,932,315	83.46

(a) Including wool absorbed by local woollen mills and wool-scouring establishments.

The steady development of the Australian wool market is clearly shown in this table. In the nineteen years ended 1914, the quantity sold locally more than doubled, and the ratio of wool sold locally to that exported increased from 51 per cent. in 1895 to over 86½ per cent. in the season ended 30th June, 1914. Particulars for the years 1915 to 1921 are not comparable owing to the abnormal conditions arising from the war, but the figures for the past two selling seasons indicate a return to normal, especially when allowance is made for the shipment of "Bawra" wool already appraised in previous seasons.

11. Quantities of Various Descriptions of Wool Sold in Each State.—The quantities and ratios of the various descriptions of wool marketed in each State are given in the following table :—

WOOL.—LOCAL SALES, DESCRIPTIONS, 1922-23.

Description of Wool.	N.S.W.	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.
Greasy ..	749,959	506,245	260,568	175,904	81,024	29,738	1,803,438
Scoured ..	69,033	10,461	46,375	1,734	1,274	..	128,877
Total ..	818,992	516,706	306,943	177,638	82,298	29,738	1,932,315
Fleece, etc. ..	772,145	479,700	293,465	163,125	75,704	28,671	1,812,810
Lambs' ..	46,847	37,006	13,478	14,513	6,594	1,067	119,505
Total ..	818,992	516,706	306,943	177,638	82,298	29,738	1,932,315
Merino ..	646,922	242,948	302,900	167,705	76,715	5,644	1,442,834
Crossbred and all strong breeds ..	172,070	273,758	4,043	9,933	5,583	24,094	489,481
Total ..	818,992	516,706	306,943	177,638	82,298	29,738	1,932,315

(a) Including wool sold at Albury.

WOOL.—LOCAL SALES, DESCRIPTIONS, 1922-23—*continued.*

Description of Wool.	N.S.W.	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	%	%	%	%	%	%	%
Greasy	91.57	97.98	84.89	99.02	98.45	100.00	93.33
Scoured	8.43	2.02	15.11	0.98	1.55	..	6.67
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Fleece, etc. ..	94.28	92.84	95.61	91.83	91.99	96.41	93.82
Lambs	5.72	7.16	4.39	8.17	8.01	3.59	6.18
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Merino	78.99	47.02	98.68	94.41	93.22	18.98	74.67
Crossbred and all strong breeds ..	21.01	52.98	1.32	5.59	6.78	81.02	25.33
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(a) Including wool sold at Albury.

The great bulk of wool is marketed in the greasy state. Buyers still show a decided preference for wool in the grease, and the proportion of such wool sold during the 1922-23 season amounted to over 93 per cent. Of fleece and lambs' wool, the former represented 93.82, and the latter 6.18 per cent. The class of wool produced is largely merino, which is almost exclusively grown in the northern, western, and central parts of the continent, the bulk of the merino wool dealt with in Victoria coming from Riverina and other parts of New South Wales. The development of the frozen mutton and lamb export trade and the resultant raising of a type of sheep suitable for both mutton and wool led to a considerable increase in the production of crossbred wool throughout Australia during recent years. The percentage of such wool sold on the total sales amounted to 18.6 per cent. in 1912, whereas, eight years later, in 1919-20, it had increased to 33.9 per cent. The accumulation of large stocks of coarse wools after the war, and the consequent slump in prices induced many flock-masters to return to merino, and the percentage thereof sold in the local market increased from 66.11 in 1919-20 to 74.67 in 1922-23, while crossbred declined from 33.89 to 25.33 per cent. during the same period. The requirements of the frozen mutton and lamb trade, and the advance of closer settlement with its preference for crossbred sheep-raising in conjunction with wheat-growing or mixed farming, will compel the maintenance of the crossbred flocks, still the extraordinary demand for fine wool at remunerative rates must influence the Australian flockmasters to concentrate in the future on the production of merino wool, and its close counterparts, comeback and fine crossbred.

12. Percentages of Various Descriptions of Wool Sold in each State.—The following table gives the percentage of each description of wool sold in the several States on the total sold in Australia during the season 1922-23:—

WOOL.—LOCAL SALES, PERCENTAGES OF DESCRIPTIONS, 1922-23.

Description of Wool.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	%	%	%	%	%	%	%
Greasy	41.59	28.07	14.45	9.75	4.49	1.65	100.00
Scoured	53.57	8.12	35.98	1.34	0.99	..	100.00
Fleece, etc. ..	42.59	26.46	16.19	9.00	4.18	1.58	100.00
Lambs	39.20	30.97	11.28	12.14	5.52	0.89	100.00
Merino	44.84	16.84	20.99	11.62	5.32	0.39	100.00
Crossbred and all strong breeds ..	35.15	55.93	0.83	2.03	1.14	4.92	100.00

The bulk of the crossbred wool of Australia is grown in Victoria and the southern parts of New South Wales; Tasmania, where crossbred sheep largely predominate, coming next in order, followed by small consignments from South Australia and Western

Australia. In Victoria and New South Wales a noticeable feature of the past two seasons has been a general fining up of the medium and coarse crossbreds by the use of merino and Corriedale rams. Australian pastures and climate are naturally more adapted for the growth of a larger proportion of fine crossbred wool than the River Plate, South Africa, and other wool-growing countries, and it is probable that this process of refinement will lead ultimately to the exclusion of coarse wool-growing in Australia.

13. **The Wool Market.** (i) *The 1922-23 Season.* Despite the disturbed state of affairs on the Continent, there was a strong wool market throughout the 1922-23 season, and clearances of the bulk of the season's production were effected at payable rates. Merino wool realized high values up to the closing sales, and the demand for other wools was very favourable. Large purchases of crossbred wool were made on English and American account, and crossbred was also bought by the Continent and by Japan. At first only the finer grades of this wool were in demand, but in the end the coarsest grades alone were unsaleable.

The 1922-23 clip showed the influence of the dry autumn and generally unfavourable conditions ruling throughout the season. The bulk of the staple, while fine in quality, was light in condition, and somewhat thinly grown and dusty.

During the year the wool sold in Australia totalled 1,932,315 bales, and though this quantity represented a decrease of 294,443 bales on the previous season's sales, there was an increase in the amount realized of no less than £8,942,078, the returns aggregating a value of £46,238,801 as compared with £37,296,723 in the previous year. The average price per bale was £23 18s. 7d. These figures show the excellent selling conditions throughout the year. The improvement, moreover, was even greater than the figures reveal, since not only was the demand keenly sustained for all the best descriptions, and the range of prices the highest ever met with at auction in Australia, but there was a marked development in inquiries for the lower grades which in the previous year were practically unsaleable.

Although exceptionally high prices were realized during the 1922-23 season, the actual top price for greasy merino was 2d. per lb. below that of 1921-22, and 9d. per lb. below the record of 1920-21, when 49½d. was reached. The season's record for merino fleece was 40½d., reached by the Ware (conj.) brand sold in the Geelong market, a centre which has now secured premier position at Australian wool sales for three successive seasons. With the exception of greasy and scoured merino fleece and scoured crossbred fleece, new records were established in all other descriptions. The Geelong market excelled in highest prices, securing no less than nine records, whilst Brisbane obtained three, and Sydney two. The highest prices for the past nine seasons for wools sold at auction, or fixed by appraisal at selling centres in Australia, are as follows:—

**RECORD PRICES OBTAINED FOR WOOL IN AUSTRALIAN MARKETS, 1914-15
TO 1922-23.**

Description.	Price.	Brand.	Bales.	Selling Centre.	Season.
Greasy merino :	<i>d.</i>				
Fleece ..	49½	Ware (conj.) ..	5	Geelong ..	1920-21
Broken ..	34¾	R/Langiwilli ..	5	Geelong ..	1922-23
Pieces ..	31¼	HPM/Trawalla ..	9	Geelong ..	1922-23
Bellies ..	30¼	Ware (conj.) ..	6	Geelong ..	1922-23
Locks ..	17¾	RL in dia/Padthaway ..	8	Geelong ..	1922-23
Lambs ..	41½	Ware (conj.) ..	2	Geelong ..	1922-23
Greasy comeback :					
Fleece ..	38½	WTA/Boorook ..	9	Geelong ..	1922-23
Lamb ..	28	WTA/Boorook ..	6	Geelong ..	1922-23
Greasy crossbred :					
Fleece ..	34¾	Marsden/Blayney ..	7	Sydney ..	1922-23
Lamb ..	24½	Leslie Manor ..	7	Geelong ..	1922-23
Scoured merino :					
Fleece ..	64	WG/Kedron ..	58	Brisbane ..	1920-21
Pieces ..	48	Clare Valley/P Co. (in ½ circle) ..	17	Brisbane ..	1922-23
		Moleswrth ..	5	Brisbane ..	"
Lambs ..	48	M/Beaconsfield ..	1	Brisbane ..	1922-23
Scoured crossbred :					
Fleece ..	40¾	O'Beirne/Linton ..	..	Geelong ..	1917-18

(ii) *Wool Realization Scheme.* The British Australian Wool Realization Association Ltd. ("Bawra") was formed on the 27th January, 1921, for the purpose of selling in conjunction with the existing clip 50 per cent. of the Australian carry-over wool acquired by the Association on account of the Australian growers; also to dispose of as agents all carry-over wools owned by the British Government and consisting of New Zealand, Falkland Islands, South African and 50 per cent. of Australian wools as promptly and to the best advantage as market conditions would permit, while at the same time contributing to stabilize the wool market which had become demoralized on the return to free wool sales. Towards the end of the year 1921, 80,550 bales of South African wool owned by the British Government were handed over to the Association for disposal under the Agency Agreement.

The marketing of B.A.W.R.A. wools was successfully carried out at various centres in England, and on the Continent, and the concluding auction sale took place at Liverpool on 2nd May, 1924, when the last bale of wool carried over from the Imperial Wool Purchase Scheme was disposed of. The whole of the wool controlled by B.A.W.R.A. amounting to 2,691,756 bales was sold in three and a half years, and passed into consumption together with the current clips of the wool growing countries. The details of stocks and disposals are set out in the following table:—

STOCKS AND DISPOSALS OF B.A.W.R.A. WOOLS, 1st JANUARY, 1921—2nd MAY, 1924.

Description.	Stocks, 1st January, 1921.	Disposals.				
		1921.	1922.	1923.	To 2nd May, 1924.	Total Disposals, 1st January, 1921, to 2nd May, 1924.
	Bales.	Bales.	Bales.	Bales.	Bales.	Bales.
Australian:—						
Merino	904,180	484,031	345,710	73,694	89	903,524
Crossbred .. .	931,825	176,199	274,632	319,146	162,297	932,274
New Zealand:—						
Merino	3,181	449	267	2,333	132	3,181
Crossbred .. .	769,762	138,441	275,855	308,428	47,069	769,793
Falkland Islands .. .	2,329	2,329	..	..	..	2,329
South African .. .	(a)80,550	..	80,655	..	..	80,655
Grand Totals .. .	2,691,827	801,449	977,119	703,601	209,587	2,691,756

(a) 1st January, 1922.

NOTE.—The differences in the totals of stocks and disposals is due to reclassification and reconditioning.

14. *United Kingdom Importation of Wool.*—The appended statement of the quantity and value of wool imported into the United Kingdom during the year 1922 from the principal wool-producing countries shows the important position which Australia occupies in the supply of wool to the mother country:—

WOOL.—IMPORTS, UNITED KINGDOM, 1922.

Country from which imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	lbs.	£		lbs.	£
Australia .. .	518,781,500	27,479,227	Belgium .. .	9,660,900	580,973
New Zealand .. .	359,256,200	15,764,218	Peru .. .	5,929,400	188,874
Union of South Africa .. .	154,548,700	7,431,326	Uruguay .. .	5,522,700	294,767
India .. .	95,620,500	2,044,947	U.S. of America	3,835,100	247,957
Argentine Republic .. .	65,193,400	2,218,841	Falkland Islands	3,735,300	167,905
France .. .	27,201,400	1,482,495	Turkey .. .	3,080,100	85,958
Chile .. .	24,744,000	1,063,518	Other Countries	21,158,900	675,521
			Total .. .	1,298,268,100	59,726,527

Of the importations of wool into the United Kingdom, Australian wool represented 40 per cent. of quantity and 46 per cent. of value, and New Zealand 28 per cent. of quantity and 26 per cent. of value. It is interesting to note that 1,131,942,200 lbs., valued at £52,887,623, were received from British Possessions, being 87 per cent. of the total weight imported and 89 per cent. of the total value.

§ 6. Trade in Hides and Sheepskins.

1. *Extent of Trade.*—In addition to the hides and sheepskins treated in the tanneries of the several States, a very considerable export trade is carried on, the value of cattle hides and sheepskins exported from Australia during the five years 1918-19 to 1922-23 amounting to £14,156,025, or an average of £2,831,205 per annum.

2. *Sheepskins with Wool.*—By far the largest item included in the amount mentioned in the preceding sub-section arises from the value of sheepskins with wool—the exports of which during the five years aggregated £9,263,125. The largest purchaser of sheepskins with wool is the United Kingdom, to which more than 71 per cent. of the consignments were dispatched during the last five years. France ranked next in order of importance with 19 per cent., while the remaining 10 per cent. was shipped principally to Belgium and the United States of America. The exports of sheepskins with wool during each of the years from 1918-19 to 1922-23 were as follows:—

SHEEPSKINS WITH WOOL.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
Sheepskins (with wool) .. No.	6,005,291	6,046,122	4,478,853	7,270,660	9,610,335	33,411,261
Value £	1,845,057	1,967,354	1,155,643	1,346,582	2,948,489	9,263,125

3. *Sheepskins without Wool.*—In the case of sheepskins without wool the principal countries of consignment are the United States of America and the United Kingdom. These two countries were responsible for nearly 90 per cent. of the exports during the past five years, the purchases of the United States of America alone amounting to 63 per cent. of the total shipments. Particulars concerning exports are as follows:—

SHEEPSKINS WITHOUT WOOL.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
Sheepskins (without wool) .. No.	794,065	4,177,084	704,296	116,553	1,150,739	6,942,737
Value £	96,056	631,445	86,663	6,880	78,630	899,674

4. *Hides.*—(i) *Exports.* The export of Australian cattle hides, though not so important as in pre-war years, is still considerable, and marked increases were recorded during the past two years. The trade is mainly with the United Kingdom and the United States of America, which countries took one-half and one-fourth respectively of the total quantity exported during the past five years. Italy with 163,000, and Germany and Belgium with shipments amounting to 137,000 and 117,000 respectively were the next largest purchasers.

Particulars concerning the export of cattle hides during the past five years are as follows:—

CATTLE HIDES.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
Cattle Hides .. No.	259,386	569,465	261,938	446,199	651,888	2,188,876
Value £	566,720	1,504,116	375,412	530,355	773,691	3,750,294

The calfskins exported during the years 1918-19 to 1922-23 numbered 414,424, valued at £242,932, shipped mainly to the United States of America, the value of the skins taken by that country averaging 81 per cent. of the total exports during the past five years. The annual export of horse hides is very small, and averaged only 1,323 hides, valued at £1,805.

(ii) *Imports.* The import trade in cattle hides and calfskins is expanding and, with the exception of 1919-20, increases have taken place in the number imported during each of the last five years. New Zealand supplies the great bulk of these importations, and shipments of limited quantities are also obtained from the Pacific Islands. The number and value of cattle hides, including calfskins, imported into Australia during the five years 1918-19 to 1922-23 are as follows:—

CATTLE HIDES.—IMPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for 5 years.
No.	260,237	205,662	313,442	451,373	675,471	1,906,185
Value £	424,339	579,915	500,460	433,014	541,079	2,478,807

The number of horse hides imported into Australia is unimportant. Imports during the last five years numbered 16,497, valued at £19,154.

CHAPTER XVII.

AGRICULTURAL PRODUCTION.

NOTE.—Except where otherwise stated, the “agricultural” years hereinafter mentioned are taken as ending on the 30th June.

§ 1. Introductory.

1. **Early Attempts at Agriculture.**—The instructions issued to Captain Phillip on the 25th April, 1787, directed him, amongst other things, to proceed as soon as possible to the cultivation of the soil “under such regulations as may appear to be necessary and best calculated for securing supplies of grain and provisions.” When the settlers landed at Botany Bay, however, it was found that the glowing accounts published in England by members of Captain Cook’s expedition of the fertility of the soil in that locality were considerably overdrawn. Even when Phillip and his company moved round to Port Jackson on the 26th January, 1788, matters were for a time in no better case. The ground in the immediate neighbourhood of the settlement, was not suitable for the cultivation of cereal crops, and when the time came to cultivate the soil it was found that there were very few who possessed the slightest acquaintance with the art of husbandry.

2. **The First Sowing.**—In his despatch of the 15th May, 1788, Captain Phillip states that it was proposed to sow 8 acres with wheat and barley, although, owing to the deprivations of field mice and ants, he was doubtful of the success of the crops.

3. **Discovery of Suitable Agricultural Land.**—A branch settlement was formed at Rosehill, on the Parramatta River, towards the close of 1788, and here grain crops were successfully raised. In his despatch of 12th February, 1790, Phillip refers to the harvest at Rosehill at the end of December, 1789, as consisting of 200 bushels of wheat and 60 of barley, in addition to small quantities of oats, Indian corn, and flax. By the year 1791 there were 213 acres under crop in this locality. In 1792 a new settlement was formed at Toongabbie, about 3 miles westward of Parramatta, where Phillip states “there are several thousand acres of exceeding good ground.” The Hawkesbury Valley, which probably contains some of the richest land in the world, was first settled in 1794. For a long time agricultural operations in Australia were restricted to the narrow belt of country between the tableland and the east coast of New South Wales, as it was not until the year 1813 that a passage was discovered across the Blue Mountains to the fertile plains of the west.

§ 2. Progress of Agriculture.

1. **Early Records.**—In an “Account of Live Stock and Ground under Crop in New South Wales, 19th August, 1797,” Governor Hunter gives the acreage under crop as follows:—Wheat, 3,361 acres; maize, 1,527 acres; barley, 26 acres; potatoes, 11 acres; and vines, 8 acres.

At a muster taken in 1808 the following was the return of crops:—Wheat, 6,874 acres; maize, 3,389 acres; barley, 544 acres; oats, 92 acres; peas and beans, 100 acres; potatoes, 301 acres; turnips, 13 acres; orchards, 546 acres; and flax and hemp, 37 acres.

By the year 1850 the area under crop had increased to 491,000 acres, of which 198,000 acres were cultivated in what is now the State of New South Wales, and 169,000 acres in Tasmania. At the end of 1850 the area under cultivation in Victoria, which was then the Port Phillip District of New South Wales, was 52,190 acres.

The gold discoveries of 1851 and subsequent years had at first a very disturbing effect on agricultural progress, the area under crop declining from 491,000 acres in 1850 to 458,000 acres in 1854; the area under cultivation in New South Wales decreased by nearly 66,000 acres, while in Tasmania a falling-off of over 41,000 acres was experienced. The demand for agricultural products occasioned by the large influx of population was, however, soon reflected in the increased area cultivated. For at the end of 1858 the land under crop in Australia totalled over a million acres. The largest increase took place in Victoria, which returned an area of 299,000 acres. For the same year South Australia had 264,000 acres in cultivation, Tasmania 229,000 acres, and New South Wales 223,000 acres.

2. Progress of Cultivation.—(i) *General.* The following table shows the area under crop in each of the States and Territories of Australia at decennial intervals since 1860 and during each of the last five seasons. The area under permanent artificially-sown grasses is excluded in all the States, except for the years 1860 to 1879 in the case of New South Wales, where the acreage cannot be separated. During those years, however, the area laid down under permanent grasses could not have been very large.

AREA UNDER CROP, 1860 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1860-1	260,798	387,282	3,353	359,284	24,705	152,860	..	..	1,188,282
1870-1	426,976	692,840	52,210	801,571	54,527	157,410	..	..	2,185,534
1880-1	629,180	1,548,809	113,978	2,087,237	57,707	140,788	..	..	4,577,699
1890-1	852,704	2,031,955	224,993	2,093,515	69,678	157,376	..	..	5,430,221
1900-1	2,445,564	3,114,132	457,397	2,369,650	201,338	224,352	..	..	8,812,463
1910-11	3,386,017	3,952,070	667,113	2,746,334	855,024	286,920	360	..	11,893,338
1918-19	3,891,823	3,942,899	525,517	3,111,079	1,605,088	254,109	99	1,779	13,332,393
1919-20	3,771,463	4,000,815	563,762	3,055,770	1,628,163	270,955	365	2,109	13,296,407
1920-21	4,465,143	4,489,503	779,497	3,231,083	1,804,987	297,383	296	1,966	15,069,858
1921-22	4,445,828	4,530,312	804,507	3,378,764	1,901,650	293,708	283	1,942	15,357,024
1922-23	4,694,287	4,862,548	835,060	3,575,452	2,274,998	298,611	427	2,172	16,943,555

The progress of agriculture was uninterrupted from 1860 onwards, reaching its maximum in 1915-16, when 18,528,234 acres were cultivated. Following that year the decline in wheat-growing, and the effects of the drought of 1918-19, reduced the acreage to 13,296,407 acres in 1919-20, a decrease of 5,231,827 acres in the space of four years. In 1920-21 the area under wheat again began to expand, and during the last three seasons the total acreage under cultivation increased by more than 3,000,000 acres. This marked advance was mainly due to the expansion of the area under wheat, which still continues to be the most extensively-grown crop in Australia, the area thereunder for both grain and hay during 1922-23 amounting to nearly 70 per cent. of the total acreage under cultivation. The rapid extension of the wheat area since 1919-20, despite adverse climatic and market conditions in 1922, is a happy augury for the continuance of agricultural development in Australia. The maximum area cultivated in 1915-16 was the result of a special war effort, and the results obtained far exceeded those for any previous year.

(ii) *Relation to Population.* The decline in total area under cultivation per head of population reached its lowest point in 1919-20, but since that year the total has increased at a much faster rate than the population. Details for the past five seasons are as follows :—

AREA UNDER CROP PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	1,984	2,743	745	6,797	5,181	1,232	21	797	2,624
1919-20 ..	1,850	2,661	764	6,351	4,973	1,291	80	1,099	2,507
1920-21 ..	2,135	2,938	1,036	6,578	5,456	1,397	74	997	2,784
1921-22 ..	2,089	2,921	1,045	6,723	5,674	1,345	76	941	2,787
1922-23 ..	2,160	3,058	1,059	6,968	6,621	1,364	120	849	2,937

(iii) *Relation to Total Area.* The next table furnishes a comparison of the area under crop in the several States and Territories and Australia with the respective total areas. For Australia as a whole, the area under crop in 1922-23 represented only about 1 acre in every 115. In Victoria the proportion was about 1 acre in every 12, in New South Wales 1 in 42, in Tasmania 1 in 56, in South Australia 1 in 68, in Western Australia 1 in 275, in Queensland 1 in 513, in the Federal Territory 1 in 277, and in the Northern Territory about 1 in 784,817.

PERCENTAGE OF AREA UNDER CROP ON TOTAL AREA, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	%	%	%	%	%	%	%	%	%
1918-19 ..	1.965	7.010	0.122	1.279	0.257	1.515	..	0.296	0.700
1919-20 ..	1.904	7.113	0.131	1.257	0.261	1.615	..	0.351	0.698
1920-21 ..	2.255	7.982	0.182	1.328	0.239	1.772	..	0.327	0.792
1921-22 ..	2.245	8.054	0.187	1.389	0.304	1.751	..	0.323	0.807
1922-23 ..	2.370	8.645	0.195	1.470	0.364	1.780	..	0.361	0.869

3. *Artificially-sown Grasses.*—In all the States there are considerable areas under artificially-sown grasses mainly sown on uncultivated land after burning off the existing vegetation, and not included with "area under crops." Statistics regarding the areas under such grasses are as shown hereunder :—

AREA UNDER SOWN GRASSES, 1918-19 TO 1922-23.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19	1,438,382	1,269,493	418,467	21,987	14,158	666,954	600	83	3,830,124
1919-20	1,542,446	1,062,244	449,019	18,107	16,672	667,390	500	371	3,757,249
1920-21	1,816,104	1,051,290	450,780	14,805	17,265	660,000	500	71	4,010,815
1921-22	2,005,444	1,032,104	459,914	20,890	18,441	731,000	550	71	4,318,414
1922-23	1,925,432	957,454	475,226	22,278	25,377	857,581	510	18	4,263,876

The increase in the area of the grass lands of Australia is due in large measure to the development of the dairying industry during recent years, referred to in the succeeding chapter.

§ 3. Relative Importance of Crops.

1. Distribution of Crops.—The following table gives the areas in the several States under each of the principal crops for the season 1922–23.—

DISTRIBUTION OF CROPS, 1922–23.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat ..	2,942,339	2,644,314	145,492	2,453,086	1,552,868	25,244	..	518	9,763,861
Oats ..	73,635	492,356	1,216	173,716	214,269	58,813	..	371	1,014,376
Maize ..	138,169	25,846	149,048	116	23	..	..	..	313,202
Barley—									
Malting ..	2,253	64,648	4,634	197,619	4,939	5,066	..	..	279,159
Other ..	1,646	38,125	658	17,664	4,304	640	..	..	63,037
Beans and Peas ..	275	12,287	68	5,311	1,071	22,811	..	..	41,823
Rye ..	1,379	1,291	4	241	560	673	..	..	4,148
Other Cereals ..	..	..	9	..	31	..	..	..	40
Hay ..	888,250	1,261,408	78,050	577,810	431,633	100,088	10	1,207	3,338,456
Green Forage ..	499,679	102,451	188,636	61,000	32,997	9,073	..	35	893,871
Grass Seed ..	..	2,224	1,066	62	..	523	..	..	3,876
Orchards and other Fruit Gardens ..	73,134	86,014	29,431	33,003	19,405	34,689	..	11	275,637
Vines—									
Productive ..	8,521	27,550	1,052	33,595	3,165	..	..	..	73,883
Unproductive ..	5,213	11,342	190	13,155	1,693	..	..	..	31,593
Market Gardens ..	7,743	14,108	1,838	1,438	2,698	540	..	18	28,383
Sugar-cane—									
Productive ..	5,879	..	140,850	..	..	..	..	..	146,729
Unproductive ..	8,704	..	61,453	..	..	..	..	..	70,157
Potatoes ..	22,556	61,741	7,649	5,749	3,621	34,407	..	12	135,735
Onions ..	107	6,954	138	364	80	22	..	..	7,665
Other root crops ..	985	3,162	2,124	468	217	3,257	200	..	10,413
Tobacco ..	2,658	890	179	..	..	..	..	..	3,727
Broom Millet ..	2,463	1,304	269	..	..	..	..	..	4,036
Pumpkins and Melons ..	2,457	1,549	6,543	220	705	..	10	..	11,484
Hops ..	..	194	..	2	..	1,545	..	..	1,741
Cotton ..	208	..	8,716	32	..	..	12	..	8,968
All other crops ..	6,034	2,790	5,747	801	719	1,220	195	..	17,506
Total Area ..	4,694,287	4,862,548	835,060	3,575,452	2,274,998	298,611	427	2,172	16,543,555

2. Relative Areas of Crops in States and Territories.—Taking the principal crops, *i.e.*, those in the case of which the cultivation in Australia amounts to more than 50,000 acres, the proportion of each in the various States and Territories to the total area under crop for the season 1922–23 is shown in the next table. In four of the States, *viz.*, New South Wales, Victoria, South Australia, and Western Australia, wheat-growing for grain is by far the most extensive form of cultivation, while in the same States the hay crop is second in importance. In Victoria and Western Australia, the oat crop occupies third position, while green forage ranks third in New South Wales, and barley in South Australia. In Queensland, the principal crops in the order of importance are sugar-cane, green forage, maize, and wheat, while in Tasmania hay, oats, orchards and fruit gardens, and potatoes occupy the leading positions.

As pointed out previously, wheat is the main crop in Australia, the area thereunder for grain and hay representing in 1922-23 about 70 per cent. of the total area under cultivation.

RELATIVE AREAS UNDER CROP, 1922-23.

Crop.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	%	%	%	%	%	%	%	%	%
Wheat ..	62.68	54.38	17.42	68.61	68.26	8.45	..	23.85	59.02
Hay ..	18.92	25.94	9.35	16.16	18.97	33.52	2.34	55.57	20.18
Oats ..	1.57	10.13	0.14	4.86	9.42	19.70	..	17.08	6.13
Green Forage ..	10.65	2.11	22.59	1.71	1.45	3.04	..	1.61	5.40
Maize ..	2.94	0.53	17.85	0.00	0.00	..	..	..	1.89
Barley ..	0.08	1.77	0.63	6.02	0.41	1.91	..	..	2.07
Orchards and Fruit Gardens	1.56	2.11	3.52	0.92	0.85	11.62	..	0.51	1.67
Sugar-cane	0.31	..	24.23	..	..	..	..	..	1.31
Potatoes ..	0.48	1.27	0.92	0.16	0.16	11.52	..	0.55	0.82
Vineyards	0.29	0.80	0.15	1.31	0.21	..	..	..	0.64
All other ..	0.52	0.96	3.20	0.25	0.27	10.24	97.66	0.83	0.87
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

3. Area of Chief Crops, Australia, 1918-19 to 1922-23.—The acreage under each of the principal crops in Australia during the last five seasons is shown below :—

AREA OF CHIEF CROPS.—AUSTRALIA, 1918-19 TO 1922-23.

Crop.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
Wheat ..	7,990,165	6,419,160	9,072,167	9,719,042	9,763,861
Hay ..	2,692,904	3,125,582	3,233,189	2,994,519	3,338,456
Oats ..	768,152	1,068,296	936,996	733,406	1,014,376
Green Forage ..	586,440	1,401,280	406,954	452,508	893,871
Maize ..	286,812	265,469	284,283	305,186	313,202
Orchards and Fruit Gardens ..	264,751	271,894	278,551	281,149	275,687
Barley ..	254,869	267,309	334,747	298,910	342,196
Sugar-cane ..	171,024	159,037	174,001	197,293	216,886
Potatoes ..	111,169	113,900	140,195	149,144	135,735
Vineyards ..	70,058	73,326	81,165	92,414	105,476
All other Crops ..	136,049	131,154	127,610	133,453	143,809
Total ..	13,332,393	13,296,407	15,069,858	15,357,024	16,543,555

During the period under review the areas of the several crops, while reflecting seasonal and economic influences, have increased considerably, the most notable advance taking place in wheat. Of the other crops, barley, sugar-cane, and vineyards have made the most consistent progress since 1918-19.

§ 4. Wheat.

1. *Progress of Wheat-Growing.*—(i) *Area and Production.* Wheat is the principal crop, and the rapid development of wheat-growing during the past 30 years constitutes one of the most interesting features of Australian agriculture. Since 1895, when the area under wheat amounted to 3½ million acres, an average of 230,000 acres have been added annually, until in 1922–23 no less than 9½ million acres were cut for grain. The area and yield of wheat for grain are given below for each State for the last five years, and are shown from the year 1860 onwards in the graphs hereinafter :—

WHEAT.—AREA AND PRODUCTION, 1918–19 TO 1923–24.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918–19 ..	2,409,633	2,214,490	21,637	2,186,349	1,146,103	11,917	36	7,990,165
1919–20 ..	1,474,935	1,918,269	46,478	1,926,915	1,041,827	11,492	139	6,419,160
1920–21 ..	3,126,775	2,295,865	177,320	2,167,646	1,275,675	28,284	802	9,072,167
1921–22 ..	3,194,408	2,611,198	161,670	2,384,012	1,356,228	27,985	541	9,719,042
1922–23 ..	2,942,339	2,644,314	145,492	2,453,086	1,552,868	25,244	518	9,763,861
1923–24a ..	2,914,070	2,454,117	51,149	2,418,415	1,656,915	13,000	..	9,507,666
YIELD.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bush.	Bushels.
1918–19 ..	18,324,640	25,239,871	104,509	22,936,925	8,845,387	186,570	360	75,638,262
1919–20 ..	4,387,209	14,858,380	311,638	14,980,413	11,222,950	213,589	813	45,974,992
1920–21 ..	55,610,993	39,468,625	2,707,357	34,258,914	12,248,080	565,874	14,007	145,873,850
1921–22 ..	42,759,389	43,867,596	3,025,786	24,946,525	13,904,721	577,178	7,611	129,088,806
1922–23 ..	28,660,824	35,697,220	1,877,836	28,784,767	13,857,432	569,587	7,176	109,454,842
1923–24a ..	33,040,000	37,795,704	243,713	31,551,955	18,920,271	247,000	..	124,798,643

(a) Preliminary figures.

The area devoted to the production of wheat for grain reached its maximum in 1915–16, when 12,484,512 acres were sown, largely as the result of a special war effort. After that year, however, there was a serious decline, brought about principally by war conditions and unfavourable seasons, and the area in 1919–20 fell to 6,419,160 acres, or only half that of 1915–16. The promise of remunerative Government guarantees, coupled with the prospects of high prices, were responsible for a marked advance in 1920–21, and the area was further extended during the next two years, the total gain for Australia amounting since 1919–20 to 3½ million acres.

Although final figures for 1923–24 for all the States are not yet available, the data to hand indicate the total area under wheat for grain in Australia at about 9,507,666 acres, a decrease of 256,000 acres on the 1922–23 figures, occasioned by unfavourable weather conditions at seeding time. The season was a bountiful one, and 124,798,643 bushels were harvested, yielding the very satisfactory average of 13½ bushels to the acre.

The harvest of 179,065,703 bushels reaped in 1915–16 represents the maximum production of wheat in Australia. Yields exceeding 100,000,000 bushels have been garnered on eight occasions, all of which have occurred since 1913–14. The annual production of wheat during the seasons 1913–14 to 1922–23 averaged 108,048,757 bushels, and the amount by which this average may be exceeded depends to a great extent on seasonal conditions. Though increased areas were placed under wheat in 1922–23, conditions were not so propitious as in 1921–22, with the result that nearly 20,000,000 less bushels were harvested in 1922–23 than in 1921–22.

(ii) *Average Yields.* In the next table will be found the average yield of wheat per acre in each of the last five seasons, and for the decennium 1913-23 :—

WHEAT.—YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19 ..	7.60	11.40	4.83	10.49	7.72	15.66	10.00	9.47
1919-20 ..	2.98	7.75	6.71	7.77	10.77	18.58	5.85	7.16
1920-21 ..	17.79	17.19	20.91	15.80	9.60	20.01	23.27	16.08
1921-22 ..	13.39	16.80	18.37	10.46	10.41	20.62	14.07	13.28
1922-23 ..	9.74	13.50	12.91	11.73	8.92	22.56	13.85	11.21
Average 10 seasons, 1913-23	11.23	12.91	12.89	10.73	8.95	18.09	14.28	11.29

As the above figures show, there were considerable variations in the average yields, chiefly due to the vagaries of the seasons. For a series of years the yield in Australia generally averages 11 bushels to the acre, the average yield for the period 1860 to 1922-23 amounting to 10½ bushels. The excellence of the 1920-21 season is clearly reflected in the exceptional average of 16.08 bushels obtained in that year, an average which has been exceeded once only by the 16.35 bushels reaped as far back as 1866, when less than 1,000,000 acres were sown in relatively fertile areas.

(iii) *Relation to Population.* During the seasons embraced in the following table, the Australian production of wheat per head of population has varied between 8½ bushels in 1919-20 and 27 bushels in 1920-21. The State in which wheat-growing generally occupies the most important position relatively to population is South Australia, which in 1922-23 had a yield averaging 56 bushels per head. Queensland and Tasmania are the States in which the average production of wheat per head is least, the quantity raised being generally below that required for local consumption. Particulars for the past five seasons are as follows :—

WHEAT.—YIELD PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19 ..	9,342	17,559	148	50,115	28,554	919	161	14,885
1919-20 ..	2,153	9,884	423	31,105	34,278	1,017	424	8,667
1920-21 ..	26,594	25,828	4,928	69,749	37,024	2,659	-7,103	26,952
1921-22 ..	20,101	28,284	3,930	49,635	41,485	2,643	3,688	23,427
1922-23 ..	13,190	22,448	2,382	56,089	40,329	2,602	2,806	19,430

The normal annual consumption of wheat in Australia, exclusive of the requirements for seed, poultry and other live stock, is 318 lbs. (5.30 bushels) per head of population.

2. *Australian and Foreign Wheat Yields.*—(i) *Average Yield.* The next table gives the average return per acre in the principal wheat-growing countries of the world, ranging from Denmark with a maximum of 46 bushels per acre to Tunis, with a minimum of 5½ bushels per acre. Australia, with approximately 12½, occupies a relatively subordinate position.

WHEAT.—YIELD PER ACRE, VARIOUS COUNTRIES, 1919-1922.

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
Denmark ..	46.37	38.97	Bulgaria ..	13.54	16.94
Netherlands ..	39.76	33.54	Rumania ..	13.35	14.06
Belgium ..	35.66	35.35	Spain ..	13.31	12.17
Switzerland ..	31.10	22.87	United States ..	13.10	13.98
United Kingdom ..	31.06	31.46	Jugo-Slavia ..	(b)13.06	11.35
New Zealand ..	30.88	30.44	Australia ..	12.73	11.21
Sweden ..	30.12	26.34	Canada ..	12.66	17.83
Germany..	26.57	21.18	Argentine Republic	12.02	11.86
Egypt ..	24.89	24.14	India ..	11.42	12.98
Turkey in Asia ..	(e)22.12	(f)	Korea ..	11.23	8.68
Japan ..	21.82	22.48	Russia in Europe..	(a)10.85	9.57
Turkey in Europe ..	(e)20.97	(f)	Uruguay ..	10.79	7.43
Czecho-Slovakia ..	20.33	22.02	Greece ..	10.27	10.74
France ..	19.92	18.61	French Morocco ..	9.49	6.24
Chile ..	17.75	18.53	Russia in Asia ..	(a)8.92	7.78
Hungary ..	(b)16.33	15.79	Union of South		
Lithuania ..	15.40	16.88	Africa ..	8.64	(d)10.35
Austria ..	15.34	16.15	Algeria ..	8.21	5.88
Poland ..	15.34	16.49	Portugal ..	8.07	8.71
Italy ..	14.97	14.07	Mexico ..	(e)6.24	9.60
China ..	(c)14.03	(f)	Tunis ..	5.41	4.17

(a) Average 1909-1913. (b) Average for two years. (c) Year 1914. (d) Year 1921.
(e) Single year. (f) Not available.

(ii) *Total Production.* The latest available official statistics of the production of wheat in various countries are given in the following table:—

WHEAT.—YIELD IN VARIOUS COUNTRIES, 1919-1922.

Country.	Yield in Bushels (000 omitted).		Country.	Yield in Bushels (000 omitted).	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
United States ..	864.426	856.225	Poland ..	25.302	42.452
Russia in Europe ..	(a)663.896	158.419	Turkey in Europe	(c)24.212	(e)
China ..	(d)590.530	(e)	Chile ..	22.180	23.815
India ..	302.835	366.352	Algeria ..	21.447	18.233
Canada ..	255.773	399.793	French Morocco ..	19.193	12.894
France ..	249.165	243.317	Mexico ..	(b)14.594	13.626
Argentine Republic	188.034	189.047	Belgium ..	11.778	10.615
Italy ..	167.982	161.643	Greece ..	10.722	9.553
Russia in Asia ..	(a)151.112	45.322	Sweden ..	10.670	9.381
Turkey in Asia ..	(c)140.443	(e)	Korea ..	9.703	7.560
Spain ..	137.673	125.470	Portugal ..	9.324	9.782
Australia ..	106.979	109.455	Denmark ..	8.153	9.249
Germany..	89.798	71.934	Uruguay ..	7.887	3.674
Rumania..	68.968	92.023	Tunis ..	7.610	3.674
United Kingdom ..	66.649	65.248	New Zealand ..	7.330	8.395
Jugo-Slavia ..	(b)47.411	42.249	Union of South		
Hungary ..	(b)45.322	45.074	Africa ..	7.144	6.696
Egypt ..	32.953	36.648	Netherlands ..	6.629	5.236
Bulgaria ..	29.672	37.705	Austria ..	5.726	7.422
Japan ..	28.838	27.617	Switzerland ..	3.732	2.363
Czecho-Slovakia ..	26.805	33.621	Lithuania ..	2.562	3.274

(a) Average 1909-1913. (b) Average for two years. (c) Single year. (d) Year 1914.
(e) Not available.

NOTE.—The harvests reported above for 1922 relate to the year 1922 for the Northern, and 1922-23 for the Southern Hemisphere.

The compilation of the world's production of wheat during recent years has not been possible owing to the failure of certain countries, particularly Russia, to report their harvests. The Institute of Agriculture, Rome, has, however, compiled figures obtained from all the producing countries reporting, with the following results:—

WHEAT.—WORLD'S PRODUCTION, 1909-13 TO 1922.

Years.	Area.		Yield.	
	Acres.	Bushels.	Bushels.	Yield per acre.
Average, 1909-1913 ..	197,186,000	3,020,332,000	15.32	
1919	213,989,000	2,793,991,000	13.06	
1920	208,552,000	2,896,506,000	13.89	
1921	216,213,000	3,122,480,000	14.44	
1922	216,213,000	3,126,154,000	14.46	
Average, 1919-1922 ..	213,742,000	2,984,691,000	13.96	

It is stated in the Report of the Institute that if all countries for which progress data are lacking are taken into account, the world's total production of wheat may be approximately estimated at 4,500 million bushels.

The most striking feature in the world's wheat position has been the expansion of the area cultivated, followed by a decreased production owing to the reduced yields per acre. The decrease in the yields per acre was due to the fall in the European averages, and to the greater development of the extensive type of cereal cultivation in newer countries. The Australian contributions to the world's production during the past three years amounted to 3 per cent.

3. Prices of Wheat.—(i) *British Wheat.* Since the United Kingdom is the largest importer of Australian wheat, the price of wheat in the British markets is a matter of prime importance to the local producer. The table below gives the average prices per Imperial quarter realized for British-grown wheat:—

BRITISH WHEAT.—PRICES PER QUARTER, 1861 TO 1923.

Year.	Average for Year.	Highest Weekly Average.	Lowest Weekly Average.	Year.	Average for Year.	Highest Weekly Average.	Lowest Weekly Average.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>		<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
1861 ..	55 4	61 6	50 0	1917 ..	75 9	83 10	70 3
1871 ..	56 8	60 0	52 6	1918 ..	72 10	74 5	71 2
1881 ..	45 4	55 2	40 9	1919 ..	72 11	73 4	72 5
1891 ..	37 0	41 8	32 3	1920 ..	80 10	90 11	72 6
1901 ..	26 9	27 8	25 8	1921 ..	71 6	89 10	44 0
1911 ..	31 8	33 4	30 0	1922 ..	47 10	56 3	37 5
1916 ..	58 5	75 10	46 3	1923 ..	42 2	49 3	37 6

(ii) *Australian Export Values.* In the next table will be found a statement of the export values of Australian wheat during each of the last five years:—

AUSTRALIAN WHEAT.—EXPORT VALUES, 1918-19 TO 1922-23.

Heading.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	s. d.	s. d.	s. d.	s. d.	<i>s. d.</i>
Price per bushel ..	5 1	5 6	9 0	5 9	5 5

The export values here shown are the values for the successive years in the principal markets of Australia.

4. Imports and Exports of Wheat and Flour.—(i) *Quantities.* The table hereunder shows the imports, exports, and net exports of wheat and flour from 1918-19 to 1922-23. For the sake of convenience, flour has been expressed at its equivalent in wheat, 1 ton of flour being taken as equal to 50 bushels of grain. In ordinary seasons the Australian imports of wheat and flour are negligible. During the past five years the exports ranged between 51,235,322 bushels in 1922-23 and 117,933,923 bushels in 1921-22, the net exports for the period averaging 86,901,829 bushels.

WHEAT AND FLOUR.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.			Exports.			Net Exports.
	Wheat.	Flour.	Total.	Wheat.	Flour.	Total.	
	Bushels.	Eq. Bushels. ^a	Bushels.	Bushels.	Eq. Bushels. ^a	Bushels.	Bushels.
1918-19	50	2,750	2,800	44,563,597	24,169,750	68,733,347	68,730,547
1919-20	285	4,300	4,585	82,470,658	25,889,700	108,360,358	108,355,773
1920-21	1,170	3,850	5,020	76,791,883	11,486,250	88,278,133	88,273,113
1921-22	247	1,800	2,047	99,947,223	17,986,700	117,933,923	117,931,876
1922-23	15,288	2,200	17,488	31,510,272	19,725,050	51,235,322	51,217,834

(a) Equivalent in bushels of wheat.

(ii) *Destination of Exported Breadstuffs.* In the next two tables will be found a list of the principal countries to which Australia exported wheat and flour during each year of the period 1918-19 to 1922-23. The countries are as shown in the Australian Customs returns, but wheat ships are frequently instructed to call for orders at various ports, and the countries to which these ports belong cannot, therefore, always be considered as the ultimate destination of the whole of the wheat said to be exported to them.

WHEAT.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for Five Years.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
United Kingdom	9,104,560	50,074,725	38,709,680	40,914,035	10,762,600	149,565,600
Italy ..	2,950,015	1,397,738	2,219,143	18,447,762	11,647,165	36,661,823
Egypt ..	11,741,477	2,265,283	10,477,463	3,286,433	38,783	27,809,439
France ..	674,363	13,010,455	8,921,645	3,341,835	1,284,924	27,233,222
India ..	4,306,312	1,522,593	25,623	15,035,429	..	20,889,957
Japan ..	1,407,775	6,381,738	7,332	7,497,943	3,711,211	19,005,999
Belgium ..	..	..	5,754,723	1,312,480	178,930	7,246,133
Union of South Africa ..	541,778	1,220,147	1,157,778	1,331,417	2,545,162	6,796,282
Germany ..	..	..	2,504,690	2,996,292	397	5,501,379
New Zealand ..	1,452,625	2,393,667	602,843	73,539	..	4,522,674
Norway ..	1,369,105	1,645,125	342,510	960,855	117,012	4,434,607
Canary Islands ^(a) ..	..	624,425	3,532,793	236,807	..	4,394,025
United States ..	3,510,762	73,293	112	..	..	3,584,167
Netherlands ..	..	..	2,202,653	1,192,977	..	3,395,630
Sweden ..	2,134,500	523,065	..	..	412,547	3,070,112
Ceylon ..	2,142,212	52,645	303	257,098	993	2,453,251
Peru ..	660,318	131,023	..	697,205	167,110	1,655,656
Other Countries	2,567,795	1,154,736	332,592	2,365,116	643,500	7,063,739
Total ..	44,563,597	82,470,658	76,791,883	99,947,223	31,510,334	335,283,695

(a) For orders.

The exports of flour during the same period and the principal countries of destination were as follows :—

FLOUR.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	Total for Five Years.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Egypt	129,992	92,537	61,502	108,550	127,072	519,653
United Kingdom	136,254	72,828	81,952	103,634	83,804	478,472
Netherlands East Indies	34,929	42,070	15,388	41,826	50,899	185,112
Union of South Africa	12,892	39,513	41,458	24,947	39,250	158,060
Malaya (British)	24,386	63,508	8,264	20,471	32,619	149,248
Philippine Islands	27,180	39,942	3,040	10,749	10,292	91,203
Hong Kong	17,898	36,506	368	10,003	6,318	71,093
Italy	35,804	..	..	..	112	35,916
Japan	1,258	24,876	480	6,555	1,664	34,833
France .. .. .	..	33,407	..	..	..	33,407
India	23,629	486	4	657	1,063	25,839
Mauritius	1,968	4,532	3,320	5,639	8,757	24,216
Ceylon	47	8,191	755	6,282	7,681	22,956
New Caledonia	3,804	3,999	3,202	3,532	3,517	18,054
Fiji	2,212	2,257	1,362	2,484	2,602	10,917
Portuguese East Africa .. .. .	..	632	2,477	3,542	3,475	10,126
China	880	1,199	77	4,391	260	6,807
United States	3,865	..	..	..	113	3,978
Papua	429	879	636	322	378	2,644
New Zealand	511	256	137	95	84	1,083
Other Countries	25,457	50,176	5,303	6,055	14,541	101,532
Total	483,395	517,794	229,725	359,734	394,501	1,985,149

For the five years under review the export of wheat to the United Kingdom amounted to 149,565,600 bushels, or 45 per cent. of the total export for the period, while the export of flour to the United Kingdom aggregated 478,472 tons, or 24 per cent. of the total export. The largest purchaser of Australian flour during the last quinquennium was Egypt, followed by the United Kingdom, Netherlands East Indies, South Africa, and Malaya (British).

(iii) *Exports of Wheat and Flour.* From the foregoing returns it will be seen that the quantity of wheat exported in the form of flour during the past five years represents, on the average, about 23 per cent. of the total equivalent in wheat exported as wheat or flour from Australia.

A point of some interest in connexion with the export of wheat, and one which bears also on the proportion of wheat and flour exports just referred to, is that concerning the quantity of phosphoric acid which this export has the effect of removing from Australia, and the necessity which exists for the return to the soil of this substance in some form.

According to an estimate furnished by the chemist to the New South Wales Department of Agriculture (F. B. Guthrie, Esq., F.C.S., &c.), the proportions of milled product from a bushel (60 lbs.) of wheat are, approximately, 42 lbs. of flour, 9 lbs. of bran, and 9 lbs. of pollard, while the percentage of phosphoric acid contained in these products is as follows :—

Flour .. .. .	..	0.32 per cent.,	or	0.13 lb. per bushel.
Bran .. .. .	..	3.00	..	0.27
Pollard .. .. .	..	0.90	..	0.08

The total amount of phosphoric acid contained in a bushel of wheat, is, therefore, 0.48 lb., of which 0.13 lb. is in the flour and 0.35 lb. in the ofal.

During the last ten years the net exports from Australia of wheat and its milled products have amounted to 482,024,109 bushels of wheat, 3,071,119 tons of flour, and 2,584,195 bushels of bran, pollard, and sharps. On the basis of the figures quoted above this export would contain no less than 251,423,224 lbs. of phosphoric acid, the value of which as a fertilizer would amount to more than one million pounds sterling.

5. **Local Consumption of Wheat.**—The estimated consumption of wheat for food and for seed purposes in Australia during the past ten years is given in the following tables:—

WHEAT.—HUMAN CONSUMPTION, AUSTRALIA, 1914 TO 1922-23.

Year.	Flour Milled.	Net Exports of Flour.		Net Quantity Available for Home Consumption.		Net Quantity Available per Head of Population.	
		Flour.	Flour in Biscuits Exported.	Flour.	Equivalent in Terms of Wheat.	Flour.	Equivalent in Terms of Wheat.
	Tons.	Tons.	Tons.	Tons.	Bushels.	Tons.	Bushels.
1914 ..	713,845	174,180	2,400	537,265	26,863,250	.1081	5.405
1915 ..	541,810	7,633	2,160	532,017	26,600,850	.1070	5.350
1915-16 ..	577,038	146,618	2,650	427,770	21,388,500	.0861	4.305
1916-17 ..	869,975	290,572	2,885	576,518	28,825,900	.1172	5.860
1917-18 ..	985,761	374,062	9,810	601,889	30,094,450	.1208	6.040
1918-19 ..	1,046,268	483,340	6,437	556,491	27,824,550	.1095	5.475
1919-20 ..	1,050,228	517,708	4,590	527,930	26,396,500	.0995	4.975
1920-21 ..	801,511	229,648	3,375	568,488	28,424,400	.1050	5.250
1921-22 ..	911,452	359,698	2,284	549,470	27,473,500	.0997	4.986
1922-23 ..	985,479	394,457	1,831	589,191	29,459,550	.1046	5.230
Aggregate 10 years	8,483,367	2,977,916	38,422	5,467,029	273,351,450	.1060	5.299

WHEAT USED FOR SEED.—AUSTRALIA, 1913 TO 1922.

Year.	Area for Grain and Hay.	Wheat for Seed Purposes.		
		Quantity.	Per Acre.	Per Head of Population.
	Acres.	Bushels.	Bushels.	Bushels.
1913 ..	10,661,430	9,747,000	.914	1.992
1914 ..	11,012,679	10,059,000	.913	2.023
1915 ..	14,414,024	13,041,000	.905	2.624
1916 ..	12,894,917	11,523,000	.894	2.343
1917 ..	10,910,669	9,713,000	.890	1.949
1918 ..	9,428,398	9,054,000	.960	1.782
1919 ..	8,250,572	7,774,000	.942	1.466
1920 ..	10,271,055	9,471,000	.922	1.750
1921 ..	10,878,401	10,077,000	.926	1.847
1922 ..	11,253,078	10,456,000	.929	1.878
Aggregate for 10 years ..	109,975,223	100,915,000	.918	1.969

In addition to the above, the quantity of grain fed to poultry and other live stock must be taken into consideration. This varies from year to year according to the price of wheat, and from other causes, but data are not available on which to base an estimate of the quantities so consumed. The flour available for human consumption necessarily fluctuates from year to year coincident with stocks. In some years the flour available per head of population, after deducting net exports from quantity milled, shows a substantial increase over the average for the previous year, this, however, being counter-balanced by a decline in the following year. The average quantity of flour consumed

per annum for the ten years under consideration was 0.1060 tons per head of population, which, expressed in equivalent terms in wheat, represents 5.299 bushels. The estimates of quantity of grain used for seed purposes are based on data supplied by the Agricultural Departments of the several States giving average quantities of seed used per acre for wheat sown either for grain or hay. The average annual quantity thus used during the ten years was 1.969 bushels per head of population, and 0.918 bushels or 55 lbs. per acre sown.

6. Value of the Wheat Crop.—The estimated value of the wheat crop in each State and in Australia during the season 1922-23 is shown below:—

WHEAT.—VALUE OF CROP, (a) 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value..	7,881,730	9,370,520	492,932	7,076,159	3,493,228	142,397	1,970	28,458,936
Value per acre ..	£2/13/7	£3/10/10	£3/7/9	£2/17/8	£2/5/0	£5/12/10	£3/16/1	£2/18/4

(a) Exclusive of the value of straw.

7. Voluntary Wheat Pools.—Reference to the operations of the Voluntary Wheat Pools in the various States during 1923-24 will be found in the Appendix at the end of this volume.

§ 5. Oats.

1. Progress of Cultivation.—(i) *Area and Yield.* Oats came next in importance to wheat amongst the grain crops cultivated last season, but while wheat grown for grain accounted for 59.02 per cent., oats represented only 6.13 per cent. of the area under crop in Australia. The progress in cultivation of oats for the last five years is shown in the table hereunder, and more fully in the graphs hereinafter:—

OATS.—AREA AND YIELD, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19	86,421	342,867	298	160,823	141,459	36,231	53	768,152
1919-20	75,893	559,547	363	192,153	191,931	48,185	224	1,068,296
1920-21	77,537	443,636	4,690	167,001	193,486	50,474	172	936,996
1921-22	69,619	318,681	2,274	125,148	162,866	54,642	176	733,406
1922-23	73,635	492,356	1,216	173,716	214,269	58,813	371	1,014,376
YIELD.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19	1,272,411	5,274,984	3,632	1,540,603	1,499,689	848,420	1,341	10,441,080
1919-20	583,503	6,603,067	2,871	1,634,239	2,486,918	1,242,258	3,255	12,556,111
1920-21	1,640,552	10,907,191	103,933	2,331,067	2,022,031	1,514,155	2,148	18,521,077
1921-22	1,168,406	6,082,258	34,409	1,297,646	2,019,603	1,543,617	1,494	12,147,433
1922-23	1,243,198	8,093,459	19,499	1,681,783	2,261,863	1,674,751	7,602	14,982,155

The oat crop exhibited little variation during the past decennium, ranging on the average around 13,000,000 bushels. The demand for the grain for making oatmeal is limited to about 2,000,000 bushels annually. It is mainly used as feed grain, and its value, particularly in good seasons, is not sufficient to warrant the increase in cultivation which may be expected when oats is marketed through live stock and more remunerative prices thereby realized than those now offering on the local market.

The principal oat-growing State is Victoria, which produces more than half the total quantity of oats grown in all States. For Australia as a whole the record yield of oats was obtained in 1920-21, when 18,521,077 bushels were harvested.

(ii) *Average Yield.* The average yield per acre of oats varies considerably in the different States, being highest in Tasmania and lowest in South Australia. Particulars as to average yield in each of the last five seasons, and for the decennium 1913-23 are given in the succeeding table :—

OATS.—AVERAGE YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19	14.72	15.38	12.19	9.58	10.60	23.42	25.30	13.59
1919-20	7.71	11.80	7.91	8.50	12.96	25.78	14.53	11.75
1920-21	21.16	24.59	22.16	13.96	10.45	30.00	12.49	19.77
1921-22	16.78	19.09	15.13	10.37	12.40	28.25	8.49	16.56
1922-23	16.88	16.44	16.04	9.68	10.56	28.48	20.49	14.77
Average for 10 seasons 1913-23	16.45	17.27	16.43	10.46	11.37	25.44	16.77	15.49

The smallest average yield per acre ever recorded for Australia was that experienced in the abnormally dry season 1914-15, viz., 5.60 bushels, while the largest in the past ten years was that of the season 1915-16, amounting to 22.92 bushels per acre.

(iii) *Relation to Population.* The State in which oat production occupies the most important position in relation to population is Tasmania, the yield for that State representing about 6.39 bushels per head during the last five years, as compared with 2.54 bushels per head for Australia as a whole. Particulars for the seasons 1918-19 to 1922-23 are furnished in the succeeding table :—

OATS.—YIELD PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19	649	3,670	5	3,366	4,841	4,181	601	2,055
1919-20	286	4,393	4	3,393	7,595	5,917	1,696	2,367
1920-21	785	7,138	138	4,746	6,112	7,114	1,089	3,422
1921-22	549	3,922	45	2,582	6,026	7,067	724	2,205
1922-23	572	5,090	25	3,277	6,583	7,650	2,973	2,660

2. Comparison with Other Countries.—(i) Total Production. A comparison of the Australian production of oats with that of the leading oat-producing countries of the world is furnished in the following table :—

OATS.—PRODUCTION IN VARIOUS COUNTRIES, 1919-1922.

Country.	Yield in Bushels (000 omitted).		Country.	Yield in Bushels (000 omitted).	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
United States ..	967,952	972,400	Netherlands ..	17,311	13,660
Russia in Europe ..	(a)784,906	255,656	Turkey in Asia ..	(d)17,250	(e)
Canada ..	382,873	417,550	Jugo-Slavia ..	(b)16,460	14,041
Germany ..	261,565	221,317	Australia ..	14,409	14,982
France ..	187,518	230,614	Austria ..	12,957	14,653
United Kingdom ..	178,615	159,261	Lithuania ..	12,718	23,154
Poland ..	94,835	138,098	Norway ..	11,506	10,704
Russia in Asia ..	(a)86,149	28,874	Latvia ..	(b) 9,853	14,537
Sweden ..	58,421	63,163	Japan ..	8,830	10,749
Czecho-Slovakia ..	47,958	57,242	Algeria ..	7,449	4,456
Rumania ..	42,008	73,659	Turkey in Europe ..	(d)7,411	(e)
Denmark ..	40,143	46,723	Estonia ..	6,551	8,046
Argentine Republic	29,961	43,980	New Zealand ..	6,157	4,875
Spain ..	28,348	24,971	Union of South		
Italy ..	25,785	24,372	Africa ..	5,760	(c)6,482
Belgium ..	25,720	28,627	Bulgaria ..	5,187	7,315
Finland ..	20,493	22,559	Portugal ..	4,368	10,135
Hungary ..	(b)17,709	17,815			

(a) Average 1909-1913. (b) Average for two years. (c) Year 1921. (d) Single year. (e) Not available.

(ii) *Yield per Acre.* The average yield per acre of oats is very low in Australia compared with other countries where its cultivation is more extensive. Arranging the countries contained in the foregoing table according to the magnitude of average yield for the years specified, the results are as follows:—

OATS.—YIELD PER ACRE, VARIOUS COUNTRIES, 1919-1922.

Country.	Average Yield in Bushels per acre.		Country.	Average Yield in Bushels per acre.	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
Turkey in Asia ..	(d)45.41	(e)	Austria ..	20.48	20.82
Netherlands ..	44.48	34.84	Finland ..	20.06	22.82
Belgium ..	44.09	39.91	Rumania ..	19.69	22.35
Denmark ..	37.65	41.77	Estonia ..	18.91	20.17
United Kingdom ..	37.62	36.30	Russia in Europe ..	(a)18.66	15.73
New Zealand ..	37.09	39.58	Lithuania ..	18.06	30.11
Germany ..	34.10	27.97	Spain ..	17.87	16.49
Norway ..	33.62	35.59	Latvia ..	(b)17.07	21.52
Sweden ..	33.23	35.12	Bulgaria ..	16.21	20.80
Japan ..	(b)32.54	34.96	Jugo-Slavia ..	(b)16.20	14.28
Czecho-Slovakia ..	27.13	28.39	Australia ..	15.78	14.77
Poland ..	25.18	23.49	Russia in Asia ..	(a)15.01	14.13
Canada ..	24.00	28.72	Argentine Republic	13.89	16.80
France ..	23.44	27.16	Algeria ..	13.47	7.64
United States ..	23.05	23.90	Union of South		
Turkey in Europe ..	(d)22.93	(e)	Africa ..	9.66	(c)12.22
Italy ..	22.18	20.08	Portugal ..	9.18	21.04
Hungary ..	(b)20.99	21.77			

(a) Average 1909-1913. (b) Average for two years. (c) Year 1921. (d) Single year. (e) Not available.

3. *Price of Oats.*—The average wholesale prices of oats in the markets of the several capitals for the year 1922 are given in the following table:—

OATS.—AVERAGE WHOLESALE PRICES, 1922.

Particulars.	Sydney.(a)	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Average price per bushel ..	4 5	3 5½	2 9	2 10	3 4	3 3

(a) Year ended 30th June, 1923.

4. **Imports and Exports.**—The production of oats in Australia has not yet reached sufficient proportions to admit of a regular export trade; in fact in certain years the imports have exceeded the exports, notably in 1903, 1906, 1908, 1910, in each of the four years prior to 1916–17, and in 1922–23. The quantities and values of oats imported into and exported from Australia during the years 1918–19 to 1922–23 are given hereunder:—

OATS.—IMPORTS AND EXPORTS, AUSTRALIA, 1917–18 TO 1921–22.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1918–19 ..	41,728	9,713	149,413	35,326	107,685	25,613
1919–20 ..	146,700	41,759	290,323	83,175	143,623	41,416
1920–21 ..	139,728	30,057	865,588	143,874	725,860	113,817
1921–22 ..	14,880	2,569	325,792	49,980	310,912	47,411
1922–23 ..	557,523	90,255	35,895	7,506	—521,628	—82,749

NOTE.—(—) signifies net import.

The principal country from which imports of oats have been obtained is New Zealand, while the principal countries to which oats were exported during the period under review were New Zealand, Java, and the United Kingdom.

5. **Oatmeal, etc.**—Oatmeal, etc., is imported into Australia principally from the United Kingdom, the United States of America, and New Zealand. The total importations of oatmeal, wheatmeal, and rolled oats during 1922–23 amounted to 35,790 lbs., and represented a value of £722, while the exports amounted to 464,018 lbs., valued at £4,484, and were shipped mainly to Papua, New Zealand, and Pacific Islands.

6. **Value of Oat Crop.**—The estimated value of the oat crop of the several States of Australia for the season 1922–23 is as follows:—

OATS.—VALUE OF CROP, (a) 1922–23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£
Aggregate value ..	274,510	1,517,524	2,681	287,299	379,333	314,016	1,650	2,777,043
Value per acre ..	£3/14/7	£3/1/8	£2/4/1	£1/13/1	£1/15/5	£5/6/9	£4/8/11	£2/14/9

(a) Exclusive of the value of straw.

§ 6. Maize.

1. **States Growing Maize.**—The only States in which maize is extensively grown for grain are those of New South Wales and Queensland, the area so cropped in these two States during the season 1922–23 being 287,217 acres, or nearly 92 per cent. of the total for Australia. Of the balance, Victoria contributed 25,846 acres, South Australia 116 acres, and Western Australia 23 acres. The climate of Tasmania prevents the growing of maize for grain. In all the States, maize is grown to a greater or less extent as green forage, particularly in connexion with the dairying industry.

2. Progress of Maize-growing.—(i) *Area and Yield.* Notwithstanding its valuable properties and its pre-eminence as the world's most extensively grown cereal, the cultivation of maize has decreased in Australia by 25,000 acres during the past decennium. While increases in area were recorded in both Queensland and Victoria, the decline of nearly 50,000 acres in New South Wales was responsible for the reductions in the total for Australia. The maximum area sown to maize was 414,914 acres, as far back as 1910-11. This area was considerably in excess of the average planted during the last ten years, which amounted to 314,238 acres. The area and yield of maize for grain in each State are given in the following table for the last five years. The fluctuations from year to year are shown more fully on the graph hereinafter.

MAIZE.—AREA AND YIELD, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Nor. Ter.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19	114,582	22,559	149,505	112	39	15	..	236,812
1919-20	136,509	23,474	105,260	165	11	50	..	265,469
1920-21	144,105	24,149	115,805	199	19	6	..	284,283
1921-22	146,687	23,227	135,034	186	43	9	..	305,186
1922-23	138,169	25,846	149,048	116	23	..	..	313,202
YIELD.								
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19	2,091,921	711,679	4,105,974	1,756	623	200	..	6,912,153
1919-20	4,052,025	878,922	1,830,664	1,810	84	500	..	6,764,005
1920-21	4,176,000	1,065,880	2,012,864	3,738	240	60	..	7,258,782
1921-22	3,976,300	951,960	2,907,754	3,792	540	92	..	7,840,438
1922-23	3,287,500	879,915	3,217,848	2,716	335	..	..	7,388,314

The maximum production of maize in Australia was recorded in 1910-11, when the harvest exceeded 13,000,000 bushels. This figure has not been approached in recent years, the average for the past decade amounting to 8,000,000 bushels.

The expansion of maize-growing is hindered by unstable local markets, and by the development of dairying with its consequent increase in permanent pastures. It is, however, believed that the cereal will eventually become an important crop in Australia. Its suitability in crop rotation, coupled with the advance of closer settlement and irrigation, will doubtless lead to an extension in its cultivation. Moreover, the value of the grain for fattening stock is becoming more generally recognized, and the establishment of new industries which utilize it is creating a demand for an increased supply.

(ii) *Average Yield.* The following table gives particulars of the average yield per acre of the maize crops of the States for the seasons 1918-19 to 1922-23, and also for the decennium 1913-23 :—

MAIZE.—AVERAGE YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	N. Ter.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19 ..	18.26	31.55	27.46	15.68	15.97	13.33	..	24.10
1919-20 ..	29.68	37.44	17.39	10.97	7.64	10.00	..	25.48
1920-21 ..	28.98	44.14	17.38	18.78	12.63	10.00	..	25.53
1921-22 ..	27.11	40.99	21.53	20.39	12.56	10.22	..	25.69
1922-23 ..	23.79	34.04	21.59	23.41	14.57	..	..	23.59
Average for 10 seasons 1913-23	25.64	43.20	21.25	16.20	12.24	13.78	15.53	24.81

With the exception of Canada, the average yield of maize per acre in Victoria is the largest in the world. This is due, in large measure, to the fact that the area under maize in that State is comparatively small and is situated in districts peculiarly suited to its growth. The average yield in New South Wales exceeds that obtained in Queensland.

(iii) *Relation to Population.* During the past five seasons the Australian production of maize has averaged $1\frac{1}{2}$ bushels per head of population, while the average for Queensland, the State in which the production per head is highest, amounted to $3\frac{1}{2}$ bushels. Details for the several States during the past five seasons are as follows:—

MAIZE.—YIELD PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	N. Ter.	Fed. Cap. Ter.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19 ..	1,067	495	5,820	4	2	43	..	1,360
1919-20 ..	1,988	585	2,482	4	..	110	..	1,275
1920-21 ..	1,997	697	2,676	8	1	15	..	1,341
1921-22 ..	1,869	614	3,776	8	2	25	..	1,423
1922-23 ..	1,513	553	4,082	5	1	..	..	1,312

3. *Australian and Foreign Maize Production.*—(i) *Total Yield.* The United States of America is the most important maize-producing country of the world. On the average 100,000,000 acres are planted annually, and 3,000,000,000 bushels are reaped, representing nearly 70 per cent. of the world's production. Of the huge quantities raised in that country, more than 85 per cent. is fed to live stock on farms, while 10 per cent. is used for human food, and only a very small fraction, about $1\frac{1}{2}$ per cent., enters into international trade. The yields of the various countries are as follow:—

MAIZE.—PRODUCTION IN VARIOUS COUNTRIES, 1919-1922.

Country.	Yield in Bushels (000 omitted).		Country.	Yield in Bushels (000 omitted).	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
United States ..	2,874,304	2,890,688	Philippine Islands	15,172	14,651
Argentine Republic	221,761	153,142	France	11,924	12,675
Brazil	187,953	(g)180,579	Portugal	10,949	(g)11,374
Rumania	111,440	110,553	Belgian Congo ..	10,704	(f)10,712
China	(d)103,875	(h)	Salvador	(b)7,836	(f)10,662
India	91,307	(g)96,240	Greece	7,820	(g)7,874
Italy	89,157	76,796	Australia	7,288	7,388
Jugo-Slavia ..	(b)87,463	89,136	Columbia	(e)6,538	(h)
Mexico	(c)82,519	68,261	Czecho-Slovakia ..	6,509	9,884
Russia in Europe ..	(a)70,222	67,426	Indo-China	(i)6,286	(f)5,733
Egypt	65,399	(g)61,654	Japan	6,208	(g)6,895
Dutch East Indies	55,375	47,500	Uruguay	5,773	8,628
Union of South Africa	41,496	50,390	Peru	(b)4,724	(h)
Hungary	(b)40,933	32,494	Guatemala	4,448	5,412
Spain	26,048	26,832	French Morocco ..	4,307	4,564
Turkey in Europe ..	(c)22,204	(h)	Madagascar	3,867	(g)4,240
Turkey in Asia ..	(c)22,036	(h)	Rhodesia	3,576	5,179
Bulgaria	20,900	15,479	Korea	(a)2,257	2,902
Russia in Asia ..	(a)15,793	(h)	Austria	2,255	3,477
Canada	15,396	13,798	Poland	(b)674	2,776

(a) Average 1909-1913. (b) Average for two years. (c) Single year. (d) Year 1914. (e) Year 1915. (f) Year 1920. (g) Year 1921. (h) Not available. (i) Average 1914-1918.

(ii) *Yield per Acre.* The average yield per acre of maize in Australia during 1922 was 23.6 bushels, which may be regarded as satisfactory when compared with those of other maize-producing countries, the yields per acre for which are shown in the following table:—

MAIZE.—YIELD PER ACRE IN VARIOUS COUNTRIES, 1919-1922.

Country.	Average Yield per acre in Bushels.		Country.	Average Yield per acre in Bushels.	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
Canada	54.14	43.34	Russia in Europe	(a)17.25	12.47
Peru	(b)36.30	(h)	Greece	16.58	(g)15.93
Egypt	33.74	(g)29.56	Columbia	(e)15.74	(h)
United States	29.41	28.22	Portugal	15.23	(g)15.93
Madagascar	29.12	(g)18.87	Salvador	14.70	(f)17.12
Turkey in Europe	(c)28.81	(h)	Bulgaria	14.67	11.79
Argentine Republic	28.17	19.51	Korea	(a)14.43	(f)12.79
Australia	25.57	23.59	France	14.38	16.05
Czecho-Slovakia	24.84	25.24	Poland	(b)13.99	15.18
Italy	24.02	20.15	Mexico	(c)13.54	15.93
Japan	22.92	(g)24.79	China	(d)13.22	(h)
Turkey in Asia	(c)21.25	(h)	India (British)	13.01	(g)15.19
Austria	21.24	23.44	Russia in Asia	(a)13.00	(h)
Rhodesia	19.81	23.54	Dutch East Indies	12.43	12.22
Brazil	(h)	(f)33.51	Philippine Islands	12.15	10.78
Hungary	(b)19.57	18.94	Union of South Africa	(b)10.38	(f)12.50
Jugo-Slavia	(b)19.16	18.10	Uruguay	9.94	11.18
Rumania	18.55	13.14	Guatemala	8.68	11.91
Indo-China	(i)18.29	(f)14.34	French Morocco	8.21	8.52
Spain	17.27	23.14			

(a) Average 1909-1913. (b) Average for two years. (c) Single year. (d) Year 1914. (e) Year 1915. (f) Year 1920. (g) Year 1921. (h) Not available. (i) Average 1914-1918.

4. Price of Maize.—The average wholesale price of maize in the Sydney market for each of the last five years is given in the following table:—

MAIZE.—AVERAGE PRICE, SYDNEY, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Average price per bushel ..	s. d. 6 11½	s. d. 8 11	s. d. 6 6	s. d. 5 2	s. d. 6 1

5. Oversea Imports and Exports.—The Australian oversea trade in maize is practically insignificant, imports or exports depending on the success or failure of the local crop. During the past five years, owing to drouthy conditions, the average annual import amounted to 418,032 bushels. Details of imports and exports for the years 1918-19 to 1922-23 are as follow:—

MAIZE.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1918-19	255,605	73,774	84,119	20,804	171,486	52,970
1919-20	494,278	153,361	6,632	3,001	487,646	155,360
1920-21	96,536	40,097	77,489	27,162	19,047	12,935
1921-22	45,066	9,791	36,320	9,023	8,746	768
1922-23	1,198,673	264,758	8,426	2,736	1,190,247	262,022

The principal countries to which maize is exported from Australia are New Zealand and the Pacific Islands, while South Africa supplies the bulk of the imports.

6. **Prepared Maize.**—A small quantity of corn-flour is imported annually into Australia, the principal countries of supply being the United Kingdom and the United States of America. During the year 1922-23 the imports amounted to 970,580 lbs., and represented a value of £10,660. The exports from Australia are small, and totalled only 67,896 lbs., valued at £1,447 in 1922-23.

7. **Value of Maize Crop.**—The value of the Australian maize crop for the season 1922-23 has been estimated at £2,083,728, made up as follows :—

MAIZE.—VALUE OF CROP, 1922-23.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Australia.
	£	£	£	£	£	£
Aggregate value	1,041,020	263,975	777,647	951	135	2,083,728
Value per acre	£7/10/8	£10/4/3	£5/4/4	£8/4/0	£5/17/5	£6/13/1

§ 7. Barley.

1. **Progress of Cultivation.**—(i) *Area and Yield.* The area under barley in Australia has fluctuated very considerably, but results for the past ten years show a marked rise. The average annual area sown for the decennium 1913 to 1923 amounted to 247,889 acres, which was nearly double the average of the previous ten-yearly period, *i.e.*, 125,220 acres. Victoria was originally the principal barley-growing State, but the rapid expansion of the cultivation of this crop in South Australia during recent years brought the latter State into the lead in 1913-14, and, during 1922-23, the area under barley in South Australia accounted for nearly 63 per cent. of the Australian acreage. Victoria was next in importance with 30 per cent., leaving a small margin of about 7 per cent. distributed among the other States. The figures here given relate to the areas harvested for grain; small areas only are cropped for hay, while more considerable quantities are cut for green forage. These, however, are not included in this sub-section. The area and yield of barley for grain in the several States are shown in the following table for the last five years, while the progress since 1860 is illustrated in the graphs hereinafter :—

BARLEY.—AREA AND YIELD, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
AREA.							
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	7,980	100,198	1,316	130,357	7,982	7,036	254,869
1919-20 ..	5,354	85,323	3,275	157,897	9,167	6,293	267,309
1920-21 ..	5,969	93,954	15,908	202,079	10,686	6,151	334,747
1921-22 ..	5,031	100,127	7,730	170,887	7,894	7,241	298,910
1922-23 ..	3,899	102,773	5,292	215,283	9,243	5,706	342,196
YIELD.							
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19 ..	86,313	2,028,635	8,824	2,417,349	81,451	141,149	4,763,721
1919-20 ..	38,892	1,528,654	34,892	2,448,936	116,037	120,516	4,287,927
1920-21 ..	123,290	2,495,762	317,511	3,946,062	111,405	161,346	7,155,376
1921-22 ..	83,950	2,336,246	133,885	3,278,787	85,857	166,960	6,085,685
1922-23 ..	55,520	2,442,041	93,693	3,697,849	107,804	152,028	6,548,935

The States where the annual production of barley averaged over 1,000,000 bushels for the past decade were South Australia and Victoria, the yields being respectively 2,265,213 and 1,874,977 bushels, the higher return in the latter State tending to diminish the advantage held by South Australia in regard to acreage.

(ii) *Malting and other Barley.* (a) *Year 1922-23.* In recent years the statistics of all the States have distinguished between "malting" and "other" barley. Particulars for the season 1922-23 are as follows:—

BARLEY, MALTING AND OTHER.—AREA AND YIELD, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Malting barley ..	2,253	64,648	4,634	197,619	4,939	5,066	279,159
Other barley ..	1,646	38,125	658	17,664	4,304	640	63,037
Total ..	3,899	102,773	5,292	215,283	9,243	5,706	342,196
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
Malting barley ..	29,860	1,525,744	82,979	3,450,120	58,332	136,059	5,283,144
Other barley ..	25,660	916,297	10,714	247,729	49,422	15,969	1,265,791
Total ..	55,520	2,442,041	93,693	3,697,849	107,804	152,028	6,548,935

The cultivation of malting barley is a special industry to meet the demands of the local brewing trade. Its expansion, however, appears to be restricted, although of late years the exports have increased. Taking Australia as a whole, more than 80 per cent. of the area under barley in 1922-23 was sown with the malting variety. The proportion varies considerably in the several States.

(b) *Progress of Cultivation.* The following table sets out the acreage and yield of malting and other barley in Australia as a whole during the past five seasons:—

BARLEY, MALTING AND OTHER.—AREA AND YIELD, AUSTRALIA, 1918-19 TO 1922-23.

Season.	Acres.			Bushels.			Average Bushels per Acre.		
	Malting.	Other.	Total.	Malting.	Other.	Total.	Malting.	Other.	Total.
1918-19 ..	179,186	75,683	254,869	3,419,863	1,343,858	4,763,721	19.09	17.76	18.69
1919-20 ..	204,752	62,557	267,309	3,352,027	935,900	4,287,927	16.37	14.96	16.04
1920-21 ..	249,908	84,839	334,747	5,248,861	1,906,515	7,155,376	21.00	22.47	21.38
1921-22 ..	218,662	80,248	298,910	4,430,599	1,655,086	6,085,685	20.26	20.62	20.36
1922-23 ..	279,159	63,037	342,196	5,283,144	1,265,791	6,548,935	18.93	20.08	19.14
Average 10 seasons									
1913-23	177,039	70,850	247,889	3,282,802	1,314,186	4,596,988	18.54	18.55	18.54

During the past ten seasons the area and production of malting barley have represented more than twice the corresponding figures for other barley. The average yield per acre differs very little in respect of the two classes, the results for the past ten-yearly period being practically identical.

(iii) *Average Yield.* The average yield of barley per acre varies considerably in the different States, being as a rule highest in Tasmania and Victoria, and lowest in Western Australia. Details for each State during the past five seasons, and for the decennium 1913-23, are given in the following table:—

BARLEY.—YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19	10.82	20.25	6.71	18.54	10.20	20.06	18.69
1919-20	7.26	17.92	10.65	15.51	12.66	19.15	16.04
1920-21	20.66	26.56	19.96	19.53	10.43	26.23	21.38
1921-22	16.69	23.33	17.32	19.19	10.88	23.06	20.36
1922-23	14.24	23.76	17.70	17.18	11.66	26.64	19.14
Average for 10 seasons 1913-23	14.29	21.61	17.01	17.19	11.10	21.83	18.54

(iv) *Relation to Population.* During the last five seasons the quantity of barley produced in Australia averaged 1 bushel per head of population. For the season 1922-23 the production ranged from 7½ bushels per head in South Australia to 1½ lbs. per head in New South Wales. Details for the years 1918-19 to 1922-23 are as follows:—

BARLEY.—PRODUCTION PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1918-19	44	1,411	13	5,282	263	696	937
1919-20	19	1,017	47	5,085	354	574	808
1920-21	59	1,633	422	8,034	337	758	1,322
1921-22	39	1,506	174	6,524	256	764	1,104
1922-23	26	1,536	119	7,206	314	694	1,163

2. *Comparison with Other Countries.*—(i) *Total Yield.* In comparison with the barley production of other countries, that of Australia appears extremely small. Particulars for some of the leading countries during recent years are as follows, the Australian figure being added for the purpose of comparison:—

BARLEY.—PRODUCTION IN VARIOUS COUNTRIES, 1919-22.

Country.	Yield in Bushels (000 omitted).		Country.	Yield in Bushels (000 omitted).	
	Average, 1919-1921.	1922.		Average, 1919-1921.	1922.
Russia in Europe ..	(a)449,081	107,146	Turkey in Europe	(c)16,724	(f)
China	(d)163,127	(f)	Jugo-Slavia ..	(b)12,757	10,102
United States ..	149,214	178,662	Sweden	11,518	13,277
India (British) ..	126,874	140,134	Egypt	10,393	10,854
Turkey in Asia ..	(c)111,069	(f)	Bulgaria	8,705	11,464
Japan	88,210	83,653	Italy	7,859	7,923
Spain	83,710	74,433	Mexico	(e)6,741	(f)
Germany	78,921	70,884	Tunis	6,609	1,764
United Kingdom ..	59,163	53,312	Syria	(b)6,544	8,047
Canada	57,410	68,989	Lithuania ..	5,854	10,296
Rumania	46,240	90,028	Australia ..	5,840	6,549
Poland	39,240	57,177	Greece	5,782	6,817
Korea	36,356	31,573	Finland	5,361	4,375
Russia in Asia ..	(a)35,323	(f)	Norway	4,779	4,303
Czecho-Slovakia ..	34,009	44,498	Latvia	(b)4,585	6,499
France	32,956	39,273	Austria	4,393	5,375
French Morocco ..	31,090	26,141	Estonia	4,238	6,403
Denmark	24,569	29,216	Chile	4,206	5,165
Hungary	(b)20,679	20,041	Belgium	4,137	3,301
Algeria	20,290	19,013	Argentine Republic	3,910	7,350

(a) Average 1909-1913.

(b) Average for two years.

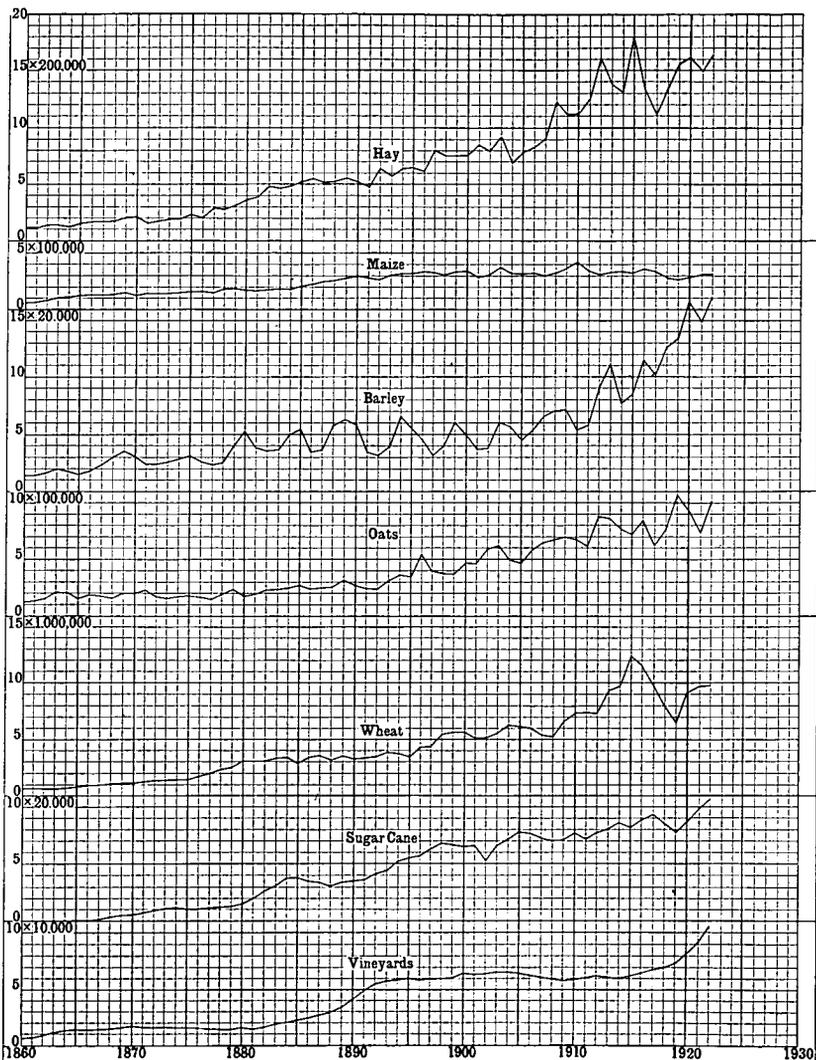
(c) Single year.

(d) Year 1914.

(e) Average for three years.

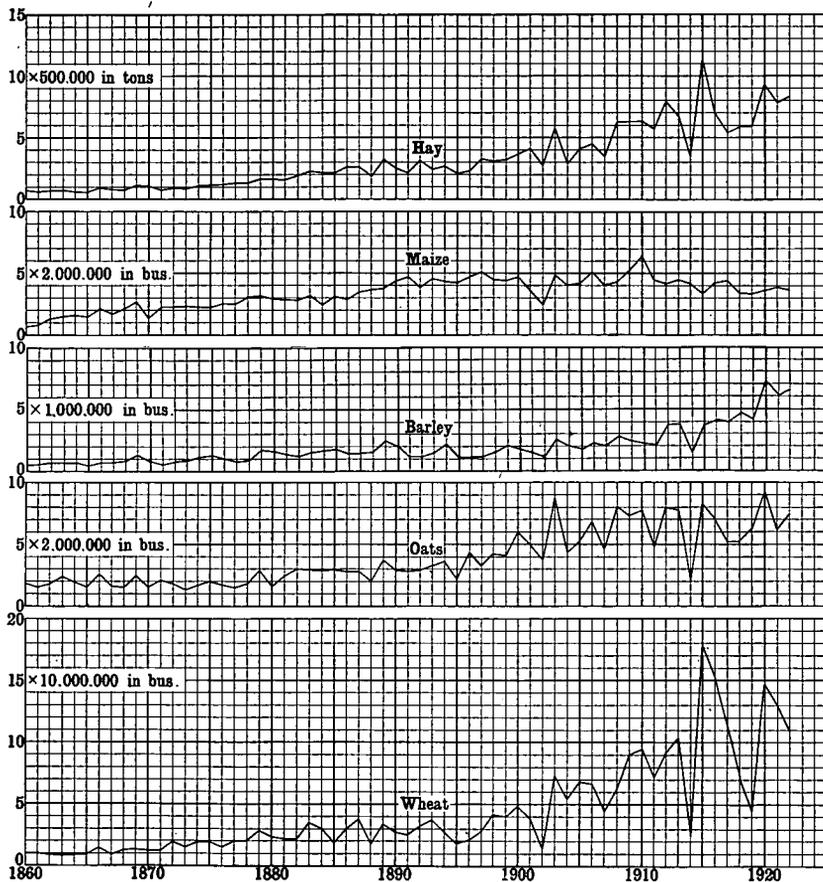
(f) Not available.

AREA UNDER PRINCIPAL CROPS—AUSTRALIA, 1860 TO 1922-23.



EXPLANATION.—The base of each small square represents an interval of one year, while the vertical height represents a number of acres, varying with the nature of the crop in accordance with the scale given on the left of the graph. The height of each curve above its base line denotes, for the crop to which it relates, the total area under cultivation in Australia during the successive seasons.

PRODUCTION OF PRINCIPAL CROPS—AUSTRALIA, 1860 TO 1922-23.



EXPLANATION.—A separate base line is provided for each of the crops dealt with. In each instance the base of a small square represents an interval of one year, the vertical height of such square representing in the case of wheat, 10,000,000 bushels; oats, 2,000,000 bushels; barley, 1,000,000 bushels; maize, 2,000,000 bushels; and hay, 500,000 tons. The height of each curve above its base line denotes the aggregate yield in Australia of the particular crop during the successive seasons.

(ii) *Yield per Acre.* The following table shows the average yield of barley per acre in various countries of the world, the return ranging from 46.92 bushels in Belgium to 4.70 bushels in Mexico:—

BARLEY.—AVERAGE YIELD PER ACRE IN VARIOUS COUNTRIES, 1919-1922.

Country.	Yield in Bushels per acre.		Country.	Yield in Bushels per acre.	
	Average. 1919-1921.	1922.		Average. 1919-1921.	1922.
Belgium	46.92	41.08	Austria	17.83	17.17
Denmark	37.99	43.82	Korea	17.51	(f)18.71
Turkey in Asia ..	(c)31.56	(g)	Hungary	(b)16.88	17.74
United Kingdom ..	31.13	31.51	China	(d)16.80	(g)
Chile	30.87	35.25	Bulgaria	16.72	21.47
Norway	30.66	32.59	Russia in Europe	(a)16.01	14.27
Turkey in Europe	(c)30.20	(g)	Estonia	15.77	19.33
Japan	29.96	30.47	Italy	15.59	13.75
Egypt	28.58	31.08	Rumania	14.95	21.09
Sweden	28.56	31.08	Lithuania	14.84	24.71
Germany	27.55	24.90	Greece	14.50	17.05
Czecho-Slovakia ..	24.20	26.69	Jugo-Slavia	(b)13.89	10.74
France	21.61	22.93	Latvia	(b)13.65	16.79
Canada	21.55	26.54	French Morocco ..	13.13	10.26
United States ..	20.83	24.18	Russia in Asia ..	(a)12.13	9.46
Poland	20.62	20.24	Algeria	10.08	6.63
Australia	19.44	19.13	Argentine Republic	6.15	12.25
Finland	18.90	15.81	Tunis	6.08	2.93
India (British) ..	18.80	19.05	Mexico	(e)4.70	(g)
Spain	18.05	18.23	Syria	(g)	12.14

(a) Average 1909-1913. (b) Average for two years. (c) Single year. (d) Year 1914.
 (e) Average for three years. (f) Year 1921. (g) Not available.

3. *Price of Barley.*—The average price of barley in the Melbourne market during each of the past five years is given in the following table:—

BARLEY.—AVERAGE MELBOURNE PRICE PER BUSHEL, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	s. d.	s. d.	s. d.	s. d.	s. d.
Malting barley	5 9	5 9½	7 3	4 5	4 1½
Cape barley	4 0	4 6½	6 3	3 5	3 0

4. *Imports and Exports.*—Although the Australian oversea trade in barley is not large, increased quantities were shipped overseas during the past four years. The grain was mainly consigned to the United Kingdom and Belgium, South Australia being the principal exporting State. Particulars of the Australian overseas imports and exports for the years 1918-19 to 1922-23 are contained in the following table:—

BARLEY.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1918-19	456	203	176,478	49,573	176,022	49,370
1919-20	438	236	1,075,446	364,809	1,075,008	364,573
1920-21	20	45	3,209,734	778,615	3,209,714	778,570
1921-22	7,052	1,891	1,935,830	396,883	1,928,778	394,992
1922-23	34	18	2,213,184	432,326	2,213,150	432,308

During some years there is an export of Australian pearl and Scotch barley, the total for 1922-23 reaching 92,242 lbs., valued at £686. The trade for the year was mainly with the South African Union.

5. Imports and Exports of Malt.—In pre-war times the imports of malt into Australia were fairly extensive, the supply being obtained principally from the United Kingdom. Since the outbreak of the war in 1914, however, imports have continuously declined, and in 1917-18 and 1920-21 fairly large quantities were exported to South Africa and Japan. Details of imports and exports for the years 1918-19 to 1922-23 are given hereunder:—

MALT.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Bushels.	£	Bushels.	£	Bushels.	£
1918-19 .. ..	..	1	..	..	..	— 1
1919-20 .. ..	..	..	..	..	..	..
1920-21	5	8	139,908	80,575	139,903	80,567
1921-22	40	43	7,553	3,238	7,513	3,195
1922-23	28	63	4,618	2,006	4,590	1,943

NOTE.—The minus sign — signifies net imports.

6. Value of Barley Crop.—The estimated values of the barley crop of Australia for the seasons 1918-19 to 1922-23 were £1,221,863, £1,360,411, £1,522,915, £1,139,736, and £1,220,703. The extent to which the several States have contributed to the total in 1922-23 is shown in the following table:—

BARLEY.—VALUE OF CROP (a), 1922-23.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Total value ..	£11,270	£450,229	£15,091	£681,751	£23,422	£38,940	£1,220,703
Value per acre ..	£2/17/10	£4/7/7	£2/17/0	£3/3/4	£2/10/8	£6/16/6	£3/11/4

(a) Exclusive of the value of straw.

§ 8. Other Grain and Pulse Crops.

In addition to the grain crops already specified, the only other grain and pulse crops extensively grown in Australia are beans, peas, and rye. The total area under the two former crops for the season 1922-23 was 41,823 acres, giving a yield of 758,310 bushels, or an average of 18.13 bushels per acre, being greater than the average yield for the decennium ended 1922-23, which was 15.79 bushels per acre. The States in which the greatest area is devoted to beans and peas are Tasmania, Victoria and South Australia. The total area under rye in Australia during the season 1922-23 was 4,148 acres, yielding 47,942 bushels, and giving an average of 11.56 bushels per acre. This was higher than the average for the past ten seasons, which was 10.94 bushels per acre. Over 39 per cent. of the rye grown during the season was produced in New South Wales, and 33 per cent. in Victoria. In addition to these grain crops a small area of rice has for some years been cultivated in Queensland and the Northern Territory. The results obtained, however, have not up to the present been very satisfactory. Should rice-growing be seriously taken up in Australia, it is probable that large tracts of country in the northern parts of Queensland and Western Australia, and in the Northern Territory, will be found well suited to its cultivation.

§ 9. Potatoes.

1. Progress of Cultivation.—(i) *Area and Yield.* The principal potato-growing State is Victoria, which possesses peculiar advantages for the growth of the tuber. The rainfall is generally satisfactory, while the atmosphere is sufficiently dry to be unfavourable to the spread of Irish blight, consequently potatoes are grown in nearly every district except in the wheat belt. Tasmania comes next in order of importance, followed by New South Wales.

The area and production of potatoes in each State during the last five years are given hereunder :—

POTATOES—AREA AND YIELD, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
AREA.								
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	20,877	51,620	6,434	3,275	3,936	25,023	2	111,169
1919-20 ..	20,036	53,918	4,432	3,411	3,585	28,511	7	113,900
1920-21 ..	27,667	62,687	8,770	4,811	4,254	32,000	6	140,195
1921-22 ..	29,491	63,895	9,553	5,795	3,612	36,795	3	149,144
1922-23 ..	22,556	61,741	7,649	5,749	3,621	34,407	12	135,735
YIELD.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19 ..	30,353	137,533	11,083	13,219	11,697	56,528	3	260,416
1919-20 ..	49,962	145,888	7,844	11,020	13,240	66,225	24	294,203
1920-21 ..	63,234	171,628	19,068	17,057	13,368	88,679	22	373,056
1921-22 ..	57,825	173,660	16,794	18,573	13,605	107,624	10	388,091
1922-23 ..	35,694	148,354	10,517	17,356	15,198	101,201	32	328,352

(a) Includes 2 acres in Northern Territory.

The production of potatoes in Australia decreased by about 32,000 tons during the past decade, the decline being confined to New South Wales and Tasmania. The average yield during the last ten years amounted to 346,997 tons, which is considerably below the maximum production of 507,153 tons obtained in 1906-7.

(ii) *Average Yield.* The suitability of the soil, climate, and general conditions for potato growing is evidenced by the satisfactory yields per acre which are generally obtained in Australia, despite the little attention paid to this crop, the average yield during the past ten seasons being 2.52 tons per acre. The lowest average yield is that obtained in Queensland with an average of 1.82 tons for the same period.

Particulars for each State for the seasons 1918-19 to 1922-23, and also for the past decennium, are given hereunder :—

POTATOES.—YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19 ..	1.45	2.66	1.72	4.04	2.97	2.26	1.50	2.34
1919-20 ..	2.49	2.71	1.77	3.23	3.69	2.32	3.43	2.58
1920-21 ..	2.29	2.74	2.17	3.55	3.14	2.77	3.67	2.66
1921-22 ..	1.96	.72	1.76	3.21	3.77	2.92	3.33	2.60
1922-23 ..	1.58	2.40	1.37	3.02	4.20	2.94	2.67	2.42
Average for 10 seasons 1913-23	2.06	2.67	1.82	3.16	3.21	2.57	2.39	2.52

The decline in the average yield per acre in Australia was responsible for the decreased production during the last ten years. This decline was in evidence in the chief producing States, and for Australia as a whole averaged 7 cwts. per acre. In Tasmania, where the decrease was highest, the average yield diminished by 1½ tons during the past decennium. The comparatively low yield per acre is due to neglect of rotation with a leguminous crop, and to failure to apply sufficient quantities of manure, both of which matters receive careful attention in Europe, where the production per acre is double that obtained in Australia.

(iii) *Relation to Population.* The average annual production of potatoes per head of the population of Australia for the past five seasons was approximately 136 lbs. In Tasmania, where this crop is of far greater importance in relation to population than is the case in any other State, the production per head in 1906-7 was nearly a ton, while for the past five seasons it has averaged about 7½ cwt. Details for the seasons 1918-19 to 1922-23 are as follows :—

POTATOES.—PRODUCTION PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19 ..	15	96	16	29	38	279	1	51
1919-20 ..	25	97	11	23	40	315	12	55
1920-21 ..	30	112	25	35	40	417	11	69
1921-22 ..	27	112	22	37	41	493	5	70
1922-23 ..	16	93	13	34	44	462	13	58

2. *Imports and Exports.*—Under normal conditions there is a moderate export trade in potatoes carried on by Australia principally with New Zealand, the Pacific Islands and the Philippine Islands. On the other hand, when the recurrence of droughts causes

a shortage in some of the States, importations are usually made from New Zealand. The quantities and values of the Australian oversea imports and exports of potatoes during the past five years are shown in the following table :—

POTATOES.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Imports.		Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1918-19	308	3,570	6,742	50,308	6,434	46,738
1919-20	2,614	41,391	1,455	22,954	1,159	18,437
1920-21	56	746	1,130	13,222	1,074	12,476
1921-22	59	499	2,540	21,611	2,481	21,112
1922-23	72	957	2,061	23,599	1,989	22,642

NOTE.—The minus sign — signifies net imports.

3. Value of Potato Crop.—The estimated value of the potato crop of each State for the season 1922-23 is given in the following table, together with the value per acre :—

POTATOES.—VALUE OF CROP, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
Total value ..	£379,250	£1,261,009	£77,826	£166,721	£149,510	£870,328	£340	£2,904,984
Value per acre	£16/16/3	£20/8/6	£10/3/6	£29/0/0	£41/5/10	£25/5/11	£28/6/8	£21/8/0

§ 10. Other Root and Tuber Crops.

1. Nature and Extent.—Root crops, other than potatoes, are not extensively grown in Australia, the total area devoted to them for the season 1922-23 being only 18,078 acres. The principal of these crops are onions, mangolds, sugar beet, turnips, and "sweet potatoes." Of these, onions, sugar beet and mangolds are most largely grown in Victoria, turnips in Tasmania, and sweet potatoes in Queensland. The total area under onions in Australia during the season 1922-23 was 7,665 acres, giving a yield of 48,424 tons, and averaging 6.32 tons per acre. The area devoted in 1922-23 to root crops other than potatoes and onions, viz., 10,413 acres, yielded 68,772 tons, and gave an average of 6.60 tons per acre. The areas and yields here given are exclusive of the production of "market gardens," reference to which is made further on.

2. Imports and Exports.—The only root crop, other than potatoes, in which any considerable oversea trade is carried on by Australia is that of onions. During the past five years 3,853 tons, valued at £59,401, were imported, principally from New Zealand, Japan, and the United States, while during the same period, the exports totalled 22,083 tons, valued at £244,050, and were shipped mainly to New Zealand, the Pacific Islands, the Philippines, and the United States of America.

§ 11. Hay.

1. *Nature and Extent.*—(i) *Area and Yield.* As already stated, the most important crop of Australia is that of wheat grown for grain. Next to this in importance is the hay crop, which for the season ended 1922-23 averaged over 20 per cent. of the area under crop in Australia. In most European countries the hay crop consists almost entirely of meadow and other grasses, but in Australia a very large proportion is composed of wheat and oats. Large quantities of lucerne hay are made also, particularly in New South Wales and Queensland. The area under hay of all kinds in the several States during the last five years is given hereunder. The progress from 1860 onwards may be traced from the graph accompanying this chapter.

HAY.—AREA AND YIELD, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	N. Ter.	Fed. Cap. Ter.	Aus-tralia.
AREA.									
	Acrs.	Acrs.	Acrs.	Acrs.	Acrs.	Acrs.	Acrs.	Acrs.	Acrs.
1918-19	813,379	984,479	54,772	501,731	249,796	87,136	30	1,581	2,692,904
1919-20	936,729	1,116,998	48,843	590,835	327,498	102,908	100	1,671	3,125,582
1920-21	853,109	1,333,397	94,212	570,865	266,824	113,618	10	1,154	3,233,189
1921-22	749,738	1,159,135	98,155	559,285	335,561	91,443	12	1,190	2,994,519
1922-23	888,250	1,261,408	78,050	577,810	431,633	100,088	10	1,207	3,338,456
YIELD.									
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19	751,247	1,113,861	92,230	567,941	250,014	115,896	30	2,383	2,893,602
1919-20	578,232	1,242,489	41,804	598,954	379,025	143,053	500	2,354	2,986,411
1920-21	1,372,801	1,984,854	116,709	769,050	264,244	176,798	20	1,855	4,686,331
1921-22	1,027,833	1,548,453	138,675	680,201	368,720	136,991	25	1,291	3,902,189
1922-23	1,059,529	1,665,089	101,069	697,189	457,371	167,282	10	1,450	4,148,989

In all the States marked fluctuations occur yearly in the area under hay. These fluctuations are due to various causes, the principal being the variations in the relative prices of grain and hay, and the favourableness or otherwise of the season for a grain crop. Thus, crops originally sown for grain are frequently cut for hay owing to the improved price of that commodity, or owing to the fact that the outlook for grain is not satisfactory. On the other hand, improved grain prices or the prospect of a heavy yield will frequently cause crops originally intended for hay to be left for grain. The area under hay in Australia during the season 1915-16, *i.e.*, 3,597,771 acres, was the highest on record, whilst the average during the past decennium amounted to 2,925,048 acres.

(ii) *Average Yield.* The States in which the highest average yields per acre have been obtained during the last decennium are Tasmania and Queensland, in which States also the smallest areas are devoted to this crop. For the same period the lowest yield for Australia as a whole was that of 13 cwt. per acre in 1914-15; while the highest was that of 31½ cwt. in 1915-16, followed closely by 29 cwt. obtained

in 1920-21. The average for the decennium was 24½ cwt. Particulars for the several States for the seasons 1918-19 to 1922-23, and the average for the last ten years, are given hereunder :—

HAY.—YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19	0.92	1.13	1.68	1.13	1.00	1.33	1.00	1.51	1.07
1919-20	0.62	1.11	0.86	1.01	1.16	1.39	5.00	1.41	0.96
1920-21	1.61	1.49	1.24	1.35	0.99	1.56	2.00	1.61	1.45
1921-22	1.37	1.34	1.41	1.22	1.10	1.50	2.08	1.08	1.30
1922-23	1.19	1.32	1.29	1.21	1.06	1.67	1.00	1.20	1.24
Average for 10 seasons 1918-23	1.17	1.31	1.32	1.16	1.02	1.39	2.51	1.40	1.22

(iii) *Relation to Population.* During the past five seasons the Australian hay production per head of population has varied between 11½ cwt. in 1919-20 and 17½ cwt. in 1920-21; averaging nearly 14 cwt. per head for the period. Hay production per head of population is highest in South Australia. Details for the seasons 1918-19 to 1922-23 are given hereunder :—

HAY.—YIELD PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19	383	775	131	1,241	807	571	6	1,068	569
1919-20	284	827	57	1,244	1,158	681	110	1,227	563
1920-21	657	873	155	1,566	799	831	5	941	866
1921-22	483	998	180	1,353	1,100	627	7	625	708
1922-23	488	1,047	128	1,359	1,331	764	3	567	737

(iv) *Varieties Grown.* Particulars concerning the kinds of crop cut for hay are furnished in the returns prepared by five of the States. In the case of Tasmania the bulk consists of oaten hay; full particulars, however, are not available for that State.

Details for the past five seasons are given in the following table :—

HAY.—VARIETIES GROWN, 1918-19 TO 1922-23.

Varieties.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
NEW SOUTH WALES—					
Wheaten	612,771	716,341	520,417	467,068	597,959
Oaten	152,057	171,113	259,022	203,074	216,136
Barley	1,238	1,718	1,832	899	1,265
Lucerne	46,336	46,542	70,995	77,527	72,337
Other	977	1,015	843	1,170	553
Total	813,379	936,729	853,109	749,738	888,250

HAY.—VARIETIES GROWN, 1918-19 TO 1922-23—*continued.*

Varieties.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	Acres.	Acres.	Acres.	Acres.	Acres.
VICTORIA—					
Wheaten	274,320	417,221	165,502	130,181	213,219
Oaten	691,808	681,179	1,140,578	1,001,256	1,021,216
Lucerne, etc.	18,351	18,598	27,317	27,698	26,973
Total	984,479	1,116,998	1,333,397	1,159,135	1,261,408
QUEENSLAND—					
Wheaten	1,902	11,710	14,024	13,837	8,834
Oaten	1,803	2,488	19,229	12,480	4,542
Lucerne	48,264	29,348	53,059	67,183	60,042
Other	2,803	5,297	7,900	4,655	4,632
Total	54,772	48,843	94,212	98,155	78,050
SOUTH AUSTRALIA—					
Wheaten	358,068	450,371	329,543	325,769	359,834
Oaten	138,507	134,775	231,446	225,878	208,769
Lucerne	2,106	2,167	3,938	4,145	4,973
Other	3,050	3,522	5,938	3,493	4,234
Total	501,731	590,835	570,865	559,285	577,810
WESTERN AUSTRALIA—					
Wheaten	190,399	234,772	169,264	222,209	307,142
Oaten	58,551	91,152	96,228	111,386	123,232
Lucerne	137	206	146	125	142
Other	709	1,368	1,186	1,841	1,117
Total	249,796	327,498	266,824	335,561	431,633

Wheaten hay is the principal hay crop in New South Wales, South Australia, and Western Australia, oaten hay in Victoria and Tasmania, and lucerne in Queensland.

2. *Comparison with Other Countries.*—As already noted, the hay crops of most European countries consist of grasses of various kinds, amongst which clover, lucerne, sainfoin and rye grass occupy prominent places. The statistics of hay production in these countries are not prepared on a uniform basis, consequently any attempt to furnish extensive comparisons would be misleading. It may be noted, however, that in Great Britain the production of hay from clover, sainfoin, etc., for the year 1923 amounted to 3,484,000 tons from 2,229,354 acres, while from permanent grasses a yield of 5,113,000 tons of hay was obtained from 4,509,700 acres, giving a total of 8,597,000 tons from 6,739,054 acres, or about 25½ cwt. per acre.

3. *Imports and Exports.*—Under normal conditions hay, whether whole or in the form of chaff, is somewhat bulky for oversea trade, and consequently does not in such circumstances figure largely amongst the imports and exports of Australia. During 1922-23, 136 tons were imported, while the exports amounted to 2,906 tons, valued at £19,653, the principal purchases being made by the Philippine Islands, Malaya (British) and India.

4. Value of Hay Crop.—The following table shows the value and the value per acre of the hay crop of the several States for the season 1922-23 :—

HAY.—VALUE OF CROP, 1922-23.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	£	£	£	£	£	£	£	£	£
Total Value ..	10,654,350	7,909,172	548,462	2,597,029	1,627,480	652,400	50	14,880	24,003,823
Value per acre	£11/19/11	£6/5/5	£7/0/7	£4/0/11	£3/15/5	£6/10/4	£5/0/0	£12/6/7	£7/3/10

§ 12. Green Forage.

1. Nature and Extent.—(i) *Area*. In all the States a considerable area is devoted to the production of green forage, mainly in connexion with the dairying industry. The total area so cropped during the season 1922-23 was 893,871 acres, to which New South Wales contributed nearly 60 per cent., or 499,679 acres, the bulk of which consisted of wheat deemed unsuitable for the production of grain or hay. Under normal conditions the principal crops cut for green forage are maize, sorghum, oats, barley, rye, rape, and lucerne, while small quantities of sugar-cane also are so used. Particulars concerning the area under green forage in the several States during each of the last five years are given in the following table :—

GREEN FORAGE.—AREA, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19	331,079	73,641	90,635	56,067	28,141	6,327	..	50	586,440
1919-20	1,007,478	89,802	157,568	114,126	27,007	5,271	..	28	1,401,280
1920-21	112,003	79,524	142,554	40,678	26,620	5,575	..	..	406,954
1921-22	128,965	89,410	147,135	50,121	27,396	9,481	..	..	452,508
1922-23	499,679	102,451	188,636	61,000	32,997	9,073	..	35	893,871

(ii) *Relation to Population*. Particulars of the area under green forage per 1,000 of the population for the seasons 1918-19 to 1922-23 are given hereunder :—

GREEN FORAGE.—AREA PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	169	51	128	113	91	34	..	22	115
1919-20 ..	494	60	214	237	82	25	..	15	264
1920-21 ..	54	52	190	83	80	26	..	..	75
1921-22 ..	61	58	191	100	82	43	..	..	82
1922-23 ..	230	64	239	119	96	41	..	14	159

2. Value of Green Forage Crops.—The value of these crops is variously estimated in the several States, and the Australian total for the season 1922-23 may be taken approximately as £2,501,565, or about £2 16s. 0d. per acre.

§ 13. Sugar-cane and Sugar-beet.

1. **Sugar-cane.**—(i) *Area.* Sugar-cane is grown for sugar-making purposes in two of the States of Australia, viz., Queensland and New South Wales, and much more extensively in the former than in the latter. Thus, of a total area of 216,886 acres under sugar-cane in Australia for the season 1922-23, there were 202,303 acres, or about 93½ per cent., in Queensland. Sugar-cane growing appears to have been started in Australia in or about 1862, as the earliest statistical record of sugar-cane as a crop is that which credits Queensland with an area of 20 acres for the season 1862-3. In the following season the New South Wales returns show an area of 2 acres under this crop. The area under cane in New South Wales reached its maximum in 1895-6 with a total of 32,927 acres. Thenceforward with slight variations it gradually fell to 14,583 acres in 1922-23. In Queensland, although fluctuations in area are manifest, the general trend has been upwards, the acreage under cane for the season 1922-23 being the highest on record. The area under sugar-cane in Australia from 1918-19 is given in the following table, and particulars for earlier years may be seen from the accompanying graphs :—

SUGAR-CANE.—AREA, 1918-19 TO 1922-23.

Season.	New South Wales.		Queensland.		Australia.		
	Productive.	Unproductive.	Productive.	Unproductive.	Productive.	Unproductive.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	4,566	5,924	111,572	48,962	116,138	54,886	171,024
1919-20 ..	4,827	5,741	84,877	63,592	89,704	69,333	159,037
1920-21 ..	5,519	5,863	89,142	73,477	94,661	79,340	174,001
1921-22 ..	5,400	7,380	122,956	61,557	128,356	68,937	197,293
1922-23 ..	5,879	8,704	140,850	61,453	146,729	70,157	216,886

(ii) *Productive and Unproductive Cane.* The areas given in the preceding table represent sugar-cane grown for purposes other than green forage. The whole area was not necessarily cut for crushing during any one season, there being always a considerable amount of young and "stand over" cane, as well as a small quantity required for plants. The season in which the highest acreage is recorded may not show the greatest area of productive cane cut for crushing, but both records were obtained in the latest season under review, i.e., 1922-23.

(iii) *Yield of Cane and Sugar.* Queensland statistics of the production of sugar-cane are not available for dates prior to the season 1897-8. In that season the total for Australia was 1,073,883 tons, as against the maximum production of 2,879,092 tons in 1917-18. The second highest yield was in the season 1921-22, with a total of 2,436,890 tons. The average production of cane during the decennium ended 1922-23 was 1,964,201 tons. The three highest yields of sugar were in 1917-18, 1922-23, and 1921-22, the quantities

being 327,589 tons, 306,365 tons, and 300,004 tons respectively. The decennial average was 235,529 tons of sugar. Particulars relative to the total yields of cane and sugar for the past five years are as follows:—

SUGAR-CANE.—YIELD OF CANE AND SUGAR, 1918-19 TO 1922-23.

Season.	New South Wales.		Queensland.		Australia.	
	Cane.	Sugar.	Cane.	Sugar.	Cane.	Sugar.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19 ..	105,234	12,278	1,674,829	189,978	1,780,063	202,256
1919-20 ..	91,321	10,837	1,258,760	162,136	1,350,081	172,973
1920-21 ..	131,313	15,124	1,339,455	167,401	1,470,768	182,525
1921-22 ..	149,474	17,806	2,287,416	282,198	2,436,890	300,004
1922-23 ..	147,992	18,580	2,167,990	287,785	2,315,982	306,365

The cane cut in 1923 was approximately 2,193,000 tons. The season, particularly in the southern districts, was very dry, but the sugar content was high, as is usually the case in dry seasons, and 288,000 tons of sugar were obtained from crushing. In accordance with the agreement made by the Commonwealth Government respecting the yields for the three years 1920, 1921, and 1922, the sugar industry progressed considerably. The guaranteed price induced mill-owners to make considerable additions to plant, thereby increasing the efficiency of the mills, while farmers in nearly every district put new areas under cane, using in many cases land that had lain unproductive for years.

A preliminary estimate of the production of sugar in 1924 places the amount at 370,000 tons.

Large quantities of molasses are produced as a by-product in the sugar mills; details for a series of years of the quantity produced and proportions used for distilling, fuel, manure and other purposes will be found in Chapter XXII.—“Manufacturing.”

(iv) *Average Yield of Cane and Sugar.* The average yield per acre of productive cane is much higher in New South Wales than in Queensland, the average during the last decade being 26.59 tons for the former and 17.49 for the latter State. For some years prior to 1910-11, the yield in New South Wales remained practically constant at about 21 tons per acre. Since that year, the average yield per acre has shown an upward tendency, reaching 30 tons or over during 1913-14, 1914-15, and 1917-18. The climatic conditions affecting the tremendous length of coastline where this industry is situated in Queensland are largely responsible for the great variations in the yields of sugar for that State, the figures ranging during the past decennium from 12.20 tons per acre in 1915-16 to 24.88 tons in 1917-18.

The greatest production of sugar per acre crushed in Australia during the past quinquennium occurred in 1917-18, when 2.87 tons were obtained, the respective crushings for New South Wales and Queensland averaging 3.56 and 2.83 tons. The average yield per acre for the past ten years was 3.11 tons in New South Wales, and 2.10 tons in Queensland.

(v) *Quality of Cane.* The quantity of cane required to produce a ton of sugar varies not only with the district in which the cane is grown, but also with the season, and for the decennium ended 1922-23 averaged 8.34 tons, the average production of sugar being approximately 11.98 per cent. of the weight of cane crushed. The systematic study of beet culture in European countries has shown that by suitable methods the sugar contents of the root can be greatly increased, and it is believed that a similar improvement can be effected in the yield from sugar-cane.

SUGAR-CANE AND SUGAR.—YIELD PER ACRE, 1918-19 TO 1922-23.

Season.	New South Wales.			Queensland.			Australia.		
	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19	23.05	2.69	8.57	15.01	1.70	8.82	15.33	1.74	8.80
1919-20	18.92	2.25	8.43	14.83	1.91	7.76	15.05	1.93	7.81
1920-21	23.79	2.74	8.68	15.03	1.88	8.00	15.54	1.93	8.06
1921-22	27.68	3.30	8.40	18.60	2.30	8.11	18.99	2.34	8.12
1922-23	25.17	3.16	7.97	15.39	2.04	7.53	15.78	2.09	7.56
Average 10 seasons 1913-23 ..	26.59	3.11	8.54	17.49	2.10	8.32	17.95	2.15	8.34

The Bureau of Sugar Experiment Stations established in Queensland is rendering excellent service to the sugar industry in that State, by advocating and demonstrating better methods of cultivation, the use of green manures, lime, and fertilizers, together with the introduction and distribution of improved varieties of sugar cane. The results of its activities may be seen in the improved yield of cane and sugar per acre during recent years, and the gain in the sugar content of the cane. The amount of cane required to make one ton of sugar decreased from 9.00 tons to 8.32 tons during the past decennium, while the season 1922 shows the lowest figure yet recorded, viz., 7.53 tons.

(vi) *Relation to Population.* The production of sugar in Australia during the five years 1918-19 to 1922-23 was not sufficient to supply local requirements, the average production during the period amounting to 96½ lbs. per head of population, while the consumption was estimated to average 117 lbs. per head. Details for the period 1918-19 to 1922-23 are as follows :—

SUGAR.—PRODUCTION PER HEAD OF POPULATION, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales ..	14	12	16	19	19
Queensland	603	492	498	821	818
Australia	89	73	76	122	122

If preliminary figures of the output for the years 1923 and 1924 be taken, the production during the five seasons ended 1924-25 will meet local requirements.

2. *Sugar-beet.*—(i) *Area and Yield.* The following table shows the acreage under sugar-beet, and the production in Victoria during the past five seasons :—

SUGAR-BEET.—AREA AND PRODUCTION IN VICTORIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Area harvested .. acres	1,009	1,090	1,180	1,600	2,045
Production .. tons	12,290	13,195	7,147	16,577	20,444
Average per acre ..	12.18	12.11	6.06	10.36	10.00
Sugar produced ..	1,263	1,551	833	1,872	2,784

During the 1922-23 season growers were paid 42s. 6d. per ton for their beets. Weather conditions were suitable, and the sugar content of the beets was high. A profit of £13,290 was realized by the Sugar-beet Factory as the result of the year's transactions.

(ii) *Encouragement of Beet-growing.* During recent years an effort has been made to revive the sugar-beet industry in Victoria. The State Government is proceeding with a comprehensive irrigation scheme at Maffra, where the sugar-beet factory is situated. When completed, this scheme will make available for beet-growing large areas of land hitherto unsuitable. In view of the prospective expansion of the area under beet the State Government has decided to remodel the plant, and the preliminary arrangements in connexion with this work are now in hand. A sum of £65,000 has been voted for the purpose. A fine grade of white sugar is manufactured at Maffra and considerable quantities of beet pulp and molasses are distributed for stock feed.

3. Sugar Bounties.—The provision of bounties or similar aids to the sugar-growers of Australia early occupied the attention of the Commonwealth Parliament, the object in view being that of assisting the industry, and at the same time diminishing the employment of coloured labour in connexion therewith. An account of the various Acts in connexion with sugar bounties and sugar excise tariffs will be found on pages 394 to 396 of Year Book No. 6. In 1912 the Sugar Excise Repeal Act and the Sugar Bounty Abolition Act were passed by the Federal Parliament, conditionally on the Queensland Parliament approving of legislation prohibiting the employment of coloured labour in connexion with the industry. The State Sugar Cultivation Act, the Sugar Growers Act, and the Sugar Growers' Employees Act of 1913, having been approved of, the 1912 Federal Acts, which repeal all previous enactments in regard to excise on sugar and bounty on cane, came into force by proclamation in July, 1913.

4. Sugar Purchase by Commonwealth Government.—Particulars of the purchase by the Commonwealth Government of the Australian sugar output from 1915 onwards, together with the agreement made between the Commonwealth and Queensland Governments covering the three seasons ended 1922, will be found on page 277 of Year Book No. 15, 1922.

On the termination of the 1922 sugar season in June, 1923, the Commonwealth Government announced that the agreement fixing the price of raw sugar at £30 6s. 8d. per ton would not be renewed. The embargo against the importation of black-grown sugar was to be continued for a further period of two years from date, on condition that a pool, free from Commonwealth Government control, would be formed to buy raw sugar for the ensuing season at not more than £27 per ton, and to arrange with the Colonial Sugar Refining Company and the Millaquin Company for refining and distribution. Allowing three months for the disposal of the 57,500 tons of carry-over sugar, the retail price was to be reduced in October, 1923, to 4½d. per lb., while special concessions were to be made to manufacturers using sugar in goods for export.

The price of raw sugar in the 1924-25 season was to be fixed by a competent tribunal after investigation, such price not to exceed £27 per ton. The embargo was to be definitely withdrawn on 30th June, 1925, and after that date the sugar industry was to be protected from unfair competition by means of the Customs Tariff.

In terms of the Commonwealth Government's proposals a tribunal was appointed in April, 1924, and after investigation, determined that the present price of £27 per ton for raw sugar should be continued for the 1924-25 season.

5. Imports and Exports of Sugar.—The production of sugar in Australia during the five years ended 1922-23 was not sufficient to supply the growing requirements of Australian consumption. It was found necessary to import annually on the average some 55,400 tons, valued at £2,331,399, the principal countries engaged in supplying this commodity being Java and Fiji. Particulars concerning the imports and exports of cane sugar for the past five years are as follows :—

CANE SUGAR.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Oversea Imports.		Oversea Exports.		Net Imports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
1918-19	52,569	1,052,124	2,029	52,136	50,540	999,988
1919-20	112,805	4,359,203	2,825	83,729	109,980	4,275,474
1920-21	116,274	6,560,373	4,190	220,965	112,084	6,339,408
1921-22	6,888	174,850	1,918	60,145	4,970	114,705
1922-23	4,551	87,317	5,127	159,897	-576	-72,580

Note.—The minus sign (—) signifies net exports.

§ 14. Vineyards.

1. Progress of Cultivation.—(i) *Area of Vineyards.* The date of introduction of the vine into Australia has been variously set down by different investigators, the years 1815 and 1828 being principally favoured. It would seem, however, that plants were brought out with the first fleet which initiated the colonization of Australia in 1788, consequently the Australian vine is as old as Australian settlement. As already mentioned, a report by Governor Hunter gives the area under vines in 1797 as 8 acres. From New South Wales the cultivation spread to Victoria and South Australia, and these States have now far outstripped the mother State in the area under this crop. In Queensland and Western Australia also, vine-growing has been carried on for many years, but the progress of the industry in these States has been negligible. In Tasmania the climate is not favourable to the growth of grapes. The purposes for which grapes are grown in Australia are three in number, viz. :—(a) for wine-making, (b) for table use, and (c) for drying. The total area under vines in the several States during each of the last five years is given in the following table, while particulars from 1860 onwards may be gathered from the graph accompanying this chapter :—

VINEYARDS.—AREA, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19	8,740	26,072	1,287	31,023	2,936	There are no vineyards in Tasmania.	70,058
1919-20	8,923	27,441	1,203	32,784	2,975		73,326
1920-21	10,783	29,255	1,256	36,661	3,210		81,165
1921-22	12,583	33,175	1,281	41,424	3,951		92,414
1922-23	13,734	38,892	1,242	46,750	4,858		105,476

The area under vines in Australia amounted to 65,673 acres in 1904-5. From that year onwards a gradual decline set in, and at the end of 1914-15 the acreage had decreased to 60,985. Since that date, however, as the result of satisfactory annual increases, the 1904-5 figure was soon exceeded, and the total for 1922-23 was the highest recorded.

The wine-growing industry in Australia, especially in Victoria and New South Wales, received a severe check by various outbreaks of phylloxera. With a view to the eradication of this disease extensive uprooting of vineyards in the infested areas was undertaken, while further planting within such areas, except with phylloxera-resistant stocks, was prohibited.

(ii) *Wine Production.* The production of wine has not increased as rapidly as the suitability of soil and climate would appear to warrant. The cause is probably twofold, being due in the first place to the fact that Australians are not a wine-drinking people, and consequently do not provide a local market for the product, and in the second to the

fact that the new and comparatively unknown wines of Australia find it difficult to establish a footing in the markets of the old world, owing to the competition of well-known brands. Active steps are being taken in various ways to bring the Australian wines under notice, and it may be confidently expected that when their qualities are duly recognized the wine production of Australia will increase. Particulars of the quantity of wine produced in the several States during the past five seasons are given in the table hereunder :—

WINE.—PRODUCTION, 1918-19 TO 1922-23.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	No production of wine in Tasmania.	Gallons.
1918-19 ..	555,770	1,349,309	44,491	6,544,125	199,142		8,692,837
1919-20 ..	717,893	1,634,680	48,495	5,085,939	162,397		7,649,404
1920-21 ..	674,188	2,222,305	71,403	7,893,345	152,979		11,014,220
1921-22 ..	627,105	1,355,066	57,793	6,370,310	152,299		8,562,573
1922-23 ..	771,206	1,717,490	53,171	8,653,579	232,347		11,427,793

(iii) *Relation to Population.* In relation to population the areas of the vineyards of the several States show an upward tendency during the last five years, the Australian total increasing from 14 to 19 acres per 1,000 of the population during the period. Details for the seasons 1918-19 to 1922-23 are given in the succeeding table :—

VINEYARDS.—AREA PER 1,000 OF POPULATION, 1918-19 TO 1922-23.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	4	18	2	68	9	..	14
1919-20 ..	4	18	2	68	9	..	14
1920-21 ..	5	19	2	75	10	..	15
1921-22 ..	6	21	2	82	12	..	17
1922-23 ..	6	24	2	91	14	..	19

2. *Imports and Exports of Wine.*—(i) *Imports.* The principal countries of origin of wine imported into Australia are France, Spain, Portugal, and Italy, the bulk of the sparkling wines coming from France. Particulars relative to the importations of wine into Australia during the past five years are given hereunder :—

WINE.—IMPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1918-19 ..	7,551	30,464	38,015	16,226	21,121	37,347
1919-20 ..	34,383	57,211	91,594	118,164	50,112	168,276
1920-21 ..	39,665	63,824	103,489	135,169	58,248	193,417
1921-22 ..	7,398	37,814	45,212	20,781	35,830	56,611
1922-23 ..	15,368	43,199	58,567	41,305	32,692	73,997

(ii) *Exports.* The principal countries to which wine is exported from Australia are the United Kingdom and New Zealand, a small but fairly regular export trade being also carried on with India, Ceylon, and the Pacific Islands. Details concerning the exports of wine from Australia during the past five years are given in the following table :—

WINE.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Quantity.			Value.		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
	Gallons.	Gallons.	Gallons.	£	£	£
1918-19 ..	7,970	695,536	703,506	16,883	184,285	201,168
1919-20 ..	6,112	795,049	801,161	12,482	221,741	234,223
1920-21 ..	9,669	1,098,678	1,108,347	19,105	291,856	310,961
1921-22 ..	2,177	602,853	605,030	5,451	155,487	160,938
1922-23 ..	2,607	703,710	706,317	5,626	159,368	164,994

3. *Other Viticultural Products.*—(i) *Table Grapes.* In addition to grapes for wine-making purposes, large quantities are grown in all the States for table use, while, particularly in Victoria and South Australia, the drying of raisins and currants is also carried on. The quantities of table grapes grown in the several States during the past five seasons are as follows :—

TABLE GRAPES.—PRODUCTION, 1918-19 TO 1922-23.

Season.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918-19 ..	2,415	2,052	614	1,745	1,892	..	8,718
1919-20 ..	2,678	3,502	613	1,129	2,161	..	10,083
1920-21 ..	2,660	2,471	649	955	2,088	..	8,823
1921-22 ..	2,914	3,075	602	1,027	1,894	..	9,512
1922-23 ..	3,513	3,304	570	1,314	2,344	..	11,045

(ii) *Raisins and Currants.* Statistics of the quantities of raisins and currants dried during each of the past five seasons are given in the following table :—

RAISINS AND CURRANTS.—QUANTITIES DRIED, 1918-19 TO 1922-23.

Season.	N.S. Wales.		Victoria.		South Aust.		Western Aust.		Australia.	
	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1918-19 ..	3,496	2,450	135,060	68,234	29,662	59,834	2,163	2,157	170,381	132,675
1919-20 ..	7,084	2,465	211,307	55,661	58,502	80,400	3,923	5,090	280,816	143,616
1920-21 ..	4,448	2,469	116,887	62,919	39,534	65,307	7,308	5,856	168,177	136,551
1921-22 ..	6,696	4,189	190,451	75,042	66,083	76,534	6,790	6,371	270,020	162,136
1922-23 ..	11,253	5,768	285,520	98,081	69,261	96,807	6,748	9,250	372,782	209,906
Average 10 seasons 1913-23	7,892		159,852	64,136	47,164	62,142	3,239	3,563	347,988	

4. Imports and Exports of Raisins and Currants.—The following table gives the oversea imports and exports of raisins and currants during each of the past five years :—

**RAISINS AND CURRANTS.—IMPORTS AND EXPORTS, AUSTRALIA,
1918-19 TO 1922-23.**

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
RAISINS.						
	lbs.	£	lbs.	£	lbs.	£
1918-19..	28,818	927	3,111,055	95,523	3,082,237	94,596
1919-20..	42,169	2,201	8,839,839	359,561	8,797,670	357,360
1920-21..	14,997	1,366	11,816,126	520,293	11,801,129	518,927
1921-22..	219,499	12,021	13,206,052	550,838	12,986,553	538,817
1922-23..	81,018	5,292	19,240,729	721,641	19,159,711	716,349
CURRANTS.						
1918-19..	19,909	505	3,470,803	100,326	3,450,894	99,821
1919-20..	2,877	120	7,947,811	246,382	7,944,934	426,262
1920-21..	3,573	300	5,994,580	208,743	5,991,007	208,443
1921-22..	3,577	102	10,941,175	344,238	10,937,598	344,136
1922-23..	3,236	90	14,502,772	404,184	14,499,536	404,094

The quantities of raisins and currants imported into Australia were generally greater than the exports for all years prior to 1912, when the increased production in Australia left a surplus available for export. During the last five years the value of the exports exceeded that of the imports by £3,528,805, the average annual excess for the quin-
quennium being £705,761.

§ 15. Orchards and Fruit Gardens.

1. Progress of Cultivation.—(i) *Area.* Fruit-growing has made rapid progress in Australia during recent years, the area devoted thereto having increased in the past ten years by no less than 84,025 acres. The States in which the increase is most marked are :—Victoria, 26,711 acres ; New South Wales, 17,967 acres ; Tasmania, 14,970 acres ; and Queensland, 9,395 acres. During the same period the South Australian fruit-growing area increased by 8,500 acres, while that in Western Australia exhibited an increase of 6,463 acres. The total area under orchards and fruit gardens in the several States is given in the following table :—

ORCHARDS AND FRUIT GARDENS.—AREA, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	67,432	85,130	24,250	30,085	20,412	37,424	18	264,751
1919-20 ..	72,802	86,336	24,636	30,617	19,815	37,687	1	271,894
1920-21 ..	75,904	87,768	26,927	31,364	19,570	37,013	5	278,551
1921-22 ..	75,746	89,491	28,035	32,295	19,012	36,565	5	281,149
1922-23 ..	73,134	86,014	29,431	33,003	19,405	34,689	11	275,687

(ii) *Varieties and Yield.* The varieties grown differ in various parts of the States, ranging from such fruits as the pineapple, paw-paw, mango, and guava of the tropics, to the strawberry, the raspberry, and the currant of the colder parts of the temperate zone. The principal varieties grown in Victoria are the apple, peach, pear, plum, orange, and apricot. In New South Wales, citrus fruits (orange, lemon, etc.) occupy the leading position, although apples, peaches, plums, pears and bananas are extensively grown. In Queensland, the banana, the pineapple, the orange, the apple, the peach, and the coconut are the varieties most largely cultivated. In South Australia, in addition to the apple, orange, apricot, peach, plum, and pear, the almond and the olive are extensively grown. In Western Australia, the apple, orange, pear, peach, plum, apricot and fig are the chief varieties. In Tasmania, the apple occupies nearly four-fifths of the fruit-growing area, but small fruits, such as the currant, raspberry, and gooseberry are extensively grown, while the balance of the area is taken up with the pear, apricot, plum, and cherry. The following table gives the acreage under the principal kinds of fruit, and the quantity and value of fruit produced. The acreages are exclusive of young trees not yet bearing. Although statistics of area are not collected annually in Victoria, the acreage under each class of fruit is estimated from data based on the triennial collection of the number of trees, subject to annual variations in the total area under orchards and fruit gardens :—

ORCHARDS AND FRUIT GARDENS.—VARIETIES AND YIELD, 1922-23.

Fruit.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
Apples .. acres	8,511	27,143	2,193	8,944	7,937	25,630	11	80,369
	722,697	2,089,017	115,928	384,375	758,998	3,127,509	825	7,199,349
	£ 250,410	539,663	64,243	101,816	262,487	776,360	290	1,995,269
Apricots .. acres	1,486	4,117	86	2,566	522	1,450	..	10,227
	163,382	290,876	2,948	268,152	40,224	112,823	..	878,405
	£ 68,400	94,535	2,616	92,787	19,861	20,210	..	298,409
Bananas .. acres	3,300	..	10,797	..	8	..	..	14,105
	350,289	..	1,618,848	..	488	..	..	1,969,625
	£ 210,170	..	449,680	..	975	..	..	660,825
Lemons .. acres	2,215	1,186	360	415	378	..	..	4,554
	231,396	109,347	24,012	53,483	45,713	..	..	463,951
	£ 63,630	43,738	12,006	16,045	12,571	..	..	147,990
Nectarines and bshls.	7,048	9,361	2,210	2,695	993	70	..	22,377
	709,240	981,701	90,472	231,926	71,447	5,709	27	2,115,105
Peaches .. acres	313,110	314,655	47,732	79,566	37,555	1,140	10	793,768
Oranges .. acres	18,095	3,292	2,543	3,603	2,415	..	..	29,948
	1,743,938	259,330	282,174	411,508	201,809	..	..	2,898,759
	£ 760,330	142,631	142,263	164,603	73,213	..	..	1,283,040
Pineapples .. acres	36	..	4,195	..	..	..	..	4,231
	dozen 4,863	..	895,372	..	..	..	..	900,235
	£ 2,430	..	179,074	..	..	..	..	181,504
Pears .. acres	2,827	8,605	274	1,861	1,054	1,930	..	16,551
	203,334	666,631	8,822	125,353	106,827	204,297	10	1,315,274
	£ 75,866	133,326	6,065	38,443	29,823	73,000	4	356,527
Plums .. acres	3,367	4,343	1,008	1,840	689	540	..	11,787
	242,794	258,117	33,743	123,211	61,406	58,765	10	778,046
	£ 91,576	40,869	28,119	38,538	21,364	11,260	4	231,730
Other fruits .. acres	3,184	6,924	2,518	3,614	726	2,740	..	19,706
	£ 173,228	188,454	92,684	91,958	24,664	146,780	12	717,780
Total .. acres	50,069	64,971	26,184	25,538	14,722	32,360	11	213,855
	£ 2,009,150	1,497,871	1,024,482	623,756	482,513	1,028,750	320	6,666,842

(iii) *Relation to Population.* The acreage of the orchards and fruit gardens of Australia in relation to population has shown a tendency to decrease during the past five years. The Australian figure for 1922-23 amounted to .040 acres per head,

whilst the range amongst the States varied from .034 in New South Wales to .158 acres in Tasmania. Details for orchards and fruit gardens for the years 1918-19 to 1922-23 are as follows:—

ORCHARDS AND FRUIT GARDENS.—AREA PER 1,000 OF POPULATION,
1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Aus-tralla.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	34	59	34	66	66	184	..	8	52
1919-20 ..	36	57	33	64	61	180	..	0.5	51
1920-21 ..	36	57	36	64	59	174	..	3	51
1921-22 ..	36	58	36	64	57	167	..	2	51
1922-23 ..	34	54	37	64	56	158	..	4	49

2. Imports and Exports of Fruit.—(i) *General.* A considerable export trade in both fresh and dried fruits is carried on by Australia with oversea countries. The import trade in fresh fruits declined heavily during the past two years, owing to the imposition of a Customs duty of 1d. per lb. on imported bananas, which had hitherto been the chief item of fresh fruit imported into Australia, while the imports of dried fruits at present consist mainly of dates from Mesopotamia. The export trade, however, has greatly expanded during the past quinquennium, the value of the exports during 1922-23 amounting to £2,272,434. Apples constitute the bulk of the fresh fruits exported, although the export of citrus fruits is growing rapidly, and experiments are being conducted in regard to the dispatch of other fruits. Shipments of raisins and currants have developed into large proportions since 1914-15, and are mainly responsible for the increase in the dried fruits exports. Other fruits in the dried state, notably apricots and peaches, are receiving attention from overseas, and in 1922-23 more than £100,000 was realized from these products.

(ii) *Fresh Fruits.* Information with regard to the Australian oversea trade in fresh fruits is given hereunder:—

FRESH FRUITS.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1918-19..	13,656,500	90,034	20,809,100	188,381	7,152,600	98,347
1919-20..	8,330,500	95,560	42,722,200	466,910	34,391,700	371,350
1920-21..	11,555,200	130,471	51,686,200	535,525	40,131,000	405,054
1921-22..	2,385,800	29,907	97,343,800	973,726	94,958,000	943,819
1922-23..	2,390,600	28,103	108,391,900	1,040,310	106,001,300	1,012,207

The value of the exports of apples in 1922-23 amounted to £843,543, and of citrus fruits to £127,086.

(iii) *Dried Fruits.* Particulars of oversea imports and exports of dried fruits for the last five years are as follows:—

DRIED FRUITS (a).—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1918-19..	1,806,333	53,594	8,524,587	253,040	6,718,254	199,446
1919-20..	9,444,713	234,811	18,034,391	643,670	8,589,678	408,859
1920-21..	7,362,341	168,076	19,598,672	806,134	12,236,331	638,058
1921-22..	6,036,379	132,392	25,955,733	969,457	19,919,354	837,065
1922-23..	10,957,699	189,397	36,047,962	1,232,124	25,090,263	1,042,727

(a) Including raisins and currants referred to under Vineyards, § 14, 4.

(iv) *Jams and Jellies.* The overseas trade in jams and jellies expanded considerably during the war years, and in 1918-19 the record shipment of 79,277,560 lbs., valued at £1,847,970, was dispatched from Australia. Since that year, however, there has been a heavy decline, and the value of the exports contracted to £79,396 in 1922-23. Particulars relative to imports and exports during each of the last five years are as follows:—

JAMS AND JELLIES.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Year.	Oversea Imports.		Oversea Exports.		Net Exports.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lbs.	£	lbs.	£	lbs.	£
1918-19..	78,329	2,294	79,277,560	1,847,970	79,199,231	1,845,676
1919-20..	179,480	9,913	44,793,409	1,218,997	44,613,929	1,209,084
1920-21..	379,401	14,543	16,535,335	550,403	16,155,934	535,860
1921-22..	184,993	8,437	5,640,579	164,046	5,455,586	155,609
1922-23..	151,572	8,253	2,605,554	79,396	2,453,982	71,143

(v) *Preserved Fruit.* Details concerning the quantities and values of preserved fruit imported into and exported from Australia cannot readily be obtained, owing to the fact that in the Customs returns particulars concerning fruit and vegetables are in certain cases combined. The total value of fruit and vegetables, preserved or partly preserved in liquid, or pulped, imported into Australia during 1922-23 was £100,281, and the corresponding value of exports was £151,863.

§ 16. Minor Crops.

1. *General.*—In addition to the leading crops previously dealt with in some detail, there are many others which, owing either to their nature, or to the fact that their cultivation has advanced but little beyond the experimental stage, do not occupy so prominent a position. Some of the more important of these are included under the headings—Market Gardens, Pumpkins and Melons, Nurseries, Grass Seed, Tobacco, Flax, Hops, and Millet. Cotton-growing has recently received considerable attention in the tropical portions of Australia, and the prospects of establishing this industry on a large scale are very favourable. The total area in Australia during the season 1922-23, devoted to crops not dealt with in previous sections, was 79,720 acres, of which market gardens accounted for 28,383 acres, or nearly 36 per cent.

2. **Market Gardens.**—Under this head are included all areas on which mixed vegetables are grown. Where considerable areas are devoted to the production of one vegetable, such for instance as the potato, the onion, the melon, the tomato, etc., the figures are usually not included with market gardens, but are shown either under some specific head, or under some general head as "Other Root Crops," or "All Other Crops." The area under market gardens during each of the last five seasons is given hereunder:—

MARKET GARDENS.—AREA, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Fed. Cap. Ter.	Australia.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1918-19 ..	10,004	11,594	1,814	1,405	2,237	389	..	39	27,482
1919-20 ..	9,833	12,633	1,752	1,343	2,410	367	..	39	28,377
1920-21 ..	9,888	12,201	2,018	1,471	2,269	386	..	27	28,260
1921-22 ..	8,217	14,304	1,965	1,486	2,274	681	..	27	28,954
1922-23 ..	7,743	14,108	1,838	1,438	2,698	540	..	18	28,383

3. **Grass Seed.**—The total area under this crop during 1922-23, exclusive of New South Wales, for which State no figures as to area are available, was 3,875 acres, of which 2,224 acres were in Victoria, 1,066 acres in Queensland, and 523 acres in Tasmania. The total yield for 1922-23, including New South Wales, was 41,118 bushels, valued at £31,314.

4. **Tobacco.**—Tobacco-growing has experienced marked fluctuations, although at one time it promised to occupy an important place amongst the agricultural industries of Australia. Thus, as early as the season 1888-89 the area under this crop amounted to as much as 6,641 acres, of which 4,833 were in New South Wales, 1,685 in Victoria, and 123 in Queensland. This promise of importance was, however, not fulfilled, and after numerous fluctuations, in the course of which the Victorian area rose in 1895 to over 2,000 acres, and that in Queensland to over 1,000 acres, the total area for the season 1920-21 had declined to 1,345 acres. This area has, however, been increased to 3,727 acres during the past two seasons, the principal expansion occurring in New South Wales, where 2,658 acres were cultivated in 1922-23 and 27,122 cwt. of good quality leaf was produced. The areas planted in Victoria and Queensland amounted to 890 and 179 acres respectively. Greater attention is now being paid to the proper treatment of the leaf, and flue-curing is becoming more general. Most of the leaf so treated in New South Wales during the past season averaged over 2s. per lb. In all the States in which its cultivation has been tried, the soil and climate appear to be very suitable for the growth of the plant, and the enormous importations of tobacco in its various forms into Australia furnish an indication of the extensive local market which exists for an article grown and prepared to meet the requirements of consumers. The value of the net importations of tobacco into Australia during the year 1922-23 amounted to £1,549,417, comprising unmanufactured tobacco £1,896,724, cigars £97,967, cigarettes £117,824, and snuff £1,262, while manufactured tobacco showed a balance in favour of exports amounting to £564,360.

5. **Pumpkins and Melons.**—The total area under this crop in Australia during 1922-23 was 11,484 acres, of which 2,457 acres were in New South Wales, 1,549 acres in Victoria, 6,543 acres in Queensland, 705 acres in Western Australia, 220 acres in South Australia, and 10 acres in the Northern Territory. The production in all the States amounted to 38,430 tons.

6. **Hops.**—Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for the season 1922-23 being 1,741 acres, of which 1,545 acres were in Tasmania, 194 acres in Victoria, and 2 acres in South Australia. The Tasmanian area, though still small, has increased considerably during the

past twenty years, the total for the season 1901-2 being only 599 acres. On the other hand the Victorian area, which in 1901-2 was 307 acres, had diminished to 194 acres in 1922-23, although increased acreages have been planted during each of the last three years. The cultivation of hops was much more extensive in Victoria some 40 years ago than at present, the area in 1883-84 being no less than 1,758 acres. During the year 1922-23 the imports of hops exceeded the exports by 727,276 lbs., the excess value being £51,497.

7. **Flax.**—For over twenty years flax has been grown intermittently in the Gippsland district of Victoria, and attempts have been made to introduce its cultivation into Tasmania and New South Wales, but without success. About the end of the year 1917 the shortage of flax fibre in the world had become acute, and a serious endeavour was made by the Commonwealth Government to encourage the cultivation of flax. The acreage in Victoria increased from 419 acres in 1917-18 to 1,611 acres in 1919-20, but the area had declined in 1922-23 to 590 acres which yielded 3,450 bushels of seed and 435 cwt. of fibre. An area of 125 acres was planted in New South Wales during 1922-23.

Flax products to the value of more than £1,500,000 are annually imported into Australia, and, as it has been demonstrated that flax can be grown to perfection here, a good prospect exists for the ultimate establishment of a local industry.

8. **Millet.**—Millet figures in the statistical records of three of the States. The total area devoted thereto in 1922-23 was 4,036 acres, of which 2,463 acres were in New South Wales, 1,304 in Victoria, and 269 in Queensland. The particulars here given relate to millet grown for grain and fibre, the quantity for green forage being dealt with in the section relating thereto.

9. **Nurseries.**—In all the States fairly large areas are occupied as nurseries for raising plants, trees, etc. Statistics of the area under flowers, fruit trees, etc., are available for New South Wales, Victoria, South Australia, and Western Australia. During 1922-23 the areas in those States were 717, 996, 185, and 131 acres respectively.

10. **Cotton.**—The cultivation of cotton commenced in Queensland in 1860, and ten years later the area cropped had increased from fourteen to upwards of fourteen thousand acres. The re-appearance of American cotton in the European market on the conclusion of the Civil War gave a severe set-back to the new industry, and the area continuously declined till 1888, when only 37 acres were planted. The industry was resuscitated soon after, and manufacturing was undertaken on two separate occasions at Ipswich, but operations were not at any time very extensive, and low prices over a term of years checked development. Added interest was shown in the crop in 1903, and in 1913 the Queensland Government made an advance of 1½d. per lb. on seed cotton, and ginned it on owner's account, the final return being equal to about 1½d. per lb.

Considerable interest has recently been manifested in cotton-growing, mainly as a result of the encouragement of the industry by the fixed advance of 5½d. per lb. for seed cotton of good quality for the three years ended 31st July, 1923. The Australian Cotton-Growing Association by establishing modern ginning-plants at convenient centres has also contributed to the flourishing condition of the industry.

The Department of Agriculture has introduced improved long-staple upland varieties, with a view to the production of cotton which will return a good aggregate yield and command also the highest price, while the Queensland Government, acting on expert advice, at first prohibited the growing of ratoon cotton, and ordered the destruction of the old shrubs and debris in the field, but has now relaxed the prohibition on the

following conditions :—All growers of ratoon cotton must be registered. The Government guarantee will not apply to it, but reasonable advances may be made from time to time. It must be ginned and marketed separately, and there is a heavy penalty for mixing it with plant cotton. A close season will obtain, and all stalks and debris must be destroyed.

The cotton plant requires sufficient moisture and warmth for germination, and sowings in the latter part of September or in October are mostly favoured by Queensland growers. Cotton planted in such months should, in normal seasons, commence opening up during the latter part of March and continue on until the end of June. Particulars of the cotton crop in Queensland during the last six years are as follows :—

COTTON.—AREA AND YIELD, QUEENSLAND, 1919 TO 1924.

Year.					Area.(a)	Yield of Unginned Cotton.
					Acres.	lbs.
1919	..	..	..	..	72	27,470
1920	..	..	..	..	166	57,065
1921	..	..	..	..	1,944	940,126
1922	..	..	..	..	8,716	3,956,635
1923 (b)	..	..	..	..	40,000	11,784,510
1924 (b)	..	..	..	..	(c)	14,000,000

(a) Area harvested. (b) Estimated. (c) Not available.

The figures given above show the development which has taken place during the past four years, and present indications point to the ultimate establishment of cotton-growing on a large scale in Australia.

The guarantee for the 1924 crop has been fixed at 5d. per lb. for cotton of less than 1½ inch staple, and at 5½d. per lb. for cotton of a longer staple.

11. **Coffee.**—Queensland is the only State in which coffee-growing has been extensively tried, but the results have not been satisfactory. The area under crop reached its highest point in the season 1901-2 with 547 acres. In subsequent seasons the area fluctuated somewhat, but on the whole with a downward tendency, and in 1922-23 only 21 acres were recorded, with a yield of 9,368 lbs.

12. **Other Crops.**—Amongst miscellaneous small crops grown in the several States may be mentioned tomatoes, rhubarb, artichokes, arrowroot, chicory, and flowers.

§ 17. Bounties on Agricultural Products.

1. **General.**—The Bounties Acts of 1907 and 1912, passed by the Federal Parliament with the object of encouraging the manufacture and production of certain articles in Australia, included among the items on which bonuses were payable the following agricultural products :—Cotton, fibres, rice, coffee, tobacco, and dried fruits, except currants and raisins. The rates and dates of expiry of the bounties were shown in previous issues of the Year Book. Though the bonuses were fairly liberal, they were not availed of to any great extent. An Act was passed early in 1924 to provide for the payment of bounties on the production of canned apricots, peaches, pears and pineapples during 1924, and on the export thereof before 28th February, 1925.

§ 18. Fertilizers.

1. **General.**—In the early days of settlement in Australia, scientific cultivation was practically neglected. Farmers were neither under the necessity nor were they aware of the necessity of supplying the proper constituents to the soil for each class of crop. The widely divergent character of the soils, their degeneration by repeated cropping, the limitations of climatic conditions, and the difficulties of following any desired order of rotation of crops, all rendered it essential to give attention to artificial manuring. The introduction of the modern seed-drill acting also as a fertilizer-distributor has greatly facilitated the use of artificial manures, and much land formerly regarded as useless for cultivation has now been made productive. There is reason to believe that this feature will be even more strikingly characteristic in the future.

2. **Fertilizers Acts.**—In order to protect the interests of users of artificial manures, legislation has been passed in each of the States, regulating the sale and preventing the adulteration of fertilizers. A list of these Acts and their main features will be found in Year Book No. 12 (page 378).

3. **Imports.**—The local production of artificial manures has greatly increased during the last few years, but considerable quantities are still imported. Imports of fertilizers have increased over 100 per cent. since 1901. The chief items, as regards both quantity and value, are phosphates, a fertilizer which has proved itself very suitable for the growing of cereals in Australian soils. During 1922-23 the values of rock phosphates imported represented over 65 per cent. of the total importation of fertilizers. Nauru, with 55 per cent., was the largest contributor, Gilbert and Ellice Islands Colony coming next with 32½ per cent., while the remainder was supplied by Christmas Island. Practically all of the soda nitrate came from Chile.

The imports of artificial manures during the last five years are given in the following table. Apart from small parcels in 1921-22 and 1922-23, no importations of manufactured superphosphates were made during the last five years, although considerable quantities were annually imported up till 1914-15.

FERTILIZERS.—IMPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Fertilizer.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Bonedust cwt.	2,004	1,508	1,260	910	..
" £	785	1,420	652	556	..
Guano cwt.	137,008	535,688	1,129,240	704,039	857,411
" £	17,304	61,021	124,193	72,892	97,526
Superphosphates .. cwt.	..	..	..	1,034	1,007
" .. .. £	..	..	..	1,145	660
Rock Phosphates .. cwt.	2,811,812	2,585,163	4,756,140	3,255,808	3,300,089
" £	334,036	330,544	721,608	553,109	516,059
Soda Nitrate cwt.	38,483	130,914	99,660	50,214	143,274
" £	30,767	84,398	84,532	38,409	96,083
Other cwt.	520	61,454	169	42,063	175,778
" £	488	75,116	1,792	33,561	80,720
Total cwt.	2,989,827	3,314,727	5,986,469	4,054,068	4,567,559
£	383,380	552,499	932,777	699,672	791,048

4. Exports.—The subjoined table shows the exports of artificial manures for the years 1918-19 to 1922-23. Practically the whole of these fertilizers are manufactured locally, and are shipped mainly to New Zealand, Japan, Java, and the Pacific Islands:—

FERTILIZERS.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Fertilizer.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Bonedust cwt.	34,722	131,710	59,680	33,311	54,385
" £	18,516	74,036	40,926	18,517	24,400
Guano cwt.	8,669	601	..	..	..
" £	2,775	181	..	..	..
Superphosphates .. cwt.	345,493	264,174	472,860	26,727	73
" £	95,623	67,288	153,060	6,284	35
Rock phosphates .. cwt.	44,032	72,462	186,260	12,900	..
" £	6,773	11,775	25,763	1,960	..
Soda nitrate cwt.	60	28,223	2,720	5,790	600
" £	84	28,673	3,640	5,717	715
Ammonia sulphate .. cwt.	196,954	167,420	123,720	155,414	68,799
" £	350,098	226,289	160,017	105,472	58,571
Other cwt.	21,486	158,661	41,320	24,525	34,323
" £	11,008	108,926	25,190	11,956	15,816
Total cwt.	651,416	823,251	886,560	258,667	158,180
" £	484,877	517,168	408,596	149,906	99,537

5. Statistics of Use of Fertilizers.—Statistics regarding the use of manures are collected in all the States, and the particulars for 1922-23 are as follows:—

FERTILIZERS USED IN EACH STATE, 1922-23.

State.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage of Total Area of Crops.	Natural (Stable Yard, etc.).	Artificial.
				Loads.	Tons.
	Acres.	Acres.	%	Loads.	Tons.
New South Wales ..	4,694,287	2,409,725	51.33	181,656	62,145
Victoria	4,862,548	4,148,780	85.32	173,343	172,897
Queensland	835,060	42,677	5.11	60,396	11,673
South Australia ..	3,575,452	3,101,593	86.75	111,893	114,158
Western Australia ..	2,274,998	2,231,738	98.10	63,789	86,000
Tasmania	298,611	196,921	65.95	25,527	16,789
Northern Territory ..	427	40	9.37	200	..
Fed. Cap. Territory ..	2,172	357	16.44	..	11
Total	16,543,555	12,131,831	73.33	616,804	463,673

Similar particulars in respect to Australia as a whole during the past five years are as shown below :—

FERTILIZERS USED IN AUSTRALIA, 1918-19 TO 1922-23.

Year.	Total Area of Crops.	Area Manured.		Manure Used.	
		Aggregate.	Percentage of Total Area of Crops.	Natural (Stable Yard, etc.).	Artificial.
	Acres.	Acres.	%	Loads.	Tons.
1918-19	13,332,393	9,292,358	69.70	555,222	313,444
1919-20	13,296,407	9,278,296	69.78	562,545	329,489
1920-21	15,069,858	10,290,633	68.29	556,514	375,600
1921-22	15,357,024	10,999,259	71.62	582,725	408,742
1922-23	16,543,555	12,131,831	73.33	616,804	463,673

The percentage of the area manured on the total area cultivated has advanced from 69.70 to 73.33 during the past five years, while the use of artificial manures has increased by 150,000 tons during the same period.

6. Local Production of Fertilizers.—Statistics relative to the local production of fertilizers are incomplete, and detailed returns for fertilizer factories other than bone mills are not available. The number of firms engaged in the manufacture of artificial manures in Australia at latest available date was 104, made up as follows :—New South Wales, 20; Victoria, 30; Queensland, 24; South Australia, 11; Western Australia, 11; and Tasmania, 8.

§ 19. Ensilage.

1. Government Assistance in Production.—The Government of Victoria, recognizing that defective methods of making ensilage were often adopted, has for some years been making special efforts to educate the farming community by lectures, the issue of bulletins, etc. The Government also undertakes the erection of different types of silos on very liberal terms, repayment extending over a series of years. Experts erect the silos and give practical lessons in regard to cutting and packing the silage. The New South Wales Government also gives advice in the "Agricultural Gazette," and issues special bulletins dealing with the subject, while silos have been erected at the various experimental farms.

2. Quantity Made.—Particulars concerning the number of holdings on which ensilage was made, and the quantity made during the seasons 1918-19 to 1922-23 are given in the following table :—

ENSILAGE MADE, 1918-19 TO 1922-23.

State or Territory.	1918-19.		1919-20.		1920-21.		1921-22.		1922-23.	
	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.	Holdings.	Ensilage Made.
	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.	(a) No.	Tons.
New South Wales ..	60	6,292	112	13,328	118	15,633	166	24,174	116	12,191
Victoria ..	95	8,249	74	6,072	99	9,702	107	5,873	103	5,674
Queensland ..	45	3,541	72	4,318	164	7,600	96	6,575	65	5,300
South Australia ..	16	1,083	15	1,435	25	1,616	26	1,849	26	2,595
Western Australia ..	11	441	5	211	12	390	7	381	12	331
Tasmania ..	7	180	7	275	11	490	10	544	12	437
Northern Territory ..	1	50	..	..	..	..	..	..	..	..
Total ..	235	19,836	285	25,639	429	35,431	412	39,396	334	26,528

(a) No. of holdings on which ensilage was made.

Following the drought of 1902-3 greater attention was paid to the making of ensilage, and during the four seasons ended 1909-10 there was an increase both in the number of holdings on which ensilage was made and in the quantity produced. The following five seasons, however, showed a falling-off, but the reduction was due to the fact that stocks had not been drawn upon to any great extent during the previous seasons. The accumulated stocks proved of great value during the 1914 drought, though far below what would have been the case if more attention had been paid to production during the previous years when there was a surplus of green forage. A substantial increase took place in 1915-16, both in the holdings on which ensilage was made and in the quantity produced, but during the next three years the production declined, particularly in Victoria. From 1918-19 on satisfactory increases were recorded until 1922-23, when nearly 13,000 less tons were made than in the previous year, New South Wales being mainly responsible for the reduction.

§ 20. Agricultural Colleges and Experimental Farms.

1. **General.**—In most of the States agricultural colleges and experimental farms have been established with a view to the promotion of more scientific methods in agriculture, stock-breeding and dairying. In the colleges, and on some of the farms, provision is made for the accommodation of pupils to whom both practical and theoretical instruction is given by experts in various branches of agriculture. Analyses of soils and fertilizers are made, manures are tested, and elementary veterinary science, etc., are taught, while general experimental work is carried on with cereal and other crops, not merely for the purpose of showing that it is practicable to produce certain crops in a given place, but also to show how it is possible to make farming pay in the locality. Opportunities are afforded for practice in general agricultural work, and instruction is given in the conservation of fodder; in cheese and butter-making; in the management, breeding, and preparation for the market of live stock; in the eradication of pests and weeds; and in carpentering, blacksmithing, and other trades.

Travelling expert lecturers visit the various agricultural and dairying centres, and there is a wide distribution of periodical agricultural gazettes and bulletins.

2. **Particulars of Agricultural Colleges and Experimental Farms.**—In previous issues of this volume detailed information was given regarding agricultural colleges, experimental farms, and agricultural education generally. See Year Book No. 11, pp. 393-5.

3. **Particulars respecting Agricultural and Stock Departments.**—A synopsis of the activities and operations of the Agricultural and Stock Departments of the several States as on 30th June, 1920, will be found in Year Book No. 14, pages 1180 to 1191. The main features of organization are set out under their respective headings as regards staff, expenditure, work undertaken in agricultural colleges, technical schools, experimental farms, and orchards and vineyards. The nature of lectures and other forms of agricultural instruction by experts is dealt with, as well as such matters as the distribution of plants, and the special steps taken to disseminate information amongst agriculturists, and to facilitate the marketing of products.

CHAPTER XVIII.

FARMYARD, DAIRY, AND BEE PRODUCTS.

§ 1. Introductory.

1. **General.**—The introduction of cattle into Australia, and the early history of the dairying industry are referred to in some detail in earlier issues of this work (see Official Year Book No. 6, p. 430). It may here be noted that the original stock has been crossed with specially imported stud cattle, while further judicious crossing of strains has resulted in an increased and improved milk supply. In Australia, dairy cattle thrive in the open throughout the year, local climatic conditions demanding no protection other than tree plantations for shelter, and rugging in the coldest weather. Indigenous and imported grasses furnish food during the greater part of the year, and winter fodder, when necessary, is given to the cattle in the fields. With the adoption of scientific methods in the treatment of animals and pasturages and in the processes of manufacture, coupled with effective State supervision, the dairying industry has shown rapid expansion.

2. **Official Supervision of Industry.**—Dairy experts, under the supervision of the various State Agricultural Departments, give instruction in approved methods of production, and inspect animals, buildings, and marketable produce. A high standard of cleanliness, both of personnel and materiel, prevails. Financial assistance of a temporary nature is also given, advances made being generally repaid with promptitude.

The export trade is regulated by the terms of the Commonwealth Commerce Act 1905 and regulations thereunder. The provisions of this Act are set out in detail in Official Year Book No. 6, pp. 431–2. It will be sufficient to note here that the true trade description, etc., must be marked on all produce intended for export, while official inspection ensures the maintenance of purity and quality. Upon request of the exporter the goods are certificated by the inspector.

3. **Mixed Farming.**—Dairying is not now, as formerly, wholly confined to farmers, since many graziers in a large way of business have lately given it their attention. In non-coastal regions it is generally carried on in conjunction with agriculture and sheep-raising, sufficient fodder being grown to carry the cattle through the winter months. Local wants are thus met, and in many places remote from the metropolis well-equipped factories have been established.

4. **Factory System.**—Cream separation and butter-making are often carried on together under the co-operative system. The creation of large central butter factories, supplied by numerous separating establishments or “creameries,” has resulted in a considerable reduction in the cost of manufacture, since improved appliances such as refrigerators, may be profitably worked at the larger establishments. The product is also of a more uniform quality. The number of farmers who adhere to hand processes is rapidly diminishing. Formerly the average quantity of milk used per pound of hand-made butter was about 3 gallons, but separator butter requires only $2\frac{1}{2}$ gallons.

5. **Butter and Cheese Factories.**—The factories in Australia for the manufacture of butter, cheese, and condensed milk numbered 573 in 1922–23. These were distributed in the various States as follows:—New South Wales, 170; Victoria, 182; Queensland, 129; South Australia, 51; Western Australia, 8; and Tasmania, 33.

§ 2. Dairy Cattle and Dairy Products.

1. **Dairy Herds.**—The dairy herds of Australia were severely depleted during the drought of 1914–15, when the number of dairy cattle was reduced to 1,634,393. Following that year substantial increases have taken place, particularly in the past three years, in the last of which the number recorded reached its highest point, and represented a gain of more than 300,000 dairy cattle during the past ten years. In New South Wales, Victoria, South Australia, and Tasmania the proportion of dairy cattle to all cattle is high. In Queensland, the Northern Territory, and Western Australia there is a greatly preponderating number of other cattle, dairying not being firmly established in the tropical regions of the Continent. In Southern Queensland, however, the industry has developed remarkably during the last decade, and the progress attained in that area has been largely responsible for the Australian increases since 1912. The figures for the Northern Territory are rough estimates only:—

CATTLE, AND DAIRY CATTLE—NUMBER, 1918 TO 1922.

State.		1918.	1919.	1920.	1921.	1922.
New South Wales	{ All Cattle ..	3,271,782	3,075,954	3,367,880	3,538,240	3,244,905
	{ Dairy Cows ..	717,910	697,140	757,534	815,579	796,957
Victoria	{ All Cattle ..	1,596,544	1,631,120	1,575,159	1,750,369	1,785,660
	{ Dairy Cows ..	592,079	623,652	620,005	719,473	794,898
Queensland	{ All Cattle ..	5,786,744	5,940,433	6,455,067	7,047,370	6,955,463
	{ Dairy Cows ..	381,505	373,146	448,634	554,208	563,683
South Australia	{ All Cattle ..	342,768	349,562	376,399	419,197	425,811
	{ Dairy Cows ..	103,230	106,982	117,536	131,054	135,450
Western Australia	{ All Cattle ..	943,847	880,644	849,803	893,108	939,596
	{ Dairy Cows ..	42,133	42,993	47,719	53,828	58,387
Tasmania	{ All Cattle ..	218,234	214,442	208,202	216,704	218,197
	{ Dairy Cows ..	64,511	64,073	63,681	68,595	69,991
Northern Territory	{ All Cattle ..	570,039	610,534	659,840	568,031	760,766
	{ Dairy Cows ..	70	70	70	70	(a)
Federal Capital Territory	{ All Cattle ..	8,894	8,378	7,387	8,200	6,275
	{ Dairy Cows ..	598	480	459	414	443
Australia ..	{ All Cattle ..	12,738,852	12,711,067	13,499,737	14,441,309	14,336,673
	{ Dairy Cows ..	1,902,036	1,908,536	2,055,038	2,343,221	2,419,809

(a) Not available.

2. **Milk.**—The annual quantity of milk produced per dairy cow varies greatly with breed, locality and season, reaching as high as 1,000 gallons, but averaging for the whole of Australia, for all dairy cows and for all seasons, prior to 1916, considerably under 300 gallons per annum. During recent years there has been an improvement in the grade of dairy cattle, and the 300 gallon mark has been exceeded on four occasions since 1916, the yield of 343 gallons in 1921 constituting a record. The average in 1922 was adversely affected by unfavorable seasonal conditions in the main producing States. The best yields over a series of years appear to be in Victoria, South Australia and New South Wales, while Queensland and Tasmania in normal years are above Western Australia. In the following table the annual average yields per cow for the last five years are based on the number of dairy cows which were in milk during any part of the year. The average given is considerably below that for cows which were yielding during the greater part of the year. The highest averages were, of course, obtained in those States which have most extensively adopted scientific methods of dairying, such as systematic breeding, culling of herds, milk testing, etc.

MILK PRODUCTION, 1918 TO 1922.

Heading.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Fed. Cap. Ter.	Australia. (b)
1918—								
Dairy Cows (a) .. No.	747,286	563,234	390,507	99,945	40,056	61,710	663	1,903,401
Production 1,000 gals.	209,925	207,102	87,580	32,243	8,544	15,796	170	558,360
Aver. per cow ..gals.	277	368	224	323	213	256	256	293
1919—								
Dairy Cows (a) .. No.	707,525	607,866	377,325	105,106	42,563	64,292	539	1,905,216
Production 1,000 gals.	203,707	196,884	71,856	30,899	9,608	16,503	90	529,547
Aver. per cow ..gals.	293	324	190	294	226	257	167	278
1920—								
Dairy Cows (a) .. No.	727,337	621,829	410,390	112,259	45,356	63,877	469	1,982,017
Production 1,000 gals.	250,998	204,522	104,659	34,657	10,234	19,000	105	623,275
Aver. per cow ..gals.	344	329	255	309	226	297	223	314
1921—								
Dairy Cows (a) .. No.	786,557	669,739	501,421	124,295	50,773	66,138	437	2,199,360
Production 1,000 gals.	285,166	245,181	151,081	41,398	11,329	21,000	105	755,260
Aver. per cow ..gals.	363	366	301	333	223	318	240	343
1922—								
Dairy cows (a) .. No.	806,268	757,186	558,945	133,252	56,108	69,293	428	2,381,480
Production 1,000 gals.	226,864	249,322	134,032	42,054	11,932	21,000	106	685,310
Aver. per cow ..gals.	281	329	240	316	213	303	248	288

(a) Mean for the year.

(b) Exclusive of Northern Territory.

3. **Butter and Cheese.**—While the quantity of dairy production is largely affected by the nature of the seasons, the output of butter shows a steady increase in the past decade. During that period the average annual production increased from 179,000,000 lb. for the quinquennium 1908–1912 to 212,000,000 lb. for the latest five years under review. The marked development of dairying in Queensland, where the butter production has doubled since 1912, was largely responsible for the increased butter output in Australia, although all the States contributed to the general progress. The production of 267,071,340 lb. in 1921 was the maximum output of butter in Australia.

The manufacture of cheese has been steadily increasing throughout Australia during recent years, the 1921 production of 32,653,003 lb. being the highest yet recorded. The output of cheese has grown from 16 to 26 million lb. during the past ten years, or more than 60 per cent, mainly as the result of substantial progress in Queensland, the production of which State now amounts to one-half of the Australian total.

The development in dairy production since 1896, and in the exports of butter from 1901 onwards are shown in the graphs on page 662. Particulars for the past five years are as follows:—

BUTTER AND CHEESE PRODUCTION, 1918 TO 1922.

State.	1918.	1919	1920.	1921.	1922.
BUTTER.					
	lb.	lb.	lb.	lb.	lb.
New South Wales	a65,991,738	a63,127,160	a84,259,641	a100,652,620	a73,705,349
Victoria	a66,240,403	a60,218,945	a64,938,468	a82,981,570	a84,355,940
Queensland	32,371,575	26,213,514	40,751,373	60,923,194	53,785,599
South Australia	a10,444,789	a9,810,335	a11,897,279	a14,565,599	a14,646,632
Western Australia	1,789,390	1,980,273	2,212,311	2,658,153	2,766,533
Tasmania	4,947,560	4,290,724	4,014,402	5,270,243	5,716,708
Federal Capital Territory ..	a17,220	a7,840	a8,400	a19,961	18,248
Australia	181,802,675	165,648,791	208,081,864	267,071,340	234,995,009
CHEESE.					
	lb.	lb.	lb.	lb.	lb.
New South Wales	a5,982,120	a6,762,467	a6,407,209	a7,367,057	a5,198,905
Victoria	a6,055,964	a7,735,023	a3,636,571	a5,675,909	a4,754,960
Queensland	8,636,700	8,296,318	11,512,262	15,200,527	10,560,316
South Australia	a2,412,338	a2,540,133	a1,804,696	a3,392,400	a3,261,565
Western Australia	200	821	354	1,073	212
Tasmania	702,868	861,460	799,432	1,016,037	934,601
Australia	23,790,240	26,196,272	24,160,524	32,653,003	23,710,559

(a) For year ended 30th June of year following.

4. **Concentrated Milk.**—“Condensed” or “concentrated” milk represents milk the bulk of which is reduced by evaporation. The industry is of comparatively recent growth, the quantity of milk treated in 1901 being negligible, but production increased annually until in 1911 the output nearly doubled that of the previous year. Thenceforward rapid progress was made, the greatest development taking place in Victoria, where the industry is most largely established. There is still an import of milk, but the exports in each year far outweigh the quantity imported. No condensed or concentrated milk is made in South Australia, Western Australia, or Tasmania. In New South Wales, Victoria, and Queensland the returns for the last five years were as follows:—

CONDENSED, CONCENTRATED, OR POWDERED MILK MADE, 1918 TO 1922.

Year.	N.S.W.(a)	Victoria.(a)	Queensland.	Australia.
	lb.	lb.	lb.	lb.
1918	10,680,409	45,251,710	6,845,610	62,777,729
1919	12,969,679	44,219,389	9,170,034	66,359,102
1920	14,938,147	42,643,871	13,362,464	70,944,482
1921	6,860,466	48,354,210	15,168,652	70,383,328
1922	3,544,565	38,314,260	9,601,914	51,460,739

(a) For year ended 30th June of year following.

5. **Oversea Trade in Butter, Cheese, and Milk.**—The following tables give the imports, exports, and net exports of butter, cheese, and milk. In each of the five years the exports of butter, cheese, and condensed milk exceeded the imports.

BUTTER, CHEESE AND MILK, IMPORTS AND EXPORTS.—AUSTRALIA, 1918-19 TO 1922-23.

Products.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
IMPORTS.					
Butter lb.	16,439	36,774	33,762	732,336	2,955,934
.. .. . £	1,087	2,282	2,097	58,982	237,149
Cheese lb.	13,903	28,625	72,110	85,601	499,125
.. .. . £	1,098	2,988	8,371	7,518	27,345
Milk—concentrated and preserved(a) lb.	575,934	1,075,887	603,565	130,592	417,054
.. .. . £	30,802	49,029	30,883	14,658	28,371
EXPORTS.					
Butter lb.	41,114,764	39,006,304	92,420,995	127,579,797	79,571,151
.. .. . £	3,193,086	3,301,695	11,067,104	7,987,558	6,133,864
Cheese lb.	2,303,308	7,524,910	9,531,310	12,671,029	5,454,466
.. .. . £	118,855	377,905	514,252	438,372	231,907
Milk—concentrated and preserved(a) lb.	27,962,938	35,568,218	37,381,955	36,705,320	21,234,027
.. .. . £	1,092,911	1,606,310	2,180,167	2,132,580	1,328,762
NET EXPORTS.(b)					
Butter lb.	41,098,325	38,969,530	92,387,233	126,847,461	76,615,217
.. .. . £	3,191,999	3,299,413	11,064,107	7,928,576	5,896,715
Cheese lb.	2,289,405	7,496,285	9,459,200	12,585,428	4,955,341
.. .. . £	117,757	374,917	505,881	430,854	204,562
Milk—concentrated and preserved(a) lb.	27,387,004	34,492,331	36,778,300	36,574,728	20,816,973
.. .. . £	1,062,109	1,557,281	2,158,284	2,117,922	1,300,391

(a) See definition above. (b) Excess of exports over imports.

6. Local Consumption of Butter and Cheese.—The total production of butter and cheese, with the subtraction or addition of the net export or import for the corresponding period gives approximately the quantity available for consumption in Australia. In the period considered hereunder the local supply of cheese was adequate :—

BUTTER AND CHEESE.—LOCAL CONSUMPTION, 1918 TO 1922.

Products.	1918.	1919.	1920.	1921.	1922.
	lbs.	lbs.	lbs.	lbs.	lbs.
Butter .. Total ..	140,704,350	120,679,261	115,694,631	139,491,543	158,379,792
„ .. Per head of population ..	27.69	23.88	21.38	25.32	28.12
Cheese .. Total ..	21,500,835	18,699,987	14,701,324	19,981,974	18,755,218
„ .. Per head of population ..	4.23	3.53	2.72	3.43	3.33

The quantity available for consumption in 1922 averaged more than 28 lbs. of butter and about 3½ lbs. of cheese per head of population, an amount probably unsurpassed anywhere. The consumption of butter and cheese in the United Kingdom in normal times is given as about 22½ lbs. per head per annum.

§ 3. Pigs and Pig Products.

1. Pigs.—The number of pigs in Australia from 1918 to 1922 is shown below :—

PIGS.—NUMBER, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
New South Wales (b) ..	294,338	253,338	305,967	383,326	340,579
Victoria (a) ..	267,819	186,810	175,275	230,770	294,962
Queensland ..	140,966	99,593	104,370	145,083	160,617
South Australia (b) ..	79,078	60,295	78,395	87,667	75,520
Western Australia ..	85,863	58,155	60,581	63,001	67,561
Tasmania (a) ..	44,328	35,530	38,116	49,743	46,056
Northern Territory ..	1,200	1,675	1,416	452	361
Federal Cap. Territory (b) ..	310	572	286	343	274
Australia ..	913,902	695,968	764,406	960,385	985,930

(a) As on 1st March of year following.

(b) As on 30th June of year following.

For many years the number of pigs in Australia has fluctuated considerably. There was a heavy falling off in 1915, followed by substantial increases during 1916 and 1917, the number of pigs in 1917 being the highest recorded in Australia. The total of 1,169,365 pigs in 1917 declined to 695,968 in the next two years, but the numbers were supplemented by increases during each of three following years, and the total now amounts to nearly 1,000,000. The number of pigs per head of population, and the number per square mile, will be found in the tables of live stock, page 649.

2. Bacon and Ham.—(i) *Production.* During the past five years the production of bacon and ham has fluctuated between the record quantity of 66,181,218 lbs. manufactured in 1918, and 50,250,487 lbs. in 1920, the average for the period amounting to 59,056,145 lbs., which is far in excess of any previous five-yearly average.

BACON AND HAM.—PRODUCTION, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
	lbs.	lbs.	lbs.	lbs.	lbs.
New South Wales(a) ..	16,801,370	16,657,362	16,249,762	20,413,330	19,234,681
Victoria(a) ..	22,212,395	19,385,509	15,139,100	17,396,798	19,269,125
Queensland ..	16,476,480	12,155,489	11,337,050	12,386,417	15,130,545
South Australia(a) ..	6,567,394	5,810,616	4,172,372	5,089,424	5,002,199
Western Australia(b)	2,813,650	2,609,234	2,077,662	1,962,621	2,050,220
Tasmania ..	1,309,633	1,128,096	1,267,061	1,356,329	1,778,015
Federal Cap. Territory(a)	296	12,236	7,480	9,540	11,185
Total ..	66,181,218	57,758,592	50,250,487	58,614,459	62,475,970

(a) For year ended 30th June of year following. (b) A portion only from pigs slaughtered in the State, balance imported and subsequently cured.

(ii) *Local Consumption.* From 1904 onwards the production of bacon and ham has been sufficient to meet the local demand, and provide a small surplus for export.

BACON AND HAM.—LOCAL CONSUMPTION, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	lbs.	lbs.	lbs.	lbs.	lbs.
Total ..	60,586,277	54,732,706	47,151,519	55,926,806	60,753,826
Per head of population ..	11.92	10.32	8.71	10.15	10.78

3. *Oversea Trade in Pig Products.*—The oversea trade in pigs and pig products is shown in the following table :—

PIG PRODUCTS.—AUSTRALIAN TRADE, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Pigs.					
Imports ..	No. 4	16	11	31	31
" ..	£ 102	94	65	194	596
Exports ..	No. 60	164	166	119	67
" ..	£ 479	1,044	1,199	990	510
Net Exports ..	No. 56	148	155	88	36
" ..	£ 377	950	1,134	796	- 86

BACON AND HAM.

Imports ..	lbs. 42,624	15,047	14,610	25,292	149,270
" ..	£ 2,169	1,067	1,479	1,610	8,414
Exports ..	lbs. 5,637,565	3,040,933	3,113,578	2,712,945	1,871,414
" ..	£ 378,723	258,890	323,280	223,067	158,414
Net Exports ..	lbs. 5,594,941	3,025,886	3,098,968	2,687,653	1,722,144
" ..	£ 376,554	257,823	321,801	221,457	150,000

NOTE.—The minus sign — signifies net imports.

PIG PRODUCTS.—AUSTRALIAN TRADE, 1918-19 TO 1922-23—continued.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
LARD.					
Imports lbs.	29,575	22,001	42,795	115,659	505,827
" £	1,475	1,092	1,825	3,625	12,905
Exports lbs.	6,016,825	7,969,444	3,118,105	2,909,658	1,358,291
" £	205,694	375,910	153,084	88,753	38,491
Net Exports .. lbs.	5,987,250	7,947,443	3,075,310	2,793,999	852,464
" £	204,219	374,818	151,259	85,128	25,586
FROZEN PORK.					
Imports lbs.	..	..	..	..	370,094
" .. .. £	..	..	..	..	14,486
Exports lbs.	839,557	371,397	163,303	152,584	144,796
" £	40,325	19,149	9,370	7,414	6,282
Net Exports .. lbs.	839,557	371,397	163,303	152,584	- 225,298
" £	40,325	19,149	9,370	7,414	- 8,204

NOTE.—The minus sign - signifies net imports.

The output of pig products in Australia is more than sufficient to meet local requirements, and a profitable export trade is being built up.

During the last five years the average annual net export amounted to nearly half a million pounds sterling, the bulk of the shipments consisting of bacon, ham and lard.

§ 4. Total Dairy Production.

The total dairy production of Australia in 1922 is shown below :—

TOTAL DAIRY PRODUCTION.—AUSTRALIA, 1922.

Particulars.	N.S.W. (a)	Victoria. (a)	Q'land.	S. Aust. (a)	W. Aust.	Tasmania.	Fed. Cap. Ter. (a)	Total.
MILK.								
Used for—	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
Butter ..	168,578,724	193,821,490	110,626,662	31,559,842	6,411,394	13,710,300	50,710	524,759,122
Cheese ..	5,411,023	3,769,275	9,774,783	3,191,111	214	941,245	..	23,087,651
Condensing and con- centrat- ing ..	1,906,916	9,693,395	2,700,788	..	..	..	..	14,301,099
Other pur- poses ..	50,967,262	42,037,362	10,929,597	7,303,260	5,520,409	6,348,455	55,365	123,161,710
Total ..	226,863,925	249,321,522	134,031,830	42,054,213	11,932,017	21,000,000	106,075	685,309,582
BUTTER.								
In Factories On Dairy and other Farms ..	lbs. 69,255,086	lbs. 78,773,470	lbs. 51,412,258	lbs. 10,927,220	lbs. 1,518,092	lbs. 3,822,840	lbs. ..	lbs. 215,708,966
Total ..	4,450,263	5,582,470	2,373,341	3,719,412	1,248,441	1,893,868	18,248	19,286,043
Total ..	73,705,349	84,355,940	53,785,599	14,646,632	2,766,533	5,716,708	18,248	234,995,009

(a) For year ended 30th June, 1923.

TOTAL DAIRY PRODUCTION.—AUSTRALIA, 1922—*continued.*

Particulars.	N.S.W. (a)	Victoria. (a)	Q'land.	S. Aust. (a)	W. Aust.	Tasmania.	Fed. Cap. Ter. (a)	Total.
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CHEESE.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories On Dairy & other Farms ..	4,978,037	3,336,085	10,552,406	3,261,165	..	741,064	..	22,868,757
	220,868	418,875	7,910	400	212	193,537	..	841,802
Total ..	5,198,905	3,754,960	10,560,316	3,261,565	212	934,601	..	23,710,559

CONDENSED, CONCENTRATED, OR POWDERED MILK.

In Factories	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
	3,544,565	38,314,260	9,601,914	..	..	..	..	51,460,739

BACON AND HAM.

	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
In Factories On Dairy & other Farms ..	17,506,343	17,293,395	14,593,042	4,140,650	1,794,760b	1,070,067	..	56,398,257
	1,728,338	1,975,730	537,503	861,549	255,460	707,948	11,185	6,077,713
Total ..	19,234,681	19,269,125	15,130,545	5,002,199	2,050,220	1,778,015	11,185	62,475,970

(a) For year ended 30th June, 1923. (b) A portion only from pigs slaughtered in the State, the balance being imported and subsequently cured.

§ 5. Poultry Farming.

1. **General.**—Poultry stocks are largely maintained by farmers, and production therefrom furnishes a considerable addition to the annual agricultural or dairying returns. During recent years, however, poultry-keeping has assumed an independent position among rural industries, while it is also carried on in conjunction with pig farming. Special poultry farms have been instituted for scientific breeding, and poultry experts give lectures and instruction. Poultry for consumption is extensively reared, and the egg-producing qualities of the birds have been greatly improved by careful breeding. Co-operative egg-collecting circles have been formed in some districts; eggs are also delivered with the milk and cream to the local butter factories, and thence forwarded to market.

2. **Poultry Products.**—There is some difficulty in obtaining complete figures for the yield of poultry products. The following values relate to poultry and eggs:—

POULTRY AND EGGS.—VALUE OF PRODUCTION, 1918-19 TO 1922-23.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania. (a)	Australia.
	£	£	£	£	£	£	£
1918-19 ..	2,501,000	2,738,620	319,602	690,539	189,471	300,000	6,739,232
1919-20 ..	2,814,000	3,579,230	356,590	924,986	191,288	300,000	8,166,094
1920-21 ..	3,196,000	4,545,620	449,827	1,164,999	189,658	300,000	9,846,104
1921-22 ..	2,650,000	4,406,750	429,983	1,027,634	208,429	300,000	9,022,796
1922-23 ..	2,894,000	4,315,810	417,052	1,066,137	240,423	300,000	9,233,422

(a) Estimated.

3. **Oversea Trade in Poultry Products.**—The Australian oversea trade in live or frozen poultry is insignificant, although the export of frozen poultry is increasing. During the past three years fairly large consignments were forwarded from New South Wales mainly to the United States of America. The imports and exports of eggs and egg-contents show a balance on the side of exports. The export trade in eggs has expanded considerably during the last four years, and in 1922-23 the number exported amounted to 1,209,283 dozen, the bulk of which were shipped from New South Wales to the United Kingdom. The number of eggs imported into Australia during the last five years amounted to 94,408 dozen, of which number China supplied 84,943 dozen, or nearly 90 per cent.

POULTRY PRODUCTS, TRADE.—AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
LIVE POULTRY.					
Imports No.	693	721	484	663	791
" £	878	1,564	850	1,170	1,534
Exports No.	1,699	2,477	2,886	2,626	2,872
" £	1,231	2,448	2,741	3,272	2,682
Net Exports .. No.	1,006	1,756	2,402	1,963	2,081
" £	353	884	1,891	2,102	1,148
FROZEN POULTRY.					
Imports lbs.	3,752	10,273	4,087	2,712	4,784
" £	208	602	328	178	228
Exports pair	8,298	13,346	22,376	50,367	34,399
" £	5,141	10,760	29,963	50,205	42,951
Net Exports ..	(a)	(a)	(a)	(a)	(a)
" £	4,933	10,158	29,635	50,027	42,723
Eggs.					
Imports doz.	2,633	4,015	27,452	33,558	26,750
" £	169	230	1,802	1,994	1,591
Exports doz.	8,409	211,034	413,602	808,849	1,236,033
" £	746	17,461	53,932	75,857	102,946
Net Exports .. doz.	5,776	207,019	386,150	775,291	1,209,283
" £	577	17,231	52,130	73,863	101,355
EGG-CONTENTS.					
Imports lbs.	344	4,992	23,898	26,590	33,672
" £	94	1,523	4,446	4,091	5,250
Exports lbs.	(a)	(a)	(a)	(a)	(a)
" £	1,823	48,675	27,298	12,116	38
Net Exports .. lbs.	(a)	(a)	(a)	(a)	(a)
" £	1,729	47,152	22,852	8,025	- 5,212

NOTE.—The minus sign — signifies net imports. (a) Quantity not available.

§ 6. Bee Farming.

1. **General.**—As is the case with poultry-farming, bee-farming is frequently carried on in connexion with agriculture or dairying. The returns of honey from productive hives during 1922-23 gave an average of 58½ lbs. per hive, while the average quantity of wax was ½ lb. per hive

2. Production of Honey and Beeswax.—The number of hives and the production of honey and beeswax during the year 1922-23 are given in the following table :—

BEE-HIVES, HONEY, AND BEESWAX, 1922-23.

State.	Bee Hives.			Honey Produced.		Beeswax Produced.	
	Pro- ductive.	Unpro- ductive.	Total.	Quantity.	Value.	Quantity.	Value.
	No.	No.	No.	lbs.	£	lbs.	£
New South Wales . . .	26,784	11,530	38,314	1,235,905	22,140	28,244	2,385
Victoria . . .	36,994	15,066	52,060	2,285,000	42,844	27,182	2,378
Queensland . . .	12,936	4,100	17,036	580,057	12,858	8,895	713
South Australia . . .	20,615	2,242	22,857	1,863,026	23,935	19,111	1,453
Western Australia . . .	7,902	1,323	9,225	330,869	5,358	5,391	399
Tasmania . . .	3,642	2,033	5,675	71,030	1,775	1,473	110
Fed. Cap. Territory . . .	71	19	90	3,175	60	198	15
Australia . . .	108,944	36,313	145,257	6,369,062	108,970	90,494	7,453

The table hereunder gives the production of honey and beeswax for the latest available five years :—

HONEY AND BEESWAX PRODUCTION, 1918-19 TO 1922-23.

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Fed. Cap. Ter.	Australia.
HONEY.								
1918-19	879,356	1,644,447	410,182	1,683,725	415,616	151,605	420	5,185,351
1919-20	472,020	1,396,704	305,586	552,976	336,206	80,468	320	3,144,280
1920-21	1,441,617	1,724,942	426,662	1,821,811	149,226	85,125	1,760	5,651,143
1921-22	2,986,574	2,712,675	598,357	791,324	196,440	82,920	2,500	7,370,790
1922-23	1,235,905	2,285,000	580,057	1,863,026	330,869	71,030	3,175	6,369,062
BEESWAX.								
1918-19	19,231	25,286	9,099	14,653	6,621	3,087	..	77,977
1919-20	12,195	24,735	7,215	7,350	6,611	2,329	..	60,435
1920-21	23,234	24,222	7,501	17,501	3,849	1,788	86	78,181
1921-22	28,255	32,737	8,231	9,108	3,980	1,976	130	84,417
1922-23	28,244	27,182	8,895	19,111	5,391	1,473	198	90,494

The quantity of honey and beeswax produced naturally varies from year to year according to the conditions of the seasons. During the last five years New South Wales has produced 7,015,472 lbs. of honey and 111,159 lbs. of beeswax, while the Victorian figures amounted to 9,763,768 lbs. and 134,162 lbs. respectively for honey and beeswax. These two States together accounted for 60½ per cent. of the total production of honey, and 62½ per cent. of the beeswax. Next in order of importance were South Australia, Queensland, and Western Australia.

3. **Oversea Trade in Bee Products.**—In normal years the local production of honey exceeds Australian requirements, and a considerable quantity is exported. During the past five years the value of the exports amounted to £273,694, or an annual average of £54,739, and it is believed that the export could be considerably increased. Australian honey exhibited at the Franco-British Exhibition in London in 1908 obtained the highest award. The more general use of frame hives in recent years has affected the production of wax, and as a result the quantity imported has exceeded that exported during each of the past five years.

BEE PRODUCTS.—IMPORTS, EXPORTS, ETC., AUSTRALIA, 1918–19 TO 1922–23.

Particulars.	1918–19.	1919–20.	1920–21.	1921–22.	1922–23.
HONEY.					
Imports .. lbs.	150	1,093	201,548	13,572	811
.. .. £	4	35	5,838	399	24
Exports .. lbs.	8,747,760	588,384	97,541	94,471	57,638
.. .. £	248,685	18,815	5,328	4,448	2,718
Net Exports .. lbs.	8,747,610	587,291	- 104,007	80,899	56,827
.. .. £	248,681	18,780	- 510	4,049	2,694

BEESWAX.

Imports .. lbs.	36,136	26,149	28,235	223,441	238,368
.. .. £	3,493	1,969	2,452	12,786	13,817
Exports .. lbs.	7,269	15,853	7,535	2,259	671
.. .. £	598	1,467	810	154	61
Net Exports .. lbs.	- 28,867	- 10,296	- 20,700	- 221,182	- 237,697
.. .. £	- 2,895	- 502	- 1,642	- 12,632	- 13,756

NOTE.—The minus sign — signifies net imports.

§ 7. Value of Farmyard, Dairy, and Bee Products.

The value of the farmyard, dairy and bee products raised in Australia in 1922 was as follows:—

FARMYARD, DAIRY, AND BEE PRODUCTS.—VALUE, 1922.

Products.	N.S.W.(a)	Victoria. (a)	Q'land.	S. Aust. (a)	W. Aust.	Tas.	N.T.	Fed. Cap. Ter. (a)	Australia.
	£	£	£	£	£	£	£	£	£
Milk, consumed as such ..	3,185,454	2,627,335	683,100	456,454	345,026	396,778	..	3,460	7,697,607
Butter ..	6,524,711	6,660,834	4,185,368	1,076,840	216,019	372,686	..	1,615	19,038,073
Cheese ..	249,351	163,200	415,619	120,960	8	32,596	..	..	981,734
Condensed and concentrated milk	c 242,586	d 1,434,719	e 379,696	..	..	..	..	..	2,057,001
Bacon and ham ..	979,845	981,600	717,089	274,764	121,638	87,956	..	570	3,163,462
Pork ..	292,093	248,137	144,226	137,128	69,315	80,104	364	..	971,367
Lard ..	26,302	30,457	27,935	6,412	4,023	3,911	..	15	99,055
Livestock ..	..	160,480	11,650	..	11,400	..	..	..	183,530
Poultry and eggs	2,894,000	4,315,810	417,052	1,066,137	240,423	300,000	..	(b)	9,233,422
Honey and wax	24,525	45,222	13,571	25,388	5,757	1,885	..	75	116,423
Total ..	14,418,867	16,667,794	6,995,306	3,164,083	1,013,609	1,275,916	364	5,735	43,541,674

(a) Year ended 30th June year following. (b) Included with New South Wales. (c) Includes table and sterilized cream, £14,689. (d) Includes casein, £74,130, and milk sugar, £25,546. (e) Includes coffee and milk, and cocoa and milk, £109.

§ 8. Exports of Australian Farmyard, Dairy and Bee Products.

The quantities and values of Australian farmyard, dairy, and bee products exported during each of the last five years are shown below :—

AUSTRALIAN FARMYARD, DAIRY AND BEE PRODUCTS.—EXPORTS,
1918-19 TO 1922-23.

Products.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
QUANTITY.					
Beeswax	lbs. 7,252	14,438	5,838	830	581
Butter	41,114,764	39,006,304	92,420,995	127,347,428	78,975,387
Cheese	2,303,276	7,516,412	9,530,221	12,670,782	5,454,415
Egg albumen and yolk	(a)	(a)	(a)	(a)	(a)
Eggs	doz. 8,359	210,784	413,477	807,359	1,236,033
Feathers, undressed	(a)	(a)	(a)	(a)	(a)
Honey	lbs. 8,747,760	588,384	97,541	94,471	57,638
Lard	6,016,383	7,931,014	3,118,105	2,908,595	1,357,372
Meats—					
Bacon and ham	5,636,891	3,040,933	3,113,488	2,712,911	1,871,414
Frozen poultry	pair 8,298	13,346	22,376	50,367	34,399
Frozen pork	lbs. 839,557	371,397	163,303	152,584	137,946
Milk, concentrated and preserved	27,934,998	35,548,082	37,281,554	36,678,109	21,135,137
Pigs, living	No. 60	164	166	119	67
Poultry, living	1,699	2,477	2,880	2,624	2,858
VALUE.					
Beeswax	£ 596	1,325	628	77	51
Butter	3,193,086	3,301,695	11,067,104	7,968,078	6,082,414
Cheese	118,850	377,398	514,129	438,350	231,898
Egg albumen and yolk	1,823	48,675	27,055	12,061	32
Eggs	743	17,434	53,920	75,764	102,946
Feathers, undressed	61	793	1,133	956	1,247
Honey	248,685	18,815	5,328	4,448	2,718
Lard	205,675	374,641	153,084	88,694	38,447
Meats—					
Bacon and ham	378,685	258,890	323,253	223,065	158,414
Frozen poultry	5,141	10,760	20,963	50,205	42,951
Frozen pork	40,325	19,149	9,370	7,414	6,063
Milk, concentrated and preserved	1,091,889	1,605,161	2,184,761	2,131,279	1,325,883
Pigs, living	479	1,044	1,199	990	510
Poultry, living	1,231	2,448	2,731	3,268	2,640
Total	5,287,269	6,038,228	14,373,657	11,004,640	7,996,214

(a) Quantity not available.

§ 9. British Imports of Dairy Products.

1. Quantities and Values.—The following table gives the quantities and values of the principal dairy products imported into the United Kingdom during the years 1918 to 1922 :—

DAIRY PRODUCTS.—IMPORTS, UNITED KINGDOM, 1918 TO 1922.

Products.	1918.	1919.	1920.	1921.	1922.
Butter	1,578,658	1,560,204	1,702,203	3,523,976	4,268,561
"	£ 19,769,738	19,854,427	24,518,748	42,339,947	37,315,536
Cheese	2,357,103	2,118,250	2,750,260	2,517,465	2,659,345
"	£ 15,905,858	15,170,620	20,635,946	17,448,521	12,437,818
Milk—Concentrated and preserved	2,707,761	3,347,645	2,127,199	2,350,610	2,059,050
"	£ 13,472,544	17,088,310	13,083,897	11,303,566	6,588,155
Bacon and ham	12,028,505	10,094,352	5,935,981	6,804,875	7,368,394
Pork (a)	£ 103,410,221	89,681,616	53,339,250	51,745,149	44,115,900
"	111,345	160,263	485,181	372,055	292,358
"	£ 763,484	1,075,563	3,443,332	1,863,027	1,102,304

(a) Frozen, chilled, and salted.

2. **Butter.**—(i) *Imports.* Australia has for many years supplied a large proportion of the butter imported into the United Kingdom. The quantity forwarded in 1922 amounted to 931,137 cwts., or nearly 22 per cent. of the total importation into the United Kingdom, and was exceeded only by that shipped from Denmark and New Zealand. The value of the Australian shipments was £6,996,678.

BUTTER IMPORTS.—UNITED KINGDOM, 1922.

Country from which Imported.	Quantity.	Value.	Country from which Imported.	Quantity.	Value.
	Cwt.	£		Cwt.	£
Denmark ..	1,423,796	13,969,683	Sweden ..	16,554	174,809
New Zealand ..	1,103,444	9,340,703	France ..	21,157	173,815
Australia ..	931,179	6,996,678	Foreign Countries, n.e.i. ..	18,343	170,683
Argentine Republic	356,158	2,731,441	British Possessions, n.e.i. ..	13,155	72,663
Canada ..	154,532	1,530,768			
Finland ..	117,274	1,097,270	Total ..	4,268,561	37,315,536
Netherlands	78,615	710,399			
United States of America ..	34,354	346,624			

(ii) *London Prices.* The average price of the best quality Australian butter in London during the past ten years is shown in the following table :—

AUSTRALIAN BUTTER.—LONDON PRICES, 1913 TO 1923.

Year.	Average Top Price per Cwt.	Year.	Average Top Price per Cwt.
	s. d.		s. d.
1913	114 6	1919	(b) 252 0
1914	119 0	1920	(b) 299 9
1915	144 6	1921	234 0
1916	169 6	1922	183 0
1917	(a) 206 0	1923	184 6
1918	(b) 252 0		

(a) Proclaimed price.

(b) Flat rate for all imported butter.

Under contract the British Government purchased the surplus output of Australian butter during the period from 1st July 1918, to 31st July, 1920. The price paid was 175s. per cwt. for butter scoring 90 points, a shilling per cwt. being added or deducted as the grading score exceeded or fell below that standard. On the 1st August, 1920, the contract was extended for a further period, the price of butter having been increased to 240s. per cwt., subsequently raised to 272s., and the grading price being likewise increased to 1s. 6d. per cwt. This contract terminated on the 31st March, 1921, butter thenceforward being sold in open market.

3. **Cheese.**—The value of cheese imported into the United Kingdom in 1922 was £12,437,818, of which nearly six million pounds' worth was received from New Zealand, and four and a half million pounds' worth from Canada. Small experimental shipments from Australia were made in 1908 and following years, fair prices being realized. The value of the imports from Australia has increased from £24,568 in 1913 to £434,118 in 1922.

4. **Bacon and Ham.**—Of a total import of bacon and ham valued in 1922 at £44,115,900, the United Kingdom received imports to the value of £20,090,125 from the United States, £16,663,898 from Denmark, and £4,914,002 from Canada. The import from Australia was small, experimental shipments only having been made during recent years.

5. **Pork.**—The value of the United Kingdom imports of pork (frozen and salted only) was £1,102,304 in 1922. There was no importation from Australia, the bulk of the supplies being forwarded from the United States, Argentine Republic and Denmark.

6. **Other Products.**—There was practically no shipment to the United Kingdom from Australia of beeswax, poultry, game, lard, or honey, but frozen rabbits to the value of £411,888, and eggs to the value of £87,874 were received from Australia in 1922.

CHAPTER XIX.

FORESTRY.

§ 1. Forestry.

1. **General.**—Economic forestry aims at the preservation and development of existing forest areas by safeguarding against fire and other destructive agencies, by expert supervision of the removal of timber, by judicious thinning, and by re-afforestation of denuded areas with suitable new growths of local or exotic origin. It provides also for the continuance of an indispensable form of national wealth by the afforestation of available bare lands adapted to the growth of various timbers. Though large areas of virgin forests still remain in Australia, the inroads made by timber-getters, by agriculturists, and by pastoralists—who have destroyed large areas by “ring-barking”—are considerable, and it is not unlikely that climatological changes are caused thereby. It is stated that beneficial consequences follow on the planting of trees on denuded lands, or along eroding coasts, and that a forest-covering beneficially regulates the effects of rainfall.

Successful planting of exotics in various parts of Australia has demonstrated that the climate is suitable for the cultivation of a large number of the most valuable and beautiful of the world's timber trees.

2. **Extent of Forests.**—(i) *Australia.* Although no definite survey of forest lands has been made on a uniform basis for the different States of Australia, the following table gives the results of careful estimates made for each State:—

ESTIMATED FOREST AREA—AUSTRALIA, 1922.

State.	Total Forest Area.	Percentage of Total Area.
	Acres.	%
New South Wales	11,000,000	5.54
Victoria	8,000,000	14.22
Queensland	24,000,000	5.59
South Australia	3,800,000	1.56
Western Australia	16,494,000	2.64
Tasmania	5,760,000	34.33
Total	(a) 69,054,000	3.63

(a) Excluding Northern Territory.

(ii) *Comparison with other Countries.* The absolute and relative forest areas of Australia and other countries are shown below :—

FOREST LANDS.—RELATIVE AREAS, VARIOUS COUNTRIES.

Country.	Total Wooded Area.	Percentage on Total Area.	Country.	Total Wooded Area.	Percentage on Total Area.
	Sq. Miles.	%		Sq. Miles.	%
United States ..	733,594	24.24	France	38,172	17.95
Russia (Europe) ..	601,852	36.31	Poland	32,781	21.99
Canada (a) ..	390,625	10.47	Norway	27,434	21.95
India (British) ..	250,949	22.96	Rumania	26,436	21.62
Argentine Republic	162,623	14.10	Spain	18,965	9.74
Australia	107,897	3.63	Italy	18,088	16.35
French Indo-China	96,523	37.58	Czecho-Slovakia ..	17,996	33.17
Sweden	91,666	52.98	New Zealand	17,969	17.30
Japan	71,923	27.53	Austria	11,795	38.34
Germany	49,469	26.96	United Kingdom	4,662	3.83
Finland	48,988	32.75			

(a) In addition, the pulpwood forests of Canada are estimated at 541,791 sq. miles.

3. *Distribution.*—The characteristics of the forest areas are given in some detail for each State in Official Year Book No. 6, pp. 446-9. The more conspicuous timber regions of Australia as a whole are the eastern and southern portions, including Tasmania, and the south-western portion northwards and eastwards from Cape Leeuwin. In regard to distribution, on the eastern side of the continent the largest timber is found on the crests and coastal slopes of the mountain ranges, but in the south-west, in addition to the vegetation between mountains and sea, a large area of forest stretches inland from the coastal ranges. The hills encircling Adelaide and Yorke and Eyre Peninsulas also bear good forest. The Kimberley district is timbered, and in the Northern Territory and round the shores of the Gulf of Carpentaria there are considerable forest areas. In the coastal regions of parts of West and North-West Australia, and along the shores of the Great Australian Bight and Encounter Bay, there is little forest. The areas in the centre of the continent are thinly timbered.

Special articles relating to Australian Eucalyptus timbers and the chemical products of Eucalyptus will be found in Official Year Book No. 10, pp. 85-98.

§ 2. Forestry Departments.

1. *Functions.*—Each State has organized a separate Department or Commission specially charged with the control and management of the State forests and timber reserves. Extensive survey work is carried on with a view to the classification of forest lands and the proclamation of State forests. The forests are improved by systematic cutting and silvicultural treatment, by judicious thinning and ringbarking, and by the making of roads and the establishment of fire-breaks, together with the removal and destruction of debris, and stunted, diseased and suppressed growth. Provision is made for effective patrols in forest districts to check the ravages caused by fire, often due, it is believed, to carelessness. The training of forest officers, the conduct of research work, and the collection of forestry statistics are also undertaken.

2. *Forest Reservations.*—At the Interstate Conference on Forestry, held at Hobart in 1920, the forestry authorities of the various States estimated that to meet the future

requirements of Australia an area of 24,500,000 acres of indigenous forest lands will be necessary, this estimate being based on the following distribution among the States:—

		Acres.	
New South Wales	8,000,000	Western Australia	3,000,000
Victoria	5,500,000	Tasmania	1,500,000
Queensland	6,000,000		
South Australia	500,000	Total	24,500,000

Having been endorsed by the Premiers' Conference held later in the same year, this area has been adopted as the Australian forest ration towards which the authorities are now aiming for permanent reservation. The progress made in the various States to the end of June, 1923, is set out in the following table:—

AREA OF FOREST RESERVATIONS, 30th JUNE, 1923.

Particulars.	N.S.W.	Vic.	Q'land. (a)	S. Aust.	W. Aust.	Tas.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Dedicated State forests ..	5,315,689	3,401,738	1,410,364	203,258	52,389	29,199	10,412,637
Timber reserves	1,561,270	747,281	2,972,697	..	859,266	1,695,985	7,836,499
National parks	..	..	153,540	..	..	..	153,540
Total ..	6,876,959	4,149,019	4,536,601	203,258	911,655	1,725,184	18,402,676

(a) 31st December, 1922.

The area of State forests reserved in perpetuity amounted in June, 1923, to 10,412,637 acres, or 42 per cent. of the quota adopted for Australia, while the timber reserves, which may be cancelled at any time, embraced an area of 7,836,499 acres, making—with the addition of the Queensland National Parks—a total area of nearly 18,500,000 acres under the control of the Forestry Departments. Of this area a considerable proportion consists of inaccessible mountainous country and cut-over lands, while the Australian quota recommended refers to merchantable forest only. The foresters of Australia are, therefore, faced with a difficult task in improving and preserving the existing forests, and in securing the reservation of further suitable forest country to ensure a permanent supply of accessible timber.

3. *Sylvicultural Nurseries and Plantations.*—Recognition of the necessity for systematic sylviculture has led to the creation in all of the States of a number of sylvicultural nurseries and plantations. The locality of these establishments, together with a brief statement of the nature of their activities, is given in previous issues of the Year Book. (Reference may be made to Official Year Book No. 6, pp. 451-3.) Details regarding forest nurseries and plantations are given hereunder:—

SYLVICULTURAL NURSERIES AND PLANTATIONS, 1922-23.

Particulars.	New South Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total.
State Forest Nurseries—							
Area (acres)	29	40	10	30	17	8	134
Plantations—							
Area planted during year .. (acres)	1,625	1,161	381	866	379	..	4,412
Area of effective plantations .. (acres)	5,100	13,508	1,612	25,580	1,559	..	47,359
Number of persons employed in Forestry Departments—							
Administrative	31	26	24	1	1	1	94
Professional	5	5	40	1	6	5	62
General	227	111	213	150	98	7	806

4. Revenue and Expenditure.—The revenue and expenditure of the State Forestry Departments from 1918-19 to 1922-23 are given below :—

FORESTRY DEPARTMENTS.—REVENUE AND EXPENDITURE, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
REVENUE.					
	£	£	£	£	£
New South Wales	97,592	147,041	190,742	217,841	168,698
Victoria	57,731	67,298	95,517	155,160	163,076
Queensland	71,985	100,584	145,802	220,950	267,816
South Australia	23,880	22,003	23,872	11,234	8,362
Western Australia	41,015	45,278	53,617	88,529	87,658
Tasmania	3,860	7,340	20,444	18,891	19,346
Total	296,063	389,544	534,994	712,605	714,956
EXPENDITURE.					
	£	£	£	£	£
New South Wales	121,162	134,997	179,540	186,588	137,108
Victoria	60,193	64,213	71,386	130,076	138,714
Queensland	21,877	35,158	72,718	201,865	158,618
South Australia	21,968	26,404	33,924	36,467	40,822
Western Australia	23,656	15,331	27,632	47,885	38,827
Tasmania	1,204	1,433	2,621	7,069	8,293
Total	250,060	277,536	387,821	609,950	522,382

5. Instruction in Scientific Forestry.—Several schools have been established in which, while general scientific instruction is imparted, special attention is paid to forestry. In the classes, theoretical forestry, botany, geology, physics, land surveying, etc., are taught; while in outside work trainees receive practical instruction in the preparation of seed-beds, seed-sowing, propagation, planting out, pruning, the general care and improvement of plantations and natural forests, and the employment of timber to the best advantage. Courses of lectures are also given at various centres, and, at some of the higher technical schools, members of the forest staffs are afforded opportunities of qualifying in special subjects. Methods of training, etc., are not uniform in the various States, and one of the prime objects of a Conference held in 1916 was the evolution of a system which, while aiming at uniformity, would be sufficiently elastic to provide for special needs in any State.

6. Forest Congresses.—Interstate Conferences on Forestry were held in 1911 and 1912, chiefly with a view of securing uniformity of management. An International Forest Congress was held at Paris in June, 1913, when a Professor of South Kensington Imperial College represented the Commonwealth Government. The papers and reports dealt chiefly with the threatened shortage of timber, and the measures necessary to avert the danger. An Imperial Forestry Conference was held in London in the summer of 1920, at which also Australia was represented. Important Interstate Forestry Conferences were held in Adelaide in May, 1916; at Perth in November, 1917; at Hobart in April, 1920, and at Brisbane in April, 1922.

§ 3. Production.

1. Timber.—Estimates of the quantity and value of local timber sawn and hewn in each State are given hereunder :—

LOCAL TIMBER SAWN AND HEWN, 1918-19 TO 1922-23.

State.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.	1,000 sup. feet.
New South Wales ..	131,617	155,114	156,112	143,593	147,108
Victoria ..	91,540	99,142	113,215	112,008	118,336
Queensland (a) ..	118,436	144,389	136,005	112,987	126,088
South Australia ..	6,223	6,178	5,598	3,398	1,187
Western Australia (a) ..	83,881	121,685	131,271	163,991	149,158
Tasmania (a) ..	46,481	54,291	59,047	54,518	45,564
Total ..	477,178	580,799	601,248	590,495	587,441

(a) Year ended 31st December.

2. Other Forest Products.—(i) *Eucalyptus Oil*. Oil may be distilled from the foliage of all varieties of eucalyptus and several of them furnish a product widely known for its commercial and medicinal uses. Complete information regarding Australian production and consumption of eucalyptus oil is not available, but large quantities are manufactured, particularly in Victoria. Oversea exports amounted in 1920-21 to £107,000, in 1921-22 to £24,000, and in 1922-23 to £33,990, the bulk of the product being forwarded to the United Kingdom and the United States.

(ii) *Tan Barks*. The forests of Australia contain a wealth of tanning materials, all the eucalypts being capable of furnishing a percentage of tannin. For many years tan bark has been obtained in Australia from the golden, and the black or green wattle, but this source of supply has been largely depleted by the gradual destruction of the trees, and the bark is now imported from Natal where the plantations were originally started from Australian seed. In addition to the wattle bark, a valuable tan bark is obtained from the mallet (*E. occidentalis*) of Western Australia. Its exploitation has, however, been so rapid that the available supply is now comparatively small. An investigation of the resources in tanning materials of Western Australia recently completed by the Institute of Science and Industry proved that barks of common trees such as karri, gimlet and ridge-gum, formerly regarded as waste materials, are rich in tannin and excellent tanning agents. Investigations in the other States would probably reveal additional sources of supply. In Western Australia, moreover, there are extensive areas of red-gum which exudes considerable quantities of a kino (gum) possessing a very high percentage of tannin. This material has not been very largely used, however, owing to the red colour it imparts to the leather, but this disadvantage has been overcome by the Institute of Science and Industry, which has applied for a patent covering the preparation of the tan solution from raw kino. The production of tan bark in Australia is estimated at about 30,000 tons per annum.

3. Value of Production.—Though the valuation of the quantity of firewood consumed in Australia presents serious difficulty, an estimate of the total value of forest production is annually compiled with the following results for the past five years :—

VALUE OF FOREST PRODUCTION.—AUSTRALIA, 1918-19 TO 1922-23.

Production.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	£	£	£	£	£
Total ..	5,882,000	8,631,000	8,877,000	8,998,000	9,344,000

§ 4. Commercial Uses of Principal Australian Timbers.

1. **General.**—The uses of the more important Australian timbers are many and various, and are indicated in previous issues of this work. (See Official Year Book No. 6, pp. 454-6; and Official Year Book No. 10, Section III., § 7 and 8.)

The Commonwealth Government utilizes Australian woods for rifle stocks, telephone switch boards, aeroplane parts, etc. Queensland maple (*Flindersia chatawaiana*) is largely used for rifle stocks, and coachwood is available for the same purpose. Australian timber is also seasoned and stored, depots having been established by the Commonwealth Government at Canberra and Newington in New South Wales, and at Maribyrnong in Victoria; by State Governments at the principal centres; and by private enterprise as required.

2. **Lack of Uniformity in Nomenclature.**—Unfortunately the vernacular names applied to the gums, ironbarks, etc., in the various States, and even in different parts of the same State, do not always refer to identical timbers. The resulting confusion has not only been productive of loss, but it has, to some extent, prejudicially affected the timber trade. This subject is referred to at some length in the special article "Australian Eucalyptus Timbers," in Section III., § 7 and 8, in Official Year Book No. 10. At the 1916 Forestry Conference alluded to above, the matter came up for special consideration, and steps were taken to establish a uniform nomenclature.

§ 5. Oversea Trade.

1. **Imports.**—(i) *Dressed Timber.* The quantity and value of timber imports into Australia during the four years 1919-20 to 1922-23 inclusive are shown according to countries of origin in the following tables:—

DRESSED TIMBER.—IMPORTS, AUSTRALIA, 1919-20 TO 1922-23.

Country of Origin.	Quantity.				Value.			
	1919-20.	1920-21.	1921-22.	1922-23.	1919-20.	1920-21.	1921-22.	1922-23.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom	105,970	4,750	230	625	584	34	21	33
Canada	348,385	2,285,721	1,761,394	4,119,889	3,557	36,750	15,218	44,113
India	..	19,530	200	..	..	3,055	1	..
Other British Countries	1,350	200	3,982	2,995	20	1	54	124
Norway	9,433,921	34,241,593	13,794,952	49,971,566	201,593	808,562	242,092	724,507
Sweden	4,251,630	12,883,503	9,094,263	30,299,618	87,779	325,864	120,127	421,307
United States	67,438	1,712,904	2,508,918	7,196,660	2,838	34,599	34,189	63,998
Other Foreign Countries	..	2,329	6,059	67,307	109	421	1,998	6,468
Total	14,211,023	51,154,260	27,231,846	92,088,449	296,480	1,209,286	413,700	1,260,550

The figures in the table above are exclusive of items such as architraves, veneers, etc., quantities for which are either not shown, or are expressed in dissimilar units in the Customs entries. The total value of the items so excluded amounted to £87,274 in 1922-23, including plywood, veneered or otherwise, £68,752.

The bulk of the imports of dressed timber comes from Norway, Sweden, and the United States. Practically the whole of this timber consists of softwoods—deal and pine—used for lining, weatherboards, flooring, shelving, doors, box-making, etc.

(ii) *Undressed Timber.* Australian imports of undressed timber for the latest available four years are given hereunder:—

UNDRESSED TIMBER, INCLUDING LOGS (b).—IMPORTS, AUSTRALIA, 1919-20 TO 1922-23.

Country of Origin.	Quantity.				Value.			
	1919-20.	1920-21.	1921-22.	1922-23.	1919-20.	1920-21.	1921-22.	1922-23.
	sup. ft.	sup. ft.	sup. ft.	sup. ft.	£	£	£	£
United Kingdom	33,861	205,546	7,179	28,736	1,803	4,929	259	1,216
Canada ..	5,766,395	12,361,386	17,679,952	43,548,208	90,882	181,072	174,878	314,978
India ..	129,395	639,964	24,382	62,909	8,022	62,094	482	769
Malaya (British)	817,675	400,625	226,145	237,433	8,147	5,890	1,944	2,057
New Zealand ..	56,470,627	61,548,649	49,038,544	42,822,742	673,922	879,960	660,824	533,962
Other British Countries ..	802,860	1,234,127	1,854,686	1,699,662	8,504	10,452	13,852	14,471
Japan ..	6,362,400	5,727,148	3,943,538	6,116,548	188,823	210,152	86,686	130,550
Java ..	578,538	a 1,925,464	a 1,051,820	a 884,416	6,436	a 23,337	a 6,753	a 8,097
Norway ..	44,600	117,142	339,185	406,720	836	2,390	14,290	5,761
Sweden ..	165,934	2,114,819	816,902	3,220,682	2,609	52,507	10,669	44,012
United States ..	70,976,919	104,085,707	98,849,251	169,636,426	1,069,341	2,048,517	968,259	1,665,312
Other Foreign Countries ..	1,059,665	2,097,200	2,668,107	3,871,076	19,781	37,845	40,962	69,751
Total ..	143,208,872	192,457,777	176,499,691	272,535,558	2,078,906	3,524,145	2,009,853	2,790,936

(a) Including other Dutch East Indian possessions.

(b) Exclusive of timber not measured in super. feet.

By far the larger proportion of the undressed timber imports also consists of softwoods such as yellow pine, redwood, and oregon from the United States and Canada; kauri, rimu, and white pine from New Zealand; pine from Japan, and (prior to the war) red deals from Russia, Norway, and Sweden. Amongst the hardwoods imported, the principal are oak from the United States of America and Japan, and teak from India.

2. *Exports.*—The quantity and value of undressed timber exported from 1918-19 to 1922-23 are given below, the countries of destination being also shown:—

UNDRESSED TIMBER, INCLUDING LOGS (a).—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	Quantity.					Value.				
	1918-19	1919-20	1920-21	1921-22	1922-23	1918-19	1919-20	1920-21	1921-22	1922-23
	1,000 sup. ft.	1,000 sup. ft.	1,000 sup. ft.	1,000 sup. ft.	1,000 sup. ft.	£	£	£	£	£
United Kingdom	536	375	18,078	8,824	5,731	4,458	4,617	181,451	116,017	75,556
Canada ..	103	59	32	136	41	2,364	1,405	912	3,030	866
Ceylon ..	..	1,567	340	6,203	1,898	..	10,448	3,316	61,759	19,392
Egypt ..	..	2,171	6,890	402	1,981	..	14,472	55,800	4,696	19,963
Hong Kong ..	188	276	395	462	334	2,197	2,969	4,934	6,580	3,883
India ..	100	467	10,220	9,161	2,672	650	3,500	83,650	91,358	28,468
Malaya (British)	20	..	2	2	176	..	135	..	..	5,045
Mauritius ..	..	458	1,834	2,706	2,367	..	2,342	22,014	50,591	24,546
New Zealand ..	5,533	12,431	25,354	23,874	24,845	81,276	170,730	459,597	358,960	324,052
Pacific Islands—										
Fiji ..	428	742	1,011	845	664	4,490	11,224	17,236	12,604	10,307
Territory of New Guinea	41	226	158	95	157	906	4,254	4,254	2,401	2,883
Other Islands	272	665	896	586	474	4,157	13,763	20,684	12,597	8,339
Papua ..	99	140	189	99	217	1,877	3,155	10,990	2,391	3,814
South African Union ..	10,931	32,437	34,935	37,261	42,370	75,358	234,657	353,434	395,026	472,564
Belgium ..	..	1	2,597	1,766	595	..	24	24,897	18,790	5,949
China ..	..	760	3,420	1,939	3,149	..	5,996	39,682	19,798	27,418
Japan ..	105	355	625	128	173	2,276	6,921	8,360	2,478	2,169
Pacific Islands—										
New Caledonia	92	155	55	51	32	1,502	3,081	1,600	1,234	538
Other Islands	225	85	140	62	63	3,373	1,689	3,648	1,426	1,329
U.S. of America	2,189	275	668	469	439	41,867	6,588	17,466	12,550	11,196
Other Foreign Countries ..	72	5	380	303	122	1,503	43	6,126	4,417	1,865
Total ..	20,934	53,647	108,217	96,394	88,500	228,389	502,881	1,325,083	1,178,725	1,050,142

(a) Exclusive of timber not measured in super. feet.

As the table shows, the bulk of the exports of undressed timber was consigned to South Africa, New Zealand, and the United Kingdom, and consisted of Australian hardwoods, which have earned an excellent reputation for such purposes as railway sleepers, harbour works, wood paving, etc. There was a notable increase in the quantity supplied to the United States of America in the later war years.

3. Classification of Imports and Exports.—(i) *General.* The quantities of timber classified according to varieties imported and exported during the year 1922-23 are given in the next table:—

TIMBER, VARIETIES IMPORTED AND EXPORTED.—QUANTITIES, AUSTRALIA, 1922-23.

Description.	Unit of Quantity.	Imports.	Exports.	Excess of Imports over Exports.
Dressed	sup. ft.	92,088,449	388,445	91,700,004
Undressed, including logs	"	272,535,558	88,499,562	184,035,996
Architraves, mouldings, etc.	lin. ft.	840	155,552	—154,712
Plywood, veneered or otherwise	sq. ft.	3,781,264	(b)	(b)
Palings	No.	..	352,802	—352,802
Pickets	"	87,000	..	87,000
Shingles	"	2,796,855	..	2,796,855
Staves—				
Dressed, etc.	"	32,717	12,859	19,858
Undressed	"	1,651,968	80	1,651,888
Laths—				
For blinds	"	(a)	(a)	(a)
Other	"	47,897,734	260,170	47,637,564
Doors	"	10,890	(a)	(a)
Wood pulp	ton.	8,952	(b)	(b) 8,952
Veneers	—	(a)	(b)	(b)
Spokes, rims, felloes, hubs.	—	(a)	(a)	(a)
Other	—	(a)	(a)	(a)

(a) Quantity not available.

(b) Exports not recorded separately.

NOTE.—The minus sign — denotes an excess of exports.

Similar particulars relative to the values of imports and exports during the year 1922-23 are shown hereunder:—

TIMBER, VARIETIES IMPORTED AND EXPORTED.—VALUES, AUSTRALIA, 1922-23.

Description.	Imports.	Exports.	Excess of Imports over Exports.
	£	£	£
Dressed	1,260,550	8,895	1,251,655
Undressed, including logs	2,790,936	1,050,142	1,740,794
Architraves, mouldings, etc.	6	1,483	—1,477
Plywood, veneered or otherwise	68,752	(b)	(b) 68,752
Palings .. .. .	..	4,065	—4,065
Pickets	870	..	870
Shingles	6,271	..	6,271
Staves—			
Dressed, etc.	3,158	938	2,220
Undressed	14,514	2	14,512
Laths—			
For blinds .. .. .	..	316	—316
Other	92,772	752	92,020
Doors	9,747	595	9,152
Wood pulp	138,750	(b)	(b) 138,750
Veneers	9,041	(b)	(b) 9,041
Spokes, rims, felloes, hubs.	12,086	7,002	5,084
Other	1,033	..	1,033
Total	4,408,486	1,074,190	3,334,296

NOTE.—The minus sign — denotes an excess of exports.

(b) Exports not recorded separately.

(ii) *Sandalwood*. A considerable amount of sandalwood is annually exported, principally from Western Australia to China, where it is highly prized, and largely used for artistic and ceremonial purposes.

SANDALWOOD.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	Quantity.					Value.				
	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	ton.	ton.	ton.	ton.	ton.	£	£	£	£	£
United Kingdom ..	..	20	1	4	..	..	385	110	267	2
Hong Kong ..	6,225	9,363	6,495	3,334	4,657	92,518	174,659	111,730	57,714	66,460
India ..	121	98	424	333	489	1,573	1,860	7,736	6,144	8,131
Malaya (British) ..	1,699	4,081	1,793	228	352	22,063	71,522	35,191	3,935	5,322
Other British Countries ..	1	..	..	2	2	15	..	..	36	30
China ..	1,474	1,300	2,419	575	2,419	18,767	18,307	39,798	7,611	30,876
Other Foreign Countries ..	271	35	7	6	..	4,009	626	136	128	3
Total ..	9,791	14,897	11,139	4,482	7,899	138,945	267,359	194,701	75,830	110,824

(iii) *Tan Bark*. Tan bark figures both as an export and import in the Australian trade returns, as the following tables show. The first table refers to exports :—

TAN BARK.—EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Country to which Exported.	Quantity.					Value.				
	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	cwt.	cwt.	cwt.	cwt.	cwt.	£	£	£	£	£
United Kingdom ..	1,220	3,700	360	1	12	860	2,561	202	1	3
New Zealand ..	27,320	60,900	58,360	17,047	12,718	13,801	37,616	39,356	11,927	8,299
Other British Possessions ..	..	..	100	..	309	..	..	88	..	194
Foreign Countries ..	60	7,780	8,400	822	4,490	14	4,050	7,084	534	2,220
Total ..	28,600	72,380	65,220	17,870	17,529	14,675	44,227	46,730	12,462	10,716

Prior to the war there was a fairly considerable export of tan bark to Germany and also to Belgium. The exports westward have naturally dwindled away, and at the present time New Zealand receives the largest share of the available export, while there is also some trade with Japan, China, and Java. During recent years the largest proportion of the exports consisted of wattle bark from Tasmania, Victoria and New South Wales.

A comparison of the imports and exports of tan bark during the last five years is given in the next table :—

TAN BARK.—IMPORTS AND EXPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
	cwt.	cwt.	cwt.	cwt.	cwt.
QUANTITIES—					
Imports	102,480	78,800	48,100	34,328	93,769
Exports	28,600	72,380	65,220	17,870	17,529
Excess of exports over imports ..	- 73,880	- 6,420	17,120	- 16,458	- 76,240
	£	£	£	£	£
VALUES—					
Imports	43,319	33,733	20,002	15,954	37,349
Exports	14,675	44,227	46,730	12,462	10,716
Excess of exports over imports ..	- 28,644	10,494	26,728	- 3,492	- 26,633

NOTE.—The minus sign — denotes excess of imports.

The imports consist almost exclusively of wattle bark from the plantations in South Africa. One variety of Australian wattle is found to flourish in the sandy belts near the coast, but it is the *Acacia decurrens*, var. *mollis*, which is chiefly relied upon for the production of wattle bark in the South African plantations. Seed has been tried from New South Wales, Tasmania, and Victoria, but it is stated that most of the seed is obtained from the best wattle bark areas in eastern Tasmania and western Victoria.

Two reasons are given to account for the success of the industry in South Africa. (a) It is found that the treeless, grassy highlands of Natal are specially suitable for wattle culture, and the trees can therefore be grown in rows and economically attended to, while the necessary bark sheds and other appurtenances can be placed in the most advantageous positions. (b) There is an abundance of cheap and efficient Hindu labour available for employment on the plantations.

CHAPTER XX.

FISHERIES.

§ 1. General.

NOTE.—A specially contributed article dealing with Marine and Fresh Water Fisheries of Australia is given in § 6 of this Chapter.

1. *Fish Stocks.*—Australia possesses an abundant and varied fish fauna, which embraces both tropical and temperate varieties and includes destructive as well as valuable species. In rivers and lakes both indigenous and imported varieties thrive. The latter have been introduced and acclimatized for industrial and sporting purposes by Governments and angling societies. Exploitation of the fishing areas—for some classes of fish for the whole year, for others during the breeding season only, or until a certain size is attained—is, where necessary, forbidden; proclaimed localities are closed against net-fishing, and a minimum size of mesh for nets is fixed. The sea-fishermen in some districts have made regulations in their own interests for the purpose of controlling the market supply.

2. *Progress of Industry.*—(i) *Transport and Marketing.* Despite the abundance of edible fish, the progress of the fishery industry in Australia has been slow, and transport and marketing of the proved supplies have not been satisfactorily dealt with.

In New South Wales, as shown in § 5 and § 6, the matter of exploiting trawlable fish was undertaken by the State Government, which also took steps to improve the conditions under which ordinary coastal fishing is carried on. In Queensland State trawling was undertaken in 1919, and good trawling areas have been located and charted between Cape Moreton and Caloundra.

(ii) *Economic Investigations.* Although valuable work has been done by the State Governments in the way of experiment and culture, a uniform policy of development for Australia is desirable, and recommendations have been made that the Fisheries Departments of the various States should co-operate with the Federal Government with a view to increasing the productiveness of Australian waters, and bringing about uniformity in fisheries laws. All live fish imported into Australia are examined on shipboard in order to prevent the importation of undesirable fish. With the object of ascertaining the movements of oceanic fishes, and of estuarine fishes which make periodical oceanic migrations, reports are furnished regarding the various kinds of fishes, etc., and their movements along the coast. Details regarding the activities of the States in fish-culture are given in Official Year Book No. 6, pp. 471-2. By arrangement with the Commonwealth Fisheries Department some years ago members of the staff of the Australian Museum, Sydney, accompanied the F.I.S. *Endeavour* on various cruises. Specimens were collected, mounted for scientific purposes, and distributed to other Australian Museums, a considerable number being put aside for the Commonwealth Fishery Museum. As pointed out later, however, this vessel was lost with all hands in 1914, and has not since been replaced.

3. *Consumption of Fish.*—It has been said that the Australians are not an "ichthyophagous" race, seeing that the annual consumption of fish per head of population in Great Britain is set down at 42 lbs., while in Australia it has been estimated at only 13 lbs. The heavy imports of dried and preserved fish indicate, however, that there is scope for the development of the industry, which now seems to be ill-managed, the price to the consumer being high, while the fisherman's gain is uncertain, and the system of distribution lacks method.

4. **Oyster Fisheries.**—Natural oyster beds exist on the foreshores in the shallow waters of inlets and estuaries in several parts of Australia. By husbanding the natural crop, and by judicious transplanting, the output has been very materially augmented. The areas are leased by the Government to private persons, lengths of foreshore being taken up under oyster leases. In New South Wales and Queensland the industry has thriven, and small yields are obtained in South Australia, Victoria, and Tasmania.

5. **Pearl-shell, Pearls, Bêche-de-Mer, etc.**—(i) *General.* Pearl-shelling is carried on in the tropical waters of Queensland, the Northern Territory, and Western Australia. The pearl-oyster inhabits the northern and western coastal waters from Cape York to Shark Bay, a length of shore of over 2,000 miles. The shells are marketed in considerable quantities, and pearls also are obtained in Queensland and Western Australia. The fishing is generally conducted with the aid of diving apparatus, in water varying from 4 to 20 fathoms in depth. In Queensland and the Northern Territory the bêche-de-mer industry is carried on, and tortoise-shell is obtained on the coasts. Experiments have been made in cultivating the pearl-oyster on suitable banks. In October, 1911, a pearl weighing 178 grains, and valued at £3,000, was obtained at Broome. Further details regarding pearl-shelling are given in Official Year Book No. 6, p. 463. Trochus-shell to the value of £7,383 and £10,008 was raised in Queensland during 1921 and 1922 respectively.

(ii) *Royal Commission on Pearl-shelling Industry.* In accordance with the "White Australia" policy it was originally determined that the employment of Asiatic labour in the pearl-shelling industry should be restricted, and ultimately cease, and it was proposed that after 31st December, 1913, permits to indent Asiatics for the pearling-fleet should no longer be issued. In view, however, of the disorganization of the industry occasioned by the war, the time was extended to the 30th June, 1918, after which date permits to introduce Asiatic labour were to be granted only in cases where the diver and tender of a boat were Europeans. The Royal Commission appointed in March, 1912, presented its final report in 1916. The Commissioners stated that, though it might be practicable, they did not consider it advisable or profitable to attempt to transfer the industry from Asiatics to Europeans. They further stated that, while the labour now employed is almost entirely Asiatic, they did not consider that the "White Australia" policy would be weakened or imperilled by allowing the industry to continue as at present conducted.

§ 2. The Fishery Industry.

1. **Boats and Men Engaged, and Take.**—(i) *General Fisheries.* The returns have been compiled from particulars supplied by the State Departments, and while the data do not generally lend themselves to presentation on a uniform basis, the principal facts have been incorporated in the tables hereunder:—

GENERAL FISHERIES, 1922.

State or Territory.	No. of Boats Engaged.	Value of Boats and Equip-ment.	No. of Men Em-ployed.	Total Take of—		Value of Take.	
				Fish.	Spiny Lobster (Crayfish).	Fish.	Spiny Lobster (Crayfish).
	No.	£	No.	cwt.	doz.	£	£
New South Wales	1,063	76,553	g 3,385	b177,940	7,190	b464,452	c 27,518
Victoria (e) ..	870	106,493	1,319	89,306	18,408	142,966	16,373
Queensland ..	645	39,614	1,226	47,820	..	95,096	..
South Australia ..	900	36,000	964	(a)	(a)	(a)	(a)
Western Australia	259	32,147	522	25,588	12,638	71,644	6,319
Tasmania (d) ..	134	12,595	345	doz.89,546	8,350	18,900	4,586
Northern Territory(f)	2	90	10	102	..	205	..
Total (d) ..	3,873	303,492	7,771	..	..	793,263	54,796

(a) Not available.
and private fishermen.
(d) Incomplete.

(b) Including 48,256 cwt. fish, valued at £101,337, obtained by State trawlers
(c) Including £14,058, the value of 3,042 cwt. prawns and 2,331 dozen crabs
(e) Year ended 30th June, 1923. (f) Year ended 30th June, 1922. (g) Number
of licensed fishermen.

Returns for the past five years are given in the table below :—

GENERAL FISHERIES.—AUSTRALIA, 1918 TO 1922.

Particulars.	1918. (a)	1919.	1920.	1921.	1922.
No. of boats engaged	3,287	3,838	3,624	3,684	3,873
No. of men employed	6,515	7,774	7,634	7,846	7,771
Fish obtained—					
Quantity cwt.	490,612	5387,680	5397,250	5377,614	5350,350
Value £	755,059	5629,120	5689,568	5708,670	5793,263
Lobsters obtained—Value £	32,250	526,896	544,885	543,329	554,796

(a) Exclusive of Tasmania.

(b) Exclusive of South Australia.

(ii) *Edible Oyster Fisheries.* The returns from oyster fisheries are given in the next table. Edible oysters are not found in Western Australia, and information is available for the first time regarding the small production of oysters in Tasmania :—

EDIBLE OYSTER FISHERIES (a), 1922.

State or Territory.	Number of Boats Engaged.	Value of Boats and Equip-ment.	Number of Men Em-ployed.	Number of Leases.	Oysters Taken.	
					Quantity.	Value.
	No.	£	No.	No.	cwt.	£
New South Wales	502	23,501	513	4,028	43,198	74,433
Victoria (b)	15	1,640	24	15	847	850
Queensland	107	9,866	130	617	24,471	35,022
South Australia (c) .. ..	..	..	..	..	..	..
Tasmania	4	600	19	..	234,000 (doz.)	4,056
Total	628	35,607	686	4,660	..	114,361

(a) Practically no oyster fisheries in Western Australia and Northern Territory. (b) Year ended 30th June, 1923. (c) Included with General Fisheries. (d) Including £3,588, value of scallops.

Returns for Australia for the last five years are given in the appended table :—

EDIBLE OYSTER FISHERIES.—(c) AUSTRALIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922. (a)
No. of boats engaged	550	(b) 503	(b) 532	(b) 591	624
No. of men employed	598	(b) 492	(b) 539	(b) 602	667
Oysters obtained—					
Quantity cwt.	78,668	78,430	72,767	63,804	68,516
Value £	92,261	100,910	108,694	96,808	110,305

(a) Exclusive of Tasmania.

(b) Exclusive of Victoria.

(c) Exclusive of South Australia.

(iii) *Pearl and Bêche-de-Mer Fisheries.* The pearling industry is carried on in the tropical waters of Queensland, Western Australia, and the Northern Territory. Bêche-de-mer is obtained in Queensland and the Northern Territory, the product being exported to China. Particulars for the year 1922 are as follows :—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES, (a), 1922.

State or Territory.	Number of Boats Engaged.	Value of Boats and Equipment.	Number of Men Employed.	Quantity of Pearl-shell obtained.	Value of Pearl shell obtained.	Value of Pearls obtained.	Value of Bêche-de-mer obtained.	Value of Trochus-shell obtained.
	No.	£	No.	Tons.	£	£	£	£
Queensland (b) ..	129	65,000	1,040	952	125,124	(d)	63,630	463
Western Australia ..	221	117,325	1,571	1,312	177,222	38,163	..	..
Northern Territory (c)	6	1,650	28	7	1,106	..	2,049	200
Australia ..	356	183,975	2,639	2,271	303,452	38,163	65,679	663

(a) No pearl-shelling industry in New South Wales, Victoria, South Australia, and Tasmania (b) Also trochus-shell to the value of £10,008. (c) Year ended 30th June, 1922. (d) Not available.

For obvious reasons the returns in regard to the value of pearls obtained can be regarded as rough approximations only. The trochus-shell raised in Queensland is used principally in the manufacture of "pearl" buttons.

Particulars regarding these fisheries for the last five years are given below:—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES.—AUSTRALIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
No. of boats engaged ..	401	471	515	334	356
No. of men employed ..	2,935	3,453	3,738	2,403	2,639
Pearl-shell obtained—					
Quantity .. tons	1,616	2,300	2,126	1,422	2,271
Value .. £	224,115	387,034	337,917	189,276	303,452
Pearls obtained (a)—					
Value .. £	63,487	74,212	68,610	36,163	38,163
Bêche-de-mer obtained —					
Quantity .. tons	468	308	(b)	(b)	(b)
Value .. £	48,933	42,721	70,898	52,201	65,679
Tortoise-shell obtained—					
Quantity .. lbs.	695	172	552	2,112	992
Value .. £	350	96	302	1,080	663
Trochus-shell obtained—					
Value .. £	37,886	30,280	41,698	7,383	10,008

(a) Incomplete; but as returned.

(b) Not returned.

2. Fish Preserving.—To encourage the industry, the Federal Parliament provided a bounty of ½d. per lb. for fish preserved as prescribed during the ten years 1907–8 to 1916–17. The payment, which amounted to only £3,005 during the period, or at the rate of £300 per annum, failed to develop the industry, and the bounty was not renewed on its expiration in 1916–17.

3. State Revenue from Fisheries.—The revenue from fisheries in each State during the year 1922 is given hereunder:—

FISHERIES.—REVENUE, 1922.

State or Territory.	Licences.	Leases.	Fines and Forfeitures.	Other Sources.	Total.
	£	£	£	£	£
New South Wales ..	1,427	9,550	341	928	12,246
Victoria (a) ..	854	22	95	34	1,005
Queensland ..	1,791	3,376	28	14	5,209
South Australia ..	964	5	8	..	977
Western Australia ..	3,412	1,226	139	..	4,777
Tasmania ..	618	2	52	100	772
Northern Territory (b) ..	26	..	..	..	26
Total ..	9,092	14,181	663	1,076	25,012

(a) Year ended 30th June, 1923.

(b) Year ended 30th June, 1922.

Similar particulars for Australia for the last five years are given in the following table :—

FISHERIES.—REVENUE, AUSTRALIA, 1918 TO 1922.

Particulars.	1918.	1919.	1920.	1921.	1922.
	£	£	£	£	£
Licences	8,903	10,959	11,760	9,164	9,092
Leases	12,646	11,969	13,432	13,106	14,181
Fines and Forfeitures	438	523	536	472	663
Other Sources	575	3,919	524	586	1,076
Total	22,562	27,370	26,252	23,328	25,012

§ 3. Oversea Trade in Fishery Products.

1. Imports of Fish.—The development of the local fishing industry leaves much to be desired, as is evident from the large imports. For the last five years the imports were as follows :—

FISH.—IMPORTS, AUSTRALIA, 1918-19 TO 1922-23.

Classification.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Fresh (oysters) .. {	cwt. 2,321	520	2,092	2,297	2,927
	£ 1,617	762	2,708	3,675	4,091
Fresh, or preserved by cold process {	cwt. 5,383	9,444	17,558	25,130	38,508
	£ 15,144	39,796	81,126	107,999	127,172
Potted {	(a) cwt.	(a)	(a)	(a)	(a)
	£ 10,075	97,340	64,310	72,788	69,422
Preserved in tins {	cwt. 62,426	148,684	103,505	163,034	175,322
	£ 345,918	989,742	649,610	885,781	867,708
Smoked, dried, and n.e.i. {	cwt. 2,313	6,106	10,179	13,170	13,633
	£ 15,863	38,298	52,774	59,038	56,190
Total {	cwt. (b) 72,443	164,754	133,334	203,631	230,390
	£ 388,617	1,165,938	850,528	1,129,281	1,124,583

(a) Not available.

(b) Exclusive of potted fish.

Tinned fish constitutes by far the largest proportion of the imports, most of it consisting of salmon from the United States of America, Canada, Norway, and Alaska. The potted fish comes chiefly from the United Kingdom. New Zealand supplies the largest proportion of the fresh fish, the bulk of the remainder coming from the United Kingdom and South African Union. The small import of oysters is supplied by New Zealand.

2. Exports of Fish.—The exports of local fish produce for the five years 1918-19 to 1922-23 are given hereunder :—

FISH (AUSTRALIAN PRODUCE).—EXPORTS, 1918-19 TO 1922-23.

Classification.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Fish, fresh, smoked, or preserved by cold process {	cwt. 530	790	10,193	9,865	9,692
	£ 2,591	6,017	86,474	89,095	66,104
Preserved, in tins, dried, salted, etc. {	cwt. 7,072	9,259	102	78	162
	£ 45,342	66,255	195	306	433
Total {	cwt. 7,602	10,049	10,295	9,943	9,854
	£ 47,933	72,272	86,669	89,401	66,537

The quantity of fresh fish exported from Australia is trifling, and the amount of £66,104 shown in the table above consists chiefly of cured bêche-de-mer exported to Hong Kong from Queensland.

3. Exports of Pearl and Other Shell.—The exports of pearl, tortoise, and trochus-shell, of Australian origin, are given hereunder for the five years 1918-19 to 1922-23 :—

PEARL, TORTOISE, AND TROCHUS-SHELL.—EXPORTS, AUSTRALIA,
1918-19 TO 1922-23.

Article.		1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Pearl-shell	cwt.	49,300	45,040	31,480	38,900	41,027
	£	316,154	462,152	319,143	317,623	320,602
Tortoise-shell	lbs.	239	1,542	2,922	1,938	2,812
	£	138	1,011	1,864	1,243	2,012
Trochus-shell	cwt.	..	26,000	11,900	14,320	13,186
	£	..	105,894	37,602	26,285	25,095

The bulk of the pearl-shell exported during 1922-23 was consigned to the United States of America and the United Kingdom, the respective values of the shipments amounting to £262,322 and £56,921, while trochus-shell to the value of £55,460 was dispatched to Japan.

§ 4. The Commonwealth Department of Fisheries.

In 1907 the Commonwealth Government decided to demonstrate what might be attained commercially by the application of modern methods in fishery. A Federal Investigation Ship, the *Endeavour*, was constructed specially for the work, and a Director of Fisheries was appointed. Experimental cruises were undertaken, which showed that Australia possesses an asset of considerable value in her sea fisheries. The *Endeavour* was unfortunately lost at sea with all on board at the end of 1914, and has not been replaced. A description of the trawling grounds discovered, data regarding oceanography to the east of Australia, and a list of the publications of the Department are given in pp. 333 to 335 of Year Book No. 14.

§ 5. The State Trawling Industry—New South Wales.

The State Trawling Industry was established in 1915, and fishing operations were conducted with seven steel steam trawlers. The catches were landed at Sydney and Newcastle, and the fish distributed through retail shops, of which there were fourteen in the Metropolitan area, one in Newcastle, and five in country towns. During the year ended 30th June, 1922, the State trawlers landed 2413 tons of fish, valued at £101,337. Early in the year 1923 the Government decided to discontinue trawling operations, as the venture was not a commercial success, the accumulated net loss amounting to £210,518, and most of the assets have since been disposed of.

§ 6. Marine and Fresh-water Fisheries of Australia.*

1. General.—Australians generally have little idea of the importance and possible value of their own fisheries. It cannot therefore be expected that those associated with the commercial development of fisheries elsewhere should be aware of the great possibilities in Australian waters in connexion with all known departments of fishery enterprise.

There are, however, a few observers who not only believe in the immediate practicability of an all-round development of an Australian fishery industry, but see the time approaching when the world's "centre of gravity" in commercial fisheries shall be moved to Australia. A claim of this nature will be regarded by many as hyperbolic. It is the

* Contributed by David G. Stead, author of "Fishes of Australia," "Edible Fishes of N.S.W.," "Fisheries of N.S.W.," "Fisheries of British Malaya," etc., etc.

aim of the writer, therefore, so far as it can be effected within the compass of the present brief article, to justify this claim. It may be noted, however, that a similar view was expressed by several of the delegates, familiar with world fisheries, who attended the recent Pan-Pacific Science Congress in Australia.

2. **Extent of Fishable Waters.**—The coastline of Australia is about 12,210 miles in length. Great as that length is, however, it is exclusive of the shore lines of the bays, estuaries, and sea-lakes, of great importance in the development of commercial fisheries, and these would add at least another 2,000 miles. But a mere statement of mileage is of little practical utility, unless it is shown that the whole length is productive of commercial marine organisms. Not only is this so, but the waters throughout may be "worked" by known fishery methods, since there are no portions which are not always accessible, regardless of season. Yet, at the present time, a very limited expense only of this extensive coastline is under tribute even to the smallest extent.

3. **Fishery Production.**—The amount of fresh fish taken from the small fishable area worked is by no means insignificant. Indeed, the quantity so taken per annum, including much that is consumed near the point of capture, and a great deal that escapes official record, is probably not less than 51,000,000 lbs. This total is exclusive of a considerable take of crustaceans, such as lobsters (crayfish), prawns, and crabs, and of edible oysters, the latter probably averaging an annual production from New South Wales alone of about 48,000,000.

4. **Difficulty in obtaining Returns.**—It may be mentioned here that it is difficult to obtain exact figures relating to fisheries production for the whole of Australia, owing to the lack of organization in the various administrations. This condition of affairs will continue until Australians become fully seized of the potentialities for production of Australian waters, and of the necessity for providing the greatest possible amount of information—biological, commercial, and statistical—to persons who might enter the many avenues of fisheries activity.

5. **Need of Expert Advice.**—No great development of any semi-enclosed or enclosed fishery should, however, be permitted except under the guidance of expert fisheries authority. This is essential for the continuance of the fishery. In this connexion it may be noted that the highly valuable fisheries of the Gippsland Lakes, in Victoria, were for many years subjected to practically a bank-to-bank wholesale destruction of immature edible fishes.

6. **Available Methods of Fishing.**—Reverting again to the "fishable" area in Australian waters—and neglecting for the moment both fresh waters (rivers and non-coastal lakes) and the extensive littoral areas of bays, estuaries, and sea-lakes—it may be stated that the whole of the waters lying within an average distance of 20 miles of the coastline may be fished by one or other of the methods known to modern fishery science. Roughly speaking, these methods include (a) trawling, bottom-seining, and long-line work for waters free from reefy obstructions; (b) trammel-netting, trapping, and hand-lining for reefy stretches, including the vast Great Barrier Reef area; and (c) a modified otter trawl, seines, drift-nets, with "jigs" and other trolling lines, for midwater and surface work. Some of these methods may be worked from small craft, using oars, sails, or small motors, while others would necessitate and would be most economically worked from large vessels using motive power from steam (in the case of trawlers) or internal combustion engines.

7. **The 100-fathom Line.**—In non-coraliferous areas the 100-fathom line is situated at a mean distance of about 20 miles from the coast. Sometimes this line approaches to within 10 miles of the littoral, and sometimes is as much as 30 miles therefrom. There is, of course, no clear line of demarcation, and commercial fishing is practicable down to 200 fathoms and more.

8. **The Oceanic "Food Province."**—It is somewhat on the conservative side to take a mean fishing distance of 20 miles from the coastline of Australia as being available for general commercial fisheries work. Yet this indicates the existence of a "food province" of no less than 244,200 square miles in extent. No other country can boast

of such a vast field available at all times and all seasons (except during storms). Possibly no other country can show either such a vast fish-fauna, or such a great aggregate bulk of commercially-usable fishes, crustaceans, molluscs, seaweeds, etc., etc.

9. *Value of Inshore Fisheries.*—(i) *General.* Notwithstanding the prime importance given to the oceanic fisheries, the inshore fisheries—both present and potential—are extremely valuable. These embrace many capacious bays, estuaries, and coastal lakes, in which the water is usually shallow, and, generally speaking, is naturally heavily-stocked with edible fishes, crustaceans, and molluscs, as well as with other commercial sea-products. In the older or more settled parts of Australia—especially from Moreton Bay southwards to Port Phillip—fishing has been conducted for many years. Naturally the waters on the New South Wales coastline have been most heavily fished, but there is no indication that the supply is likely to give out. There is some evidence of localized over-fishing, especially in certain of the coastal lakes, but, on the whole, the position is as stated. With careful administration, moreover, there is no reason why even these semi-enclosed fisheries should not become permanent sources of fish supply.

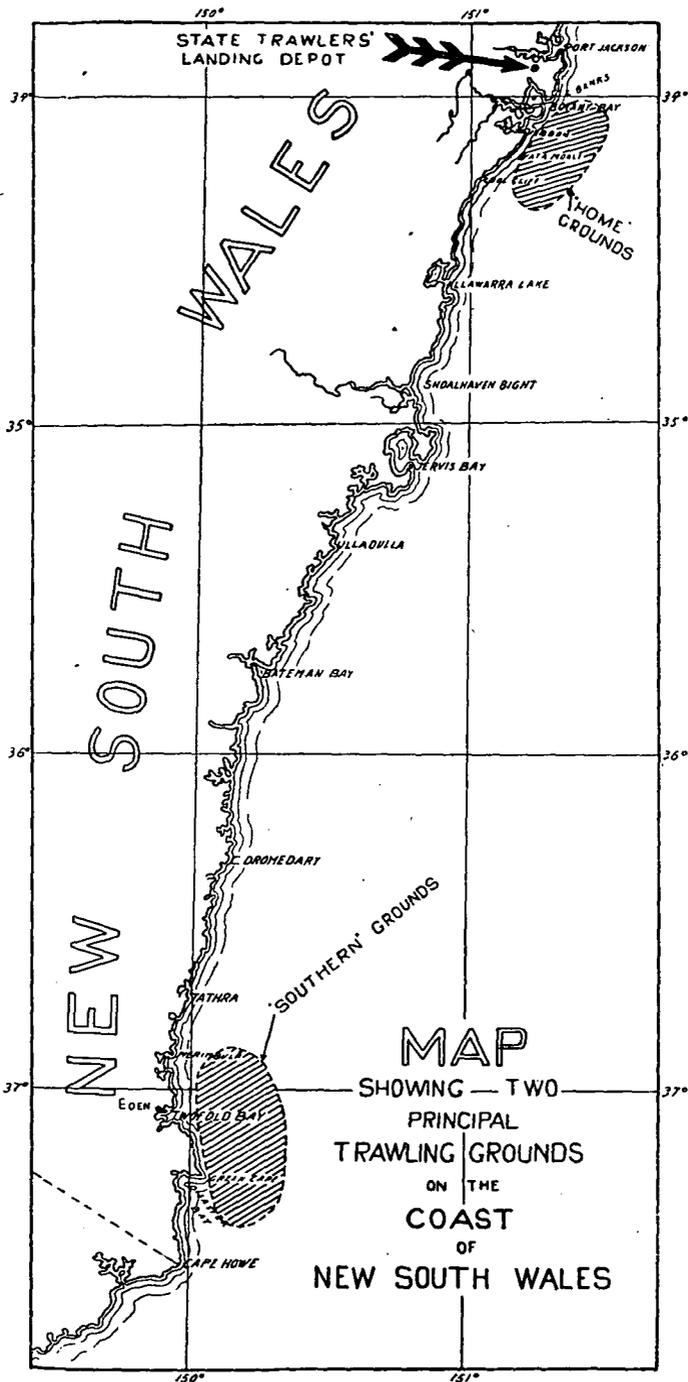
(ii) *The Clarence River, New South Wales.* Lest it might be thought that this view is unduly optimistic, the experience of New South Wales may be quoted in regard to its most prolific coastal water—the estuary and lower reaches of the Clarence River. For many years it has been asserted that the fishery would give out because of the alleged over-fishing. The fact that the principal single species of food fish taken from this water—the sea mullet—was captured in thousands every year immediately prior to the spawning period caused very many people to think that the fishery—and particularly of this species—must terminate. The matter was placed before the author in his capacity of Superintendent of Fisheries fifteen years ago by the New South Wales Board of Fisheries, when, after reviewing the general conditions of fish life in these estuaries, and especially after taking into consideration the fact that the fishermen, with almost every haul of the net, were destroying many fish enemies of the mullet (and other edible kinds), the opinion was given that not only was there no fear of exhaustion but that, with careful management of the fishery, the supplies would increase. “Management” in this case did not necessarily mean the curtailing of catches of particular species by means of close seasons, although with some kinds such measures are at times necessary. In the five years 1903 to 1907, the total output from the Clarence River fishery was 8,041,025 lbs. (see “Edible Fishes of N.S.W.,” 1908, p. 11), and this after being for many years under tribute. In the five years 1918 to 1922, or fifteen years later, the marketed output was no less than 15,781,275 lbs.

This aspect of the fisheries question cannot here be dealt with in greater detail, yet too much stress cannot be laid upon it, in view of its bearing upon future commercial developments. If such an advance is possible in one water only, the prospects for the whole of the inshore waters of the Australian region appear extremely favourable.

(iii) *Other Districts in New South Wales.* The State of New South Wales is the best served by nature in the matter of estuarine waters and lakes, having them dotted at short intervals along the coastline, and the prolificness of such waters had a restraining influence upon the development of the deep-sea fisheries.

(iv) *Other States.* In the States of Queensland and Western Australia and in the Northern Territory there are many inshore fishery areas awaiting development, the majority of which have hardly been touched.

10. *Fresh-water Fisheries.*—(i) *General.* Australia’s fresh-water fisheries are extensive, though restricted to definite areas. It is customary to speak of Australia as a “land of few rivers,” and, while this expression is accurate when used in a relative sense—bearing in mind the great land area of the continent—it may mislead people into forming an erroneous idea regarding the actual extent of the permanent or semi-permanent inland waters. Several of the rivers of the northern portions of Australia will, later on, prove of considerable importance in fisheries, but those at present of greatest value—notably the vast system of rivers, creeks, billabongs, and lakes associated with the drainage area of the Murray River system in New South Wales, Victoria, Queensland, and South Australia—will always maintain the leading position. Further reference to this will be made later on in dealing with individual species of fresh-water fishes.



(ii) *The Murray Cod Fishery.* Mention may be made here of the fishery whose principal object is the capture of the Murray cod. This fishery is carried on mainly in the Murray, Murrumbidgee, Darling, and Barwon rivers. No exact figures of the catches can be furnished, as the Murray cod and other riverine fishes are extensively sought by anglers; but it is worthy of note that from six to seven hundred thousand lbs. weight is despatched annually by rail from stations situated on the rivers mentioned, exclusive of a very large quantity despatched from the Lower Murray in South Australia. Most of this fish is Murray cod, reckoned by connoisseurs one of the finest edible fishes in the world.

11. *Australian Fish Fauna.*—(i) *Archaic Types.* With its northern shores close to the equator, and its southern portion washed by the cold waters of the Southern Ocean, Australia possesses a varied and extensive fish fauna. On the whole, as in the case of the land fauna, but not to the same extent, this fish fauna is somewhat archaic in character. There are, for example, the Port Jackson sharks (*Heterodontus* and *Gyropleurodus*), the small, harmless species abundant around the rocky portions of the coastline of the southern half of the continent, and the strange frill-gilled shark (*Chlamydoselachus*). The latter is an anguilliform or eel-shaped shark, of ancient lineage, of which the sole example seen by the author measured about 10 feet in length. It has enormous saucer-like eyes, and probably occurs in the deeper ocean waters. There is another very ancient fish type in the fresh-water herring (*Potamalosa*), one of the "rough-backed herrings," well known in the world from the many fossil species described.

(ii) *Number of Species.* Approximately 2,000 species of fishes have been determined from the waters of Australia; but, with more extensive fisheries exploration, this number will doubtless be greatly increased. In the northern half of Australia especially, further investigation will most probably demonstrate the existence of species of fishes of commercial importance which have not yet been recorded. Taking into consideration the large number of known fishes of the Indo-Malayan region and of "Oceania," which probably extend their range into the northern waters of Australia, together with undescribed species yet to be discovered, a conservative estimate would place the total number of kinds of fishes inhabiting Australian waters at 3,000. Probably at least two-thirds of these will prove to be of commercial value.

(iii) *Edible and Inedible Varieties.* It is here worthy of mention that ideas of what are commercially usable fishes are likely to expand with the growth of various fishery industries. At present many kinds of valuable food fishes are rejected as inedible, but others which a few years ago were looked askance at are now being used. The same remarks apply in a minor way to the edible molluscs (other than oysters).

(iv) *Marine Fishes.* (a) *Sharks.* By far the greater bulk of the known fishes are of marine origin. The cartilaginous fishes (sharks, rays, &c.) are represented by many kinds, ranging from the gigantic white shark (*Carcharodon*), or "White Death," attaining a length of not less than 40 feet, and the giant sea-bat or devil-fish (*Manta*)—a great skate or ray reaching to a width of 15 feet across the body—down to the tiny, harmless, and commercially useful dogfish (*Squalus*), usually about 2 feet in length. Included in this group are many sharks, of which the principal are as follows:—(a) The "man-eater," whaler, or mullet shark (*Carcharhinus*), which is found not only in open ocean waters, but infests the sequestered waters at the heads of estuaries and harbors, where it is greatly to be feared by man. It attains a length of from 9 to 12 feet. (b) The tiger shark (*Galeocerdo*), an ocean species, penetrating slightly into estuaries, and reaching a length of 18 feet. It is not a known man-eater. (c) The grey nurse (*Carcharias*), a very common "outside" species, also penetrating to some extent the estuaries of the southern half of Australia, but never found very far away from the ocean, although it is sometimes stated in the newspapers that the type has been seen far up the estuaries. In every such case the shark is the whaler, whose general habits are quite different. The whaler is a "lurking" ground shark, while the grey nurse is a midwater fish. (d) The blue shark (*Prionace*) is widely distributed in all seas, and is found in the ocean waters of every State. It grows to a length of 15 feet or more. (e) The blue pointer (*Isurus*), which must not be confused with the blue shark. It is a beautifully modelled shark, with a torpedo-shaped body, exceedingly active, a fine swimmer, and of a beautiful blue colour in life. This shark is very troublesome to snapper fishermen on the New South Wales, Victorian,

Queensland, and Western Australian coasts. It grows to a length of 16 feet, and is peculiarly an oceanic or pelagic fish, hardly ever penetrating the estuaries. Like the grey nurse, this species may be found at times in large shoals, "working" schools of fish at sea. (f) Hammerhead sharks (*Sphyrna*) of, perhaps, at least three species, are found in the waters of some of the States. The largest kind grows to a length of as much as 18 feet. Great sawfishes or saw sharks (*Pristis*) are common in all tropical estuaries of Australia, and are found occasionally in the southern portions. There are probably three species at least in these waters, all attaining a large size—the largest over 20 feet (including the saw-like snout).

Many other species of sharks, both large and small, are found, including the giant basking shark (*Cetorhinus*); the "whale" shark (*Rhineodon*), an ocean Goliath, which, though harmless, attains a length of probably not less than 70 feet; the thresher shark (*Alopias*), with its flail-like tail; the little saw-shark (*Pristiophorus*), an excellent food fish; the quaint carpet sharks or wobbegongs (*Orectolobus*); the abundant school sharks (*Galeorhinus*), found in each State (but more commonly in southern waters); the goblin shark (*Mitsukurina*), found so far only in the south; the harmless and quaintly-shaped and coloured zebra shark (*Stegostoma*) of the tropical parts; the little cat-sharks (*Parascyllium* and others), whose purselike egg-cases are occasionally found cast up on ocean beaches; the turtle-head shark (*Scymnorhinus*); and the long-snouted dog-shark (*Acanthidium*).

One could add considerably to this list, but the kinds mentioned cover almost the whole range of variation of form and size.

All the sharks are of commercial value, and some are edible. All are suitable for preparation in the dried form for export to the East. (Two distributing emporiums suggest themselves here—Singapore and Hong Kong.) The Australian climate is well suited for open air drying operations, and possibly has no superior in this respect, except perhaps the north of Norway. (See "Fish Drying.")

(b) *Rays or Skates*. Rays or skates are numerous, especially in the northern and more tropical parts of the Australian waters. They include many of the finest edible kinds, similar in flesh texture and edible value to the finest of the skates (*Dasyatis*) landed regularly at Grimsby, Aberdeen, Hull, and other British ports by the trawlers. These fishes were not consumed locally until the advent of the New South Wales State trawlers, which practically revolutionized fisheries ideas and fish consumption in Australia. Since the year 1915, when these trawlers began their work, millions of pounds weight of rays and skates (the names are practically synonymous in England as here), mostly of the genera *Dasyatis* and *Urolophus*, were consumed by the public. With the fillip given to fish consumption by the State's enterprise, inshore fishermen found a demand also for the rays taken by them in the course of their work in the coastal estuaries. The demand has also found some reflection in Victoria and Queensland, and particularly in the former State, where so-called "trawled skate" were sold in the Melbourne shops. The fish was not trawled, of course, but was caught by local fishermen.

Skates of the genus *Raia* (well known in England) are also taken by the trawlers, but they are, commercially, not so valuable as are several kinds of stingrays.

At present, New South Wales is the only State possessing deep-sea fishing vessels working the otter trawl, and there private enterprise is carrying on the work initiated by the State.

Disregarding for the moment their economic importance, one may mention a few of the more striking among the group of the *Batoidei*, to which the edible rays and skates belong. First, the numb-fish, "nummy," or electric ray (*Hypnarce*, *Narcine*, *Narcobatus*, and probably others). There are several kinds of this remarkable fish, all possessing natural electric batteries, situated in the head portion, and some can discharge a powerful electric shock. They are found in the waters of each State. The great eagle rays (*Myliobatis* and *Aetobatis*), with their remarkable "pavement teeth," are sometimes called "flying rays," because of their habit of coming to the surface of the sea and dashing out into the air in long flying leaps. With their strong jaws and ivory-like tooth-pavements, they are able to destroy large oysters, crushing the hard shells with ease. Many of the rays have the tail armed with one, two, or three large barbed, ivory-like spines, with which they can inflict a dangerous wound. In the greater rays or skates the tail spines reach as much as 18 inches in length. There are various species of these

stingrays known as "whip" rays, because of the long whip-like tail. Some of the rays approach in form to the sharks. Notable examples are the fiddler (*Trygonorrhina*), and the shovel-nosed rays—principally *Rhynchobatus*, a large kind, mostly abounding in the waters of Queensland, the Northern Territory, and the north of Western Australia, and attaining a length of 10 feet.

(c) *Ghost and Elephant Sharks.* Among the shark-like animals are the extraordinary fishes known as the ghost shark (*Chimæra*), and the elephant shark (*Callorhynchus*). Both are found in the ocean waters of the southern half of the continent. They are highly primitive fishes, dating back in their origin to remote geological times.

In dealing with the Australian fish fauna, precedence has not been given to the sharks and rays because of any outstanding importance, since they form relatively but a small portion both by kinds and total bulk. It is usual, however, in discussing any faunal group to speak first of the most primitive or archaic forms—those from which the great bulk sprang. In this case it has the additional advantage of drawing public attention to a vastly important group, commercially speaking, which people in this prosperous country are generally inclined to pass by with something akin to contempt.

(d) *Teleosteans or Bony Fishes.* The ordinary teleosteans, or, as they are commonly known, the "bony" fishes, are well known to most people through their acquaintance with many common edible kinds. The term "edible," however, requires some elucidation. What is looked upon by one section in Australia as an edible fish may not be regarded as such elsewhere, while fishes which a few years ago were regarded as inedible are now included in the edible kinds. The term "edible" is here taken to include all those kinds which are recognized as such by human beings, because, ultimately, taste has a tendency to become unified. Looked at from this point of view, and excluding the sharks, there are not less than 1,200 edible species of fish in Australian waters. With the exception of a very few examples, it is difficult to draw any hard-and-fast line of demarcation between edible and inedible kinds, but whatever doubt there may be about some kinds they are nearly all commercially usable in some way or another.

In considering the edible fishes, those kinds will first be dealt with which are the regular standby of the markets, rather than the "fancy" kinds. There are certain outstanding groups or families of fishes which loom up as being of the first importance. Among these are the many species of mullet, the flatheads (*Platycephalus*), the whiting (*Sillago*), the garfishes (*Hemirhamphus*), the bream and snapper family (*Sparidae*), the yellowtail family (*Carangidae*), the barracouta (*Thyrsites*), jewfish (*Sciaena*), perches (*Serranidae*), blackfish or ludrick (*Girella*), Australian salmon (*Arripis*), the sea carps or morwongs (*Cheilodactylidae*), and the mackerels (*Scombridae*). It must, however, be noted that, although these fishes and some others at present hold pride of place, there is good reason for believing that, as time goes on, and greater fisheries development takes place, many kinds of fishes which at present are of little or no importance in the markets will rapidly come to the fore.

It is impossible, within the limits of the present article, even to mention by name those fishes which are of greater or lesser importance, or the many extraordinary kinds which are of great interest to the student because of some outstanding feature in structure or habits.

Attention may also be drawn here to the highly confusing vernacular nomenclature applied to fishes in different parts of Australia.

The most important individual fish at present is the large mullet (*Mugil*), known as the sea mullet in New South Wales, Queensland, and Western Australia, and as the sand mullet in Victoria. Immature varieties are known variously as hardgut mullet (New South Wales), mangrove mullet (Queensland), and poddies (Victoria). This species occurs in the waters of every State as well as in those of the Northern Territory, but is specially abundant between the latitudes of 25° S. and 37° S. Where it does not occur in great abundance its place is frequently taken by one or other kinds of mullet, with which the inshore waters abound. Millions of pounds weight of this fish is marketed, and finds a ready sale at all times of the year. In addition, it is not only a fine canning fish, but lends itself well to smoking, pickling, and drying, while the large roes make an excellent caviare. The roes are obtained principally in the months of May and June, when the fish leaves its quiet up-estuary feeding places and puts to sea for the purpose

of spawning. The egg is a pelagic one, less than 1 mm. in diameter. At the period of spawning, the mature fishes are four years old, and average from 14 to 16 inches in length for the males and 18 to 22 inches for the females. Later on in the development of the fisheries the sea mullet should bulk largely in the ocean (surface) fisheries, as well as in the inshore work. The shoals are frequently of enormous magnitude, and thousands of basketfuls might be taken with nets of the type of the purse-seine. The spawning fish always travel in a northerly direction. This is no "grand migration," however, but is merely a short northward movement to compensate for the southerly drift of the pelagic eggs and fry. Very few of the adults ever return to the estuaries, but are destroyed by the shoals of sharks, kingfish (*Seriola*), etc., which harass them from the moment of their adventure into ocean waters.

Other kinds of mullet that are specially worthy of mention are the flattail or fantail (*Liza*), often known in the waters of Queensland as tiger or tygum mullet. It is a much smaller kind than the sea mullet. The sand mullet or tallegalane (*Myxus*) of New South Wales is another small species. The yellow-eye mullet (*Agonostomus*) is widespread around the southern shores, and is known under a variety of titles, such as sea mullet (Victoria), Swan River pilchard (!) in Western Australia, estuary mullet in Tasmania, and herring in New Zealand. Among the tropical kinds of mullet are the large diamond-scaled mullet and the green-backed mullet, both well known in Queensland, the Northern Territory, and north of Western Australia. They are found as far south as the New South Wales coastline, but not in great number.

Among the sparoid fishes there are many fine and useful examples. The yellow-mouthed and red-mouthed snapper (*Lethrinus*) of the north are striking examples, and the well-known bream or "black" bream (*Sparus*), which is found in every State, and esteemed both as a food and sporting fish. The most famous of the fishes of this family is the beautiful snapper (*Pagrosomus*), frequently misspelled "schnapper." This is a splendid fish, attaining a large size, of fine edible qualities, and having, with the Murray cod (*Oligorus*), the sole (*Synaptura*), and some of the flounders, the distinction of being the highest-priced fish in Australia. This does not mean that it is necessarily the best, as popular predilection plays a large part in food-fish preferences. The snapper is very widely distributed in Australian waters. Though it is not unusual to find the fish in small numbers in deep open estuaries (young fry or "cockneys" are regularly found there), it is really an ocean species, frequenting in large numbers sunken reefs and rock bottoms. The snapper is not, however, restricted to such localities, as great schools go roving in "open formation" over sandy, gritty bottoms. There is reason for considering that it is one of the most abundant of Australian fishes, though one would not suspect it from the amount brought into the markets of Australia. A large quantity of snapper has been taken by the New South Wales trawlers on the trawling grounds already discovered, and there is no doubt that vast catches will be made by this method of fishing in the future. Great hauls are made by line fishermen working from small tugs at sea, as many as 800 and 1,000 fish, averaging 3 to 5 lbs., having been taken in a few hours. Snapper is in great demand in restaurants in Australia, so much so, in fact, that substitution of other kinds by unprincipled chefs and others is commonly practised, and many a humble jewfish and mullet is born to end its days as a "snapper."

The Australian salmon or "buck" (salmon trout of Victoria, kahawai of New Zealand) is an "outside" beach-frequenting fish, occurring in prodigious numbers. Though not a first-class edible fish, it is already in great demand, particularly in Victoria, where the choice of good edible kinds is not as yet so wide as in New South Wales, Queensland, and Western Australia. In New South Wales, where a few years ago it was difficult to dispose of it in any quantity, the fish is bringing good prices. During midsummer, the salmon (not a true salmonoid by the way) congregates in schools for spawning purposes. They are then readily captured off the beaches and at the mouths of the estuaries. The quantities at present taken, however, are trifling compared with the available supply, and the salmon is sure to come into a most prominent position in the future. It cans well, gaining great "sweetness" in the process, and "takes the smoke" nicely. It commonly grows to a weight of several pounds, and, being remarkably uniform, is a good trade fish.

The smaller and closely-related "roughy," so often seen in the markets of South Australia, Victoria, and Western Australia, is also a good fish, but not of the economic importance of the salmon.

Just as the mullets are the characteristic fishes of the shallow estuarine waters, so are the many kinds of flathead typical of the bottom or deep-water fish fauna. This applies to both inshore and outside fishing. There are at least a score of species of these valuable food fishes, of both present and future importance in sea fisheries. White and firm of flesh, they find a ready sale in all the Australian markets. Undoubtedly the finest, from an edible stand-point, is the kind now known in New South Wales as the tiger, "deep-sea," or "trawled" flathead. Until the advent of the State trawlers in New South Wales, this fish was rarely seen in the markets. A few were taken by long-line fishermen at sea, but since 1915 many millions of pounds weight have been brought in and distributed. The average weight of the mature tiger flathead—about 2 lbs.—makes it an excellent table fish. The flesh is thick, juicy, and white; the sections (myotomes) coming away in large flakes. Though this fish appears to be most abundant off the New South Wales coast, in depths ranging from about 120 feet to about 480 feet, it has been taken in quantities off the coasts of Victoria. Later investigation will, no doubt, prove that it occurs over a much greater range than is at present indicated.

The designation of "trawled" flathead has been given to it by many of the public, but other closely related excellent edible kinds are also taken from the same grounds. Where these particular kinds do not exist their place is occupied by other species of flathead, in company, of course, with the many species of fishes, such as John Dory, boarfish, gurnards (*Latchet*), barracouta, cowanyung (horse mackerel, mackerel-sead of Victoria), snapper, leather-jackets, flounder, rock-ling, morwong, and jackass fish (silver perch or bastard dory of Tasmania). The most abundant estuary kind of flathead in New South Wales and Queensland is the "estuary" or black flathead, while that of Victoria is the rock flathead. The future use of these fishes will not be confined to the "fresh" condition, in view of their great utility for canning and smoking.

Various kinds of pike (*Sphyræna* and *Dinolestes*) are found in these waters, and are of considerable economic importance, especially in the south. One kind grows to a length of 4 feet in the north. It is probably identical with a ferocious species seen in Malayan waters, which attacks man, and is known to the Malays as Ikan Alu-Alu. The long-finned pike of New South Wales is the skipjack of Victoria, the snook of South Australia, and the Tasmanian jack.

The perch family is represented in Australia by a great many valuable fishes. That which has, perhaps, the greatest reputation throughout the eastern States is the Murray cod, which is plentifully distributed throughout the whole of the system of rivers, creeks, billabongs, and lagoons of the Murray. This fine food-fish grows to a large size rapidly, and specimens of 20 to 40 lbs. weight are abundant. A number reach 60 lbs., while there are rare records of so great a weight as 150 lbs. Having been obliged to establish itself in a section of Australia subject to periodical droughts, it has attained to a condition of great vitality and prolificness. Hence, wherever previously transient waters have been made more or less permanent by the creating of dams, there has been a great addition to the native stock of these valuable riverine fishes. The same remarks also apply to other fishes of the same area. Two valuable perch-like fishes of the Murray River system are the golden perch or yellow-belly (*Plectroplites*) and the Macquarie perch (*Macquaria*). The former reaches a weight of 8 lbs., and occasionally as much as 15 lbs. Like the Murray cod, it is found sparingly in some of the more northerly east-flowing streams.

In the eastern streams of New South Wales, Victoria, and southern Queensland is found a splendid edible and sporting fish in the Australian bass (*Perkalates*), a true perch closely allied to the black bass of America. It is very similar to another species—the estuary perch—but may be distinguished therefrom by its more robust build, oval outline, larger tail, and larger eye. Its habits of daily life and of spawning are also different, and the egg is of the submerged or demersal type, as against the pelagic and separate egg of the estuary perch. In eastern Victoria the Australian bass is known as the Gippsland perch. It attains to a weight of 8 lbs., though 2 to 3 lbs. would be a fair average for large mature fish.

The northern rivers of Queensland and of the Northern Territory contain the giant perch (*Lates*), a fine edible fish, which shares with at least two other Queensland fishes the name of barramundi. It grows to a weight of 40 to 50 lbs. The same species is found in the Malay Archipelago.

One of the greatest percoid fishes in the world, the Queensland groper or black cod (*Promicrops*), is found in estuaries and along the coasts of tropical and sub-tropical Australia. It reaches a weight of between 500 and 600 lbs., and is an exceedingly fine food-fish. A near relative of this giant, and itself of large size, is the so-called black rock cod (*Epinephelus*), a sea fish, living in rocky situations, and growing to a weight of not less than 80 lbs. It is often confused with the larger fish.

The well known epaulette fish or pearl perch (*Glaucosoma*), and the "broad-arrow" marked Government bream (*Genyoroge*), also the Moses perch of Brisbane River, the impetuous wirrah (*Acanthistius*) of the rock fishermen, the quaint old wife (*Enoplosus*), and a whole host of other food-fishes of great present or potential value, are all members of the perch family which is specially well represented in Australian waters.

The well known blackfish of New South Wales (Iudrick, black perch, and rock perch of Victoria, and black perch of Tasmania) is exceedingly abundant and very widely distributed. It is an estuarine fish, attaining rarely to a weight of 6 lbs. While being of great food value, it is one of the finest of saltwater sporting fishes; light tackle and green seaweed bait being used. The port which produces the greatest amount annually of blackfish is Port Stephens (New South Wales). The zebra fish (*Melambaphes*), common in South Australia and Western Australia, the blue fish of New South Wales and Lord Howe Island, the rock blackfish of New South Wales, and the large drummer (*Kyphosus*) are among the many useful fishes of this group.

In this sketch of Australian fishes no attempt has been made to treat the various groups in systematic order, or even in order of present or future importance. In the latter event mention would be made at an earlier stage of the herring family, which is so richly represented in these seas. Concerning several of these, it may be said that a valuable return will be obtained in the not distant future from two or three kinds alone. Of first class importance are the pilchard (*Sardinia*), the maray (*Etrumeus*), the southern herring (*Harengula*), the sandy sprat (*Hyperlophus*), the blue sprat (*Stolephorus*), and the anchovy (*Engraulis*). There are others which, with further knowledge, may prove of equal importance. A diversity of kinds will probably be discovered in the inshore waters of the northern coastline, where the fishes generally approach very closely, and often are identical with, those of the Malay Archipelago.

The pilchard occurs in vast shoals in the ocean waters close to the coasts of the south-eastern and eastern parts of Australia. Shoals 30 miles in length have been met with on the coast of New South Wales, and, at times, enormous numbers are driven on to coastal beaches by the harring shoals of kingfish, salmon, and sharks. Calder, in the Proceedings of the Royal Society of Tasmania, mentions a shoal having been driven ashore at Simon's Cove, Bruni Island. There were at least 100 tons actually on the shore, and 200 tons more suffocated in the water close by. Some years ago, one of the Inspectors of the New South Wales Department of Fisheries reported that a shoal of pilchards had been driven up on a beach near Wollongong. They formed a mound 2 feet in height for over 2 miles. This type of fish is already so well known in commerce that it needs no further description here beyond saying that it is a true sardine (from 6 to 9 inches long), and is already handled in great quantities in both Japan and California. Australia imports a very large quantity of the fish annually in the canned state from Japan and the United States, yet, judging by published records, neither of the last-mentioned countries has anything like the natural stocks of the fish that Australia possesses.

Incidentally, one may urge here the advantages which would accrue from the resuscitation of a Commonwealth Bureau of Fisheries to carry out investigations in Australian seas, both as regards the utilization of aquatic products for food purposes and in the industries. The work of such a Department would be valuable not only to the people of Australia, but would make known to the world the excellent prospects for fisheries in Australia.

The remarks concerning the pilchard may be taken in a general way as applying to the other species specially mentioned. The blue sprat, comparable in every way to the Norwegian brisling, sardine, or sild, is present in the entrance waters and in the shallows over sandy coastal beaches for a length of at least 2,000 miles of coastline. At spawning times this fish swarms in the ocean waters, keeping usually a few feet below the surface. Its capture would be effected in the same way as that of several other of the herring

species by the use of the purse-seine net, as is the case in Norway, Japan, and the United States. The sandy sprat also is widespread, and is equally good for canning purposes, having a most delicious flavour and inviting appearance. It is a little larger than the blue sprat. The anchovy is found abundantly in the waters of every State, mostly occurring at some distance below the surface or on the bottom. It is like the well-known Mediterranean anchovy, and commercially may be treated similarly. The southern herring in its young and half-grown stages commonly occurs in the estuaries (very abundant in Port Stephens). It grows to a length of about 8 inches. At 5 inches in length it is particularly valuable for canning in oil like the French sardine. The maray, though widespread, is chiefly known in the southern portion of its habitat. Large quantities are seen from time to time in Melbourne. It is a sardine, probably of equal value to the pilchard, and appears to be principally distributed around the coastline south of 35° S. latitude, covering a distance of several thousands of miles.

In the herring family there are some giant species of great economic importance, but not comparable in value to the small kinds just mentioned. Among these are the giant herring (*Elops*), growing to 4 feet in length; the Australian tarpon (*Megalops*), the milk-fish or salmon-herring (*Chanos*), and the lady-fish (*Albula*). These become more abundant in the tropical parts, and are distributed over about 8,000 miles of coast.

Of hardly less significance in future fisheries, and of present great importance, are the mackerels, embracing many species, from the little mackerel to the great tunny and Spanish mackerel. The mackerel, like the pilchard, is already well known to Australians, who import it from Japan and California, not realizing nor caring that it is the same fish precisely that is caught at times in such large numbers in Port Jackson and other open ports. The Spanish mackerel is more familiar to the people of Brisbane, many such fishes being sent to that city from Tweed Heads (New South Wales). There are at least six species, all fine sporting fish. Bonito, little tunny, New South Wales horse mackerel, frigate mackerel, and others are all abundant in Australian seas.

In the yellowtail family there are very many valuable commercial fishes, viz., the kingfish of New South Wales (yellowtail of Victoria), reaching a length of 6 feet, the trevally (silver bream, or "silver," of Victoria), the queen-fish of Queensland, and the Victorian horse-mackerel (cowanyung of New South Wales). In the aggregate a large quantity of each of these is handled annually by Australian fishermen, but, compared with the possibilities, the total is infinitesimal.

The Australian whiting is famous for its fine edible quality. There are several species, of which the sand whiting of Queensland and New South Wales is possibly the finest. This fish attains to a weight of 2 lbs. The school whiting is particularly a trawled fish, commonly taken by the State trawlers of New South Wales in depths down to 80 fathoms. Towards the south of Australia it is found at gradually lessening depths—a matter of temperature—and on the southern coasts and in Tasmania is taken with shore-drawn seine nets. The spotted whiting is the longest, and is more particularly a southern fish. The trumpeter whiting, though found commonly in New South Wales estuarine waters, is more abundant in the tropical parts. These whittings, it may be noted, are not members of the cod family, as are the European varieties. The Australian beardie or ling, and the red cod are two prominent members of the true cod family, but are not of great importance.

The jewfish, closely related to the maigre of Europe, a fine fish, growing frequently to a weight of 60 lbs., is greatly sought after, and is abundant in many places. It is the kingfish of Victoria and the butter fish or mullock of South Australia. The so-called jewfish of Queensland is a different kind, while that of Western Australia is a kind of pearl perch (*Glaucosoma*).

The morwongs or sea-carp, not in any way related to true carp, are represented by a number of valuable food fishes—notably the morwong, the jackass fish (silver perch of Tasmania, tarakihi of New Zealand), the magpie perch (*Goniistius*), the tillywurti (*Dactylophora*) of South Australia, and the sea-carp (*Cheilodactylus*). Though these have usually been looked upon as line fish, they may be taken with the trawl net. This applies specially to the jackass fish, of which the New South Wales trawlers have taken as many as 80 baskets (6,000 lbs.) in one haul. The nearly allied trumpeters—"bastard" and "real"—are large fishes of value, found in the southern waters, the Hobart Town trumpeter being an exceptionally fine fish.

The silver perch or grunter (*Therapon*), which often grows to a weight of 3 to 5 lbs., is a good fish inhabiting the Murray River drainage area. Related to it is a little fish called the bobbi, which is very common in the warm and saline drains associated with the artesian bores of inland Australia. It has been taken from drains in which the temperature was in the vicinity of 100° F. The Queensland trumpeter or javelin fish (*Pomadourus*), and the sweetlips (*Plectorhynchus*) of the more tropical waters, among many allied kinds are of considerable local importance.

In the scorpenoid fishes, of which one of the best known is the red rock cod (*Scorpena*), there are several kinds of economic importance. Some are taken with the trawl in moderate ocean depths. Others, again, like the eastern Australian forties and bullrout, are more remarkable for their poisonous spines than for any edible value.

Among the leatherjackets or trigger-fishes are very many useful kinds of edible fish. Some, like the great yellow leatherjacket or "Chinaman," are of the first importance, being taken at times in great quantities by the trawlers. Mention of trawling calls to mind the splendid John Dory, which has been proved by the trawlers to exist in immense numbers in depths ranging from 20 to 75 fathoms.

While one must, of necessity, pass by many very important kinds, mention must be made of the flounders and soles, and the gurnards. Both groups are very well represented in these waters. The best of the many flat fishes are the Queensland halibut (*Psettodes*), the southern flounder (*Rhombosolea*), and the black sole (*Synaptura*). The former will probably be of importance in later operations in the tropical waters from Moreton Bay round the north to Shark Bay in Western Australia. The gurnards or gurnets, bottom-dwellers, like the flat fishes, are numerous represented by splendid white-fleshed fishes of great economic value. The New South Wales State trawlers were the means of introducing millions of pounds weight of two species—the red or kumu gurnard and the sharp-beaked gurnard. The latter is the more important, and grows to a weight of several pounds. On one day, three trawlers landed as much as 230,000 lbs. of this fish from grounds only an hour's steam from Sydney. There is a great opportunity for building up an export trade in a type of fish well known and greatly esteemed on the London (Billingsgate) market, besides satisfying the demand in Australia for fish fillets (fresh and smoked), a demand which at present is largely met by the most inferior kinds of so-called "Scotch Fillets of Haddock," which have been dipped in annatto and boric acid under the pretence of smoking. These imported fillets are mostly of two kinds—dog fish or flake and, more commonly, the much despised, slimy "cat fish" or "wolf fish" of the North Sea.

The parrot fishes, which occur all round Australia, furnish many important food fishes, such as the blue and brown groper (*Achoerodus*) of New South Wales. With the exception of a few outstanding kinds, this type of fish is chiefly represented in the tropical parts, notably the Great Barrier Reef area.

Among the commercially-valuable kinds strange and bizarre fish forms are found, as well as fishes with quaint and wonderful habits. The nest-building fresh-water cat-fish—a good edible fish; the freakish sea-horses and pipe fishes, in which the male wet-nurses the fry, and actually carries the eggs round after the female has deposited them; the immense ribbon fish (*Trachipterus*); the artful angler fishes; the shark's faithful attendant—the sucking fish; the curious viviparous weed-like blennies (*Cristiceps*) of the seaweeds and rocks; the little pigmy perch (*Amia*) of Port Jackson, which hatches the eggs in the mouth—these, and many others, suggest themselves in a cursory survey of Australian fish fauna. One of the strangest of all is the Queensland lung fish—the "real" barramundi, perhaps, although the huge scaled and archaic Cooktown "salmon" (*Scleropages*) also claims the name. In tropical and sub-tropical estuaries is found one of the most extraordinary examples of parental, and, in this case, paternal solicitude for eggs and young. Here the salmon cat-fish (*Galeichthys*) takes the great eggs—neglected by the female fish after extrusion—into its mouth (or buccal cavity generally) and there hatches them. Not only is this done, but the fry are allowed to swim in and out of the mouth until they are about 2 inches in length.

In conclusion, mention may be made of two of the strangest of nature's adaptations amongst these fishes. There is first the banded fish (*Amphiprion*) of the Great Barrier Reef, which actually seeks and finds a safe refuge in what is a most terrible embrace to other fishes—the stinging folds and mouth cavity of the gigantic sea-anemone—and,

secondly, the little *Fierasfer*, which commonly lives in the intestinal cavity of one of the holothurians (*Trepang*), and sometimes safely ensconces itself in the mantle of the pearl oyster.

12. **Fish Acclimatization.**—Though this article aims chiefly at the furnishing of information relative to the indigenous fish fauna, a little information in regard to introduced fishes will possibly be of value.

In a country like Australia, which has suffered more through the depredations of non-indigenous animals and plants than any other, the word "acclimatization" is largely anathema. It is pleasant, therefore, to be able to record that great success has attended efforts at acclimatization of certain species of fishes. The most notable is the work carried on by Tasmania, New South Wales and Victoria in the introduction and cultivation of the Californian rainbow trout (*Salmo irideus*), which is now abundant in many parts. The European brown trout (*S. fario*) has also succeeded well, but is not so adaptable as the rainbow. To a smaller extent the American brook charr has become acclimatized in Tasmania. Atlantic and Pacific salmon have been experimented with, and various other kinds. Against these useful fishes there is, unfortunately, almost throughout the entire country the little goldfish and its varieties, a veritable "rabbit" of the waters, and an utterly useless river-muddying fish. How it was first introduced is not known. The English perch, another comparatively useless fish, is abundant in the Murray waters.

Some attempts have been made at acclimatization of sea fishes. Most noteworthy were the efforts to introduce the plaice some years ago in New South Wales—a remarkable procedure in view of the vast indigenous fish fauna of the State.

13. **Edible Crustaceans.**—(i) *General.* Australian waters are exceedingly rich in edible crustaceans, but limits of space will permit of only a very brief reference to them.

(ii) *Crayfish or Lobsters.* Marine crayfishes or spiny lobsters (*Palinurus*) of several kinds are found in one or other of the waters wherever there are rocky or firm bottoms. The southern crayfish occurs, as its name suggests, around the southern shores, and most abundantly in Tasmanian waters. The common green crayfish, abundant in New South Wales waters, grows to a weight of as much as 14 lbs. Other forms are found in the tropical parts, and are very beautifully marked. From 90,000 to 100,000 of the green crayfish are taken annually on the New South Wales coast, chiefly in the neighbourhood of Port Stephens and Seal Rocks.

(iii) *Prawns.* Prawns of fine size (belonging to the genus *Penæus*) abound in Australian waters north of about 36° S. latitude. The tiger prawn grows to a length of 12 and 13 inches, and is more abundant in Queensland, though often met with on the New South Wales coast. The king prawn, so abundantly seen in Sydney, grows to 8 or 9 inches in length. There are many other kinds, all of edible value. About 400,000 lbs. weight of these valuable crustaceans is handled annually in New South Wales alone.

(iv) *Crabs.* There are several important edible crabs, and many others not at present consumed would be regarded as edible in other countries. The principal are the large mangrove crab or black crab (*Scylla*), abounding to the north of 32° S. latitude and the swimming crabs of the genus *Lupa*. This kind, which is abundant in many Australian waters, is the exact counterpart of the crab which is so sought after in the United States.

(v) *Freshwater Crayfish.* In the inland rivers is found the Murrumbidgee crayfish or Murray lobster (*Astacopsis*), a huge-clawed crayfish, which grows to a weight of several pounds. Large-sized shrimps (*Palæmon*) are also found in abundance.

14. **Edible Molluscs.**—(i) *Oysters.* Of the vast edible molluscan fauna of Australia, there is only one species which has so far reached a position of commercial importance. This is the "rock oyster" (*Ostrea cucullata*). There are other kinds of oysters, and perhaps some geographical varieties of this particular species, but none has attained to the eminence of the so-called rock oyster (not necessarily grown upon rocks) in New South Wales and Queensland. The cultivation of the edible oyster has progressed most rapidly in New South Wales, followed closely by Queensland. The Government leases or issues licences for areas used for oyster cultivation, and the trade has already reached large proportions. It has been stated previously that there is an approximate annual output of about 48,000,000 oysters from New South Wales. The figures for Queensland would

be approximately 22,000,000. There is little production in the other States ; but Victoria could resuscitate certain fished-out waters, and add largely to the original stocks. With a larger population, Western Australia will develop an edible oyster fishery. In the case of South Australia also, considerable development may be expected.

(ii) *Other Edible Molluscs.* In addition to oysters, other molluscs are consumed in Australia. In Melbourne, mussels find a ready sale, also certain kinds of cockles, whelks, winkles, etc. Mutton fish or ear-shell (*Haliotis*)—the abalone of California—is also frequently sold.

Of the naked molluscs (those without shells), the octopus and certain cuttlefish or squids are sold sparingly. Australians have not yet learnt to value these sea-products, which are so highly esteemed in other countries. In some cases octopus is cooked and served up as "lobster" (which it closely approaches in flavour) in salads, patties, etc.

15. **Fish Canning.**—In previous pages the value of particular kinds of Australian sea fishes for canning purposes has been touched upon, and some indication will now be given regarding the prospects in Australia for fish-canning generally. Attention has been drawn to the abundance in these waters of pilchards, maray, anchovies, and sprats ; to the shoals of mackerel and other surface-swimming fishes ; to the prodigious quantities of gurnard and other bottom kinds—all of which are eminently suited for canning, both for home consumption and for export. Australia is continuing to import in cans kinds of fishes already found here, probably far more plentifully than in those places whence they are sent. In addition, thousands of cases of inferior grades of American salmon are imported annually at heavy cost. Notwithstanding the possession of a fish fauna of remarkable abundance and variety, nearly £1,000,000 worth of fish is imported yearly. It should be possible for Australia not only to supply its own needs in fishery products, as is the case with jams and preserves, but to develop also an export trade, particularly with Asia. Canada is already doing an immense business with China, and there is in Australian waters an abundance of fish (and of other sea foods) which the Chinese and other Asiatic nations fancy. In a number of cases, Australia possesses the identical fishes and crustaceans which they themselves are handling, and for which there is an unlimited sale. The modern fish-cannery may be put down in units which are not individually costly, either by way of prime capital outlay or running expenses. They are not difficult to handle, and, beyond a little experimentation with individual kinds to meet varying needs, and ordinary experience, there is no aspect of the business which could not readily be grasped by Australians who are familiar with the canning of other local products. The question of fish-canning has never yet been seriously tackled here. Small plants have been established at various times in New South Wales, Queensland, and Western Australia. They were of different type, from the most antiquated to some that have been fairly modern ; but in each case the fish preserved was of the estuarine type, and the cannery depended entirely, or almost so, upon arrangements made with individual fishermen for supplies. This method is unsatisfactory, and the prospective canner must take the matter up wholeheartedly, make his own arrangements for fish capture on a large scale, and have substantial financial backing. It goes without saying, also, that the product must be properly graded and true to label.

16. **Fish Drying.**—With a suitable climate for the rapid dehydration of fish, with shoals of the right kinds of fishes, and with about 800,000,000 potential Asiatic consumers within reasonable distance of these shores there should be ample scope for the successful establishment of the dried-fish industry in Australia. In this connexion it may be noted that Singapore alone handles about 200,000,000 lbs. of dried fish per annum, and six Chinese (Teochiew) merchants in that city informed the author that if Australia sent the supplies they could handle approximately 20,000,000 lbs. each of assorted dried fish, with the prospect of greatly adding to that amount as supplies were available.

17. **The Whaling Industry.**—Very early in the history of New South Wales, whaling operations in the old style, *i.e.*, by sailing vessels, principally seeking the southern right whale, were carried out from ports of south-eastern Australia. The chief centre was Boyd Town, in Twofold Bay. After a time operations ceased, and the business languished and finally died out, except for a little spasmodic shore work at Eden, and the taking of an occasional whale at Norfolk Island. The work at Eden had always been carried out

under the most primitive conditions, and, had there been no killers to drive the whales, mostly finbacks, inshore, would have been non-existent. The whole take amounted to eight or ten whales only per annum.

In more recent years, however, there was a revival of whaling under modern conditions, using up-to-date steel boats of about 120 feet in length furnished with whaling guns. These vessels had great success, both in the waters of New South Wales, with a base at Jervis Bay, and in Western Australia. The war, however, interfered with the prosecution of the industry by the expert Norwegians who had the work in hand, but lately some attention has been given to the question of its renewal.

During their short sojourn in Australian waters the Norwegians captured many hundreds of finback whales of the following species:—Humpback, black finback, sulphur-bottom (blue), seiwhal, and little pike whale. A few black or southern right whales were also taken, and a number of valuable sperms. Out of the latter a large amount of ambergris was obtained. At Jervis Bay a sperm whale, which supplied but little blubber or spermaceti, yielded a piece of ambergris which was sold in London for £12,000.

The principal season for the pursuit of finback whales on the Australian coast is from June to October. After that period the sperm whales and black whales may be hunted in the southernmost parts.

The products of the industry are whale oil, from which margarine and other by-products are made, spermaceti (sperm head oil), whalebone, whale beef (for canning), guano, ivory and bone products, whale leather, and ambergris.

18. Trawling in Australian Waters.—As mentioned earlier, trawling is carried on successfully by private enterprise off the coast of New South Wales on fishing grounds discovered with the vessels of the New South Wales State Trawling Industry.

The Government operations started in May, 1915, with three trawlers (of the "Castle" type), which were built in England. Later, owing to the large demand for trawled fish, the construction of four more vessels was undertaken by the Government Dockyard at Newcastle. Owing to the war, however, the latter vessels did not begin effective operations until 1920. As far as preliminary investigation work is concerned, it may be stated that there had been several early trials, and a small iron trawler of antique pattern and construction had made an unsuccessful attempt to start commercial operations. The only work worthy of mention, however, was that carried out by the "Thetis" in 1898, and the Commonwealth Investigation Steamer "Endeavour" from 1909 till 1914. The work of the "Thetis" was continued for a few weeks only, but it showed that, with suitable vessels and gear, the sea-bottom fisheries could be successfully exploited. Ichthyologically the "Endeavour" produced results of great interest and value; but the vessel was not suitable for the successful operation of the commercial trawl net, consequently on many of the grounds practically "samples" only were obtained, of comparatively little use as indicators of commercial possibilities.

The operations of the New South Wales State trawlers, however, during a period of nearly eight years, revealed some of the richest trawling areas in the world. The same grounds have been worked since the vessels passed into the hands of private individuals. On the accompanying sketch map the two principal fishing grounds are indicated; the first called the "Home" ground, roughly extending from Botany Bay to Coal Cliff, and the second, called the "Southern" ground, extending from Merimbula almost to Cape Howe. The best regular catches have been made in water from 30 to 75 fathoms in depth. Space will not permit of the description of other grounds here, or of the discussion of many aspects of the subject of use to the commercial inquirer and scientific investigator.

19. Fisheries Investigations.—The results already obtained show the necessity for a further pushing forward of fisheries investigation. Matters such as the distribution and occurrence of food fishes and other sea food organisms, the most effective and economic utilization of both sea foods, and of those sea organisms or their products and by-products, which may be of use in the industries; schemes for conservation; the harmonization of regulations surrounding identical or allied fisheries; the amassing and dissemination of

general technical and biological knowledge of the fisheries; the exploration of new or little known fishing grounds; the testing of all kinds of fishery appliances; the co-ordination of oversight and of conservation work in the inland fisheries; and the carrying out of propaganda work in regard to fish and sea food consumption generally, are all worthy of attention.

20. **Gear Used.**—(i) *Nets.* The only deep-sea nets in use at present are the otter trawls of the New South Wales steam trawlers. In the inshore fisheries, hauling nets or seines are used for beach work, and set meshing nets are employed in places where hauling is impracticable. Hauling nets are sometimes drawn up out of moderate estuarine depths on to the stern of the fishing boat. There are no drift nets, properly so called, although occasionally some short-length meshing nets are used practically as such. Some hauling nets have deep pockets in the bunt or middle portion, and are sometimes hauled for a part of their course entirely beneath the surface (sunk or diver nets). In inland rivers there are short hauling nets, meshing or gill nets, staked nets of various kinds, and a combined net and trap known as the drum net, of which as many as 8,000 have been recorded from the Murray River in a single year.

(ii) *Traps.* In both sea and riverine fisheries traps of various kinds are used, ranging from fixed devices running from the shoreline into the waters of certain estuaries to small fish traps of wire or twine, and crayfish or lobster pots.

(iii) *Lines.* The lines in use embrace the principal kinds met with elsewhere. Long lines or set lines with many hooks are used in the sea fisheries, and, with shorter lengths, in the inland rivers. Ordinary hand-line fishing for market fish is, in some places, also largely followed. This includes trolling. Set lines affixed to poles set in the banks and called "springers," are used in fresh waters, chiefly for catching Murray cod.

(iv) *Oystering Appliances.* In the oyster fisheries, tongs, rakes, and dredges are commonly used in the raising of oysters from submerged beds. Diving dress is also in use.

21. **Pearls, Pearlshell, and Trepan.**—Figures regarding the production, trade, etc., for these items, so far as they are ascertainable, are given. As regards pearls, for obvious reasons no correct estimate can be obtained of the value of those found. Pearlshell (*Margaritifera*) is widely distributed in North Australian waters over an area facing some thousands of miles of coastline, though not intensively over the whole distance. The north-west beds are the most prolific, but those around and to the north of Cape York are also of importance. There is need for further investigation into the occurrence of this valuable shell, as well as of trochus, green snail, window pane shell (*Placuna*), the various types of trepan or bêche-de-mer (*Holothuria*), both in tropical Australian waters and in those of Papua and the mandated area of New Guinea.

22. **Other Fishery Products.**—Investigation is also required in connexion with the seaweeds, sponges, certain shells (other than those above mentioned) suitable for button-making, the handling of fish-skins (for which there is a large demand in the Middle and Far East), and crocodile skins.

CHAPTER XXI.

MINERAL INDUSTRY.

§ 1. The Mineral Wealth of Australia.

1. **Place of Mining in Australian Development.**—The value of production from the mineral industry is now considerably less than that returned by the agricultural or the pastoral industry, nevertheless it was the discovery of gold in payable quantities that first attracted population to Australia, and thus laid the foundation of its nationhood. Prior to 1851, the year when Hargraves' memorable discovery was made, coal and copper had both been mined to some extent, and the existence of deposits of other minerals, including gold, had been proved. But it was the news of the sensational finds of the precious metal in 1851 and the year immediately following that brought about a constant stream of immigration, and caused an increase in population from 221,000 at the end of 1841 to upwards of 1,168,000 at the end of 1861.

2. **Extent of Mineral Wealth.**—The extent of the total mineral wealth of Australia cannot yet be regarded as completely ascertained, as large areas of country still await systematic prospecting. The presence of considerable deposits of valuable minerals has long been known. Thus, coal was discovered in 1797, and a shipload was exported to Bengal in 1799, silver was discovered by Count Strzelecki as early as 1839, and was worked as early as 1864; copper mining dates back to 1844; lead to about 1848; iron to about 1850; while the discovery of gold in payable quantities dates back to 1851. Cobalt, nickel, manganese, chromium, tungsten, molybdenum, mercury, antimony, bismuth, zinc, radio-active ores, etc., have all been found, some in fairly large quantities.

Among the more valuable non-metalliferous substances may be mentioned coke, kerosene shale, graphite, alunite, asbestos, diatomaceous earth, phosphate, clays, ochres, etc.; in building stones—sandstones, syenites, granites, basalts, augite-andesite, porphyries, serpentines, slates, limestones, and marbles; in precious stones—diamonds, emeralds, rubies, sapphires, amethysts, precious opal, turquoise, topazes, garnets, chrysolites, cairngorm, agates, etc.

3. **Quantity and Value of Production during 1922.**—The quantities (where available) and the values of the principal minerals produced in each State, and in Australia as a whole during the year 1922, are given in the tables immediately following. It must be clearly understood that the figures quoted in these tables refer to the quantities and values of the various minerals in the form in which they were reported to the States Mines Departments, and represent amounts which the Mines Departments consider may fairly be taken as accruing to the mineral industry as such. They are not to be regarded as representative of Australia's potentiality as a producer of *metals*, this matter being dealt with separately in § 18 hereinafter. It may be explained, therefore, that the item pig-iron in New South Wales refers only to metal produced from locally-raised ore and so reported to the Mines Department. New South Wales is, of course, in normal times, a large producer of iron and steel from ironstone mined in South Australia. As the table shows, the latter State receives credit for this ironstone in its mineral returns, but the iron and steel produced therefrom cannot be apportioned to the mineral industry of New South Wales. Similarly lead, silver-lead, and zinc are credited in the form reported to the State of origin—chiefly New South Wales—although the actual metal extraction is carried out to a large extent elsewhere.

MINERAL PRODUCTION VALUE, 1922—*continued.*

Minerals.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (b)	Australa.
	£	£	£	£	£	£	£	£
Limestone flux ..	21,087	..	29,247	27,080	..	..	..	77,414
Magnesite ..	3,231	291	..	951	..	..	..	4,473
Manganese ore ..	7,194	930	352	4,535	..	..	..	13,061
Molybdenite ..	320	2,550	236	..	505	..	..	3,611
Opal ..	15,150	..	500	..	..	..	..	15,650
Osmiridium ..	..	..	..	..	..	35,512	..	35,512
Phosphate ..	54	1,096	279	3,678	..	..	..	5,107
Pigments ..	715	..	..	450	..	..	..	1,165
Platinum ..	1,182	..	..	..	..	..	..	1,182
Pyritic ore ..	..	..	..	..	4,203	18,620	..	22,823
Salt ..	..	(a)	..	109,478	..	..	..	109,478
Sapphires ..	2,830	..	35,362	..	..	..	..	38,192
Shale (oil) ..	60,641	..	..	..	..	100	..	60,741
Silver ..	112,077	1,080	42,059	377	18,164	123,437	..	298,094
Tin and tin ore ..	154,698	12,071	99,758	..	10,930	112,407	5,891	395,755
Wolfram ..	..	..	98	..	..	1,024	560	1,682
Zinc concentrates ..	1,157,458	..	..	..	..	..	..	1,157,458
Unenumerated ..	3,360	..	1,503	4,788	637	..	2,170 ^d	12,458
Total ..	12,951,164	1,244,966	1,859,084	331,866	3,041,112	878,009	9,959	20,316,160

(a) Not available for publication. (b) Year ended 30th June, 1922. (c) See letterpress page 768. (d) Mica.

It may be pointed out in connexion with the figures given in the above table that the totals are exclusive of returns relating to certain commodities, such as stone for building and industrial uses, sand, gravel, brick and pottery clays, lime, cement, and slates, which might rightly be included under the generic term "mineral." Valuations of the production of some of these may be obtained from the reports of the various Mines Departments, but in regard to others it is impossible to obtain adequate information. In some instances, moreover, the published information is of little value. By restricting the comparison to items in connexion with which properly comparable information can be obtained for each State, it is believed that a satisfactory estimate of the progress of the mineral industry can be more readily obtained. The items excluded from the total for New South Wales in 1922 consist of—lime, £80,836; marble, £1,900; slate, £700; Portland cement, £853,000; coke, £382,926, and brick and pottery clays, £13,464. From the Queensland returns, marble, £2,050 has been deducted, from South Australia, sulphuric acid, £93, while the item carbide, £135,509, has been excluded from the Tasmanian figures.

4. Value of Production, 1918 to 1922.—The value of the mineral production in each State during the five years 1918 to 1922 is given in the table hereunder:—

MINERAL PRODUCTION.—VALUE, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Australa.
	£	£	£	£	£	£	£	£
1918 ..	13,220,135	1,102,652	3,740,925	1,441,885	4,265,577	1,597,694	92,730	25,461,598
1919 ..	8,911,725	1,151,980	2,575,225	771,659	4,191,973	1,307,692	71,697	18,981,951
1920 ..	9,791,979	1,435,135	3,617,870	1,150,849	4,110,376	1,426,442	80,101	21,612,752
1921 ..	12,052,509	1,218,783	1,495,899	904,659	3,463,764	822,767	19,003	19,977,384
1922 ..	12,951,164	1,244,966	1,859,084	331,866	3,041,112	878,009	9,959	20,316,160

The heavy fall noticeable in 1919 in New South Wales was due chiefly to cessation of operations for a large portion of the year at the Broken Hill mines, and partly to the dry conditions prevailing over an extensive area of the State. In Queensland the falling-off in 1921 was occasioned by the low prices realised for the principal industrial metals. None of the copper companies in the Cloncurry district resumed operations, and Mount Morgan, which in previous years contributed about 30 per cent. of the State's mineral

yield, closed down early in the year. The low returns in South Australia for 1921 were due to the small production of copper, and this was followed by a still smaller yield in 1922, when the value dwindled to £74,000, the least return since 1844. A further factor in the reduction of the total for 1922 was the temporary cessation of operations at the ironstone deposits at Iron Knob, the value of the ore raised being £58,000, as compared with £587,000 in 1921. In Western Australia the gold yield in 1922 again showed a decline, being upwards of £931,000 less than in 1920. High cost of mining requisites, coupled with the depressed market for base metals, account for the restricted output generally. The collapse in the market for industrial metals, in conjunction with the increased cost of production, brought about the fall in production during 1921 in Tasmania. The stagnation in the base metal industry is reflected in the Northern Territory returns for 1922, and the immediate outlook is unpromising.

5. **Total Production to end of 1922.**—In the next table will be found the estimated value of the total mineral production in each State up to the end of 1922. The figures given in the table are also exclusive of the same items referred to in connexion with the preceding table. Thus the total for New South Wales falls short by £16,795,000 of that published by the State Department of Mines, the principal items excluded being coke, £7,257,000; cement, £7,067,000; lime, £836,000; and marble, £45,000.

MINERAL PRODUCTION.—VALUE TO END OF 1922.

Minerals.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor.Ter.(a)	Australia.
	£	£	£	£	£	£	£	Million. £
Gold ..	63,369,531	301,933,001	84,537,833	1,613,181	150,297,292	8,837,927	2,274,714	613
Silver and lead ..	91,914,217	262,120	3,357,074	378,298	1,858,555	7,205,395	62,515	105
Copper ..	15,333,578	216,656	24,628,679	32,783,104	1,681,022	16,440,053	232,508	91
Iron ..	4,398,846	15,641	471,784	2,946,234	36,712	52,110	..	8
Tin ..	12,660,446	915,615	10,000,648	..	1,494,971	15,331,403	526,080	41
Wolfram ..	271,642	11,885	1,061,419	301	1,441	173,317	216,841	2
Zinc ..	14,884,914	..	..	15,993	5,437	36,320	..	15
Coal ..	123,453,954	6,497,481	11,293,462	..	3,462,929	1,136,735	..	146
Other ..	7,031,598	713,285	2,382,146	2,418,168	118,007	600,644	30,608	13
Total	333,318,726	310,565,684	137,733,045	40,155,279	158,954,366	49,813,904	3,343,266	1,034

(a) To 30th June, 1922.

The "other" minerals in New South Wales include alunite, £196,327; antimony, £344,588; bismuth, £224,779; chrome, £114,520; diamonds, £143,484; limestone flux, £948,479; molybdenite, £214,327; opal, £1,526,354; scheelite, £192,375; and oil shale, £2,686,516. In the Victorian returns antimony ore was responsible for £578,021. The value for coal in this State includes £218,153 for brown coal. Included in "other" in the Queensland production were opal, £180,695; gems, £537,488; bismuth, £309,335; molybdenite, £404,668; and limestone flux, £665,317. The chief items in South Australian "other" minerals were salt, £1,495,624; limestone flux, £253,712; gypsum, £236,822; and phosphate, £127,267. In the Tasmanian returns limestone flux was responsible for £91,739, and osmiridium for £277,938, while the figures for recent years include values for iron pyrites.

6. **Decline in the Metalliferous Industry.**—On the 1st December, 1921, a Select Committee was appointed by the Legislative Assembly of New South Wales to inquire into and report upon the serious decline in the metalliferous industry. The result of the Committee's investigations was published in a Report issued in 1922, wherein the chief contributing causes of the decline in New South Wales and in Australia generally were summarized as follows:—(1) High cost of production. (2) Deterioration in ore values in existing mines. (3) Inadequate machinery. (4) High freights. (5) High treatment charges. (6) Imperfect labour conditions in mines. (7) Lack of new payable discoveries. (8) Lack of efficiently-supported prospecting.

§ 2. Gold.

1. **Discovery in Various States.**—The discovery of gold in payable quantities was an epoch-making event in Australian history, for, as one writer aptly phrases it, this event "precipitated Australia into nationhood." A more or less detailed account of the finding of gold in the various States appears under this section in Official Year Books Nos. 1 to 4, but considerations of space preclude its repetition in the present issue.

2. **Production at Various Periods.**—In the following table will be found the value of the gold raised in the several States and in Australia as a whole during each of the six decennial periods from 1851 to 1910, and in single years from 1911 to 1922, from the dates when payable discoveries were first reported. Owing to defective information in the earlier years the figures fall considerably short of the actual totals, for during the first stages of mining development, large quantities of gold were taken out of Australia by successful diggers, who preferred to keep the amount of their wealth secret. For South Australia the records in the earlier years are somewhat irregular, and this remark applies to some extent also to the returns for Western Australia and Tasmania.

GOLD.—VALUE OF PRODUCTION, 1851 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Australia.
	£	£	£	£	£	£	£	£
1851-60..	11,530,583	93,337,052	14,565	..	..	788,564	..	105,670,764
1861-70..	13,076,103	65,106,264	2,076,494	..	..	12,174	..	80,871,035
1871-80..	8,576,654	40,625,188	10,733,048	579,068	..	700,048	79,022	61,293,028
1881-90..	4,306,541	28,413,792	13,843,081	246,668	178,473	1,514,921	713,345	49,216,821
1891-1900	10,332,120	29,904,152	23,989,359	219,931	22,308,524	2,338,336	906,988	89,999,410
1901-10..	9,569,492	30,136,686	23,412,395	310,080	75,540,415	2,566,170	473,871	142,009,109
1911 ..	769,353	2,140,855	1,640,323	15,000	5,823,075	132,108	30,910	10,551,624
1912 ..	702,129	2,039,464	1,477,979	28,000	5,448,385	161,300	22,671	9,379,928
1913 ..	635,703	1,847,475	1,128,768	27,800	5,581,701	141,876	13,250	9,376,573
1914 ..	528,873	1,755,236	1,059,674	26,581	5,237,353	111,475	9,754	8,728,946
1915 ..	562,819	1,397,793	1,060,703	25,830	5,140,228	78,784	3,781	8,269,938
1916 ..	459,370	1,090,194	913,951	33,000	4,508,532	67,072	3,861	7,075,980
1917 ..	349,038	857,500	761,639	30,334	4,121,645	61,577	3,677	6,185,410
1918 ..	369,743	674,655	567,371	26,252	3,723,183	44,724	2,229	5,408,157
1919 ..	336,240	691,632	618,101	16,465	3,748,882	39,252	4,234	5,454,806
1920 ..	275,109	859,461	648,168	9,546	3,475,392	35,134	5,282	5,308,092
1921 ..	271,302	554,087	214,060	13,933	2,935,693	28,311	1,299	4,018,685
1922 ..	118,359	501,515	378,154	4,693	2,525,811	16,101	540	3,545,173
Total ..	63,369,531	301,933,001	84,537,833	1,613,181	150,297,292	3,837,927	2,274,714	612,863,479

The value of the gold yield in 1922 was the lowest recorded since the discovery of the precious metal in 1851.

The amount of gold raised in Australia in any one year attained its maximum in 1903, in which year Western Australia also reached its highest point. For the other States the years in which the greatest yields were obtained were as follows:—New South Wales, 1852; Victoria, 1856; Queensland, 1900; South Australia, 1904, and Tasmania, 1899.

The following table shows the quantity in fine ounces of gold raised in each State and in Australia during each of the last five years, the value of one ounce fine being taken at £4 4s. 11⁵/₁₆d., in 1918, at £5 2s. 1¹/₂d. in 1919, at £5 12s. 6d. in 1920, at £5 6s. 0¹/₂d. in 1921, and at £4 13s. 10¹/₄d. in 1922.

GOLD.—QUANTITY PRODUCED, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Nor. Ter.	Australia.
	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.	Fine ozs.
1918 ..	87,045	158,827	133,570	6,180	876,512	10,529	(a) 525	1,273,188
1919 ..	65,839	135,428	121,030	3,224	734,066	7,686	(a) 829	1,068,102
1920 ..	48,908	152,792	115,229	1,697	617,843	6,246	(a) 939	943,654
1921 ..	51,173	104,512	40,376	2,628	553,731	5,340	(a) 245	758,005
1922 ..	25,222	106,872	80,584	1,000	538,246	3,431	(a) 115	755,470

(a) Year ended 30th June.

Unfortunately the general decline which has characterized Australia's gold output for a number of years has not been checked by any new finds of importance, and, unless economies can be carried out, the fall in price of gold will have a depressing effect on production.

3. **Changes in Relative Positions of States as Gold Producers.**—A glance at the figures in the table showing the value of gold raised will sufficiently explain the enormous increase in the population of Victoria during the period 1851 to 1861, when an average of over 40,000 persons reached the State each year. With the exception of the year 1839, when its output was surpassed by that of Queensland, Victoria maintained its position as the chief gold-producer for a period of forty-seven years, or up to 1898, when its production was outstripped by that of Western Australia, the latter State from this year onward contributing practically half, and so far as recent years are concerned more than half the entire yield of Australia. New South Wales occupied the second place on the list until 1874, when Queensland returns exceeded those of the parent State, and, with the exception of the year 1921, maintained this pre-eminence to the end of 1922. South Australia has occupied the position of lowest contributor to the total gold yield since the year 1871. Taking the average of the last ten years, the relative position of each State in regard to the gold production of Australia was as follows:—

GOLD.—RELATIVE POSITION OF STATES AS PRODUCERS, 1913 TO 1922.

State.	Annual Average of Gold Production. 1913 to 1922.	Percentage on Total.	State.	Annual Average of Gold Production. 1913 to 1922.	Percentage on Total.
	Ozs.			Ozs.	
Total	1,412,972	100.0	New South Wales	87,516	6.2
Western Australia	910,925	64.5	Tasmania ..	14,171	1.0
Victoria	229,418	16.2	South Australia ..	4,852	0.3
Queensland ..	165,017	11.7	Northern Territory	1,073	0.1

4. **Methods of Gold Mining adopted in Each State.**—(i) *New South Wales.* In New South Wales the earlier "rushes" were to surface alluvial or shallow-sinking grounds. Many of these were apparently soon worked out, but there is reason to believe that in some instances payable results would be obtained by treating the rejected wash-dirt on more scientific principles. With the exhaustion of the surface deposits discoveries were made by sinking to what are called deep alluvial leads, representing the beds of old drainage channels in Pliocene and Pleistocene times. The first of these deep alluvial leads was discovered at Forbes, in New South Wales, in 1862. The Tertiary deep leads at Gulgong were discovered in 1871. Cretaceous leads occur at Tiboburra, and detrital gold has been found in permo-carboniferous conglomerates at Tallawang. The method of dredging is extensively used for winning gold from the beds of running streams, and from loose river flats and other wet ground where sinking would be impracticable. The system was introduced from New Zealand, where it was originally applied with great success on the Clutha River, and practically all the auriferous rivers of New South Wales have been worked by dredges. Hydraulic sluicing is employed also in several places, the necessary machinery being fitted to a pontoon for convenience in moving from place to place. The quantity of alluvial gold obtained, other than by dredging, amounted to 1,671 ozs. in 1922, the chief yields being obtained in the Tumut and Adelong District, 300 ozs. being recorded from Tumarumba, 150 ozs. from Kiandra, and 143 ozs. from Adelong. Major's Creek (Southern District) returned 135 ozs., Wattle Flat (Bathurst) 120 ozs., Windeyer (Mudgee) 100 ozs., and Sofala (Tambaroora and Turon) 100 ozs. The quantity obtained by dredging was 9,284 ozs.; the largest returns being obtained at Gundagai (Lachlan) 3,882 ozs.; Adelong (Tumut and Adelong District) 3,368 ozs.; Wellington (Mudgee) 1,137 ozs.; and Araluen (Southern) 793 ozs. During 1922 there were 7 bucket dredges and 3 pump dredges in operation, their combined value being £72,048. The quantity of gold won from quartz amounted to 9,944 ozs. At the present time the Cobar district is the chief centre of the production from quartz, the yield from the Cobar field included therein being 3,093 ozs. Next in order were Hill End, 2,338 ozs.; Gundagai, 703 ozs.; Picton, 621 ozs.; Carcoar, 461 ozs.; and Adelong, 460 ozs.

(ii) *Victoria.* Lode mining predominates in Victoria, although gold is also obtained from alluvial workings, both surface and deep leads. Owing to the exhaustion of much of the payable auriferous area the yield has been on the down grade for the last sixteen years, and the return for 1921 was the lowest experienced since 1851. The yield for 1922 was about 2,400 ozs. in excess of that for 1921. The deepest mines in Australia are found in the Bendigo district, where there are two shafts 4,614 and 4,318 feet deep respectively. (It may be interesting to note here that the deepest mine in the world is the St. John del Rey in Brazil, where the workings reach a vertical depth of 6,726 feet from the surface. The Village Deep in the Transvaal is 6,263 feet deep, while two shafts on the Kolar goldfield in India reach over 6,000 feet). A considerable amount of attention is given to dredging and hydraulic sluicing, particularly in the Beechworth, Maryborough, Castlemaine, Ararat, Stawell, Gippsland, and Ballarat districts. The yields from alluvial and quartz respectively as returned (in crude ounces) from the chief mining districts of the State during last year, were as follows:—Ararat and Stawell, 4,370 and 460; Ballarat, 1,378 and 1,434; Beechworth, 11,438 and 22,678; Bendigo, 914 and 52,537; Castlemaine, 3,105 and 15,582; Gippsland, 2,231 and 463; Maryborough 510 and 897.

The largest output from quartz mining in the Bendigo district was furnished by the New Red, White, and Blue, with 18,789 ozs., valued at £75,154; followed by the Carlisle Unity, 6,848 ozs., £27,478; Northern and Virginia and Constellation, 4,143 ozs., £17,397; Hercules and Energetic, 2,680 ozs., £10,945; and Lansell's North Red, White, and Blue, 2,640 ozs., £10,560. In the Beechworth district the Morning Star Co., at Wood's Point, returned 17,686 ozs., valued at £58,020; the Rose, Thistle and Shamrock at Harrietville, 2,263 ozs., £9,613; and the A.I. Gold Mines at Gaffney's Creek, 1,372 ozs., £4,822. In the Daylesford area the Ajax returned 5,031 ozs., £21,356, and Ajax North, 4,960 ozs., £19,890. At Tarrengower, Oswald's G.M. Co. produced 4,012 ozs., valued at £16,047.

From alluvial the principal yield was obtained by Cock's Pioneer Gold and Tin Mines, with 7,377 ozs., valued at £29,508. This Company, which operates in the Beechworth district, also produced about £12,000 worth of tin during the year. The New Langi Logan and the Langi Logan South at Ararat returned yields valued at £11,318 and £4,388 respectively.

(iii) *Queensland.* Operations in Queensland are chiefly confined to reefing, and to the production of gold in connexion with the smelting of copper and other ores, the yield from alluvial in 1922 being only 356 ozs., while the quantity produced from stone treated was 28,548 ozs.; from copper and other ores 49,905 ozs.; and from old tailings 1,775 ozs.; making a total production of 80,584 ozs. The yields from the principal fields were—Mount Morgan, 49,568 ozs.; Charters Towers, 5,016 ozs.; Gympie, 15,678 ozs.; Chillagoe, 3,611 ozs.; Etheridge, 2,449 ozs.; and Mount Coolon, 1,458 ozs. The total yield in 1922 was practically double that for 1921, the improvement being due largely to resumption of work at Mt. Morgan, and the excellent results from crushings at Gympie.

(iv) *South Australia.* Gold is found in widely-scattered localities in South Australia, but the production has at no period been large. Alluvial gold is produced by the Echungga, Teetulpa, Barossa, and Ulooloo fields. Within recent years the chief source of the metal has been the copper ore of Wallaroo and Moonta, from which it is recovered by electrolytic refining.

(v) *Western Australia.* The auriferous deposits of Western Australia may be grouped under three headings—(1) superficial deposits, (2) deposits in beds of conglomerate, and (3) lode and vein deposits. The first class includes a number of deposits of alluvial type, either in the beds of existing watercourses or in deep leads, up to 100 feet or more below present surface level. Associated with these are deposits of crystalline gold in "pug," oxide of iron, and soft weathered portions of underlying bed rock. Considerable areas of auriferous surface soil are also found, and these have apparently originated from the denudation by weathering of the bed rock and its associated veins. The shallow surface deposits have been worked by ground sluicing wherever water was available, but most of the ground has been worked by "dry-blowing." The pug and clayey bedrock are usually treated in puddling machines. In regard to (2) it may be noted that in several localities on the Pilbara goldfield and in one on the Yalgoo, gold has been found in conglomerate of the Nullagine series of rocks, now tentatively accepted as of Cambrian age. The gold is crystalline and is confined to the interstitial cementing material. Occasional occurrences of gold are met with in laterite conglomerate of

tertiary and post tertiary age, and at Kintore in conglomerate of the same age. Lode and vein deposits alluded to in (3) are found in great variety in Western Australia. The gold is always found associated with iron pyrites in the unoxidized portions of the lodes, and often also with copper pyrites, arsenical pyrites and galena. Tellurides of gold occur at times.

The yields from the principal fields in order of importance were as follows:—East Coolgardie, 376,389 ozs.; Murchison, 36,304 ozs.; Mt. Margaret, 27,650 ozs.; Yalgoo, 18,132 ozs.; Coolgardie, 16,170 ozs.; North Coolgardie, 13,624 ozs.; East Murchison, 13,051 ozs.; Yilgarn, 12,794 ozs.; Dundas, 8,044 ozs.; North-East Coolgardie, 4,545 ozs.; Broad Arrow, 3,629 ozs.; Pilbara, 3,100 ozs.; and Peak Hill, 2,160 ozs. Of the total yield of 536,539 ozs. reported to the Mines Department, 532,098 ozs. were obtained from ore treated, 3,409 ozs. from dollied and specimens, while the return from alluvial was a little over 1,000 ozs. The total referred to differs somewhat from that quoted in the first table in this chapter, which represents gold exported and minted. It may be noted here that the total amount of dividends paid by Western Australian gold mining companies to the end of the year 1922 was £28,307,000.

Western Australia reached its zenith as a gold-producer in 1903, when the output was valued at £8,771,000, but since then there has been a more or less steady decline until in 1922 the total had dropped to £2,526,000. Three causes may be adduced to account for this falling-off—(1) Exhaustion of known rich deposits. (2) Unwise development, *i.e.*, “picking the eyes” of good mines. (3) Increased cost of stores, equipment and labour, rendering it unprofitable to treat low-grade ores.

(vi) *Tasmania.* The yield in Tasmania is chiefly obtained from reefing, and the returns from the principal districts in 1922 were as follows:—North-West and West Coasts, 2,116 ozs.; Mathinna, 807 ozs.; Mt. Claude, 125 ozs.; Beaconsfield, 219 ozs.; and smaller quantities from Mt. Cameron, Mt. Victoria, Warrentinna, Lefroy, and Lisle Golconda. The New Golden Gate Mine at Mathinna is now practically the only gold mine in operation in the State.

The total production was equal to 3,431 ozs. fine. During 1922 the blister copper produced by the Mt. Lyell Mining and Railway Co. Ltd. contained approximately 2,067 ozs. of gold.

(vii) *Northern Territory.* The production for 1922 amounted to only 115 ozs. It is stated that the potentialities of the older fields have by no means been exhausted, although a revival of the industry depends on the expenditure of large sums of money, either by the Government or by mining speculators, on developmental work.

5. **Remarkable Masses of Gold.**—Allusion has already been made in preceding Year Books to the discovery of “nuggets” and other remarkable masses of gold, but it is not proposed to repeat this information in the present issue. (See Year Book No. 4, page 500.)

6. **Modes of Occurrence of Gold in Australia.**—This subject has been alluded to at some length in earlier issues of the Year Book, but considerations of space will not permit of repetition in the present issue.

7. **Place of Australia in the World's Gold Production.**—In the table given below will be found the estimated value of the world's gold production, and the share of Australia therein during the five years 1918 to 1922. The figures given in the table have been compiled chiefly from returns obtained directly by the Commonwealth Bureau of Census and Statistics from the gold-producing countries of the world.

GOLD.—WORLD'S PRODUCTION, 1918 TO 1922.

Year.	World's Production of Gold.	Gold Produced in Australia.	Percentage of Australia on Total.
	£	£	%
1918	77,345,000	5,408,000	7.00
1919	89,844,000	5,455,000	6.07
1920	90,325,000	5,308,000	5.88
1921	83,265,000	4,019,000	4.83
1922	70,622,000	3,545,000	5.02

The value of the gold yield in the ten chief producing countries during each of the five years 1918 to 1922 is given in the table hereunder. Particulars of the quantity and value of the gold production for all countries for the ten years 1913-22 will be found in the Bulletin of Australian Production issued by this Bureau.

GOLD.—PRODUCTION, CHIEF COUNTRIES, 1918 TO 1922.

Country.	1918.	1919.	1920.	1921.	1922.
	£	£	£	£	£
Transvaal	35,759,000	42,548,000	45,890,000	43,096,000	32,895,000
United States	13,841,000	14,695,000	13,581,000	12,519,000	10,743,000
Canada	2,972,000	3,916,000	4,303,000	4,911,000	5,929,000
Australia	5,408,000	5,455,000	5,308,000	4,019,000	3,545,000
Mexico	3,457,000	3,873,000	4,154,000	3,626,000	3,512,000
Rhodesia	2,682,000	3,030,000	3,108,000	3,104,000	3,063,000
India	2,060,000	2,304,000	2,609,000	2,073,000	1,832,000
Colombia	959,000	1,482,000	1,578,000	1,539,000	1,201,000
Japan	1,162,000	1,309,000	1,499,000	1,408,000	1,098,000
Gold Coast	1,338,000	1,508,000	1,167,000	1,078,000	998,000

For the first year given in the above table the values quoted are based on a fine ounce value of £4 4s. 11 $\frac{1}{2}$ d. For the last four years, however, it has been deemed advisable to apportion values in accordance with Australian currency, i.e. at £5 2s. 1 $\frac{1}{2}$ d. for 1919, £5 12s. 6d. for 1920, £5 6s. 0 $\frac{3}{4}$ d. for 1921, and £4 13s. 10 $\frac{1}{4}$ d. for 1922.

The next table shows the average yearly value in order of importance of the yield in the chief gold-producing countries for the decennium 1913-22 :—

GOLD.—AVERAGE ANNUAL PRODUCTION, CHIEF COUNTRIES, 1913 TO 1922.

Country.	Value.	Country.	Value.
	£		£
Transvaal	38,964,000	Mexico	2,908,000
United States	15,881,000	India	2,240,000
Australia	6,337,000	Gold Coast	1,438,000
Canada	3,972,000	Japan	1,243,000
Rhodesia	3,293,000	Colombia	1,183,000
Russia	3,135,000		

The comparison has been restricted to countries where the average for the period is in excess of a million sterling.

8. **Employment in Gold Mining.**—The number of persons engaged in gold mining in each State in 1901 and during each of the last five years is shown in the following table :—

GOLD MINING.—PERSONS EMPLOYED, 1901 AND 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Total.
	No.	No.	No.	No.	No.	No.	No.	No.
1901 ..	12,064	27,387	9,438	1,000	19,771	1,112	200	70,972
1918 ..	2,540	3,547	929	100	7,790	125	84	15,115
1919 ..	1,656	3,065	792	100	7,242	73	60	12,988
1920 ..	1,712	3,742	611	100	7,087	48	20	13,320
1921 ..	1,516	3,050	722	100	6,019	67	10	11,484
1922 ..	1,197	3,310	766	40	5,787	106	12	11,218

§ 3. Platinum and Platinoid Metals.

1. **Platinum.**—(i) *New South Wales.* The deposits at present worked in the State are situated at Platina in the Fifield division, near Parkes, and the production in 1922 amounted to 80 ozs., valued at £1,182, while the total production recorded for the period 1894 to 1922 amounted to 16,018 ozs., valued at £69,029. The metal is also found in the Ballina and Goulburn Divisions.

(ii) *Victoria.* In Gippsland the metal has been found in association with copper, and 127 ozs. were produced in 1913, but there was no production in recent years.

(iii) *Queensland.* Platinum associated with osmiridium has been found in the beach sands between Southport and Currumbin, in creeks on the Russell gold-field near Innisfail, and in alluvial deposits on the Gympie gold-field, but no production has been recorded.

2. **Osmium, Iridium, etc.**—(i) *New South Wales.* Small quantities of osmium, iridium, and rhodium are found in various localities. Platinum, associated with iridium and osmium, has been found in the washings from the Aberfoil River, about 15 miles from Oban; on the beach sands of the northern coast; in the gem sand at Bingara, Mudgee, Bathurst, and other places. In some cases, as for example in the beach sands of Ballina, the osmiridium and other platinoid metals amount to as much as 40 per cent. of the platinum, or about 28 per cent. of the whole metallic content.

(ii) *Victoria.* In Victoria, iridosmine has been found near Foster, and at Waratah Range, South Gippsland.

(i) *Tasmania.* For many years osmiridium has been known to exist in the bed of the Savage River, on the West Coast, and in rivulets and creeks in the serpentine country. The first recorded production was in 1910, when 120 ozs., valued at £530, or £4 8s. 4d. per oz., were raised. In 1914 the yield had increased to 1,019 ozs., valued at £10,076, or nearly £9 18s. per oz. From 1915 to 1917 the amount raised fell off considerably, owing to difficulty in disposing of the metal, but in 1918 there was an increase to 1,607 ozs., valued at £44,833; while in 1920 the 2,009 ozs. produced returned £77,114, or over £38 7s. 8d. per oz. In October of that year as much as £42 per oz. was obtained. For 1921 the production was 1,751 ozs., valued at £42,935, or about £24 10s. per oz. The price obtained in 1921, varied from £35 in January to £27 10s. in April, May, and June, to £23 in July and August, and to £20 from September to the close of the year. For 1922 the output reached 1,174 ozs., valued at £35,512.

§ 4. Silver and Lead.

1. **Occurrence in Each State.**—Particulars regarding the occurrence of silver in each State will be found in preceding Year Books, Nos. 1 to 5, but considerations of space preclude the repetition of this matter in the present volume.

2. **Development of Silver Mining.**—The value of the production of silver, silver-lead and ore, and lead from each State during the five years ending 1922 is given hereunder:—

SILVER AND LEAD.—PRODUCTION, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Australia.
	£	£	£	£	£	£	£	£
1918 ..	5,739,509	1,319	36,645	10,492	189,636	127,176	(a)200	6,104,977
1919 ..	1,647,878	1,607	28,511	180	107,508	136,234	(a)132	1,922,050
1920 ..	123,481	1,714	135,559	2,646	190,484	309,035	(a)299	763,218
1921 ..	1,327,364	862	54,188	240	67,521	89,817	..	1,539,992
1922 ..	2,574,108	1,080	109,350	377	87,692	241,694	..	3,914,301

(a) Year ended 30th June.

The heavy falling-off in the production for 1919 and 1920 as compared with previous years was due to the suspension of operations owing to industrial troubles at the principal mines on the Broken Hill field. In addition to causing a cessation of mining operations and treatment of tailings on the Broken Hill field, the smelting works at Cockle Creek, upon which most of the silver-lead mines in other parts of the State depend for the sale of their ores, were forced to close. The resumption of normal production in 1921 by the mines on the Broken Hill field was largely hindered by the low price of lead, and the destruction by fire of the smelting works at Port Pirie.

It must be understood that the totals for New South Wales in the above table represent the *net* value of the product (excluding zinc) of the silver-lead mines of the State. In explanation of the values thus given, it may be noted that the metallic contents of the larger portion of the output from the silver-lead mines in the State are extracted outside New South Wales, and the Mines Department considers, therefore, that the State should not take full credit for the finished product. The real importance of the State as a producer of silver, lead, and zinc is thus to some extent lost sight of. The next table, however, which indicates the quantity of these metals locally produced, and the average contents by assay of concentrates exported during the last five years, will show, as regards New South Wales, the estimated total production and the value accruing to Australia from the three metals:—

SILVER-LEAD MINES.—NEW SOUTH WALES, TOTAL PRODUCTION, 1918 TO 1922.

Year.	Metal Produced within Australia.				Contents of Concentrates Exported.			
	Silver.	Lead.	Zinc.	Value.	Silver.	Lead.	Zinc.	Value.
	ozs. fine.	tons.	tons.	£	ozs. fine.	tons.	tons.	£
1918 ..	8,724,018	155,306	5,622	6,744,034	535,943	3,178	21,926	232,210
1919 ..	5,886,947	80,175	(a)7,119	4,109,466	417,871	2,425	18,146	253,751
1920 ..	196,111	1,749	(a)10,565	515,728	479,221	3,025	21,742	274,061
1921 ..	3,624,413	47,426	(a)1,425	1,723,864	617,477	6,539	19,272	261,238
1922 ..	6,648,825	97,867	23,724	4,113,427	3,264,102	19,328	132,186	1,272,074

(a) Including Zinc Oxide and Zinc Lead Oxide.

The figures given above are quoted on the authority of the Mines Department of New South Wales.

3. Sources of Production.—Broken Hill, in New South Wales, is the great centre of silver production in Australia.

(i) *New South Wales. (a) Broken Hill.* A description of the silver-bearing area in this district is given in earlier issues of the Year Book. During 1913 the output of ore from the mines in this division amounted to 1,744,000 tons, the highest recorded in the history of the field, but owing to the dislocation caused by the war the quantity raised in 1914 decreased to 1,442,000 tons. For the four years 1915 to 1918 the ore raised averaged over 1,200,000 tons, but, owing to the cessation of operations through industrial troubles and the fall in the price of metals the production in 1919 dwindled to 415,400 tons, and in 1920, when operations were carried on for a few weeks only, to 38,661 tons. In 1921 the output rose to 317,333 tons, and in 1922 to 640,064 tons, of which 634,867 tons were sulphide and 5,197 tons oxidized ore.

Although the returns are not complete in all cases, the following table relating to the companies controlling the principal mines at Broken Hill will give some idea of the richness of the field:—

SILVER.—BROKEN HILL RETURNS TO END OF 1922.

Mine.	Value of Output to end of 1922.	Dividends and Bonuses Paid to end of 1922.
	£	£
Broken Hill Proprietary Co. Ltd.	49,215,101	12,456,550
Broken Hill Proprietary Block 14 Co. Ltd.	3,922,203	632,160
British Broken Hill Proprietary Co. Ltd.	5,309,009	821,280
Broken Hill Proprietary Block 10 Co. Ltd.	4,926,918	1,432,500
Sulphide Corporation Ltd. (Central Mine)	22,127,343	2,821,875
Broken Hill South Ltd.	11,855,816	2,695,000
North Broken Hill Ltd.	7,143,454	2,038,940
Broken Hill Junction Lead Mining Co.	1,151,340	87,500
Junction North Broken Hill Mine	2,639,679	160,814
The Zinc Corporation Ltd.	2,987,089	10,000
Barrier South Ltd.	151,517	50,000
Totals	111,429,469	23,206,619

The returns relating to dividends and bonuses paid are exclusive of £1,744,000 representing the nominal value of shares in Block 14, British, and Block 10 companies, allotted to shareholders of Broken Hill Proprietary Company. If the output of the companies engaged in treating the tailings, etc., be taken into consideration the totals for output and dividends shown in the table would be increased to over 118 millions and 27 millions respectively. The authorized capital of the various companies amounted to £7,637,000.

(b) *Picton Division.* The mines in the Yerranderie area produced 3,643 tons of ore in 1922, yielding 294,756 ozs. of silver, besides 621 ozs. of gold and 1,035 tons of lead, the total production being valued at £64,630. These figures are about £14,000 higher than in 1921, but operations were adversely affected by the cessation of smelting operations at the Sulphide Corporation's works at Cockle Creek.

(c) *Sunny Corner.* In this division of the Bathurst Mining District 200 tons of ore were raised, from which 4,000 ozs. of silver and 20 ozs. of gold and 5 tons of copper were produced in 1922.

(d) *Yass Division.* During 1922 the Kangiara mine produced 260 tons of ore yielding 9,535 ozs. of silver, 107 tons of lead, and 55 ozs. of gold.

(e) *Other Areas.* Small quantities of silver, lead, and gold were produced during the year in the Condobolin, Goulburn, Hillgrove, Rockley, and Tingha Divisions.

(ii) *Victoria.* The silver produced in 1922 amounted to 6,978 ozs., valued at £1,080, and was obtained in the refining of gold at the Melbourne Mint.

(iii) *Queensland.* The yields from the chief silver and lead producing centres in 1922 were as follows:—Chillagoe, silver £29,383, lead £59,390; Herberton, silver £2,565, lead £3,247; Stanthorpe, silver £3,994; Brisbane, silver £2,003, lead £1,835; Mt. Morgan, silver £1,944; Etheridge, lead £1,883. The two State mines, Girofla and Consols, in the Chillagoe district together contributed four-fifths of the total amount of silver, three-fifths that of copper, and three-fourths of the lead. From the Girofla the production consisted of 97,000 ozs. of silver, 40 tons of copper, and 1,100 tons of lead. The Mount Isa silver-lead field in the Cloncurry district was reported on by the Government Geologist in 1923, and he expressed the opinion that this area should prove second to Broken Hill in richness.

(iv) *South Australia.* Rich specimens of silver ore have been discovered at Miltalie and Poonana, in the Franklin Harbour district, also at Mount Malvern and Olivaster, near Rapid Bay, and in the vicinity of Blinman and Farina. The surrounding district is also highly mineralized, but, so far, has not been thoroughly prospected. Attention has recently been devoted to the silver-lead ores at Eukaby, near Baratta. The production of silver in 1922 was valued at £377.

(v) *Western Australia.* The quantity of silver obtained as a by-product and exported in 1922 was 118,696 ozs., valued at £18,164. In addition, 2,796 tons of pig lead, valued at £69,528, were exported, but there were no exports during the year of lead, and silver lead ore and concentrates. The production of lead ore from the Northampton mineral field amounted in 1922 to 29,603 tons.

(vi) *Tasmania.* The silver produced in 1922 amounted to 794,585 ozs., valued at £123,437, and the lead to 4,926 tons, valued at £118,257. Of the silver, Magnet Mines returned 335,818 ozs.; North Mt. Farrell, 201,059 ozs.; Zeehan Mines, 123,769 ozs.; Mt. Lyell, 119,699 ozs.; and Round Hill, 14,240 ozs. The principal producers of lead were North Mt. Farrell, 2,022 tons; Zeehan Mines, 1,465 tons; and Magnet Mines, 1,319 tons.

(vii) *Northern Territory.* Silver-lead ores are found near Pine Creek, and at Mount Shoebridge near Brock's Creek railway station. There are a number of fair-sized galena lodes in the Pine Creek and McArthur River districts, but owing to costs of transport and realization little attention is devoted to them. No production of silver-lead ores was recorded in 1922.

4 **World's Production.**—The world's production of silver during the last five years for which particulars are available is estimated to have been as follows :—

SILVER.—WORLD'S PRODUCTION, 1918 TO 1922.

Total.	1918.	1919.	1920.	1921.	1922.
World's production in 1,000 fine ozs.	197,395	176,457	174,612	175,264	(a)192,000

(a) Provisional.

The share of Australia in the world's silver production in 1919 was estimated at 7,800,000 ozs., or about $4\frac{1}{2}$ per cent. on the total production, but in 1921, owing to the cessation of operations at the Broken Hill field, the total local extraction fell to 4,573,000 ozs., and the estimated silver contents of the ores, bullion, and concentrates exported to 732,000 ozs., the total being a little over 3 per cent. on the world's production. For 1922 the local extraction was set down as 7,896,000 ozs., and the contents of concentrates, etc., exported 3,838,000 ozs., the total representing about 6 per cent. on the world's production. The figures for the world's production are given on the authority of *The Mineral Industry*.

Arranged in order of importance the estimated yields in 1922 from the chief silver-producing countries were as follows :—

SILVER.—PRODUCTION, CHIEF COUNTRIES, 1922.

Country.		Production.	Country.		Production.
		Fine ozs. ('000 omitted.)			Fine ozs. ('000 omitted.)
Mexico	.. ..	80,000	Japan	.. ..	4,000
United States	.. ..	55,500	Central America	.. ..	2,000
Canada	.. ..	17,600	Dutch East Indies	.. ..	1,000
Australia	.. ..	11,734	Transvaal	.. ..	700
South America	.. ..	10,000	Congo	.. ..	180
Europe	.. ..	8,000	Rhodesia	.. ..	160
British India	.. ..	4,000	China	.. ..	60

5. **Prices.**—As the production of silver is dependent to a very large extent on the price realized, a statement of the average price per standard ounce in the London market during the last five years is given below :—

SILVER.—PRICES, 1918 TO 1922.

Price.	1918.	1919.	1920.	1921.	1922.
Pence per standard oz.	47.52	57.08	61.59	36.89	34.41

The high average in 1917 was succeeded by a further rise to $47\frac{1}{2}$ d. in 1918, the monthly averages ranging from $42\frac{13}{16}$ d. in February to $49\frac{1}{2}$ d. in September and October. Prices in 1919 showed a sensational rise. Beginning with an average of about $48\frac{3}{8}$ d. per ounce during each of the first four months of the year, prices rose rapidly until in September the high average of 61.7d. was reached, followed by 64d. in October, 70d. in November, and 76.4d. in December. In January, 1920, the price rose to 79.8d., and in February the record figure of 85d. per oz. was reached. Next month, however, there was a drop to a little over 74d., and from August, when the price was 59.87d., the quotations fell rapidly, the figure in December being 41.85d. The average for January, 1921, was about 40d., but by the end of June the price had fallen to less than 35d., followed by a rise to $41\frac{7}{16}$ d. in October, and again declining to $35\frac{5}{8}$ d. at the end of the year. In March, 1922, the price fell to $33\frac{1}{4}$ d., and in September the average stood at $35\frac{1}{16}$ d., but thenceforward there was a rapid decline, the price for the closing month of the year being $31\frac{3}{8}$ d. The average price for the whole year, i.e. 34.41d., was the lowest since 1916, when the figure was 31.32d.

6. **Employment in Silver Mining.**—The number of persons employed in silver mining during each of the last five years is given below :—

SILVER MINING.—PERSONS EMPLOYED, 1918 TO 1922.

Year.	N.S.W.	Q'land.	W. Aust.	Tasmania.	Nor. Ter.	Australia.
	No.	No.	No.	No.	No.	No.
1918	7,585	98	(a) 382	631	10	8,706
1919	6,556	145	(a) 74	798	3	7,576
1920	1,931	143	(a) 238	517	2	2,831
1921	3,150	229	(a) 41	352	..	3,772
1922	4,712	321	(a) 152	495	..	(b) 5,686

(a) Lead ore. (b) Including 6 in South Australia.

The bulk of the employment was in New South Wales and Tasmania, the quantity of silver raised in the other States, excepting Queensland, being unimportant. The closing of the mines on the Broken Hill field during the greater part of the year was responsible for the falling-off in the total for 1920, while the resumption of normal activity in 1921 was delayed by the causes alluded to in 2 hereinbefore.

§ 5. Copper.

1. **Production.**—The production of copper in the various States has been influenced considerably by the ruling prices, which have undergone extraordinary fluctuations. The quantity and value of the local production as reported and credited to the mineral industry for the years 1918 to 1922 are shown in the following table :—

COPPER.—PRODUCTION, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
QUANTITY.					
	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales { Ingot and Matte	6,510	1,460	1,290	499	575
{ Ore .. ..	..	..	..	..	50
Queensland { Ingot and Matte	18,980	9,997	15,897	2,428	5,104
{ Ore .. ..	..	..	..	..	..
South Aus- { Ingot and Matte	7,169	2,517	4,339	1,532	1,185
tralia { Ore .. ..	..	..	..	..	..
Western { Ingot and Matte	478	4	137	206	660
Australia { Ore	1,643	455	1,511	1,040	352
Tasmania { Ingot and Matte	5,559	5,071	4,792	6,181	5,616
{ Ore	444	..	..	..	..
Northern Territory { Ingot and Matte	..	..	..	..	..
{ Ore	(a) 619	(a) 159	(a) 67	..	(a) 58
VALUE.					
	£	£	£	£	£
New South Wales	696,580	139,296	127,978	41,267	36,233
Queensland	2,087,751	952,501	1,551,995	168,556	321,535
South Australia	828,556	228,930	423,601	106,370	73,646
Western Australia	66,146	10,105	25,165	24,601	20,379
Tasmania	776,106	558,694	528,237	463,163	391,535
Northern Territory	(a) 9,648	(a) 2,349	(a) 780	..	798
Australia	4,464,787	1,891,875	2,657,756	803,957	844,126

(a) Year ended 30th June.

The heavy fall during 1921 was due to the low price of the metal preventing the profitable working of many of the copper mines throughout Australia, and the continuation of low prices had a depressing effect on production in 1922.

2. Sources of Production.—(i) *New South Wales.* Production in this State in 1922 was valued at £36,233, as compared with £41,267 in the preceding year. The depression in this branch of the mining industry in 1922 was again accentuated by the low prices ruling for copper and high cost of production and transport. No ore was raised in the Cobar division, hitherto the largest producer of copper in the State, and the expensive machinery at the Great Cobar Mine was converted into scrap iron and transported to Newcastle. Small yields were reported during the year from the Bingara, Blayney, Drake, Molong, and Yass divisions.

(ii) *Queensland.* The yield in this State amounted in 1922 to 5,104 tons valued at £321,535, and shows a serious decline as compared with 1920 when nearly 16,000 tons valued at £1,552,000 were raised. The falling-off in the yield for the last two years was, of course, due to the low prices realized for copper. Returns from the chief producing areas in 1922 were as follows:—Mount Morgan, 4,483 tons, valued at £282,460; Etheridge, 173 tons, £10,883; Herberton, 40 tons, £2,520; Cloncurry, 325 tons, £20,475; and Chillagoe, 63 tons, £3,985. These yields naturally compare very unfavourably with those of 1920. The Cloncurry district—reckoned the richest and most extensive cupriferous area in Australia—which under normal circumstances produces more than half the copper output of the State, returned a yield of 325 tons, as against 7,640 tons in 1920.

(iii) *South Australia.* Taking the entire period over which production extended, the yield of copper in South Australia easily outstrips that of any other State. In recent years, however, Queensland, Tasmania, and New South Wales have come to the front as copper producers, as the table on the preceding page shows. Deposits of copper ore are found over a large portion of South Australia. A short account of the discovery, etc., of some of the principal mining areas, such as Kapunda, Burra Burra, Wallaroo, and Moonta, was given in earlier issues of the Official Year Book. During 1922 the output amounted to 1,185 tons, valued at £73,646, the lowest recorded since 1844. The decline was due to the closing down during the greater part of the year of the Wallaroo and Moonta mines.

(iv) *Western Australia.* The value of copper and ore exported from this State in 1922 was £20,379. According to the returns, the production in the West Pilbara field was 164 tons, valued at £2,481; in the Northampton field, 999 tons, valued at £13,435; while the Phillips River field showed a production of 32 tons, valued at £217. The Whim Well mine on the Pilbara field was the principal producer, but operations were greatly restricted by the low price ruling for the metal.

(v) *Tasmania.* The quantity of copper produced in Tasmania during 1922 was 5,616 tons, valued at £391,535, the whole of the production being due to the Mount Lyell Mining and Railway Co. Ltd. This Company treated 57,287 tons of ore and concentrates and produced 5,661 tons of blister copper, containing copper, 5,616 tons; silver, 119,699 ozs.; and gold, 2,067 ozs.; the whole being valued at £416,017. The employees in 1922 numbered 942, of whom 461 were miners, 373 were engaged in the reduction works, and 108 in the railway department. Current for power and lighting is obtained from the Lake Margaret hydro-electric plant. To the end of 1922 this Company had paid upwards of £3,894,000 in dividends.

(vi) *Northern Territory.* Copper has been found at various places, but lack of capital and difficulty of transport prevent the development of the deposits. During 1922, 58 tons of ore valued at £798 was raised near Settlement Creek head station, close to the Queensland border, but no mining was carried on at other localities.

3. Prices.—The great variation in price that the metal has undergone is shown in the following table, which gives the average price in London and New York during each of the last five years. The figures are given on the authority of the *The Mineral Industry*.

COPPER.—PRICES, 1918 TO 1922.

Year.				London Price per Ton Standard Copper.	New York Price in Cents per lb. Electrolytic Copper.
				£	Cents.
1918	..	..	..	115.53	24.63
1919	..	..	..	90.80	18.69
1920	..	..	..	97.48	17.46
1921	..	..	..	69.36	12.50
1922	..	..	..	62.12	13.48

As evidence of the tremendous monthly variation during the period covered by the table, it may be noted that from August to November, 1918, the average London price of standard copper was £122 per ton, while in April, 1922, it was quoted at £58 16s.

4. **World's Production of Copper.**—The world's production of copper during the five years 1918 to 1922, is estimated to have been as follows :—

COPPER.—WORLD'S PRODUCTION, 1918 TO 1922.

Year	1918.	1919.	1920.	1921.	1922.
World's production—tons ..	1,358,700	978,200	932,300	539,900	847,700

The yields from the chief copper-producing countries in 1922 were as follows :—

COPPER.—PRODUCTION, CHIEF COUNTRIES, 1922.

Country.			Production.	Country.			Production.
			Tons.				Tons.
Chile .. .. .	..	..	126,200	Mexico .. .. .	..	..	26,600
Japan .. .. .	..	..	53,900	Canada .. .. .	..	..	22,600
Africa .. .. .	..	..	53,200	Australia .. .. .	..	..	11,900
Spain and Portugal	..	..	35,900	Bolivia .. .. .	..	..	10,500
Peru .. .. .	..	..	35,000	Serbia .. .. .	..	..	5,100

The Australian production in 1922 amounted to about 1.4 per cent. of the total.

5. **Employment in Copper Mining.**—The number of persons employed in copper mining during each of the last five years was as follows :—

COPPER MINING.—PERSONS EMPLOYED, 1918 TO 1922.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Ter.	Australia.
	No.	No.	No.	No.	No.	No.	No.	No.
1918 ..	1,529	..	3,209	2,000	158	1,597	60	8,553
1919 ..	1,148	..	2,521	400	72	1,571	12	5,724
1920 ..	583	2	1,815	1,285	116	1,577	2	5,380
1921 ..	109	..	675	1,000	36	1,361	6	3,187
1922 ..	66	..	882	70	10	948	6	1,982

§ 6. Tin.

1. **Production.**—The development of tin mining is, of course, largely dependent on the price realized for the metal, and, as in the case of copper, the production has been subjected to somewhat violent fluctuations. The tables below show the quantity and value of the production as reported to the Mines Departments in each of the States during the five years, 1918 to 1922:—

TIN.—PRODUCTION, 1918 TO 1922.

State.	1918.	1919.	1920.	1921.	1922.
QUANTITY.					
	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales ..	{ Ingots 1,182	{ Ingots 1,146	{ Ingots 2,486	{ Ingots 1,595	{ Ingots 1,144
	{ Ore 738	{ Ore 1,546	{ Ore ..	{ Ore ..	{ Ore ..
Victoria ..	{ Ingots ..	{ Ingots ..	{ Ingots ..	{ Ingots ..	{ Ingots ..
	{ Ore 135	{ Ore 113	{ Ore 84	{ Ore 80	{ Ore 115
Queensland ..	{ Ingots (b)	{ Ingots (b)	{ Ingots (b)	{ Ingots (b)	{ Ingots (b)
	{ Ore(a) 1,311	{ Ore 994	{ Ore 1,486	{ Ore 1,050	{ Ore 1,098
Western Australia ..	{ Ingots ..	{ Ingots ..	{ Ingots ..	{ Ingots ..	{ Ingots ..
	{ Ore 415	{ Ore 318	{ Ore 243	{ Ore 67	{ Ore 110
Tasmania ..	{ Ingots 2,256	{ Ingots 1,580	{ Ingots 1,310	{ Ingots 790	{ Ingots 679
	{ Ore (c)	{ Ore (c)	{ Ore (c)	{ Ore ..	{ Ore ..
Northern Territory ..	{ Ore (d)246	{ Ore (d)162	{ Ore (d)180	{ Ore (d) 83	{ Ore (d)79
VALUE.					
	£	£	£	£	£
New South Wales ..	548,876	416,623	413,794	163,451	154,698
Victoria ..	24,481	17,561	12,815	11,961	12,071
Queensland ..	251,755	143,167	252,054	98,471	99,758
Western Australia ..	76,952	47,269	49,449	6,485	10,930
Tasmania ..	488,798	395,794	369,362	130,257	112,407
Northern Territory ..	(d)41,432	(d)30,021	(d)27,610	(d)7,793	5,891
Total ..	1,432,294	1,050,435	1,125,084	418,418	395,755

(a) Dressed tin ore, about 70 % tin.

(b) Included with ore.

(c) Included with ingots.

(d) Year ending 30th June.

As the table shows, there was a further decline in the production of tin in 1922, the values being the lowest recorded for the quinquennium. The falling-off was due to low prices and high production costs, and in some instances to exhaustion of ore supplies. Dredging operations in certain districts were hampered by insufficiency of water. In New South Wales there was again a reduced output from dredging in the New England district. In Queensland all the tin treatment plants were idle for varying periods during the year.

2. **Sources of Production.**—(i) *New South Wales.* A large proportion of the output in New South Wales was obtained by dredging, the quantity so won in 1922 being 422 tons, valued at £41,467. Thirty-six pump and 2 bucket dredges, of a combined value of £201,450, were in operation during the year. In the Tingha division of the Peel and Uralla district the yield amounted to 370 tons, valued at £35,124. The Emmaville division in the New England district showed a yield of 363 tons, valued at £35,723. The Vegetable Creek mine in this area was, for many years, the chief producer of tin in the State, but the payable wash available was practically exhausted in 1921. In the Wilson's Downfall division, 45 tons, valued at £4,380, were raised. From the Torrington division 207 tons, valued at £20,657 were returned. The Ardlethan field, in the Lachlan division, produced ore and concentrates to the value of £6,628.

(ii) *Victoria.* The bulk of the production in 1922 was obtained by dredging and sluicing, the Cock's Pioneer Gold and Tin Co. in the Beechworth district contributing 113 tons, valued at £11,933, and Cameron's Woolshed Dredging Co. 1½ tons, valued at £138.

(iii) *Queensland.* The chief producing districts in Queensland during 1922 were Herberton, 493 tons, valued at £44,036 ; Kangaroo Hills, 294 tons, £26,184 ; Stanthorpe, 149 tons, £14,663 ; Cooktown, 107 tons, £10,086 ; Chillagoe, 45 tons, £3,807. The low prices of the metal in 1922 had a depressing effect on the industry, the production for the year being valued at £99,758 as compared with £252,000 in 1920. Prices improved towards the end of 1922 and led to renewed activity, particularly on the Kangaroo Hills field.

(iv) *Western Australia.* The export of tin ore for the State during 1922 amounted to 110 tons, valued at £10,930. The production of black tin from the Greenbushes field amounted to 16 tons, valued at £1,393, and from the Pilbara field 25 tons, valued at £2,446. Mining was practically at a standstill, owing to the low price of the metal. Deposits of tin occur in widely-separated localities in the Kimberley division, the Thomas River in the Gascoyne Valley, and at Poona and Coodardie on the Murchison goldfield.

(v) *Tasmania.* During 1922 the quantity of metallic tin won amounted to 679 tons, valued at £112,407. A reference to the preceding table shows a steady decline in production during the last five years. The decrease is accounted for by depletion of supplies, low market values of tin, and high production costs. The yield from the North-Eastern division, which in 1920 amounted to 604 tons, fell in 1921 to 392 tons, but improved slightly in 1922 to 403 tons. Of the total, 260 tons were contributed by the mines in the Pioneer and Gladstone districts, while 143 tons came from the Ringarooma, Derby, and Branxholme area. The yield in the Eastern division amounted to 119 tons, the St. Helen's Mines furnishing 50 tons. From the North-Western division the output was 122 tons, the bulk of it being raised by the Mt. Bischoff, with 116 tons. The production in the Western division was returned at 34 tons.

(vi) *Northern Territory.* The yield of tin ore in 1922 amounted to 79 tons, valued at £5,891. The collapse was due to the low market price of tin, coupled with the high cost of stores, increased treatment and transport charges, and depletion of existing deposits. Stanniferous deposits are found at various places, including Maranboy, Hayes Creek, Mt. Wells, Wolfram Camp, Mary River, Horseshoe Creek, Bynoe Harbour, Umbrawarra, and Mt. Ringwood. Two batteries for the treatment of tin ore have been erected by the Government, one at Maranboy, costing £20,163, and one at Hayes Creek, at an expense of £3,294.

3. *World's Production.*—According to *The Mineral Industry* the world's production of tin during each of the last five years was as follows. The figures have been slightly amended since last issue.

TIN.—WORLD'S PRODUCTION, 1918 TO 1922.

1918.	1919.	1920.	1921.	1922.
Tons. 122,451	Tons. 118,349	Tons. 120,713	Tons. 99,728	Tons. 128,586

The yields from the chief producing countries in 1922 were as follows :—

TIN.—PRODUCTION, CHIEF COUNTRIES, 1922.

Country.	Production.	Country.	Production.
	Tons.		Tons.
Malay States	37,788	Australia	2,657
Bolivia	31,942	Spain and Portugal	600
Banka	15,922	South Africa	328
Billiton, etc.	14,500	Cornwall	300
China	12,435		
Siam and India	6,500	Total	128,586
Nigeria	5,614		

Based on the results for the last three years, Australia's share of the world's tin production would appear to be about 2.8 per cent.

4. Prices.—The average price of the metal in the London market for the years 1918 to 1922 was as follows:—

TIN.—PRICES, 1918 TO 1922.

Year.			Price per Ton.			Year.			Price per Ton.		
			£	s.	d.				£	s.	d.
1918	..	..	329	11	2	1921	..	..	165	5	4
1919	..	..	257	9	8	1922	..	..	159	9	0
1920	..	..	296	1	7						

The year 1921 was a disastrous one for the tin miner, as the price of the metal dropped by over £130 per ton as compared with that in the preceding year. Moreover, the fall had been more or less continuous since the early months of 1920, thus forcing the poorer mines to close down. In Malaya, the alluvial miners tried to carry on by working for low wages, and, in some cases, for no return, but the depression proved longer than was expected, and it is stated by *The Mineral Industry* that the necessity for picking the eyes of mines has in some measure depleted the world's reserves of stanniferous ground. The depressing influence of the stocks held in the East also adversely affected the market. Coupled with this was the low level of consumption, the Continental demand being poor, while the industry in Great Britain was hampered by the coal strike, and imports into the United States were far below the average. In 1922, the London market opened at £168 15s., but fell to £139 in March. Thereafter prices generally improved to £183 15s. at the close of the year.

5. Employment in Tin Mining.—The number of persons employed in tin mining during the last five years is shown below:—

TIN MINING.—PERSONS EMPLOYED, 1918 TO 1922.

Year.	N.S.W.	Victoria.	O'land.	W. Aust.	Tas.	Nor. Tet.	Australia.
	No.	No.	No.	No.	No.	No.	No.
1918	2,352	52	1,110	292	1,260	190	5,256
1919	2,171	38	1,114	209	1,303	190	5,025
1920	1,822	48	920	187	1,318	120	4,415
1921	1,321	31	864	59	699	100	3,074
1922	1,090	13	659	31	620	120	2,533

Most of the tin in Victoria is produced by companies mining primarily for gold.

§ 7. Zinc.

1. Production.—(i) *New South Wales.* (a) *Values Assigned.* The production of zinciferous concentrates is practically confined to the Broken Hill district of New South Wales, where zinblende forms one of the chief constituents in the enormous deposits of sulphide ores. During the earlier years of mining activity on this field a considerable amount of zinc was left unrecovered in tailings, but from 1909 onwards improved methods of treatment resulted in the profitable extraction of the zinc contents of the accumulations at the various mines.

As the metallic contents of the bulk of the concentrates, etc., raised in the Broken Hill District are extracted outside New South Wales, the mineral industry of that State is not credited by the Mines Department with the value of the finished product. The figures given hereunder, therefore, refer to the quantity and value of the zinc concentrates actually exported during the years specified.

ZINC.—CONCENTRATES, ETC., EXPORTED FROM NEW SOUTH WALES, 1889 TO 1922.

Year.	Quantity of Zinc Concentrates, etc., Exported.	Value.	Year.	Quantity of Zinc Concentrates, etc., Exported.	Value.
	Tons.	£		Tons.	£
1889	97	988	1919	72,294	247,395
1891	219	2,622	1920	71,043	249,456
1899	49,879	49,207	1921	79,694	283,455
1918	87,019	295,413	1922	363,681	1,157,458

(b) *Local and Foreign Extraction.* A statement of the quantity of zinc extracted in Australia and the estimated zinc contents of concentrates exported overseas during the five years 1918 to 1922, will be found in § 18 hereinafter.

(ii) *Queensland.* At the Silver Spur mine at Texas, in the Stanthorpe division of Queensland, part of the ore is high in zinc and lead, but low in silver. Profitable extraction of the zinc and lead depends, however, on railway connexion with the mine. Zinc sulphide is produced by the Mount Garnet Mine in the Herberton district, and during 1916 several hundred tons of good quality ore were raised, but until a suitable treatment plant has been erected, it is stated that production cannot be economically undertaken.

(iii) *South Australia.* Zinc is known to exist in various localities in South Australia, but there has been no production during recent years.

(iv) *Other States.* During the year 1916, a small quantity of zinc, valued at £630, was produced in Western Australia, but there was no production recorded for subsequent years. The Tasmanian mineral returns for 1920 included an item of 9 tons of zinc ore, valued at £334, raised at the Swansea Mine, near Zeehan, but none was recorded in 1921 or 1922.

Investigations in regard to the Read-Roseberry zinc-lead deposits in Tasmania have proved the existence of 1,680,000 tons of ore, which, added to an estimated quantity of 915,000 tons of "probable" ore, make a total supply of 2,595,000 tons. It is stated that the metallurgical treatment of the ore can be successfully carried out, and that the deposits are amongst the richest and most important in the world.

The Electrolytic Zinc Co. at Risdon continued the treatment of calcines from Broken Hill, and during 1922 produced 23,517 tons of slab zinc, valued at £705,390. About 894 men were employed at these works.

2. *Prices.*—During the four years 1911 to 1914, the London price of zinc averaged £23 15s. per ton, ranging from £21 in 1914 to £26 3s. 4d. in 1912. Owing to the heavy demand and other circumstances arising out of the war, the prices in 1915 and 1916 reached the very high average of £67 11s. 1d. and £72 1s. 5d. per ton respectively. For 1917 the average recorded was £52 8s. 3d., for 1918, £54 3s. 7d., for 1919, £42 17s. 7d., for 1920, £44 7s. 5d., for 1921, £25 16s. 11d., and for 1922, £30 per ton.

§ 8. Iron.

1. *General.*—The fact that iron-ore is widely distributed in Australia has long been known, and extensive deposits have been discovered from time to time at various places throughout the States. It will appear, however, from what is stated below, that the utilization of these deposits for the production of iron and steel is, at present, confined to New South Wales.

2. *Production.*—(i) *New South Wales.* (a) *Extent of Deposits.* Iron ores of various composition are found widely distributed throughout the State, but some of the deposits are at present of no commercial importance on account of their small and scattered extent, or by reason of their distance from means of transport. Excluding deposits too far from existing railways, or too small to warrant exploitation, as well as aluminous ores, the quantity of iron ore available by quarrying has been set down as 15 million tons. There is, in addition, a large tonnage available by the more costly method of mining. Altogether, it appears probable that the total quantity available for smelting is about 53 million tons. The chief sources of supply during recent years were the deposits at Cadia, Carcoar, and Tallawang.

(b) *Lithgow Iron Works.* Reference to the events leading up to the establishment of ironworks at Lithgow will be found in earlier issues of the Year Book (see No. 3, p. 508). During 1922 the following materials were received at the blast furnaces: Iron ore, 110,972 tons; limestone, 30,397 tons; slag, 2,689 tons; and coke, 75,876 tons. The iron ore was raised from quarries at Tallawang, Cadia, and Coombing Park, and the pig iron produced therefrom amounted to 54,856 tons.

The following table shows the quantity and value of pig iron produced in New South Wales during the last five years from locally-raised ores only :—

PIG IRON.—PRODUCTION FROM LOCAL ORES, NEW SOUTH WALES, 1918 TO 1922.

Particulars.		1918.	1919.	1920.	1921.	1922.
Quantity	.. Tons	68,072	80,941	86,096	90,053	54,856
Value	.. £	350,000	445,175	645,720	639,376	248,909

The figures quoted above refer to production from *local* ores only, and as such credited to the New South Wales mineral industry. They do not, of course, represent the total production of pig iron in New South Wales, since, as shown in the succeeding paragraph, a considerable quantity of ore raised in South Australia and credited therefore to the mineral returns of that State is treated in New South Wales.

(c) *Newcastle Iron Works.* The Broken Hill Proprietary Company established works for the manufacture of iron and steel on a large scale at Newcastle, and operations were started early in 1915. The Company is utilizing the immense deposit of iron ore at the Iron Knob quarries in South Australia, which are connected with the seaboard at Whyalla, a distance of about 34 miles, by the Company's tramway. After being out of commission for approximately twelve months, owing to various industrial and economic difficulties, operations were resumed at the steel works in March, 1923. The ore quarried for the half year ended 30th November, 1923, amounted to 275,445 tons. Extensive limestone works and loading bin at Devonport, Tasmania, as well as quarries in New South Wales for dolomite, magnesite, etc., are also owned by the Company.

The output of pig iron for the half year ended 30th November, 1923, amounted to 150,849 tons, and of steel ingots to 147,115 tons. Further details in regard to the activities of these works in 1921 were given on page 347 of Official Year Book No. 15. The steel works possess three blast furnaces of a normal daily producing capacity of 1,300 tons, and a fourth furnace of 100 tons for the production of foundry iron. There are seven 65-ton basic open hearth furnaces capable of producing 8 to 10,000 tons of ingot steel weekly. The works are supplied with a 35-inch blooming mill for the production of blooms, plates, etc., a 28-inch rolling mill for the manufacture of heavy rails, structural steel, billets, etc., an 18-inch mill for making light rails, structural shapes, fishplates, and heavy sections of merchant bar and billets, a 12-inch mill and an 8-inch mill, each for merchant bars, etc., a continuous rod mill for the production of wire rods, and a fishplate mill. A steel foundry, containing one acid open hearth furnace, and a cupola furnace for iron castings, with a direct metal foundry which takes the hot metal from the blast furnaces, supply all necessary castings.

The Company also possesses 224 by-product coke ovens, and connected with this department are the tar, sulphate of ammonia, and benzol plants.

(d) *Iron Oxide, etc.* A quantity of iron oxide is purchased by the various gasworks for use in purifying gas, and it is also to some extent employed as a pigment, the output in New South Wales being drawn chiefly from the deposits in the Port Macquarie, Moss Vale and Yass Divisions. During 1922 the iron oxide raised amounted to 1,381 tons, valued at £1,745. The smelting companies utilize a certain amount of ironstone for fluxing purposes, the quantity raised in 1922 amounting to 980 tons, valued at £1,274.

(ii) *Victoria.* Iron ore has been located at various places in Victoria, particularly at Nowa Nowa in the Gippsland district, and at Dookie. A blast furnace was erected in 1881 near Lal Lal, on the Moorabool River, and some very fair quality iron was produced, which was used for truck wheels and stamper shoes at the Ballarat mines. The fall in the price of the metal, however, led to the closing of the works. In his report for 1905 the Secretary for Mines stated that without special assistance to the industry there does not seem to be any prospect of the deposits being profitably worked.

(iii) *Queensland.* Queensland possesses some extensive deposits of iron ore, which are mined chiefly for fluxing purposes in connexion with the reduction of gold and copper ores. During the year 1921, 4,061 tons of ironstone flux, valued at £5,976, were raised,

the bulk of which came from Iron Island in the Rockhampton district. No production was recorded in 1922. It is stated that Queensland possesses within its own borders an abundance of the ore, fuel, and fluxes required for the carrying on of a large ironworks. The important lodes on the Wild River are a promising source of supply for the proposed State iron and steel works.

(iv) *South Australia.* South Australia possesses some rich deposits of iron ore capable of being mined for an indefinite period. The best known deposit is the Iron Knob, a veritable hill of iron ore of high percentage, situated about 40 miles W.S.W. from Port Augusta. A recent survey places the probable reserves of ore in the Iron Knob and Iron Monarch deposits at 133 million tons, with an average content of 63.64 per cent iron. The Broken Hill company utilizes ore from this quarry at its ironworks at Newcastle, New South Wales, and the amount raised for the year 1921 was 506,993 tons, valued at £587,267, and for 1922 51,423 tons, valued at £58,177, the heavy fall in the latter year being due to the temporary closing of the works. It is estimated that the deposits in the Middleback Range contain 32 million tons of slightly higher grade than the Iron Knob ore.

(v) *Western Australia.* This State has some very rich deposits of iron ore, but owing to their geographical position, the most extensive fields at the present time are practically unexploited, the production in the State being confined chiefly to that needed for fluxing purposes. The ores are found over a stretch of country from Kimberley to Cape Leeuwin. Amongst the most important of the high-grade deposits are those at Yampi Sound in the Kimberley division, which are estimated to contain 97 million tons of very rich ore; Wilgie Mia, where the ore in sight is estimated at 27 million tons; Gabanintha, near Nannfne, with over a million tons above surface level, Mount Gibson, in the south-west corner of the Yalgoo gold-field, where there are about 10 million tons of ore adapted for steel manufacture by the acid process; and Koolyanobbing, near Southern Cross, where there is a very large deposit of high-grade micaceous hematite. The production of pyritic ore reported in 1922 amounted to 3,441 tons, valued at £4,203.

(vi) *Tasmania.* Probably the most extensive deposits of iron ore in Tasmania are those at Rio Tinto, Savage River. The ore is chiefly magnetite, containing over 65 per cent. iron, and is well situated for open cutting to a great depth. Estimates place the quantity of ore available at as high as 50 million tons. There is an immense deposit of red hematite at the Blythe River, near Burnie, the lode being over a mile in length, and up to 100 feet in width. Estimates as to the quantity of ore available vary from 17 to 30 million tons. In fairly close proximity to the Hampshire Railway Station there is a deposit of magnetite estimated to contain 20 million tons, while a deposit at the Tenth Legion mine in the Zeehan district is stated to contain 2 million tons. Deposits of brown oxide and magnetic iron ore containing $1\frac{1}{2}$ million tons are found in the Beaconsfield district. On the Dial Range there is a deposit of red hematite containing high grade ore. North-west of this outcrop is situated the Iron Cliffs lode, about 4 miles from Penguin. These two deposits are estimated to contain 700,000 tons. Extensive deposits of hematite and magnetite are found on the Nelson River, the outcrop being 100 feet wide over a large distance. The total quantity of iron ore available in Tasmania has been roughly estimated at 100 million tons.

The total production of iron ore in 1908 was 3,600 tons, valued at £1,600, all raised by the Tasmanian iron mine at Penguin, but since the closing down of that mine in 1909 there has been no further production. Iron pyrites for the manufacture of sulphuric acid and of manures is produced on the West Coast, the quantity raised in 1922 being 8,276 tons, valued at £18,620.

(It may be noted here that the Sulphur Bounty Act of 1923 provides for a bounty of £2 5s. per ton in respect of sulphur produced from Australian pyrites and other sulphide ores and concentrates.)

(vii) *Northern Territory.* Large bodies of rich ironstone have been discovered in various parts of the Territory, particularly between the Adelaide River and Rum Jungle. Owing to the lack of local coal, however, the deposits possess no immediate value.

3. *Iron and Steel Bounties.*—The local production of iron and steel has been encouraged by various legislative enactments (see Official Year Book No. 15, p 348). Under "The Iron and Steel Products Bounty Act 1922," bounties are payable on fencing wire,

galvanized sheets, wire-netting, and traction engines made in Australia. It is essential that these articles be made from materials produced and manufactured in Australia, unless imported material is authorized after enquiry and report by the Tariff Board. The total payments in any one financial year must not exceed £250,000. Rates of bounty are—for fencing wire and galvanized sheets, £2 12s. per ton; for wire-netting, £3 8s. per ton; and for traction engines from £40 to £90 each, according to brake horse-power.

4. **World's Production of Iron and Steel.**—The Australian production of iron and steel at present forms a very small proportion of the world output. According to The Statesman's Year Book, the estimated world's production of each commodity during the years specified was as follows :—

WORLD'S PRODUCTION OF PIG IRON AND STEEL.

Year.		Pig Iron.	Steel Ingots and Castings.
		Tons (000 omitted).	Tons (000 omitted).
1913	.. ..	77,182	75,019
1921	.. ..	34,700	42,487
1922	.. ..	51,938	63,098
1923	.. ..	64,580	72,573

Stated in millions of tons, the output of pig iron in the United States varied from 31 to 39½, and of steel from 31 to 44 during the years 1913 and 1923 respectively. For Great Britain the figures were pig iron 10 to 7, and steel 7½ to 8½. In pig iron the figures for Germany fell from 19 to 4, and in steel from over 18½ to 5. France returned about 5 million tons of pig iron and 4½ millions of steel in each of the years in question, and Belgium about 2½ million tons each of iron and steel in 1913 as against a little over 2 millions each in 1923.

§ 9. Other Metallic Minerals.

1. **Antimony.**—The production of antimony ore in New South Wales amounted in 1921 to 125 tons, valued at £900, the output being obtained in the Hillgrove and Kempsey divisions, but the low prices ruling in 1922 caused a cessation of mining during that year. Deposits of the mineral are also found in the Glen Innes and Drake divisions, and in other areas. The total quantity of antimony (metal and ore) raised in New South Wales up to the end of 1922 was 19,032 tons, valued at £344,588. The production of antimony concentrates in Victoria during 1922 amounted to 1,283 tons, valued at £22,966. The whole of the production came from ore raised by a company operating at Costerfield. In Queensland extensive deposits are found at Neerdie in the Wide Bay district, at Wolfram Camp, on the Hodgkinson field, on the Palmer River in the Ravenswood district, and at various places in the Herberton district. Ore has also been obtained in the Dividing Range near Herberton, and adjacent to some of the central tributaries of Emu Creek. A promising lode was recently discovered near Cooktown. Owing to the low price of the metal in 1919 production was practically negligible; while none was recorded in 1920, 1921, and 1922. In Western Australia lodes of stibnite carrying gold have been found in the Roeburne district. During 1917, 12 tons of antimony, valued at £258, were exported, but there was no subsequent production until 1920, when 3 tons, valued at £45, were exported. There was no record of production in 1921 and 1922.

2. **Arsenic.**—In New South Wales the production of arsenic in 1922 amounted to 291 tons, valued at £14,818, of which 268 tons were raised at the Ottery Mine in the Emmaville division, and small quantities were produced in the Bellingen, Moruya, Tumbarumba, and Tumut divisions. During 1917 the high price ruling for arsenic, and the urgency for the need of supplies in connexion with the destruction of prickly pear, led to the reservation by the Queensland Mines Department of an extensive area of arsenic-bearing deposits at Jibbenbar, in the Stanthorpe district. Production in

1922 amounted to 400 tons, valued at £21,320. There has been a strong demand for the product not only for the destruction of prickly pear, but for the manufacture of arsenical dip solutions and other purposes. In South Australia attention is being devoted to arsenic-bearing minerals at Woodside, at Westward Ho, near Mannahill, and on Kangaroo Island. During 1920 Western Australia exported 1,765 tons of arsenical ore, valued at £4,260. In 1921 the export fell to 7 tons, valued at £16, but there was an increase to 1,075 tons, valued at £1,784, in 1922.

3. **Bismuth.**—Ores of this metal are found in association with tungsten and molybdenum, and sometimes tin, in New South Wales, but owing to lack of a market the production of bismuth in 1922 was only 5 tons, valued at £939, of which 3 tons valued at £635 were obtained in the Torrington division. Ore was also raised in the Glen Innes, Oberon, Pambula, and Tenterfield divisions, but only a small quantity was treated. The total production to the end of 1922 was 773 tons, valued at £224,779. In Queensland wolfram and bismuth have been found in various districts, but owing to the low prices obtainable the chief centres of production—Mount Carbine, Wolfram, Bamford, etc.—were practically idle in 1922. In South Australia deposits are found at Balhannah, at Mount Macdonald, and at Murninnie on the shores of Spencer's Gulf. A small quantity of bismuth was exported from Western Australia in 1919, but none was recorded subsequently. In Tasmania a small quantity, valued at £21, was raised in 1921 by the S. & M. mine at Middlesex, but there was no production in 1922.

4. **Chromium.**—The output of chromite in New South Wales during 1922 was estimated at 529 tons, valued at £1,095, of which 449 tons were raised at Wood's Reef in the Barraba division, and 20 tons in the Cootamundra mining area. Chrome iron ore is found in Queensland in the Rockhampton district, and about 160 tons were raised in 1920 by the Mount Morgan Company at Glen Geddes, but there was no production in 1921 or 1922.

5. **Cobalt.**—This metal was found at Carcoar in New South Wales in 1889, and subsequently at Bungonia, Port Macquarie, and various other places. There was no export of cobalt since 1911, and the total produced since 1860 amounted in value to only a little over £10,000. In Queensland a rich deposit was opened up in 1920 in the Cloncurry area, and the production in 1922 amounted to 102 tons, valued at £20,332. Although the metal is a valuable one, greater development was hindered by the uncertainty of the demand.

6. **Lead.**—Lead mining *per se* is not practised to any extent in Australia, the supply of the metal being chiefly obtained in conjunction with silver. In New South Wales the Mines Department took credit in 1922 for 8,113 tons, valued at £194,712, and the production to the end of 1922 was taken as 327,000 tons, valued at £6,442,000. As stated previously, the metallic contents of the major portion of the silver-lead ores are extracted outside New South Wales, and these figures refer only to lead values assigned as the produce of the State. In Victoria, oxides, sulphides, and carbonates of lead are found in the reefs on most of the goldfields. The deposits are not, however, of sufficient extent to repay the cost of working. In Queensland the deposits are worked chiefly for the silver, copper or gold contents of the ore, the lead produced in 1922 amounting to 2,802 tons, valued at £66,391. Of this total the Chillagoe area produced 2,506 tons, valued at £59,390; the Herberton area, 137 tons, valued at £3,247; Etheridge, 80 tons, £1,883; and the Brisbane area 78 tons, valued at £1,835. Lead has been found at many places in South Australia, although, with few exceptions the lodes are not of great size. During 1922 pig lead exports from Western Australia amounted to 2,796 tons, valued at £69,528. Tasmanian lead production in 1922 was returned as 4,926 tons, valued at £118,257, of which the Zeehan mines contributed 1,405 tons, the North Mt. Farrell mines, 2,022 tons, Magnet, 1,319 tons, and Round Hill mines, 180 tons.

7. **Manganese.**—During 1922 the output of manganese ore in New South Wales amounted to 2,398 tons, valued at £7,194, the bulk of the production being raised in the Grenfell division. Small quantities were also raised in the Gulgong and Deepwater divisions, and 90 tons of ore were produced in the Tamworth division, but were not sold.

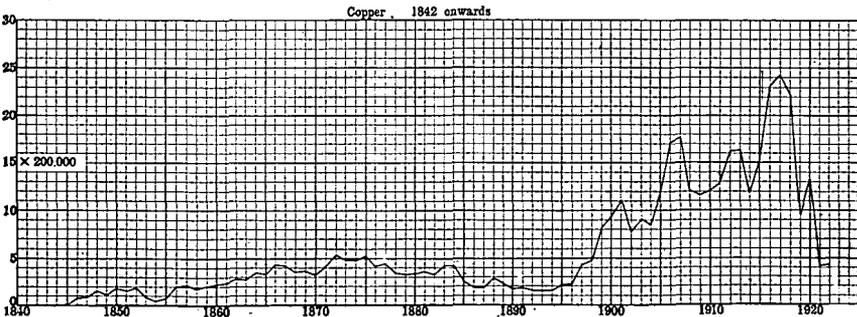
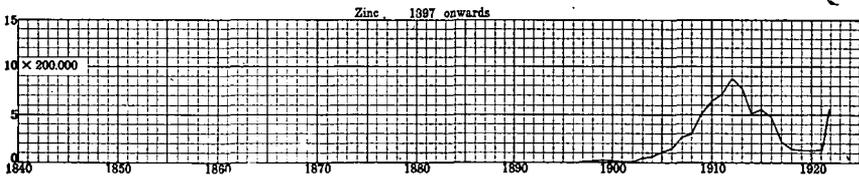
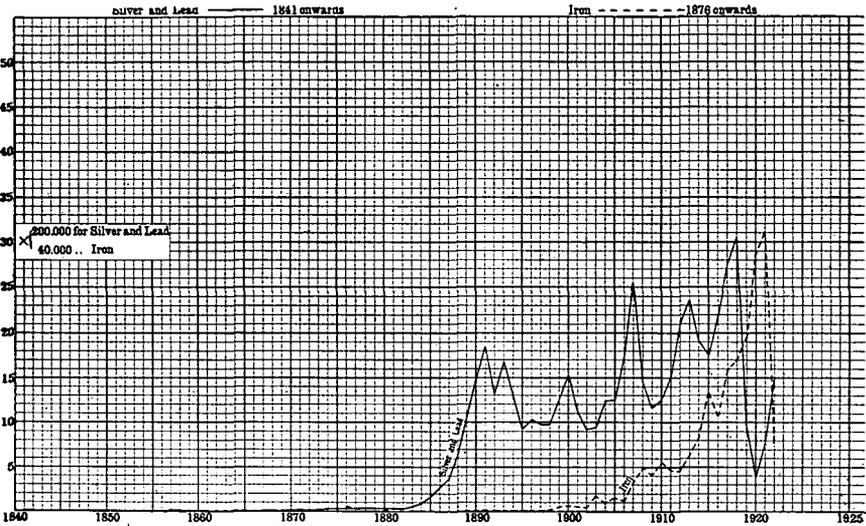
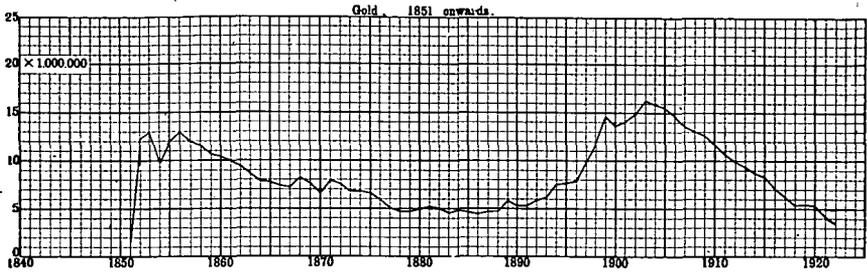
In Victoria the production amounted to 150 tons, valued at £930, raised in the Heathcote division. In Queensland there are extensive deposits of low-grade manganese ores in various places. High grade ore is not available in quantity, but the extensive deposits of medium grade at Kandanga should in future become a valuable asset in the steel industry. Production in 1922 amounted to 67 tons, valued at £352, raised in the Gympie division. Extensive deposits of the ore were mined at Boolcunda in South Australia some years ago. Deposits are being actively worked at the present time at Pernatty, Hawker, and Gordon. The production in 1922 was valued at £4,585. The Pernatty ore is of high grade, and being free from deleterious substances is specially suited for use in making high-grade steel. In Western Australia ores of the metal are found widely scattered, the black oxide being especially plentiful in the Kimberley district. Extensive deposits exist in a locality 18 miles north-west from Peak Hill. In the northern part of the Cue district the deposits cannot at present be profitably worked owing to absence of cheap transport facilities. The export of manganese in 1921 consisted of 16 tons, valued at £145, but none was recorded in 1922.

8. **Molybdenum.**—Owing to the lack of demand for the mineral there was no production of molybdenite in New South Wales during the year 1921, and only 2 tons, valued at £320, were raised in 1922 in conjunction with mining for bismuth. Prospecting was carried on to a small extent in the Dalmorton, Deepwater, Glen Innes, and Tenterfield divisions. The total production of molybdenite since its discovery is stated at 801 tons, valued at £206,000. In Victoria 591 tons of molybdenite, valued at £2,550, were raised in 1922 at Everton. The production in Queensland for 1922 was 1 ton, valued at £236, raised on the Chillagoe field. The Wombah mine near Mount Perry is regarded by geologists as one of the most promising sources of molybdenite in Australia. A small quantity was produced in 1914 from the mines in the Moonta district in South Australia, and the occurrence of the metal is reported from various other localities. At the Yelta mine bunches of the ore are scattered through the copper ore. Molybdenite occurs in small quantities at various localities in Western Australia, the production recorded in 1922 being valued at £500. In the Northern Territory, molybdenite is found at Yenberrie, where it is stated that the ore increases in richness as the workings become deeper.

9. **Radium.**—Deposits of radio-active ores occur in lode form in South Australia, and are believed to be richer and more extensive than any others so far located. There is an extensive deposit at Radium Hill, Olary, about 12 miles from Cutana railway siding, and another at Mount Painter in the Northern Flinders Ranges. Ores from both localities have yielded radium. Pure radium bromide was produced at a treatment plant in Sydney, and up to the end of 1914, when operations were suspended, 466 milligrammes were extracted. A company has recently been formed in Melbourne to exploit the radio-active ores in both localities, and hopes are entertained that Australia will become the largest producer of the precious mineral.

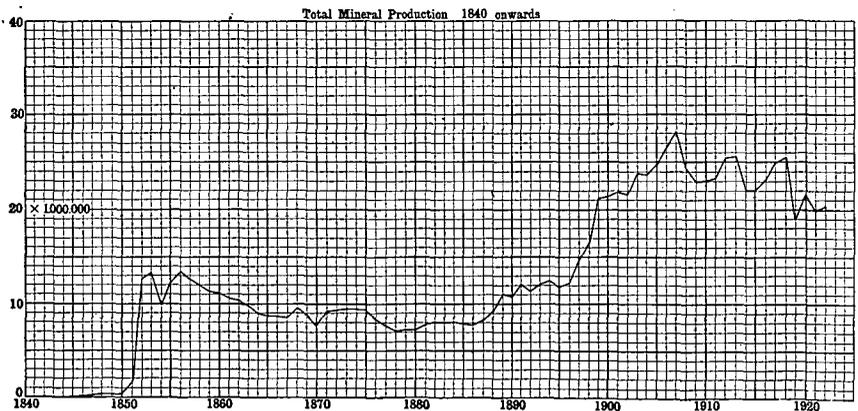
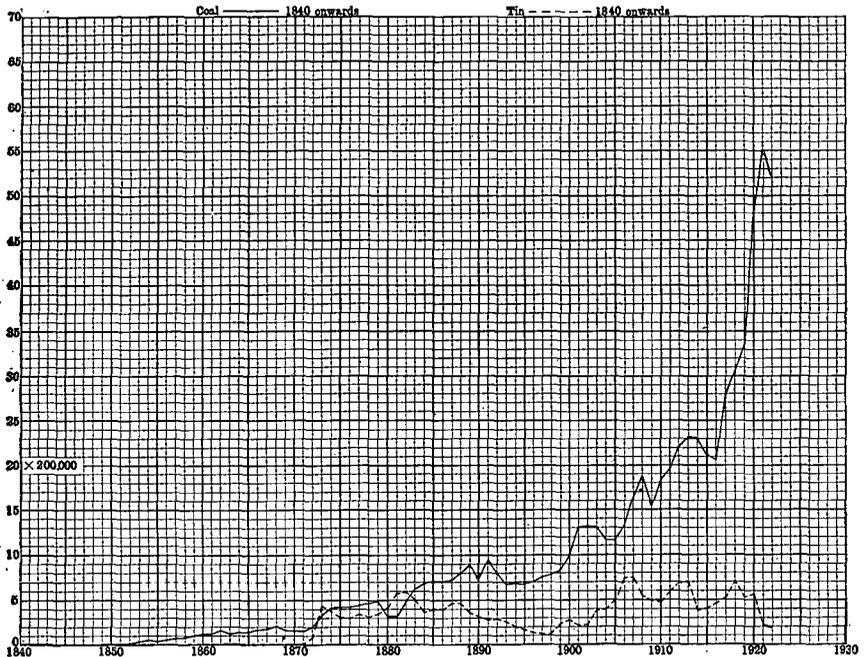
10. **Tungsten.**—Wolfram and scheelite, the principal ores of tungsten, are both mined to some extent in New South Wales, but the low prices obtainable caused a cessation of mining activity in this direction in 1921 and 1922. A large proportion of the total production from tungsten ores was obtained from the wolfram worked at Torrington. The deposits at Hillgrove were the principal source of scheelite. In Victoria the production of wolfram was returned in 1920 as $7\frac{1}{2}$ tons, valued at £355, yields being obtained at Mount Murphy and the Tambo River, but there was no subsequent production. In Queensland, tungsten ores are found in several districts, but owing to low prices production in 1922 was practically negligible. (See also "Bismuth.") A deposit of wolfram was discovered near Yankalilla, in South Australia, as far back as 1893, but the production up to date has been small. It is believed that careful examination will lead to increased production from the deposits at Callawonga Creek. There was no production of tungsten minerals in 1922 in Western Australia. Tungsten ores are commonly met with in the gold reefs, and both wolfram and scheelite have been recorded as occurring in several widely-separated localities. In the Northern Territory wolfram is found at Hatches Creek, Wauchope Creek, Wolfram Creek,

VALUES OF THE PRINCIPAL MINERALS PRODUCED—AUSTRALIA, 1842 TO 1922.



EXPLANATION.—The values shown are those of the total Australian production of certain of the most important minerals in successive years from 1840 to 1922.

The base of each small square represents an interval of one year, and the vertical height represents in the case of gold £1,000,000; in the case of silver and lead, zinc, and copper £200,000; and in the case of iron, £40,000.

VALUES OF PRINCIPAL MINERALS PRODUCED—AUSTRALIA, 1840 TO 1922—*continued.*

EXPLANATION.—The values shown are those of the total Australian production of certain of the most important minerals in successive years from 1840 to 1922.

The base of each small square represents an interval of one year, and the vertical height represents in the case of coal and tin £200,000, and in the case of total mineral production £1,000,000.

Hidden Valley and Yenberrie. Numerous samples of high grade ore have been obtained at the Frew River in Central Australia. The production in 1922 amounted to 16 tons, valued at £560, raised at Hatches Creek. Wolfram is mined at various points in Tasmania, the production for 1922 being 19 tons, valued at £1,024, obtained chiefly at the Avoca mines. Scheelite has been discovered on King Island in Bass Strait, but there was no production in 1922.

11. Other Metals.—In addition to the metals enumerated above there is a large number of others occurring in greater or less degree, while fresh discoveries are being constantly reported.

§ 10. Coal.

1. Production in each State.—A historical account of the discovery of coal in each State will be found in preceding issues of the Year Book. (See No. 3, pp. 515-6.) The quantity and value of the production in each State, and in Australia, during the five years 1918 to 1922, are given in the table hereunder :—

COAL.—PRODUCTION, 1918 TO 1922.

Year.	N.S.W.	(a)Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
QUANTITY.							
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1918 ..	9,063,176	439,575	983,193	..	337,039	60,163	10,833,146
1919 ..	8,631,554	423,945	931,631	..	401,713	66,253	10,455,096
1920 ..	10,715,999	442,241	1,109,913	..	462,021	75,429	12,805,603
1921 ..	10,793,387	514,859	954,763	..	468,817	66,476	12,798,302
1922 ..	10,183,133	559,284	958,519	..	438,443	69,238	12,208,617
VALUE.							
	£	£	£	£	£	£	£
1918 ..	4,941,807	349,696	572,305	..	204,319	37,676	6,105,803
1919 ..	5,422,846	372,075	614,307	..	270,355	47,004	6,726,587
1920 ..	7,723,355	464,739	841,551	..	350,346	64,005	9,443,996
1921 ..	9,078,388	603,323	831,483	..	407,117	63,446	10,983,757
1922 ..	8,507,946	664,251	840,472	..	381,555	61,016	10,455,240

(a) Exclusive of brown coal.

The figures for Victoria quoted above are exclusive of brown coal, the quantity and value of which during the last five years were as follows :—

BROWN COAL.—PRODUCTION, VICTORIA, 1918 TO 1922.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Tons.	£		Tons.	£
1918 ..	66,200	17,944	1921 ..	79,224	31,074
1919 ..	111,628	34,542	1922 ..	90,402	31,179
1920 ..	162,682	64,180			

2. **Distribution and Quantity of Coal in each State.**—(i) *New South Wales.* The collieries in the Northern, Southern, and Western coal-fields are contained in an area of less than 1,000 square miles, and the amount of coal available therein is estimated at 20,000,000,000 tons.

In addition to this quantity of high-grade coal, it is believed that 40,000,000,000 tons of good coal may be won in the remaining 15,000 square miles comprising the Coal Measures area.

Further, the quantity of inferior coal which may be brought to the commercial stage by washing and other means is set down provisionally at 60,000,000,000 tons.

The combined total of these estimates reaches 120,000,000,000 tons, of which the actual reserves of good coal may be stated at 20,000,000,000 tons.

According to Mr. E. F. Pittman, the coal-bearing rocks of New South Wales may be classified as follows:—

COAL-BEARING ROCKS OF NEW SOUTH WALES.

Geological Age.	Maximum Thickness of Coal-bearing Strata.	Locality.	Character of Coal.
I. Tertiary—Eocene to Pliocene ..	Approx. 100 ft.	Kiandra, Gulgong, and Chouta Bay	Brown coal or lignite
II. Mesozoic—Triassic or Trias-Jura	2,500 ,,	Clarence and Richmond Rivers	Coal suitable for local use only
III. Palæozoic—Permo-Carboniferous	13,000 ,,	Northern, Southern, and Western Coalfields	Good coal, suitable for gas, household and steaming
IV. Palæozoic—Carboniferous ..	10,000 ,,	Stroud, Bullah Dellah	Very inferior coal, with bands; of no value

In regard to the Tertiary deposits, it may be noted that no serious attempt has been made to use the coal as fuel in New South Wales. At Kiandra a deposit of lignite was found to possess a maximum thickness of 30 feet, but as a general rule the seams vary from 3 to 4 feet in thickness. The Triassic or Trias-Jura deposits in the Clarence and Richmond districts contain numerous seams, but the coal is largely intersected by bands, while its high percentage of ash renders it unfit for use as fuel for industrial purposes. These beds extend under the great western plains, but the presence of artesian water precludes the possibility of their being worked. The Clarence basin extends into Queensland, and at Ipswich thick and valuable seams of coal are worked. It is in the Permo-Carboniferous division that the great productive coal seams of the State are found, the area which they cover being estimated at about 16,550 square miles. The deepest part of the basin is somewhere in the vicinity of Sydney, where the "Sydney Harbour Colliery" worked the top seam at a depth of 2,884 feet. It is stated that the coal is specially suitable for coke manufacture. The mine, which is the deepest coal mine in Australia, has been idle for some years, but a new company has been formed to re-open it. There was, however, no production in 1922. Towards the north, south and west the seams rise towards the surface, and outcrop in the neighbourhood of Newcastle, Bulli and Lithgow. The coal from the various districts embraced in this division differs considerably in quality—that from the Newcastle district being especially suitable for gas-making and household purposes, while the product of the Southern (Illawarra) and Western (Lithgow) is an excellent steaming coal. At the present time the Greta coal seams are being extensively worked between West Maitland and Cessnock, and this stretch of country, covering a distance of 15 miles, is now the most important coal-mining district in Australasia. The Permo-Carboniferous measures have in various places been disturbed by intrusions of volcanic rocks, which in some instances have completely cindered the seams in close proximity to the intrusive masses, while in other instances the coal has been turned into a natural coke, portion of which realized good prices as fuel.

The table hereunder gives the yields in each of the three districts during the five years 1918 to 1922 :—

COAL.—PRODUCTION IN DISTRICTS, NEW SOUTH WALES, 1918 TO 1922.

District.	1918.	1919.	1920.	1921.	1922.
	Tons.	Tons.	Tons.	Tons.	Tons.
Northern	5,966,926	5,629,253	7,320,510	7,493,002	7,156,921
Southern	1,984,578	1,826,574	1,902,889	2,062,958	1,878,594
Western	1,111,672	1,175,727	1,492,600	1,237,427	1,147,618
Total	9,063,176	8,631,554	10,715,999	10,793,387	10,183,133

The output in 1921 was the highest yet recorded, the decrease in 1922 being to some extent accounted for by the closing down of the steel works at Newcastle.

(ii) *Victoria. (a) Black Coal.* The deposits of black coal in Victoria occur in the Jurassic system, the workable seams, of a thickness ranging from two feet three inches to six feet, being all in the Southern Gippsland district. It is stated that the actual reserves of bituminous coal amount to about 15 million tons, or, including seams 2 feet and over at depths between 4,000 and 6,000 feet to 25 million tons. The tonnages of extractable black coal in the Korumburra, Jumbunna and Outtrim districts are given as 1,305,000 tons, 600,000 tons, and 160,000 tons respectively, while the Wonthaggi area is capable of yielding about 20 million tons.

The output of black coal from the chief Victorian collieries during the last five years was as follows :—

BLACK COAL.—PRODUCTION, VICTORIA, 1918 TO 1922.

Year.	State Coal Mine.	Outtrim Coal Syndicate.	Jumbunna Coal Company.	Coal Creek.	Anstral Coal.	Powlett North Woolamai.	Sunbeam Collieries.	Total Production.	Value.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	£
1918 ..	389,794	..	16,533	2,378	15,419	11,975	3,476	439,575	349,696
1919 ..	361,871	..	21,716	1,465	11,824	22,335	4,734	423,945	372,075
1920 ..	376,285	..	19,644	753	12,260	23,310	9,989	442,241	464,739
1921 ..	451,255	3,021	13,284	595	10,018	20,255	16,431	514,859	603,323
1922 ..	511,174	1,947	15,423	..	12,570	..	9,770	(a)559,284	664,251

(a) Includes also Cardiff Colliery, 3,438 tons; South Gippsland Coal Co., 2,889 tons; Outtrim Extended, 1,813 tons; Gippsland Coal Co., 180 tons; and Strzelecki Co-operative, 30 tons.

(b) *Brown Coal.* Deposits of brown coal and lignite of immense extent occur in gravels, sands, and clays of the Cainozoic period throughout Gippsland, Mornington Peninsula, Werribee Plains, Gellibrand, and Barwon and Moorabool basins. In the Latrobe Valley, the beds reach a thickness of over 800 feet. When dried, the material makes good fuel, but owing to its excessive combustibility and friability requires to be consumed in specially constructed grates. Its steaming value is equal to about half that of the Wonthaggi coal. Some large factories already have adopted brown coal for firing boilers, and there is also a fair demand for the product by householders. In 1917 an Advisory Committee appointed to report on the brown coal deposits of Victoria recommended the establishment of an open-cut mine at Morwell in connexion with a comprehensive scheme of electrical power generation and transmission, as well as for the supply of brown coal for other requirements. The recommendations of this Committee were incorporated in the "Electricity Commissioners Act" of 1918. The Commission is actively engaged in the work of opening up the Morwell deposits, and the product will be utilized for the generation of electricity, which will be transferred to Melbourne and to

other towns in Victoria within economic distance. A briquetting plant estimated to cost £400,000 is in course of construction. The capacity of this plant will be about 350 tons per day. A township has been established at Yallourn, with provision for an ultimate population of 3,000. On the 30th June, 1922, there were 1,364 employees engaged on the various works of the Commission as follows:—At Yallourn, 943; Transmission Lines, 126; Metropolitan Works, 295. Based on the results from boring, it has been estimated that 10,378 million tons of brown coal are available in the various beds, the bulk of it being in the Morwell and Traralgon areas, which each contain approximately 5,000 million tons.

The brown coal produced in Victoria is raised chiefly at the State Mine at Morwell, where the output in 1922 amounted to 189,887 tons. During the year 515 tons were also raised by the Victorian Central Coal and Iron Co. at Lal Lal.

(iii) *Queensland.* The coal-bearing strata in Queensland are of vast extent and wide distribution, deposits being found in many portions of the Central and Southern Districts, and in a few localities in the Northern and Western Districts. On the south-eastern portion of the seaboard the mineral occurs over a length of 200 miles, whilst inland there is an uninterrupted stretch of coal measures extending over a distance of 600 miles. The geologically surveyed coal areas cover 73,000 square miles, of which 20,000 square miles are made up of recognized coal-fields, the balance consisting of lands known to contain coal but not yet sufficiently examined. Geologically the coal measures belong to the Mesozoic and Palaeozoic ages, the systems represented being the upper cretaceous (Desert Sandstone and Rolling Downs); Trias-Jura (Ipswich and Burrum), and Permo-Carboniferous (Tolmies, Clermont, Dawson, and Mackenzie). Most of the coal supplies are obtained from the Trias-Jura measures, the Cretaceous deposits being of minor importance. The inland Permo-Carboniferous areas have not been exploited to any great extent, and their greater development depends on the provision of railway facilities. It is stated that the actual coal reserves in Queensland amount to about 412 million tons, while the probable reserves are set down at over 2,201 millions. Hydrous coals occur at Callide, Hughenden, and Waterpark Creek; gas coals are well represented by the deposits at Walloon, Warwick, Waterpark, and Dalby; the best steam coals are found at Burrum, Ipswich, Styx River, and Clermont. The Ipswich and Burrum coals are well adapted for coke-making, as also are some of the coals from Styx River, Dalby, Warwick, and Clermont.

The distribution of production during the last three years was as follows:—

COAL PRODUCTION.—QUEENSLAND, 1920 TO 1922.

Districts.	1920.	1921.	1922.
	Tons.	Tons.	Tons.
Ipswich	763,590	666,236	579,484
Darling Downs	102,074	94,044	93,524
Wide Bay and Maryborough	61,170	69,633	79,305
Rookhampton (central)	10,522	30,719	68,075
Clermont	145,001	75,549	104,141
Bowen (State Coal Mine)	3,914	2,138	11,806
Mount Mulligan (Chillagoe)	23,642	16,444	22,484
Total	1,109,913	954,763	958,519

The industry was subject to periods of slackness in 1921, particularly in the latter part of the year, and this is reflected in the smaller output from the principal districts, Ipswich and Clermont.

Operations were commenced at the State Coal Mine on the Bowen field in March, 1919. The coal is of excellent quality and is well suited for coking. With the completion of the railway to the field, it is anticipated that supplies of coke will be forwarded to

the smelters at Chillagoe, Irvinebank, and Cloncurry, the coke for which has hitherto been obtained chiefly from New South Wales. The line was opened for traffic on the 24th August, 1922. Coal of excellent quality is raised from the State Coal Mine at the Styx River, in the Rockhampton division. This coal has been used with entirely satisfactory results on the ships of the Australian Navy. There is also a State Coal Mine at Baralaba, in the Mount Morgan area.

(iv) *South Australia.* Thin seams of black coal similar to the Jurassic coal of Victoria have been proved by a bore at Robe, but the depth at which the seams were located, *i.e.*, between 2,830 feet and 3,950 feet, renders exploitation thereof unlikely. The seams of sub-bituminous coal at Kuntha Hill, 110 miles north of Marree, and at Lake Phillipson, are of good quality, but too far away from existing means of transport. At Leigh Creek there is a very large deposit, only partly explored, of sub-bituminous coal, but it is 170 miles distant from the nearest port. The chief hope for its utilization lies in its employment in pulverized form for railway purposes. At Noarlunga, 25 miles by rail from Adelaide, the proved lignite deposits contain 1,438,000 tons. The deposits at Moorlands, 87 miles by rail from the capital, contain an estimated quantity of 8,175,000 tons. At Clinton, 55 miles by sea from Port Adelaide, boring has proved the existence of 32,384,000 tons. Bores at Inkerman, 58 miles by rail from Adelaide, have revealed an estimated deposit of 10,701,000 tons. The mineral has also been located at Hope Valley, 8 miles by road from Adelaide. Altogether, the total reserves of lignitic fuel exceed 50 million tons, and further research will undoubtedly considerably increase this figure.

(v) *Western Australia.* The coal seams in Western Australia belong to the Carboniferous, Mesozoic, and Post-tertiary ages. Most of the coal contains a large proportion of moisture, and belongs partly to the hydrous bituminous and partly to the lignite class. The only coalfield at present worked is at Collie, in the Permo-Carboniferous beds. The area occupied by the coal measures is approximately 50 square miles, and the beds attain a thickness of over 2,000 feet, the coal seams totalling 137 feet. Two distinct types of coal, designated respectively the Proprietary and Collie Burn, have been recognized. The former is dull and porous, with a thinly-banded structure and much "mother of coal," and is characterized by a tendency to crumble on exposure, by its free burning, and lack of smoke. The Collie-Burn type is bright and compact, less laminated, almost free from mother of coal, clear and firm, and, while burning less freely, gives off an appreciable amount of smoke.

Estimates place the amount of available coal on the field to a depth not exceeding 2,000 feet at 3,500 million tons. About 5½ miles north-east of Wilga, on the Donnybrook-Preston Valley Railway, a deposit of coal occurs which appears to be an extension of the Collie field. Its area, however, has not yet been determined.

Beds of Permo-Carboniferous coal are found in the Irwin River area, and a seam believed to be a northern prolongation of the Irwin River measures has been located in the valley of the Greenough River. Coal has also been found at Fly Brook, one of the branches of the Donnelly River, on the South Coast, and in the neighbourhood of the Vasse River, which flows into Geographe Bay.

Other discoveries have been made at Millbrook on the Blackwood River, and in the valley of the Fitzroy River, in the Kimberley area.

The production from the five collieries situated at Collie amounted in 1922 to 438,443 tons, as compared with 468,817 tons in 1921.

(vi.) *Tasmania.* The commercial value of the Tasmanian coals varies according to their age, the oldest, *i.e.*, the Permo-Carboniferous, being of much greater value than the youngest, *i.e.*, the Tertiary. At present there are not sufficient data available regarding the extent and distribution of the Tertiary deposits, although it is known that they occur in all quarters of the island, and that some of them contain workable seams. Both the Trias-Jura and Permo-Carboniferous coals are valuable for domestic purposes, but the Trias-Jura seams are thicker and more extensive, and hence more largely worked. Permo-Carboniferous coals have been mined for many years for domestic purposes at Mersey, and the Preolenna and Barn Bluff fields contain coals of high potential value. The total

quantity of coal available for payable extraction has been estimated at approximately 135 million tons, or on the basis laid down by the International Geological Congress, 125 million tons actual reserve, and 123 millions probable reserve.

Of the total output in 1922, amounting to 69,238 tons, the Cornwall and Mt. Nicholas Collieries in the North-eastern Division raised 38,702 and 26,554 tons respectively. About 1,600 tons were produced from the Cardiff-Jubilee Colliery, and smaller quantities from Spreyton, York Plains, Illamatha, Catamaran, and Fingal.

3. Production in Various Countries.—The total known coal production of the world in 1922 amounted to about 1,189 million tons, towards which Australia contributed over 12 million tons, or about 1 per cent. The following table shows the production of the British Empire and the chief foreign countries in units of 1,000 tons during each of the five years from 1918 to 1922 where the returns are available. The figures for the British Empire and the United States are extracted from the official publications of the various countries, while those for other countries are taken from the Official Monthly Bulletin of Statistics, published by the League of Nations. The production of lignite is included in those countries in which it is raised:—

COAL PRODUCTION.—BRITISH EMPIRE, 1918 TO 1922.

Year.	United Kingdom.	British India.	Canada.	Australia.	New Zealand.	Union of S. Africa.
	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.
1918	227,700	20,700	13,400	10,900	2,000	8,800
1919	229,800	22,600	12,200	10,500	1,800	9,200
1920	229,500	17,100	14,400	12,800	1,800	10,200
1921	163,200	18,300	10,500	12,800	1,800	10,200
1922	249,600	18,200	10,000	12,200	1,900	8,700

COAL PRODUCTION.—FOREIGN COUNTRIES, 1918 TO 1922.

Year.	Germany.	Belgium.	France.	Czecho-Slovakia.	Poland.	Netherlands.	Japan.	United States.
	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.	1,000 tons.
1918	257,100	13,700	25,800	..	..	3,300	27,600	605,500
1919	207,100	13,200	21,500	27,000	..	3,400	30,800	494,600
1920	239,100	22,000	34,100	30,300	6,300	3,900	28,800	587,300
1921	255,900	21,400	37,900	32,600	7,500	3,900	25,800	441,600
1922	262,900	20,900	42,500	28,400	21,800	4,500	24,200	413,000

About half the production in Germany, and more than half that of Czecho-Slovakia, was represented by lignite. As a result of the conditions of the Versailles Treaty Germany has been transformed temporarily from a bituminous coal producing country into one mainly turning out lignite. So far as Central Germany is concerned, the production of lignite increased from 35 million tons in 1913-14 to about 60 millions in 1922-23, more than half the output being converted into briquettes.

4. Exports.—The exports of coal from Australia are chiefly confined to New South Wales.

The total quantity of coal of Australian production (exclusive of bunker coal) exported to other countries in 1922-3 was 1,114,115 tons, valued at £1,200,167, all of which, with the exception of 25 tons, was exported from New South Wales.

In the following table will be found the quantity and value of the exports from New South Wales, during the last five years. The figures are given on the authority of the Mines Department of that State, and include both bunker coal and coal exported from New South Wales to other States.

COAL.—EXPORTS, NEW SOUTH WALES, 1918 TO 1922.

Year	1918.	1919.	1920.	1921.	1922.
Quantity, 1,000 tons	3,422	3,504	4,987	5,525	5,239
Value, £1,000	2,525	2,919	4,591	5,794	5,929

Arranged in order of importance the principal oversea countries to which coal was exported from New South Wales during the year 1922-23 are as shown hereunder. The quantity and value refer strictly to exports, and exclude bunker coal:—

COAL.—DESTINATION OF OVERSEA EXPORTS, NEW SOUTH WALES, 1922-23.

Country.	Quantity.	Value.	Country.	Quantity.	Value.
	Tons.	£		Tons.	£
New Zealand	394,701	428,313	Malaya (British)	43,967	48,067
Philippine Islands	139,194	150,988	Peru	18,894	20,732
United States	123,504	134,351	New Caledonia	17,267	19,158
Chile	107,351	112,849	Fiji	16,419	17,181
India	104,013	112,446	Ceylon	6,159	6,466
Netherlands East Indies	73,170	76,519	Gilbert and Ellice Islands	5,067	5,239
Hawaiian Islands	54,706	56,065	New Guinea	2,629	3,721

The quantity of bunker coal taken from Australia by oversea vessels in 1922-23 was about 1,496,000 tons, of which 1,300,000 tons were supplied by New South Wales.

The distribution of the total output from New South Wales collieries during the last five years was as follows, the particulars given of quantity exported including coal shipped as bunker coal:—

COAL.—DISTRIBUTION OF OUTPUT, NEW SOUTH WALES, 1918 TO 1922.

Year.	Exports to Australian Ports.	Exports to Foreign Ports.	Local Consumption.	Total.
	Tons.	Tons.	Tons.	Tons.
1918	2,697,033	724,643	5,641,500	9,063,176
1919	1,891,317	1,611,701	5,128,536	8,631,554
1920	2,270,556	2,716,235	5,729,208	10,715,999
1921	2,752,810	2,771,949	5,268,628	10,793,387
1922	2,841,253	2,398,144	4,943,736	10,183,133

Of the total coal exports from New South Wales, amounting in 1922 to 5,239,000 tons, about 4,550,000 tons were shipped from the port of Newcastle.

The figures quoted above are given on the authority of the New South Wales Mines Department.

5. Consumption in Australia.—An estimate of the consumption of coal in Australia may be arrived at by adding the imports to the home production, and deducting the exports (including bunker coal taken by oversea vessels). The following table shows the consumption computed in the manner specified, for the last five years:—

COAL.—CONSUMPTION, AUSTRALIA, 1918 TO 1922.

Year.	Quantity of Coal Consumed.		
	Home Produce.	Produce of Other Countries.	Total.
	Tons.	Tons.	Tons.
1918	9,866,323	23,777	9,890,100
1919	9,036,623	64,673	9,101,296
1920	10,132,442	26,828	10,159,270
1921	9,776,978	9,457	9,786,435
1922	9,531,274	46,620	9,577,894

The bunker coal taken away in 1922 was estimated at 1,497,000 tons.

6. Prices.—(i) *New South Wales*. The price of New South Wales coal depends on the district from which it is obtained, the northern (Newcastle) coal always realizing a much higher rate than the southern or western product. The average rate in each district during the last five years was as follows:—

COAL.—PRICES, NEW SOUTH WALES, 1918 TO 1922.

Year.	Northern District.		Southern District.		Western District.	
	Per ton. s. d.		Per ton. s. d.		Per ton. s. d.	
1918	11	8.03	9	10.32	8	8.04
1919	13	5.81	11	9.64	9	4.19
1920	15	2.95	13	4.45	11	8.01
1921	17	6.75	16	6.00	12	10.46
1922	17	5.62	16	3.47	12	8.00

(ii) *Victoria*. In Victoria the average price of coal in 1918 was 15s. 11d.; in 1919, 17s. 7d., in 1920, 21s.; in 1921, 23s. 5d.; and in 1922, 23s. 9d. per ton. These averages are exclusive of brown coal, the production of which in 1922 was valued at 6s. 11d. per ton.

(iii) *Queensland*. Prices in the principal coal-producing districts during the last five years were as follows:—

COAL.—PRICES, QUEENSLAND, 1918 TO 1922.

District.	Value at Pit's Mouth.									
	1918.	1919.	1920.	1921.	1922.					
	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.	Per ton. s. d.					
Ipswich	11	0	12	7	14	7	16	6	16	8
Darling Downs	13	5	14	10	16	7	18	10	18	11
Wide Bay and Maryborough	16	9	19	2	23	3	27	3	27	2
Rockhampton	12	4	13	4	16	1	15	6	16	5
Clermont	10	5	11	2	13	0	14	4	13	10
Bowen (State Coal Mine) .. .. .	..	..	15	0	15	10	16	3	16	1
Mount Mulligan (Chillagoe)	16	6	17	8	19	0	19	10	20	0
Average for State	11	8	13	2	15	2	17	5	17	6

The readjustment of prices and wages in the industry was responsible for the increases in the averages during the last four years.

(iv) *Western Australia*. The average price of the Collie (Western Australia) coal during the last five years was as follows:—In 1918, 12s. 1d.; in 1919, 13s. 5d.; in 1920, 15s. 2d.; in 1921, 17s. 4d.; and in 1922, 17s. 5d. per ton.

(v) *Tasmania*. The average price per ton of coal at the pit's mouth in Tasmania for the five years 1918 to 1922 was:—In 1918, 12s. 6d.; in 1919, 14s. 2d.; in 1920, 16s. 11½d.; in 1921, 19s. 1d.; and in 1922, 17s. 7d. per ton.

7. Prices in the United Kingdom.—During the five years 1918 to 1922 the average value of coal at the pit's mouth in the United Kingdom was:—In 1918, 20s. 11d.; in 1919, 27s. 4d.; in 1920, 34s. 7d.; in 1921, 26s. 2d.; and in 1922, 17s. 7d. per ton.

8. Employment and Accidents in Coal Mining.—The number of persons employed in coal mining in each of the States during the year 1922 is shown below. The table also gives the number of persons killed and injured, with the proportion per 1,000 employed, while further columns are added showing the quantity of coal raised for each person killed and injured, this being a factor which must be reckoned with in any consideration of the degree of risk attending mining operations. A further table gives the rate of fatalities during the last five years.

According to the report of the Chief Inspector of Mines for Great Britain, the average death-rate per 1,000 miners from accidents in coal mines during the quinquennium 1915-19 was 1.27, while, as shown in the table following, the rate for Australia for the quinquennium, 1918-1922, was 1.57. In the United States the fatality rate per 1,000 employees, as stated in "The Mineral Industry," was 3.94 in 1918, 4.39 in 1919, and 3.63 in 1920.

COAL MINING.—EMPLOYMENT AND ACCIDENTS, 1922.

State.	Persons Employed in Coal Mining.	No. of Persons.		Proportion per 1,000 Employed.		Tons of Coal Raised for each Person.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales ..	21,634	12	86	0.55	3.98	848,600	118,400
Victoria ..	1,963	..	11	..	5.60	..	59,100
Queensland ..	2,443	5	19	2.05	7.78	191,700	50,400
South Australia ..	20	..	..	..	..	..	..
Western Australia ..	744	1	63	1.34	84.68	438,400	7,000
Tasmania ..	253	..	2	..	7.91	..	34,600
Total ..	27,057	18	181	0.67	6.69	683,300	68,000

The figures for New South Wales include a small number of shale miners. Owing to lack of uniformity in the definition of "injury," the figures relating to persons injured possess little value.

The next table shows the average number of miners employed, the number of fatalities, and the rate per 1,000 during the quinquennium 1918-22:—

COAL MINING.—FATALITIES, 1918 TO 1922.

State.	Average No. of Coal Miners.	Average No. of Fatal Accidents.	Rate per 1,000 Employed.
New South Wales ..	19,594	16	0.82
Victoria ..	1,949	3	1.54
Queensland ..	2,396	19	7.93
South Australia ..	4	..	..
Western Australia ..	757	1	1.32
Tasmania ..	216	..	..
Total ..	24,916	39	1.57

Figures for coal miners in South Australia appear for the first time in 1922, the miners being engaged chiefly on work in connexion with the brown coal deposits.

The abnormally heavy rate in Queensland is due to the inclusion of the 75 deaths in 1921 caused by the disastrous explosion of coal-dust at Mount Mulligan. For the quinquennium 1916-20 the Queensland rate was 1.79, and for the whole of Australia 1.14.

§ 11. Coke.

1. Production.—Notwithstanding the large deposits of excellent coal in Australia there was, prior to the war, a fairly considerable amount of coke imported from abroad. During recent years, however, a high standard of excellence has been attained in the local product, and the necessity for import has therefore disappeared. The table hereunder gives the production in New South Wales during the last five years:—

COKE.—PRODUCTION, NEW SOUTH WALES, 1918 TO 1922.

Year	1918.	1919.	1920.	1921.	1922.
Quantity .. tons	608,492	424,773	567,569	592,097	240,229
Value, total .. £	647,798	550,127	844,191	1,029,694	382,926
Value, per ton	21s. 4d.	25s. 11d.	29s. 9d.	34s. 9d.	31s. 10d.

During recent years the industry has made considerable progress, and with the development of local iron and steel works, as well as metal refineries and smelting establishments, its future prospects ought to be assured. The heavy decline in quantity and value of coke made in 1922 was due to the lessened demand consequent on the closing down of the steel works at Newcastle.

A small quantity of coke is made in Queensland, the quantity returned in 1922 being 6,748 tons, but the bulk of that used in ore reduction is imported, mainly from New South Wales. The following table shows the amount manufactured locally during the last five years :—

COKE.—PRODUCTION, QUEENSLAND, 1918 TO 1922.

Year	1918.	1919.	1920.	1921.	1922.
Quantity .. tons	14,437	4,562	19,653	7,557	6,748

Information regarding the exact quantity of coke imported from New South Wales and elsewhere is not available.

In order to avoid duplication with coal values the returns for coke have not been included in the general tables of mineral production in the early part of this chapter.

§ 12. Oil Shale and Mineral Oil.

1. **Production.**—(i) *New South Wales.* The production of kerosene shale amounted during 1922 to 23,467 tons, valued at £60,641, as compared with 32,489 tons valued at £77,380 in 1921. With the exception of a small amount produced at Capertee, the whole of the output was obtained from the mines at Newnes. Recently an attempt was made at Newnes to retort the shale in situ, supplying sufficient air from the workings to maintain combustion, but apparently the process was not satisfactory. Up to date there has been no production of petroleum in the State, but boring operations were continued in the Inverell and Tamworth divisions, while leases to mine for the product were held in the Picton and Scone divisions.

(ii) *Victoria.* Up to the present no extensive deposit of oil shale has been located in Victoria. Bores in search of oil have been put down from time to time, but so far without result, and the State geological authorities take an unfavourable view of the prospects of obtaining it.

(iii) *Queensland.* The discovery of natural gas and traces of oil in a deep bore at Roma fostered the hope that energetic development would lead to the discovery of mineral oil in quantity in this locality. During 1919 the bore reached a depth of 3,705 feet, but further drilling operations were suspended owing to the tools getting fast in the bore early in the year. In February, 1920, a start was made with the work of attempting to recover the tools, but after using various devices without success the task was abandoned. Later, the bore was diverted, and in 1922 this work was continued to a depth of 2,800 feet. Strong evidences of oil were noticed on the water flowing from the bore, but attempts to shut off this water proved unsuccessful, and operations were terminated. Attempts made at the recovery of the petroliferous gas were also unsuccessful. Early in 1924 it was announced that oil-bearing sands has been penetrated between 2117 ft. and 2233 ft. by a bore put down on the Lander Oil Co.'s area at Orallo, near Roma. It is believed that the main body of the oil sands will be located at approximately 4000 ft. Oil-bearing shales are common in many parts of the State, but their extent and nature have not yet been accurately determined.

(iv) *South Australia.* Bitumen is occasionally washed up on the southern coasts of the continent from Port Davey in Tasmania to Cape Leeuwin in Western Australia. Specimens found on Kangaroo Island at one time led to the belief that they were the product of a terrestrial petroliferous area. Similar occurrences of this mineral have been reported from the coasts of California, South Africa, and New Zealand. In 1920 the finding of accumulations of oily matter on the shores at Encounter Bay and Kangaroo Island was reported, but investigations by the Mines Department into the geological conditions of the surrounding country do not encourage the hope that the matter is of local origin. It is stated, however, that the prospects appear favourable over an area in the desert region near Lake Eyre, and in the Coorong district.

(v) *Western Australia.* In this State the chief interest in the search for oil centres in the Kimberley division. At Mount Wynne, in West Kimberley, the gas which bubbles freely in a hot spring has been found to contain hydrocarbons. Indications of free petroleum have been obtained in bores on Price's Creek, about 100 miles south-east of Mount Wynne, and traces of mineral oil have been detected in a seepage. In East Kimberley a black bitumen, residual from an asphaltic oil, has been found in weathered basalt in two localities five miles apart, thus indicating the former circulation of petroleum in the area. The services of a skilled American oil geologist were secured to make an examination and report on the possibilities of this division.

(vi) *Tasmania.* Tasmanite shale has been discovered in the basins of the Mersey, Don, and Minnow Rivers, and elsewhere, and the Government Geologist estimates the probable capacity of the beds at 12,000,000 tons. Production during the last ten years has, however, been small, the largest yield being in 1916, when 1,286 tons were raised. For 1922, however, the output was only 40 tons, valued at £100. The Mines Department proposed during 1922 to make a detailed investigation of the oil shale resources of the State, and to determine the method of retorting best suited to the type of shale, but the work has not been completed. Two companies have started drilling in the Mersey Valley, and the search for oil is being vigorously conducted at various places on the north-west coast.

(vii) *Northern Territory.* Considerable activity has recently been displayed by speculators in acquiring areas under coal and oil prospecting licences along the north-western boundary of the Territory, and northerly along the western coast to the Daly River, but so far no developments have yet been recorded, although what are regarded locally as good indications of oil have been discovered.

(viii) *Papua.* In 1911 indications of petroleum were reported near the Vailala River, and, acting on the reports of geologists, an oil-expert was despatched by the Commonwealth Government to sink trial bores on the site. Early in 1913 a small quantity of oil was obtained from a shallow bore. Later on, extensive geological surveys were made of the country between Yule Island and the Purari Delta, and oil was encountered in several trial bores. In 1919 the Anglo-Persian Oil Co., under agreement with the British and Commonwealth Governments, and latterly with the Commonwealth Government only, has been engaged in work on the field. A geological survey and examination has been made of the Papuan Gulf Coast north-west from Yule Island to the Kapuri River district, and a re-examination of areas in the Vailala River area.

(ix) *New Guinea.* At Matapau, about 54 miles from Aitape on the north coast of what was formerly German New Guinea, oil has been struck in a shallow bore, and hopes are entertained that the product will be encountered in large volume at a greater depth.

2. *Exports.*—In 1916–17 New South Wales exported a small quantity of shale. There was no export in the succeeding year. In 1919, 5 tons, valued at £21, were exported, in 1920, Victoria was exported with an export of 4 tons, and in 1921, New South Wales exported 103 tons, valued at £440. There was no record of export in 1922.

3. *Shale Oil Bounties.*—The Shale Oil Bounty Act 1917–22 provides for bounty amounting to £270,000 in accordance with the following scale:—On each gallon up to 3½ millions, 3½d. per gallon; over 3½ millions up to 5 millions, 2d.; over 5 millions to 8 millions, 1½d.; and over 8 millions, 1½d. The maximum amount payable in a year is £67,500.

On the 2nd January, 1920, the Commonwealth Government offered a reward of £10,000 for the discovery of petroleum oil in Australia, subject to the fulfilment of certain conditions. The reward was increased to £50,000 on the 9th September, 1920. During 1920 the New South Wales Government offered the sum of £10,000 as a bonus for the production of 100,000 gallons of petroleum within the State. Under the Native Industries Encouragement Act of 1872, the Government of South Australia offered a bonus of £5,000 on the production within the State of 100,000 gallons of crude petroleum containing not less than 90 per cent. of products obtainable by distillation.

§ 13. Other Non-metallic Minerals.

1. *Alunite.*—The production of this mineral in New South Wales amounted during 1922 to 185 tons, valued at £740, raised at Bullahdelah. The mineral is sent to England for treatment, and, to the end of 1922, the exports were 55,000 tons, valued at £196,000.

In South Australia an extensive deposit of the mineral was located in 1913 at Carrickalinga Head, on the coast north of Normanville, and within a short distance of Adelaide. Fresh discoveries were later reported on the western shores of St. Vincent's Gulf. The mineral returns show a production of 95 tons in 1922.

The exploitation of the alunite deposits in the North-East Coolgardie field in Western Australia has been retarded pending the result of field experiments to determine the suitability or otherwise of the product as a fertilizer in its unroasted state. Deposits of the mineral are also found in the Kalgoorlie area.

2. Asbestos.—This substance has been found in various parts of Australia, but up to the present has not been produced in any considerable quantity. In New South Wales 535 tons, valued at £10,690, were raised during 1922 from deposits in the Barraba division. In Queensland seams of asbestos have been found over a belt of country extending from Cawarral to Canoona, as well as in other districts. Samples of the fibre proved suitable for the manufacture of fibro-cement sheeting and tiles, but so far the deposits have not been commercially exploited. Deposits of asbestos have been located at various places in South Australia. Production in 1921 amounted to 40 cwt., valued at £71, but none was recorded in 1922. Chrysotile asbestos of high grade is found in various localities in Western Australia, particularly in the Serpentine rocks between Nullagine and Roeburne, over a distance of 200 miles. The export in 1922 amounted to 182 tons valued at £7,600, obtained in the Nullagine and Marble Bar districts of the Pilbara Goldfield. In 1899 Tasmania raised 200 tons, valued at £363, but there was no further production until 1916, when a small quantity was raised at Anderson's Creek, near Beaconsfield. In 1917, 271 tons, valued at £271; in 1918, 2,854 tons, valued at £5,008, and in 1919, 51 tons, valued at £1,275, were produced, but there was no subsequent record of production.

3. Barytes.—In New South Wales during 1921 about 200 tons of barytes, valued at £600, were obtained at Mandurama in the Cowra division. A promising deposit of remarkable purity was further developed during the year at Cavan in the Yass division, and a large deposit was opened up at Kempfield in the Trunkey division. No production was, however, reported for 1922. The production in South Australia during 1922 was given as 1,878 tons, valued at £6,103. In this State there are extensive deposits of the mineral in the Willunga and other districts. High grade natural white barytes is obtained from some of the workings, but a large amount of lower grade ore is discarded or wasted owing to lack of facilities for cleaning and bleaching. Barytes in fair-sized veins occurs at many places in Western Australia, especially at Cranbrook in the south-west division. The export in 1921 was, however, small, being valued at under £20 and none was recorded in 1922. About 1,000 tons of barytes, valued at £4,000, were produced in Tasmania in 1920, the greater portion being won from deposits near Queenstown and Mt. Jukes, and the balance from Beulah and elsewhere, but there was no production recorded in 1921 and 1922.

4. Clays and Pigments.—Valuable deposits of clays and pigments of various sorts are found throughout Australia. There is a considerable local production of earthenware, bricks, and tiles, but the finer clays have not as yet been extensively used. In New South Wales the production of pigments amounted in 1922 to 527 tons, valued at £715. About 300 tons of yellow ochre were raised at Eumungerie in the Dubbo division, and small quantities of red ochre were produced in the Glen Innes, Gulgong and Milton divisions, while 44 tons of umber were recorded from the Queanbeyan division. About 2,600 tons of white clay were raised from various areas during the year, the deposits at Lidsdale in the Lithgow division being found very suitable for the making of high grade porcelain ware. The output of silica was approximately 3,500 tons, raised chiefly at Lithgow, Ulladulla, and Milton. In Victoria 2,340 tons of kaolin, valued at £2,375, were produced in 1922 from deposits at Stawell, Mt. Egerton, Bendigo, and Pyalong. In Queensland, 5,795 tons of fireclay, valued at £1,448, were mined during 1922 in the Mount Morgan district. Deposits of fine white clay have been located near Wondai and Kingaroy. On Kangaroo Island, South Australia, where, it is stated, the first pottery mill in Australia was erected, there are vast deposits of felspar, china stone, silica, and firebrick clay. There are also very extensive deposits of fireclay near Ardrossan on the Yorke Peninsula. Ochre deposits of fine quality are found in the Noarlunga area. Production of ochre in 1922 amounted to 76 tons, valued at £450. Red oxide of suitable

quality as well as ochres of various hues have been found in different and widely-separated localities in Western Australia. A paint and distemper factory has been established in Perth, and this, coupled with the demand from the Eastern States, will further stimulate the search for the necessary materials. Kaolin is obtained from deposits in the Darling Range. Porcelain and other clays of good quality have been found in Tasmania at Beaconsfield, Sorell, Hagley, etc. Oil and water paints have been made from coloured ochres from Sorell, in Tasmania, and deposits of ochre have been located near Mowbray and Beaconsfield. The production of ochre in 1921 was returned at 15 tons, valued at £56, but none was recorded in 1922.

5. **Felspar.**—During 1922, the production of this mineral in New South Wales was 25 tons, valued at £40, raised in the Lithgow division. About 60 tons of felspar, valued at £485, were exported during 1922 from Western Australia. A large deposit of the mineral has been located near Jacob's Siding, and it also occurs in the Coolgardie area.

6. **Fluorspar.**—At Carboona in the Tumbarumba division in New South Wales this mineral is mined with silver and lead, but no production was recorded therefrom in 1922. In Victoria 196 tons, valued at £625, were raised in 1921 by a company operating at Walwa, but none was recorded in 1922. A company operating in 1921 at a mine near Emuford in the Herberton district in Queensland produced 536 tons, valued at £1,609, but no production was returned for 1922.

7. **Fuller's Earth.**—About 50 tons of this material, valued at £102, were produced in 1922 from deposits in the Boggabri area of the Narrabri division, New South Wales.

8. **Graphite.**—Graphite is found in New South Wales near Undercliff Station, in the county of Buller, and 50 tons were raised during 1922. The product was used in the manufacture of paints, boiler compound, and foundry plumbago. In Victoria the mineral occurs in Ordovician slates in several of the gold-fields, but is not worked. In Queensland graphite was raised some years ago by the Graphite Plumbago Company at Mt. Bopple, near Netherby, on the Maryborough-Gympie line. There has been no production in recent years, and it is stated that the prospects are not promising for flake graphite, although encouraging for the amorphous variety. In South Australia deposits are found at various places in Eyre's Peninsula. While a large proportion of the product is not suitable for commercial use, the work so far done shows that flake graphite containing as high as 80 per cent. carbon can be obtained. The Government is offering a bonus of £1 per ton for the production of graphite containing not less than 80 per cent. carbon, and on graphite with a smaller percentage, a bonus proportionate to the carbon content. In Western Australia deposits occur at Munglinup Creek, near the Oldfield River, at Northampton, in the Murchison division, and on the Donnelly River, at Kendenu, about 40 miles from Albany. Production in 1920 was small, amounting to 13 tons, valued at £130, and none was recorded in 1921 and 1922.

9. **Gypsum.**—The output of gypsum in New South Wales during 1922 was 1,692 tons, valued at £402, and was obtained in the Hillston division. In Victoria during 1922 there was a production of 6,945 tons, valued at £4,662, of which 331 tons were raised at Boort, 3,521 tons at Lake Boga, 1,546 tons at Bolton, 1,437 tons at Cowangie, and 130 tons at Chillingollah. Numerous deposits of gypsum are found in Southern Yorke's Peninsula, and on the coast near Fowler's Bay, in South Australia, the quantity available being large and of high quality. The production in 1922 amounted to 45,000 tons, valued at £38,000, the largest yet recorded, and it is hoped that the increase will be maintained by further exploitation of the large deposits near Penong, which will be connected by rail with a port at Cape Thevenard. Gypsum is widely distributed in Western Australia in tertiary and late tertiary deposits associated chiefly with the salt lakes of the arid regions of the interior south of the tropics. Many of these lacustrine deposits are capable of yielding large tonnages. The production in 1921 amounted to 664 tons, obtained at Koorda, and in 1922 to 63 tons.

10. **Magnesite.**—Deposits of this mineral have been discovered at several localities in New South Wales. During 1922 the output was 3,370 tons, valued at £3,231, of which about 2,000 tons were raised at Attunga in the Tamworth division, and 1,200 tons in the Fifield division. The mineral is found at Heathcote in Victoria, where

97 tons, valued at £291, were produced in 1922. There are deposits in the neighbourhood of Rockhampton and Bowen in Queensland, and a deposit of exceptional purity has been located in the vicinity of Tumby Bay in South Australia, about five miles from the township of Tumby. The cost of transport is a drawback to the production from the Copley (Leigh Creek) district. The Broken Hill Co. is working a small deposit near the Beetaloo Waterworks. Production in 1922 amounted to 576 tons, valued at £951. A large area of magnesite-bearing country has been located in Western Australia at Bulong, about 20 miles east of Kalgoorlie, and deposits have also been found at Coolgardie. The mineral is of a high degree of purity, but there has been no production of importance since 1915.

11. **Phosphate Rock.**—During 1922, 12 tons of phosphate, valued at £54, were obtained in New South Wales at the Ashford Caves. In Victoria 1,096 tons, valued at £1,096, were raised at Mansfield. The production in Queensland amounted to 65 tons valued at £279, raised by the Holbourne Island Phosphate Company in the Bowen district. Difficulty in finding a market for the product was responsible for the small output. South Australia possesses deposits scattered over a belt of country 200 miles in length, from Myponga in the south to the district round Carrieton, in the north. Production in 1921 amounted to 5,079 tons, valued at £6,203, and in 1922 to 2,715 tons, valued at £3,678. It is stated that the industry is meeting with severe competition in the high grade phosphate imported from Nauru. Deposits of guano and phosphate have been found in caves between 27 and 40 miles to the north-east of Carrieton. There appears to be a considerable amount of the material available, but any estimate of the tonnage is impossible until a more complete examination has been made. In Western Australia the known phosphate deposits occur principally on the coastal islands, and in portion of the coastal plain between Dongarra and Perth. Some years ago guano digging on the islands was a large and profitable industry.

12. **Salt.**—Salt is obtained from salt lakes in the Western and North-western districts of Victoria, and from salterns in the neighbourhood of Geelong. Figures regarding production are, however, not available for publication. Large quantities are obtained from the shallow salt lakes of South Australia, chiefly on Yorke Peninsula. Lake Hart, about 60 square miles in area, situated about 120 miles N.W. from Port Augusta, contains immense supplies of salt of good quality, which at present, however, owing to distance from market, possess no economic value. The salt is simply scraped from the beds of the lakes in summer time and carted to the refinery. It is stated that care must be taken not to leave too thin a crust of salt over the underlying mud, as the resultant "crop" after the winter rains will in that case be smaller than usual. During recent years a fair amount has been produced by evaporation of sea water at the heads of Spencer's and St. Vincent's Gulfs. About 49,000 tons of crude salt, valued at £109,000, were produced during 1922. In Western Australia salt is obtained from depressions in the calcareous sandstones of the coast, which are filled to a shallow depth in winter with salt water. In summer the depressions dry up, leaving a layer of salt two or three inches thick, which is collected and refined. Up to the present, the four chief localities producing salt were Rottneest Island, off Fremantle; Middle Island, near Esperance; Yarra Yarra Lakes, near Three Springs; and Lynton, near Port Gregory. There is a very large number of salt and brine lakes which may ultimately be used as sources of salt.

Attention has recently been devoted to the occurrence of salt in Queensland, more especially to the deposits in the vicinity of the Mulligan River.

13. **Tripolite, or Diatomaceous Earth.**—Although this mineral has been found at various localities in New South Wales, the deposits have not been worked commercially on any considerable scale. The output in 1922 was 481 tons, valued at £1,041, of which 320 tons were raised in the Coonabarabran division, 86 tons in the Cooma division, 63 tons in the Barraba division, and 12 tons in the Ballina division. In Victoria there is a remarkably pure deposit at Lillicur, near Talbot, while beds of the mineral are also met with at other places in the Loddon Valley, near Ballarat, at various places close to Melbourne, at Craigieburn, Lancefield, Portland, Swan Hill, Bacchus Marsh, etc. During 1920, a production of 1,000 tons, valued at £5,000, was recorded, but no production was returned for 1921 or 1922. Fairly extensive deposits of diatomite exist in Queensland, in the Nerang, Beaudesert and Canungar areas, but the various

outcrops have as yet been only partly examined. In Tasmania a deposit of diatomaceous earth has been located at Oatlands, but its use for the manufacture of explosives is apparently prejudiced by the circumstance that the diatoms are pulverized and contaminated with clay.

§ 14. Gems and Gemstones.

1. **Diamonds.**—It is difficult to secure accurate returns in connexion with the production of precious stones, but the yield of diamonds in 1922 in New South Wales was estimated at 1,000 carats, valued at £1,300, while the total production to the end of 1922 is given at 201,000 carats, valued at £143,000. The yield in 1922 was obtained chiefly in the Tingha division. Small quantities of diamonds are found in Victoria in the gravels of streams running through granite country in the Beechworth district, at Kongbool in the Western District, and near Benalla. The stones are generally small, and the production up to date has been trifling. In 1912, eleven small diamonds, valued at £20, were picked out of the sluice boxes of the Great Southern alluvial mine at Rutherglen. A few small diamonds have been found in the Pilbara district in Western Australia. In South Australia diamonds have been found on the Echunga goldfield, the most notable gem being Glover's diamond, which was sold for £70. A few small diamonds have, from time to time, been found in Tasmania, chiefly while sluicing for gold in the Donaldson district.

2. **Sapphires.**—The production of sapphires in New South Wales during 1922 was returned as 3,437 ozs., valued at £2,830, obtained in the Inverell division, the figures quoted including small values for zircons and corundum.

In Queensland, sapphires to the value of £35,362 were obtained in 1922 on the Anakie mineral field. Owing to the unsatisfactory condition of the market only the best stones were disposed of. The Government came to the assistance of the industry by receiving, grading, and valuing stones, and making advances to the miners who were given the right to release their stone if opportunity arose for private sale. Under this scheme 1,468 ozs. of first blues, valued at £7,394, were deposited. Towards the end of the year the scheme was terminated, and the Government decided to acquire and market the whole of the State's output of precious stones. According to latest advices a considerable number of gems has been disposed of at satisfactory prices.

Sapphires are plentifully found in the tin drifts of the Ringarooma and Portland districts in Tasmania, but the stones are, as a rule, small and not worth saving.

3. **Precious Opal.**—The estimated value of the opal won in New South Wales during the year 1922 was £15,150, compared with £13,020 in the preceding year. The great bulk of the yield came from the Lightning Ridge field, near Walgett. Small yields were reported from White Cliffs, and from the Ballina division. Some very fine stones are at times obtained, one weighing 5 ozs. and valued at £300 being recovered in 1911. Occasionally, black opals of very fine quality are found, one specimen from the Wallangulla field, weighing $6\frac{1}{2}$ carats, being sold in 1910 for £102, while in the early part of 1920 a specimen realized £600. It is stated that this locality is the only place in the world where the "black" variety of the gem has been found. The total value of opal won in New South Wales since the year 1890 is estimated at £1,526,000.

Small quantities of precious opal are found in the Beechworth district in Victoria.

The opaliferous district in Queensland stretches over a considerable area of the western interior of the State, from Kynuna and Opalton as far down as Cunnamulla. The yield in 1922 was estimated at £500, and up to the end of that year at about £181,000. These figures are, however, merely approximations, as large quantities of opal, of which no record is obtained, are disposed of privately. At present the industry, which is not followed by practical miners, suffers from the peculiar disability that in good seasons there is plenty of work available on the pastoral stations, and most men prefer this to the uncertain results obtainable by fossicking, while in dry seasons, when constant work is not obtainable, the search for opal is blocked by the absence of grass and water on the fields.

Owing to difficulty in disposing of the product, little mining was carried on in 1922 at the Stuart's Range opal field in South Australia, and no production was recorded. The field is extremely prolific, and only a small portion of the known opal-bearing area has been tested.

According to a report by the Australian Trade Commissioner in the East there is a good sale for the gems in China. It is stated that there is no difficulty in cutting and polishing, as the Chinese method of dealing with jade, dating back many centuries, can also be applied to opal. The Commissioner also made inquiries into the possibilities of markets in Java and India.

4. **Other Gems.**—Various other gems and precious stones have from time to time been discovered in the different States, the list including agates, amethysts, beryls, chiolite, emeralds, garnets, olivines, moonstones, rubies, topazes, tourmalines, turquoises, and zircons, but, with the exception of the last-mentioned, none of these figured in the returns of production for 1922.

§ 15. Numbers Engaged, Wages Paid, and Accidents in Mining.

1. **Total Employment in Mining.**—The number of persons engaged in the mining industry in Australia fluctuates according to the season, the price of industrial metals, the state of the labour markets, and according also to the permanence of new finds, and the development of the established mines. During the year 1922 the number so employed was as follows :—

NUMBER OF PERSONS ENGAGED IN MINING, 1922.

State.	Number of Persons Engaged in Mining for						Total.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Coal and Shale.	Other.	
New South Wales	1,197	4,712	66	1,090	21,634	2,205	30,904
Victoria	3,310	..	..	13	1,963	124	5,410
Queensland	766	321	882	659	2,443	562	5,633
South Australia	40	6	70	..	20	426	562
Western Australia	5,787	152	10	31	744	52	6,776
Tasmania	106	495	948	620	253	518	2,940
Northern Territory	12	..	6	120	..	22	160
Australia	11,218	5,686	1,982	2,533	27,057	3,909	52,385

The following table shows the number of persons engaged in mining in Australia during each of the years 1891, 1901, and 1922, together with the proportion of the total population so engaged. The general falling-off since 1901 is due to the stagnation caused by the war, the low price of industrial metals, and largely also to the decline in the gold-mining industry :—

NUMBER ENGAGED IN MINING PER 100,000 OF POPULATION, 1891, 1901, AND 1922.

State.	1891.		1901.		1922.	
	Miners Employed.	No. per 100,000 of Popu- lation.	Miners Employed.	No. per 100,000 of Popu- lation.	Miners Employed.	No. per 100,000 of Popu- lation.
New South Wales	30,604	2,700	36,615	2,685	30,904	1,436
Victoria	24,649	2,151	28,670	2,381	5,410	344
Queensland	11,627	2,934	13,352	2,664	5,633	721
South Australia	2,683	834	7,007	1,931	562	111
Western Australia	1,269	2,496	20,895	11,087	6,776	1,995
Tasmania	3,988	2,695	6,923	4,017	2,940	1,369
Northern Territory .. ..	..	..	..	..	160	4,380
Australia	74,820	2,341	113,462	2,992	52,385	941

2. **Wages Paid in Mining.**—Information regarding wages paid in the mining industry, which in earlier issues of the Year Book was given in this chapter, is now contained in the Labour Report issued by this Bureau.

3. **Accidents in Mining, 1922.**—The following table gives particulars of the number of men killed and injured in mining accidents during the year 1922 :—

MINING ACCIDENTS, 1922.

Mining for—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Australia.
KILLED.								
Coal and shale	12	..	5	..	1	..	..	18
Copper ..	..	..	2	1	..	1	..	4
Gold ..	..	..	2	..	6	1	..	9
Silver, lead, and zinc ..	5	..	..	..	1	..	..	6
Tin ..	..	..	..	..	..	..	..	..
Other minerals	..	..	..	..	2	..	..	2
Total ..	17	..	9	1	10	2	..	39
INJURED.								
Coal and shale	86	11	19	..	63	2	..	181
Copper ..	..	..	10	..	..	11	..	21
Gold ..	1	4	6	..	272	..	..	283
Silver, lead, and zinc ..	24	..	4	..	..	8	..	36
Tin ..	..	..	3	..	..	5	..	8
Other minerals	..	..	1	1	1	1	..	4
Total ..	111	15	43	1	336	27	..	533

The number killed in mining accidents in 1922 was considerably less than that for 1921 when 132 deaths were recorded, the figures being swollen by the 75 fatalities in the Colliery disaster at Mount Mulligan in Queensland.

§ 16. State Aid to Mining.

1. **Introduction.**—The terms and conditions under which the States granted aid to mining were alluded to at some length in previous issues (see Year Books 4 and 5), but owing to considerations of space they have been omitted from this issue. A résumé of what is being done in this direction at the present time is given hereunder.

2. **New South Wales.**—The chief aid given in this State is in the direction of assistance to prospectors. Up to the end of 1922 the total sum expended in this manner amounted to £526,698, of which £11,790 was advanced in 1922. A sum of £1,000 was made available during the year for the purpose of assisting in the erection of crushing batteries or reduction plants, but no allotments were made therefrom. The reward for the discovery of new mineral fields within the State was increased from £500 to £1,000, and the conditions were made more liberal.

3. **Victoria.**—Since the passage of the Mining Development Act in 1897, the expenditure under its varying provisions has been £1,010,931, of which £277,078 was disbursed in connexion with advances to companies, £302,247 on boring, £241,427 on mining enterprise, £100,774 on advances to miners, and £89,411 on maintenance, removal, etc., of batteries. The expenditure for the financial year 1922-23 amounted to over £67,000, of which £49,000 was incurred in connexion with the State brown coal mine, and £9,000 was spent on boring.

4. **Queensland.**—State assistance to the mining industry in 1922 amounted to £15,044, of which £4,958 consisted of loans in aid of deep sinking; £8,771 grants in aid of prospecting, and £1,315 in aid of roads and bridges to gold and mineral fields and water supply.

During the year the copper furnace at the Chillagoe State Smelters was in blast for 35 days, and smelted 5,662 tons for a production of 185 tons of blister copper. The lead furnace ran for 190 days and produced 1,811 tons of bullion, containing 1,775 tons of lead, 155,000 ozs. of silver, and 280 ozs. gold. The State Arsenic Works at Jibbinbar produced 370 tons of high-grade arsenic. Tin, wolfram, and molybdenite are treated at the State Battery at Bamford, which, on account of low prices, only worked intermittently during the year. A new State battery was completed in 1922 at Kidston on the Etheridge gold-field and treated 4,500 tons of low-grade ore for the public. The State Assay Office at Cloncurry made over 500 assays for the public during the year.

5. **South Australia.**—Aid is given to the mining industry under the terms of the Mining Act of 1893, and previous measures. Up to the end of 1922 the total amount of subsidy paid was £65,143, of which £13,173 has been repaid, and £2,250 written off, leaving a debit of £49,720. Portion of this amount is represented by machinery that has fallen into the hands of the Government. Repayments must be provided from profits, but in only two instances have the profits enabled a full return to be made.

6. **Western Australia.**—Under the Mining Development Act of 1902 assistance was granted in 1922 in accordance with the subjoined statement:—Advances in aid of mining work and equipment of mines with machinery, £10,959; aid to prospectors, £8,431; advances in aid of boring, £554; subsidies paid on stone crushed for the public, £302; making a total of £20,246. In addition, a sum of £14,501 was expended on various matters such as water supply, assistance in carting ore for long distances, aid in developmental work below the 100 feet level in small mines, and rebates to prospectors working low-grade mines. The receipts under the Act, exclusive of interest payments, came to £1,869, of which £1,074 consisted of refunds of advances.

In 1922 there were 29 State batteries in operation. The amount expended thereon up to the end of 1922 was £91,981 from revenue and £303,164 from loan, giving a total of £395,145. During the year receipts amounted to £38,675, and working expenditure to £46,876. The total value of gold and tin recovered to the end of 1922 at the State plants was £5,655,000, resulting from the treatment of 1,354,000 tons of gold ore and 80,000 tons of tin ore, together with a small amount from residues.

7. **Tasmania.**—During the year 1922, the sum of £7,305 was expended in aid to mining, including £475 for salaries, £117 for assay material, £624 assistance to prospectors, and advances of £1,248 and £4,048 to the No. 6 Argent Prospecting Syndicate and the Argent Mining Company. The receipts amounted to £1,734, of which £1,026 represented royalty by tributers.

Tributers' surveys and assays are made free of charge by the Assay and Survey Office at Zeehan.

8. **Northern Territory.**—During the year 1921–22 Government assistance, chiefly in the form of free use of horses and plant, was granted to prospectors, but the only discovery of importance was a small though rich deposit of cassiterite in the Mt. Ringwood locality. The total financial assistance for shaft-sinking and prospecting amounted to £186.

The Government maintains batteries at Marranboy and Hayes Creek, and the Government Assayer makes free assays for prospectors and others.

§ 17. Commonwealth Government Control of Industrial Metals.

The proclamation under the Customs Act prohibiting the exportation of metals without the consent of the Minister for Trade and Customs is still in force, but consent is granted in every case where the contract relating to the sale of the metals has been approved.

§ 18. Metallic Contents of Ores, etc., Produced and Exported.

1. Local Production.—According to returns compiled by the Secretary of the Australian Metal Exchange from information obtained from mining companies and metal smelting and refining works, the quantities of the principal metals (exclusive of gold) extracted in Australia during the five years 1919 to 1923 were as follows :—

REFINED METALS PRODUCED IN AUSTRALIA, 1919 TO 1923.

Metal.	1919.	1920.	1921.	1922.	1923.
Silver ozs.	6,696,788	681,370	4,572,878	7,896,052	7,645,689
Lead, pig tons	82,732	4,077	55,749	105,528	118,513
Zinc tons	6,544	9,665	1,681	23,724	93,700
Copper tons	16,182	24,069	18,600	11,524	17,825
Tin tons	4,102	4,108	2,985	2,657	2,201

2. Metallic Contents of Ores, Concentrates, etc., Exported.—The estimated metallic contents of ores, concentrates, etc., exported during the five years 1919 to 1923 are given in the following table :—

METALLIC CONTENTS OF ORES, CONCENTRATES, ETC., EXPORTED, 1919 TO 1923.

Metal.	Contained in—	1919.	1920.	1921.	1922.	1923.		
Silver	ozs. {	Lead—Silver—Gold Bullion	..	141,263	64,811	165,290	283,453	
		Lead Concentrates	..	..	210,944	281,728	1,298,750
		Zinc Concentrates	..	437,846	522,515	456,317	3,390,964	
		Copper Ores	..	..	..	12,261	1,378
	Total	.. ..	437,846	663,778	732,072	3,850,243	5,110,355
Lead	tons {	Lead—Silver—Gold Bullion	..	1,939	580	1,790	3,564	
		Lead Concentrates	..	..	4,122	3,950	2,959
		Zinc Concentrates	..	2,491	3,170	2,498	19,910	
	Total	.. ..	2,491	9,231	7,028	24,659	22,561
Zinc	tons {	Lead Concentrates	..	..	435	..	..
		Zinc Concentrates	..	20,608	24,242	19,181	135,690	
	Total	.. ..	20,608	24,242	19,616	135,690	146,693
Copper	tons	Ores, Matte, etc.	2,117	34	326	780
Tin	tons	Concentrates	70	5

§ 19. Oversea Exports of Ores, Metals, etc.

The following table shows the quantity and value of the principal oversea exports of ores, concentrates, and metals, the produce of Australia, together with the countries to which the respective products were forwarded, for the year 1922-23 :—

OVERSEA EXPORTS OF AUSTRALIAN ORES, METALS, ETC., 1922-23.

Article.	Total Exports.	Exports to—						
		United Kingdom.	United States.	Belgium.	Germany.	Japan.	New Zealand.	Other Countries.
QUANTITY—CWT.								
Ores—								
Alunite	79,600	79,600	..	..	..	..	..	..
Antimony	21,218	20,201	1,017	..	..	..	..	..
Cobalt	8,612	7,190	1,321	..	..	..	..	100
Silver and Silver-lead	71,918	..	..	12,170	38,316	.. 1	..	(a)21,432
Concentrates—								
Silver and Silver-lead	377,813	1,130	..	332,379	44,304	..	..	..
Zinc	6,892,143	1,456,086	..	4,955,500	77,530	..	..	(b)403,027
Copper—								
Matte	6,484	6,277	207	..	..	..	..	..
Ingot	175,543	150,346	19,047	..	..	..	150	(c)6,000
Tin—Ingot	36,225	23,192	9,664	..	159	..	3,131	79
Lead—								
Matte	69,506	69,400	..	..	106	..	..	..
Pig	1,920,079	1,339,083	..	..	57,391	434,637	24,514	(d)64,454
Zinc—Bars, Blocks, etc.	495,059	171,002	..	14,000	..	237,951	204	(b)22,002
Iron—Pig	11,445	..	..	..	..	9,259	2,086	(e)100
Platinum, Osmium, etc.	oz. 1,440	oz. 513	oz. 923	..	..	..	..	oz. 4
VALUE—£.								
Ores—								
Alunite	16,400	16,400	..	..	..	..	..	..
Antimony	21,285	20,177	1,108	..	..	..	..	..
Cobalt	32,879	22,901	9,470	..	..	..	..	500
Silver and Silver-lead	66,487	..	..	10,464	36,901	.. 8	..	(a)19,122
Concentrates—								
Silver and Silver-lead	241,829	536	..	203,869	37,424	..	..	..
Zinc	1,461,016	288,833	..	1,064,493	17,125	..	..	(b)90,565
Copper—								
Matte	24,019	23,708	311	..	..	..	..	..
Ingot	640,105	551,157	65,959	..	..	..	639	(c)22,350
Tin—Ingot	320,691	206,847	33,446	..	1,240	..	28,452	706
Lead—								
Matte	88,821	88,706	..	..	115	..	..	..
Pig	2,472,795	1,730,397	..	..	64,299	562,140	32,738	(d)83,221
Zinc—Bars, Blocks, etc.	846,021	294,640	..	25,000	..	489,332	449	(b)30,600
Iron—Pig	4,473	..	..	..	..	3,645	784	(e)44
Platinum, Osmium, etc.	41,437	12,561	28,808	..	..	..	..	68

(a) Netherlands.

(b) France.

(c) India.

(d) Principally China and Hong Kong.

(e) Pacific Islands.

CHAPTER XXII.

MANUFACTURING INDUSTRY.

[NOTE.]—In the case of Queensland, Western Australia, and Tasmania the year ends on the 31st December, and in New South Wales, Victoria, and South Australia on the 30th June, six months later.

In all tables relating to employees—except where specially mentioned—“Number of Employees” includes working proprietors.

§ 1. Number and Classification of Factories.

1. General.—The number of factories in each State does not necessarily furnish an accurate indication of the extent or progress of manufacturing throughout Australia, since the larger establishments in many cases tend to absorb smaller enterprises, while on the other hand new factories are constantly springing up, and small plants are as numerous as large ones.

2. Number of Factories in each State, 1918-19 to 1922-23.—The following table gives the number of factories in each State for the years 1918-19 to 1922-23 :—

FACTORIES.—NUMBER IN EACH STATE, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1918-19 ..	5,460	5,720	1,778	1,313	764	553	15,588
1919-20 ..	5,662	6,038	1,754	1,368	817	652	16,291
1920-21 ..	5,837	6,532	1,795	1,438	895	616	17,113
1921-22 ..	6,356	6,753	1,810	1,432	986	686	18,023
1922-23 ..	6,702	7,096	1,878	1,609	1,199	689	19,173

(a) See general note above.

3. Classification of Factories, Australia, 1918-19 to 1922-23.—The following table shows the number of factories in Australia for each year from 1918-19 to 1922-23, classified in the groups agreed upon by the Conferences of Statisticians in 1902 and 1906. Details in regard to some of the principal industries in these groups will be found in § 9 hereinafter :—

FACTORIES.—CLASSIFICATION, AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)	1922-23. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	No. 789	No. 799	No. 772	No. 762	No. 810
II. Treating oils and fats, animal, vegetable, etc.	88	92	92	99	97
III. Processes in stone, clay, glass, etc.	643	670	707	786	782
IV. Working in wood	1,762	1,912	2,053	2,103	2,236
V. Metal Works, machinery, etc.	1,872	1,974	2,133	2,181	2,349
VI. Connected with food and drink, etc.	2,420	2,427	2,453	2,539	2,635
VII. Clothing and textile fabrics, etc.	3,155	3,311	3,499	3,893	4,225
VIII. Books, paper, printing and engraving	1,220	1,247	1,259	1,313	1,347
IX. Musical instruments, etc.	31	37	43	45	59
X. Arms and explosives	17	17	17	17	14
XI. Vehicles and fittings, saddlery and harness, etc.	1,449	1,514	1,634	1,778	1,913
XII. Ship and boat building and repairing	76	80	79	81	81
XIII. Furniture, bedding, and upholstery	743	817	916	927	1,010
XIV. Drugs, chemicals, and by-products	273	293	305	313	327
XV. Surgical and other scientific instruments	72	71	73	77	81
XVI. Jewellery, timepieces, and plated ware	194	215	233	247	254
XVII. Heat, light, and power	505	515	529	563	590
XVIII. Leatherware, n.e.l.	83	93	101	115	118
XIX. Minor wares, n.e.l.	196	207	215	234	245
Total	15,588	16,291	17,113	18,023	19,173

(a) See general note above.

For the purpose of the returns in the above table the definition of a factory adopted at the Conference of Statisticians in 1902 is used, viz., "Any factory, workshop or mill where four or more persons are employed or power is used."

The number of factories has increased continuously since 1918-19, and the expansion has been particularly marked during the past three years, when an average of about 1,000 additional factories has been annually added to the total. As previously pointed out, any increase or decrease in the number of factories from year to year does not necessarily indicate a change in the position of the industry.

4. Classification of Factories, States, 1922-23.—The following table shows the number of factories in each State during 1922-23, classified according to the nature of the industry :—

FACTORIES.—CLASSIFICATION, STATES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus.
I. Treating raw material, product of agricul. & pastoral pursuits, etc.	241	295	44	106	55	69	810
II. Treating oils and fats, animal, vegetable, etc.	39	30	11	11	4	2	97
III. Processes in stone, clay, glass, etc.	326	231	40	106	58	21	782
IV. Working in wood	838	613	340	103	179	163	2,236
V. Metal works, machinery, etc.	800	936	222	232	115	44	2,349
VI. Connected with food & drink, etc.	858	731	464	256	203	123	2,635
VII. Clothing and textile fabrics, etc.	1,391	1,959	264	310	202	99	4,225
VIII. Books, paper, printing & engraving	511	490	139	92	90	25	1,347
IX. Musical instruments, etc.	29	18	..	9	3	..	59
X. Arms and explosives	(c) 3	10	..	1	..	..	14
XI. Vehicles and fittings, saddlery and harness, etc.	646	750	149	179	123	66	1,913
XII. Ship and boat building & repairing	40	11	9	10	6	5	81
XIII. Furniture, bedding and upholstery	342	397	105	84	55	27	1,010
XIV. Drugs, chemicals and by-products	135	131	5	17	27	12	327
XV. Surgical and other scientific instruments	18	38	11	7	7	..	81
XVI. Jewellery, timepieces & plated ware	80	111	17	27	10	9	254
XVII. Heat, light, and power	253	209	34	30	41	18	590
XVIII. Leatherware, n.e.i.	40	64	8	5	(a)	1	118
XIX. Minor wares, n.e.i.	107	72	16	24	(b) 21	5	245
Total	6,702	7,096	1,878	1,609	1,199	689	19,173

(a) Included in Class XIX. (b) Includes Class XVIII. (c) Particulars of Commonwealth Small Arms Factory were not available in comparative form, and are omitted from the Manufacturing Returns.

§ 2. Classification of Factories according to Number of Employees.

1. States, 1922-23.—A more satisfactory method of measuring the importance of the manufacturing industry in Australia may, perhaps, be obtained by grouping the factories according to the average number of employees therein.

The following table shows, for each State, the number of factories classified according to the number of hands employed, and the average number of hands employed therein, during 1922-23 :—

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES, 1922-23.

No. of Persons Employed in each Factory.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
NUMBER OF FACTORIES.							
Under 4 ..	1,439	1,547	339	237	337	142	4,041
4 ..	644	687	167	151	134	67	1,850
5 to 10 ..	2,051	2,237	603	604	365	276	6,136
11 to 20 ..	1,117	1,144	344	277	167	100	3,149
21 to 50 ..	906	912	250	209	117	65	2,459
51 to 100 ..	303	340	74	81	51	29	878
Over 100 ..	242	229	101	50	28	10	660
Total ..	6,702	7,096	1,878	1,609	1,199	689	19,173

CLASSIFICATION OF FACTORIES ACCORDING TO NUMBER OF EMPLOYEES. 817

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES,
1922-23—*continued.*

No. of Persons Employed in each Factory.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
AVERAGE NUMBER OF HANDS EMPLOYED.							
Under 4 ..	3,079	3,418	749	578	707	311	8,842
4 ..	2,576	2,748	668	604	536	268	7,400
5 to 10 ..	14,338	15,394	4,223	4,246	2,456	1,893	42,550
11 to 20 ..	16,328	16,544	5,049	4,005	2,397	1,430	45,753
21 to 50 ..	28,352	28,718	7,799	6,687	3,677	2,065	77,298
51 to 100 ..	20,931	23,325	5,260	5,607	3,435	2,142	60,700
Over 100 ..	66,662	62,478	19,655	12,968	5,889	2,215	169,867
Total ..	152,266	152,625	43,403	34,695	19,097	10,324	412,410

2. Australia, 1918-19 to 1922-23.—For the period covered in the following table, and particularly during the last three years, the number of factories has increased at a faster rate than that of employees, consequently a reduction has occurred in the average number of employees per factory. The same reason may be assigned for the decrease in the proportionate number of hands employed in the larger establishments, which dropped from 43.36 per cent. of the total employment in 1919-20 to 41.19 per cent. in 1922-23.

FACTORIES.—CLASSIFICATION ACCORDING TO NUMBER OF EMPLOYEES
AUSTRALIA, 1918-19 TO 1922-23.

Year. (a)	Establishments Employing on the Average—							
	20 hands and under.		21 to 100 hands.		101 hands and upwards.		Total.	
	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.	Es- tablish- ments.	Hands.
1918-19—								
Number ..	12,324	87,604	2,695	111,342	569	141,529	15,588	340,475
Average per establishment ..	7.11	41.31	40.80	41.31	248.73	21.84	21.84	21.84
Percentage on total ..	79.06	25.73	17.29	32.70	3.65	41.57	100.00	100.00
1919-20—								
Number ..	12,666	92,010	2,975	121,388	650	163,336	16,291	376,734
Average per establishment ..	7.26	40.80	40.80	40.80	251.29	23.13	23.13	23.13
Percentage on total ..	77.75	24.42	18.26	32.22	3.99	43.36	100.00	100.00
1920-21—								
Number ..	13,396	96,379	3,066	124,307	651	165,053	17,113	386,639
Average per establishment ..	7.19	40.54	40.54	40.54	254.92	22.59	22.59	22.59
Percentage on total ..	78.28	24.93	17.92	32.15	3.80	42.92	100.00	100.00
1921-22—								
Number ..	14,211	100,801	3,163	127,692	649	167,432	18,023	395,425
Average per establishment ..	7.06	40.37	40.37	40.37	257.98	21.94	21.94	21.94
Percentage on total ..	78.86	25.37	17.54	32.29	3.60	42.34	100.00	100.00
1922-23—								
Number ..	15,176	104,545	3,337	137,998	660	169,867	19,173	412,410
Average per establishment ..	6.89	41.35	41.35	41.35	257.37	21.51	21.51	21.51
Percentage on total ..	79.15	25.35	17.41	33.46	3.44	41.19	100.00	100.00

(a) See general note on first page of this Chapter.

§ 3. Power used in Factories.

1. States, 1922-23.—The following table shows the number of factories using steam, gas, oil, electricity, or water, and the horse-power of engines or motors during 1922-23 :—

FACTORIES.—HORSE-POWER OF ENGINES USED, 1922-23.

State.	Number of Establishments.			Actual Horse-power of Engines Used.					
	Using Machinery worked by Steam, Gas, Oil, Electricity, or Water.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Water.	Total.
				H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
N.S.W., 1922-23	No. 5,806	No. 896	No. 6,702	211,377	14,400	2,472	123,477	48	351,774
Vict., 1922-23 ..	5,762	1,334	7,096	112,547	18,968	3,233	81,679	(a)	216,427
Q'land., 1922 ..	1,528	350	1,878	72,882	10,249	1,444	21,685	36	108,296
S. Aust., 1922-23	1,308	301	1,609	39,622	10,128	2,690	14,657	3	67,100
W. Aust., 1922	974	225	1,199	35,931	5,577	2,054	13,991		57,553
Tas., 1922 ..	573	116	689	3,558	380	347	28,361	35,645	68,291
Australia ..	15,951	3,222	19,173	475,917	59,702	12,240	283,850	35,732	867,441

(a) Statistics of Water Power not collected.

The preponderance shown by New South Wales is due to the location in that State of the largest number of industries requiring a considerable amount of power. Victoria, on the other hand, has the largest number of establishments, such as those connected with clothing and textile fabrics, wherein much less power is utilized.

The number of establishments in Australia during 1922-23 using steam, gas, oil, electricity, or water was 15,951, or 83.20 per cent. of the total; 3,222 establishments, representing 16.80 per cent., used no mechanical power. The total actual horse-power in use was 867,441, distributed in the following proportions:—Steam, 54.87 per cent.; gas, 6.88 per cent.; oil, 1.41 per cent.; electricity, 32.72 per cent.; and water, 4.12 per cent.

2. Australia, 1918-19 to 1922-23.—The following table shows the horse-power of engines used in connexion with factories in Australia during each of the last five years :—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1918-19 TO 1922-23.

Year.(a)	Number of Establishments.			Actual Horse-power of Engines used.					
	Using Machinery worked by Steam, Gas, Oil, Electricity or Water.	Others.	Total.	Steam.	Gas.	Oil.	Electricity.	Water.	Total.
				H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
1918-19 ..	No. 12,385	No. 3,203	No. 15,588	392,972	56,437	9,056	159,372	12,109	629,946
1919-20 ..	13,146	3,145	16,291	402,152	58,349	11,872	176,476	11,167	660,016
1920-21 ..	13,943	3,170	17,113	437,851	59,365	11,884	217,916	15,465	742,481
1921-22 ..	14,859	3,164	18,023	460,258	57,877	10,363	249,379	20,216	798,093
1922-23 ..	15,951	3,222	19,173	475,917	59,702	12,240	283,850	35,732	876,441

(a) See general note on first page of this Chapter.

The growth of electrical power has been the chief determining agent in the rapid increase of mechanical power which has taken place in factories during recent years. From 72,250 horse-power in 1913, or roughly one-sixth of the total horse-power of engines used, it had increased to 283,850 horse-power, or one-third of the total installations in 1922-23. Steam power continues to expand with the development of the larger industries, but the increase in the use of gas and oil engines is negligible. During the past four years nearly 60,000 horse-power has been added each year to the plant actually in use.

3. Classes of Industry, States, 1922-23.—The following table gives a classification of the actual horse-power of engines used in factories of different descriptions in each State during 1922-23 :—

FACTORIES.—HORSE-POWER OF ENGINES USED IN EACH CLASS, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	9,647	9,105	1,272	2,269	1,000	683	23,976
II. Treating oils and fats, animal, vegetable, etc. . .	1,885	817	189	391	121	18	3,421
III. Processes in stone, clay, glass, etc. . .	21,646	11,445	1,628	4,669	2,882	517	42,787
IV. Working in wood . . .	20,425	15,373	10,296	2,699	9,282	2,268	60,343
V. Metal works, machinery, etc. . .	72,872	21,228	10,566	11,095	4,156	20,092	140,009
VI. Connected with food and drink, etc. . .	38,783	36,113	50,653	9,943	8,884	2,784	147,160
VII. Clothing and textile fabrics, etc. . .	8,603	17,728	1,898	1,150	440	563	30,382
VIII. Books, paper, printing, and engraving . . .	8,860	8,715	1,611	1,355	949	322	21,812
IX. Musical instruments, etc. . .	516	355	..	16	1	..	888
X. Arms and explosives . . .	14	792	..	3	..	..	809
XI. Vehicles and fittings, saddlery and harness, etc. . .	3,295	2,682	606	1,186	392	200	8,361
XII. Ship and boat building and repairing . . .	9,085	1,606	94	545	51	25	11,406
XIII. Furniture, bedding, and upholstery . . .	3,401	3,094	1,300	1,198	640	362	9,995
XIV. Drugs, chemicals, and by-products . . .	3,246	3,870	78	2,875	1,155	85	11,309
XV. Surgical and other scientific instruments . . .	75	60	38	21	15	..	209
XVI. Jewellery, timepieces, and plated ware . . .	416	479	35	100	23	13	1,066
XVII. Heat, light, and power . .	147,349	75,879	25,882	27,469	27,444	40,350	344,373
XVIII. Leatherware, n.e.i. . .	192	476	36	3	(a)	1	708
XIX. Minor wares, n.e.i. . .	1,464	6,610	114	113	(b) 118	8	8,427
Total . . .	351,774	216,427	106,296	67,100	57,553	68,291	867,441

(a) Included with Class XIX.

(b) Includes Class XVIII.

4. Classes of Industry, Australia, 1918-19 to 1922-23.—The following table shows a similar classification of the actual horse-power of engines used in manufacturing industries in Australia during the years 1918-19 to 1922-23 inclusive :—

FACTORIES.—HORSE-POWER OF ENGINES USED, AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)	1922-23. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	18,832	21,005	22,475	23,439	23,976
II. Treating oils and fats, animal, vegetable, etc. . .	2,701	3,109	3,098	3,062	3,421
III. Processes in stone, clay, glass, etc. . .	27,449	31,302	38,290	41,031	42,787
IV. Working in wood . . .	48,499	53,656	60,363	58,677	60,343
V. Metal works, machinery, etc. . .	99,681	106,792	122,744	135,990	140,009
VI. Connected with food and drink, etc. . .	110,267	120,408	124,550	136,773	147,160
VII. Clothing and textile fabrics, etc. . .	19,428	22,014	24,342	28,451	30,382
VIII. Books, paper, printing, and engraving . . .	16,246	17,444	18,201	21,392	21,812
IX. Musical instruments, etc. . .	501	540	704	590	888
X. Arms and explosives . . .	1,725	2,192	1,446	1,691	809
XI. Vehicles and fittings, saddlery and harness, etc. . .	5,292	5,770	6,410	6,990	8,361
XII. Ship and boat building and repairing . . .	6,230	6,860	10,076	11,879	11,406
XIII. Furniture, bedding, and upholstery . . .	6,691	7,667	8,227	8,923	9,995
XIV. Drugs, chemicals, and by-products . . .	3,179	9,631	10,332	11,386	11,309
XV. Surgical and other scientific instruments . . .	124	145	156	179	209
XVI. Jewellery, timepieces, and plated ware . . .	672	839	885	945	1,066
XVII. Heat, light, and power . . .	249,199	241,893	280,589	297,409	344,373
XVIII. Leatherware, n.e.i. . .	599	571	616	651	708
XIX. Minor wares, n.e.i. . .	7,022	8,178	8,977	8,935	8,427
Total . . .	629,946	660,016	742,481	798,093	867,441

(a) See general note on first page of this Chapter.

The actual horse-power of engines used increased in every branch of industry during the last four years. The industries using the greatest amount of power were Class XVII. Heat, light, and power; Class VI. Connected with food and drink; and Class V. Metal works, machinery, etc. These three classes, which together accounted for 72.81 per cent. of the total power used in 1922-23, increased their horse-power from 459,147 to 631,542 during the four years under review, and are mainly responsible for the development of mechanical power in factories since 1918-19.

§ 4. Employment in Factories.

1. Total Number Employed.—Each person employed in and about a factory, in whatever capacity, is now included as a factory employee, consequently every proprietor who works in his own business is counted as an employee, and all "outworkers" (see sub-section 5 (ii) hereinafter) are also included. The individuals embraced may be classed under the following heads:—(i) Working proprietors; (ii) managers and overseers; (iii) accountants and clerks; (iv) engine-drivers and firemen; (v) skilled and unskilled workers in the factories, mills, or workshops; (vi) carters and messengers; and (vii) others.

The following table shows, for each year from 1918-19 to 1922-23 inclusive, (a) the average numbers of persons (including both sexes and all ages) employed in manufacturing industries in each State; (b) the percentage of the numbers employed in each State on the total numbers employed in Australia; and (c) the numbers employed per ten thousand of the mean population in each State and Australia:—

FACTORIES.—EMPLOYMENT, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
AVERAGE NUMBER.							
1918-19	127,591	122,349	40,990	27,915	12,917	8,713	340,475
1919-20	144,454	136,522	40,891	29,442	15,409	10,016	376,734
1920-21	145,011	140,743	43,196	30,430	17,034	10,225	386,639
1921-22	148,876	144,876	42,248	31,171	18,127	10,127	395,425
1922-23	152,266	152,625	43,403	34,695	19,097	10,324	412,410
PERCENTAGE ON AUSTRALIAN TOTAL.							
	%	%	%	%	%	%	%
1918-19	37.48	35.93	12.04	8.20	3.79	2.56	100.00
1919-20	38.34	36.24	10.85	7.82	4.09	2.66	100.00
1920-21	37.51	36.40	11.17	7.87	4.41	2.64	100.00
1921-22	37.65	36.64	10.69	7.88	4.58	2.56	100.00
1922-23	36.92	37.01	10.53	8.41	4.63	2.50	100.00
PER 10,000 OF MEAN POPULATION.							
1918-19	650	851	586	610	420	439	672
1919-20	709	908	564	611	482	488	714
1920-21	693	921	578	620	517	486	715
1921-22	699	934	553	620	544	475	719
1922-23	701	960	556	676	562	481	734

(a) See general note on first page of this Chapter.

2. Rates of Increase, 1918 to 1922-23.—The following table shows the percentage of increase or decrease on the average number of persons employed for the preceding year in each of the years from 1918-19 to 1922-23.

FACTORY EMPLOYEES.—PERCENTAGE OF INCREASE, 1918-19 TO 1922-23.

Years.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	%	%	%	%	%	%	%
1918—1918-19 ..	5.84	3.47	1.35	4.81	6.16	7.85	3.79
1918-19—1919-20..	13.22	11.58	-0.24	5.47	19.29	14.95	10.65
1919-20—1920-21..	0.39	3.39	5.64	0.36	10.55	2.09	2.63
1920-21—1921-22..	2.67	2.94	-2.20	2.44	6.42	-0.96	2.27
1921-22—1922-23..	2.28	5.35	2.73	11.31	5.35	1.95	4.30

NOTE.—The minus sign indicates decrease.

(a) See general note on first page of this Chapter.

3. Employees in Classes of Industry, Australia, 1918-19 to 1922-23.—The following table gives the average numbers of persons employed in factories under each group in Australia during the years 1918-19 to 1922-23 inclusive :—

FACTORY EMPLOYEES.—CLASSES, AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19. (a)	1919-20. (a)	1920-21. (a)	1921-22. (a)	1922-23. (a)
I. Treating raw material, product of agricultural and pastoral pursuits, etc. ..	10,775	12,040	10,494	10,925	11,394
II. Treating oils and fats, animal, vegetable, etc. ..	2,604	3,075	2,848	3,103	3,173
III. Processes in stone, clay, glass, etc. ..	13,761	16,271	18,311	16,974	18,666
IV. Working in wood ..	25,825	29,865	31,942	32,393	33,102
V. Metal works, machinery, etc. ..	62,679	70,025	80,550	76,798	78,614
VI. Connected with food and drink, etc. ..	59,891	61,757	57,599	59,252	60,888
VII. Clothing and textile fabrics, etc. ..	81,441	89,424	88,577	97,194	102,451
VIII. Books, paper, printing and engraving ..	25,000	26,826	27,522	28,673	31,015
IX. Musical Instruments, etc. ..	714	902	1,065	1,154	1,415
X. Arms and explosives ..	1,986	1,862	1,504	1,372	433
XI. Vehicles and fittings, saddlery and harness, etc. ..	13,630	15,525	16,334	16,808	19,532
XII. Ship and boat building and repairing ..	6,119	8,343	6,702	7,035	6,053
XIII. Furniture, bedding, and upholstery ..	9,827	11,317	11,827	11,475	12,608
XIV. Drugs, chemicals, and by-products ..	5,861	6,436	6,805	6,933	6,884
XV. Surgical and other scientific instruments ..	453	495	548	570	582
XVI. Jewellery, timepieces, and plated ware ..	2,345	2,719	2,707	2,503	2,489
XVII. Heat, light, and power ..	10,912	11,991	12,770	13,431	14,112
XVIII. Leatherware, n.e.l. ..	1,799	2,233	2,191	2,414	2,476
XIX. Minor wares, n.e.l. ..	4,853	5,828	6,343	6,418	6,523
Total ..	340,475	376,734	386,639	395,425	412,410

(a) See general note on first page of this Chapter.

On the average during each of the last four years, employment has been found for 17,984 additional persons in the manufacturing industries. The class responsible for the bulk of the increase was that connected with clothing and textile fabrics, as the result of the development which has occurred in woollen and knitting mills, boot factories, and the clothing industry.

4. Employees in Classes of Industry, States, 1922-23.—The following table gives a classification of employees in manufacturing industries in each State during 1922-23 :—

FACTORY EMPLOYEES.—CLASSES, STATES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23	Q'land. 1922.	S.A. 1922-23	W.A. 1922.	Tas. 1922.	Aus- tralia.
I. Treating raw material, product of agricul. and pastoral pursuits, etc.	4,177	4,488	767	1,054	400	508	11,394
II. Treating oils and fats, animal, vegetable, etc.	1,672	915	166	273	121	26	3,173
III. Processes in stone, clay, glass, etc.	8,303	6,059	828	2,048	1,132	296	18,666
IV. Working in wood	9,519	9,939	5,236	1,699	5,047	1,662	33,102
V. Metal works, machinery, etc.	34,459	23,626	6,761	9,015	3,086	1,667	78,614
VI. Connected with food and drink, etc.	19,518	19,037	12,838	4,168	2,351	1,976	60,888
VII. Clothing and textile fabrics, etc.	32,258	51,898	7,737	5,928	2,960	1,670	102,451
VIII. Books, paper, printing and engraving	12,299	10,979	3,321	2,251	1,298	867	31,015
IX. Musical instruments, etc.	888	444	..	67	16	..	1,415
X. Arms and explosives	24	406	..	3	..	..	433
XI. Vehicles and fittings, saddlery, and harness, etc.	6,561	6,407	1,444	3,713	837	570	19,532
XII. Ship and boat building and repairing	4,928	618	74	338	52	43	6,053
XIII. Furniture, bedding, and upholstery	4,725	4,392	1,856	1,157	589	389	12,608
XIV. Drugs, chemicals, and by-products.	2,780	2,619	133	853	464	35	6,884
XV. Surgical and other scientific instruments	215	203	82	46	36	..	582
XVI. Jewellery, timepieces, & plated ware	852	1,151	140	235	74	37	2,489
XVII. Heat, light, and power	5,280	5,364	1,100	1,481	357	580	14,112
XVIII. Leatherware, n.e.i.	1,064	1,123	189	92	(a)	8	2,476
XIX. Minor wares, n.e.i.	2,744	2,957	231	274	(b)277	40	6,523
Total	152,266	152,625	43,403	34,695	19,097	10,324	412,410

(a) Included in Class XIX.

(b) Includes Class XVIII.

The largest number employed in any particular class in Australia during 1922-23 was in Class VII., in which there were 102,451 employees, or 24.84 per cent. of the total in all classes. The class affording employment to the smallest number of hands was Class X., in which there were 433 hands, or 0.10 per cent. of the total. Classes VI., VII., and VIII. include those industries in which female labour is largely employed. (See § 5, 5 hereof.)

5. Employees According to Nature of Employment.—(i) *General.* In the following table the average numbers of persons employed in each State during 1922-23 are classified according to the nature of their employment :—

FACTORY EMPLOYEES.—NATURE OF EMPLOYMENT, 1922-23.

State.	Average Number of Persons Employed.						Total.
	Working Proprietors.	Managers and Overseers.	Accountants and Clerks.	Engineers and Firemen.	Workers, Skilled & Unskilled, in Factory Mill or Workshop. (a)	Carters, Messengers and Others.	
N.S. Wales, 1922-23	5,602	5,546	7,880	3,085	127,715	2,438	152,266
Victoria, 1922-23 ..	7,296	4,673	6,582	2,106	128,019	3,949	152,625
Queensland, 1922 ..	1,597	1,780	2,156	1,885	33,378	2,607	43,403
S. Australia, 1922-23	1,458	1,158	1,850	610	28,887	732	34,695
W. Australia, 1922	607	1,058	833	439	15,435	725	19,097
Tasmania, 1922 ..	500	412	630	302	8,162	318	10,324
Australia	17,060	14,627	19,931	8,427	341,596	10,769	412,410

(a) Including outworkers.

(ii) *Outworkers.* The term "outworker" or "homeworker" has acquired a special meaning in connexion with manufacturing industries, and technically embraces only those to whom work is given out by factory owners to be wrought upon in the employees' own homes. Individuals working for themselves are not included. The following table gives particulars of the average number of outworkers connected with factories in each State during each year from 1918-19 to 1922-23 inclusive:—

FACTORIES.—OUTWORKERS(a), 1918-19 TO 1922-23.

Year.(b)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
1918-1919 ..	582	1,022	30	57	4	20	1,715
1919-1920 ..	733	1,492	19	50	8	28	2,330
1920-1921 ..	471	1,151	41	68	14	45	1,790
1921-1922 ..	618	1,476	26	59	8	48	2,235
1922-1923 ..	547	1,228	33	84	8	32	1,932

(a) In all tables relating to number of hands employed in factories, outworkers are included.

(b) See general note on first page of this Chapter.

The Factories Acts in each State contain provisions regulating the employment of outworkers. Records of out-work, specifying the names and remuneration of workers, and stating the places where the work is done, must be kept by factory proprietors. Fuller information regarding the operation of the Factories Acts will be found in Official Year Book No. 16, pp. 540 to 566.

§ 5. Sex Distribution in Factories.

1. *Employment of Females.*—In all the States the employment of female labour in factories is regulated by Acts of Parliament. More extended reference to this matter will be found in Official Year Book No. 16, pp. 540 to 566.

2. *Distribution of Employees according to Sex.*—(i) *General.* In New South Wales the ratio of the number of females employed in factories to the number of males during 1886 was about one to seven; in 1891 one to six; in 1903 it became about one to four; and is now one to three. In Victoria the ratio of females to males during the year 1886 was about one to five. Five years later (1891) it was somewhat less, but in 1896 had increased to about one woman to three men, and at present is nearly one to two. In South Australia the ratio at the latest date was one female employed to every four males, and in the remaining States about one to five. The ratio for Australia was less than one to three. The employment of women is, however, mainly confined to a few trades.

Increasing activity in the clothing and textile industries is the principal cause of the growth in female employment. Certain occupations are regarded as specially suitable for women, such as clothing and textile manufacture, preparation of food, book-binding, and lighter work, such as wrapping and packing connected with other industries. In common also with commercial establishments, a considerable number of factories employ women as clerks and typists.

(ii) *Average Number of Males and Females Employed, 1918-19 to 1922-23.* The following table shows the average number of male and female employees in factories in each State from 1918-19 to 1922-23 :—

FACTORIES.—MALES AND FEMALES EMPLOYED, 1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
MALES.					
New South Wales ..	96,884	109,836	112,187	112,362	114,970
Victoria	81,357	92,101	96,379	97,789	103,092
Queensland	33,597	33,851	36,011	35,050	35,528
South Australia ..	22,372	23,434	24,548	25,006	27,988
Western Australia ..	10,497	12,789	14,329	15,514	15,851
Tasmania	7,356	8,503	8,746	8,525	8,453
Australia	252,063	280,514	292,200	294,246	305,882
FEMALES.					
New South Wales ..	30,707	34,618	32,824	36,514	37,296
Victoria	40,992	44,421	44,364	47,087	49,533
Queensland	7,393	7,040	7,185	7,198	7,875
South Australia ..	5,543	6,008	5,882	6,165	6,707
Western Australia ..	2,420	2,620	2,705	2,613	3,246
Tasmania	1,357	1,513	1,479	1,602	1,871
Australia	88,412	96,220	94,439	101,179	106,528

(a) See general note on first page of this Chapter.

During the years specified in the above table there has been an increase in the number of male factory employees in Australia of 53,819, or an annual average of 13,455, whilst the number of female employees increased by 18,116, or an annual average of 4,529.

(iii) *Average Number of Males and Females Employed per 10,000 of Mean Population, 1918-19 to 1922-23.* The following table shows the average number of male and female employees per 10,000 of the mean male and female population respectively in each State from 1918-19 to 1922-23 :—

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MEAN MALE AND FEMALE POPULATION RESPECTIVELY, 1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
MALES.					
New South Wales ..	984	1,054	1,051	1,037	1,038
Victoria	1,189	1,245	1,279	1,279	1,307
Queensland	931	895	910	869	862
South Australia ..	1,018	975	1,001	992	1,087
Western Australia ..	664	761	814	875	876
Tasmania	754	851	821	792	782
Australia	1,004	1,048	1,063	1,053	1,070

(a) See general note on first page of this Chapter.

MALE AND FEMALE FACTORY EMPLOYEES PER 10,000 OF MEAN MALE
AND FEMALE POPULATION RESPECTIVELY—*continued.*

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
FEMALES.					
New South Wales	314	330	321	350	350
Victoria	544	582	573	599	618
Queensland	219	203	204	199	213
South Australia	233	249	239	246	262
Western Australia	161	173	176	168	205
Tasmania	135	148	142	152	175
Australia	345	370	356	374	386

(a) See general note on first page of this Chapter.

3. Rate of Variation for each Sex.—The percentages of annual increase or decrease during the years 1918-19 to 1922-23 in the average number of males and females employed in factories are shown below :—

PERCENTAGES OF ANNUAL INCREASE, MALE AND FEMALE FACTORY
EMPLOYEES, 1918-19 TO 1922-23.

State.	1918-1918-19. (a)	1918-19- 1919-20.(a)	1919-20- 1920-21.(a)	1920-21- 1921-22.(a)	1921-22- 1922-23.(a)
MALES.					
New South Wales	% 7.62	% 13.37	% 2.14	% 0.16	% 2.31
Victoria	6.14	13.21	4.64	1.46	5.42
Queensland	(b) 2.55	0.76	6.38	-2.67	1.36
South Australia	4.91	4.75	4.75	1.87	11.93
Western Australia	(b) 8.17	21.83	12.04	8.27	2.17
Tasmania	(b) 7.23	15.59	2.86	-2.53	-0.84
Total	5.27	11.29	4.17	0.70	3.95

FEMALES.

New South Wales	0.58	12.74	-5.18	11.24	2.14
Victoria	-1.43	8.37	-0.13	6.14	5.19
Queensland	(b) -3.77	-4.77	2.06	0.18	9.41
South Australia	4.41	8.39	-2.10	4.81	8.79
Western Australia	(b) -1.79	8.26	3.24	3.40	24.23
Tasmania	(b) 11.32	11.50	-2.25	8.32	16.79
Total	-0.21	8.83	-1.85	7.14	5.29

NOTE.—The minus sign indicates decrease.

(a) See general note on first page of this Chapter.

(b) Twelve months ended 31st December, 1918.

The largest proportion of females is engaged in one or other of the three classes of industry indicated, Class VII. being the most important. The classification of the employment of females in the several industries in that class, and the relation of their number to that of the males so employed, are shown in the following table :—

FEMALES EMPLOYED IN EACH INDUSTRY IN CLASS VII. DURING 1922-23.

Industry.	New South Wales. 1922-23.			Victoria. 1922-23.			Other States.		
	Males.	Females	Femi- ninity. (a)	Males.	Females	Femi- ninity. (a)	Males.	Females	Femi- ninity. (a)
Woolen and tweed mills	675	861	12.11	2,169	2,432	7.89	316	475	20.10
Boots and shoes	3,866	2,096	-29.69	7,174	5,260	-15.39	1,943	1,148	-25.72
Slop clothing	2,600	8,471	53.03	2,274	7,743	54.60	1,845	5,889	52.29
Clothing (tailoring)									
Dressmaking and millinery	125	3,734	93.52	417	8,735	90.89	37	3,165	97.69
Dyeworks and cleaning	171	138	-10.68	138	122	-6.15	100	112	5.66
Furriers	117	150	12.36	185	338	29.25	3	3	..
Hats and caps	546	826	20.41	778	971	11.03	63	100	22.70
Waterproof and oilskin	59	183	51.24	51	122	41.04	1	3	50.00
Shirts, ties, and scarves	318	3,619	83.84	496	6,414	85.64	147	2,177	87.35
Hosiery and knitted goods	584	2,195	57.97	599	4,026	74.10	13	58	63.38
Rope and cordage	271	60	-63.74	649	451	-17.09	233	171	-15.35
Tents and tarpaulins	221	372	25.46	110	88	-11.11	97	63	-21.25
Other	..	..	..	32	124	58.97	64	69	3.76
Total, Class VII.	9,553	22,705	40.77	15,072	36,826	41.92	4,862	13,433	46.85

NOTE.—The minus sign denotes excess of males over females.

(a) Excess of females over males per 100 of both sexes combined.

§ 6. Child Labour in Factories.

1. **Conditions of Child Labour.**—The employment of young persons in factories in each State of Australia is regulated by Acts of Parliament in a similar manner to the employment of female labour. Reference to the legislation regarding the employment of child labour in factories will be found in Official Year Book No. 16, pp. 540 to 566. The general object of the restrictions imposed is to assure that a proper period shall be devoted to primary education and that the early years of toil shall not exhaust the worker before the attainment of full growth.

2. **Average Number of Children Employed, 1918-19 to 1922-23.**—In the statistical compilations of the various States the term "child" may be taken to denote any person
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under sixteen years of age. The following table shows the average number of children of each sex employed in manufacturing industries in each State during the years 1918-19 to 1922-23 :—

CHILDREN EMPLOYED IN FACTORIES, 1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
MALES.					
New South Wales	2,586	3,824	3,673	3,911	3,995
Victoria	3,137	3,721	3,715	3,780	4,031
Queensland	1,171	1,214	1,266	1,077	1,119
South Australia	834	866	991	996	1,125
Western Australia	407	447	448	401	452
Tasmania	244	327	315	287	282
Australia	8,379	10,399	10,408	10,452	11,004
FEMALES.					
New South Wales	2,561	3,764	3,610	4,150	4,288
Victoria	2,389	2,872	2,798	3,120	3,163
Queensland	711	645	738	774	969
South Australia	545	765	679	714	795
Western Australia	307	307	311	235	251
Tasmania	105	186	193	135	266
Australia	6,618	8,539	8,329	9,128	9,732
TOTAL.					
New South Wales	5,147	7,588	7,283	8,061	8,283
Victoria	5,526	6,593	6,513	6,900	7,194
Queensland	1,882	1,859	2,004	1,851	2,088
South Australia	1,379	1,631	1,670	1,710	1,920
Western Australia	714	754	759	636	703
Tasmania	349	513	508	422	548
Australia	14,997	18,938	18,737	19,580	20,736

(a) See general note on first page of this Chapter.

3. Percentage of Children on Total Number of Employees.—The foregoing table shows a general increase in the number of children employed in factories during the past four years. This increase is more marked among the females than the males, the respective gains being 3,114 and 2,625. Examined in conjunction with the total number of persons employed the percentage of children increased very little since 1918-19 :—

PERCENTAGE OF CHILDREN ON TOTAL NUMBER OF FACTORY EMPLOYEES,
1918-19 TO 1922-23.

State.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
	%	%	%	%	%
New South Wales ..	4.03	5.25	5.02	5.41	5.44
Victoria ..	4.52	4.83	4.63	4.76	4.71
Queensland ..	4.59	4.55	4.64	4.38	4.81
South Australia ..	4.94	5.54	5.49	5.49	5.53
Western Australia ..	5.53	4.89	4.46	3.51	3.68
Tasmania ..	4.01	5.12	4.97	4.17	5.31
Australia ..	4.40	5.03	4.85	4.95	5.03

(a) See general note on first page of this Chapter.

4. Industries Employing Child Labour.—The employment of children is largely confined to a limited number of industries, the most important of which are specified in the next table, which shows the average number of children of each sex employed during 1922-23 in the several industries indicated.

CHILDREN EMPLOYED.—VARIOUS INDUSTRIES, 1922-23.

Class.	Industry.	N.S.W. 1922-23.		Victoria. 1922-23.		Q'land. 1922.		S. Aust. 1922-23.		W. Aust. 1922.		Tas. 1922.		Australia.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
III.	Bricks, tiles, pottery, and earthenware ..	195	..	71	13	17	1	22	..	18	3	9	..	332	17
IV.	Joinery, boxes, cases, etc.	88	1	164	3	26	..	42	..	22	..	9	..	361	4
"	Saw mills ..	90	2	19	..	63	3	11	..	23	2	15	..	221	7
V.	Engineering, ironworks, and foundries ..	361	19	488	3	59	1	163	5	55	..	3	..	1,129	28
"	Galvanized ironwork- ing and tinsmithing ..	112	17	165	28	37	3	58	..	..	..	3	..	375	48
"	Railway carriage, rail- way and tramway workshops ..	34	..	165	..	2	..	16	..	1	..	..	..	218	..
VI.	Biscuits ..	256	141	84	41	7	16	11	11	16	10	17	..	391	226
"	Confectionery ..	66	143	43	58	26	52	4	34	2	6	17	52	158	345
"	Jams, pickles, sauces, etc.	14	19	57	40	11	18	30	19	3	5	52	18	167	119
"	Condiments, coffee, spices, etc. ..	86	132	7	..	1	2	62	8	1	..	..	..	157	142
"	Tobacco, cigars, etc. ..	45	134	78	8	..	..	2	1	1	6	..	..	126	149
VII.	Woolen, cotton, and tweed mills ..	54	97	200	207	10	25	10	11	..	..	23	47	297	387
"	Boots and shoes ..	222	251	357	335	54	103	59	48	24	9	18	24	734	770
"	Clothing (tailoring and slop) ..	118	903	102	379	44	284	30	201	11	55	9	46	314	1,868
"	Dressmaking and mil- linery ..	7	483	18	570	..	142	..	138	..	49	1	35	26	1,417
"	Shirts, ties, scarves, etc.	26	470	26	489	12	186	4	121	2	62	..	9	70	1,337
"	Hosiery and knitted goods ..	28	365	25	414	..	..	..	4	..	4	..	..	53	787
VIII.	Electrotyping, printing and binding ..	453	276	452	166	188	53	71	30	69	12	22	13	1,255	550
"	Paper making, paper boxes, etc. ..	79	169	27	74	5	26	21	79	4	8	..	..	136	356
XI.	Coach and wagon building ..	77	3	81	1	21	..	19	..	12	..	20	..	230	4
"	Cycles and motors ..	173	7	116	1	35	..	135	6	18	1	5	..	482	15
XIII.	Billiard tables, cabinet making and furniture	155	2	191	1	66	6	57	..	11	..	18	..	498	9
XIV.	Chemicals, drugs, and medicines ..	37	87	11	43	1	10	2	28	3	3	..	..	54	171
XVIII.	Leather belting, etc. ..	72	44	41	22	6	8	2	11	..	..	1	..	122	85

5. Apprenticeship.—In all the States Acts are in force for the regulation of the age at which children may be employed in gainful occupations. Legislative provision is also made for the regulation of apprenticeship under the various State Factories Acts or Arbitration Acts. These Acts, while laying down general principles, leave to the wages tribunals the actual determination of the conditions under which apprentices may be employed.

§ 7. Salaries and Wages Paid and Value of Production.

[NOTE.]—In all tables relating to Salaries and Wages paid in Factories the amounts given are exclusive of all sums drawn by working proprietors.

1. **General.**—The importance of the manufacturing industries of Australia is indicated by the fact that the total value of the output for 1922-23 was £326,497,136, of which amount the sum of £186,082,663 represents the value of the raw materials used. The difference between these two amounts, viz., £140,414,473, represents the amount by which the value of the raw materials was enhanced in the process of manufacture. The total amount of salaries and wages paid in factories during 1922-23 was £71,133,152.

2. **Salaries and Wages Paid.**—(i) *Total Amount, 1922-23.* The total amount of salaries and wages paid during the year 1922-23 in various classes of factories in Australia is shown in the following table :—

SALARIES AND WAGES PAID IN FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	869,272	848,518	142,929	174,421	54,145	46,660	2,126,945
II. Treating oils and fats, animal, vegetable, etc.	285,309	173,104	28,996	49,439	19,168	4,040	560,056
III. Processes in stone, clay, glass, etc.	1,698,000	1,240,998	157,799	407,824	204,424	50,156	3,759,201
IV. Working in wood	1,659,673	1,937,502	922,362	327,236	1,076,149	256,928	6,179,850
V. Metal works, machinery, etc.	7,076,984	4,666,474	1,426,221	1,854,944	642,600	395,176	16,062,399
VI. Connected with food and drink, etc.	3,393,049	3,538,736	2,512,595	697,699	447,818	284,245	10,874,142
VII. Clothing and textile fabrics, etc.	4,077,167	6,319,314	828,610	641,384	314,334	172,254	12,353,063
VIII. Books, paper, printing, and engraving, etc.	2,361,266	2,122,277	608,841	378,248	264,673	151,594	5,886,899
IX. Musical instruments, etc.	189,428	90,659	..	9,980	2,368	..	292,435
X. Arms and explosives	2,844	76,733	..	288	..	..	79,865
XI. Vehicles and fittings, saddlery and harness, etc.	1,085,172	1,074,237	215,738	546,626	133,012	80,603	3,135,388
XII. Ship and boat building and repairing	1,182,922	134,990	13,050	90,156	7,341	10,213	1,438,672
XIII. Furniture, bedding, and upholstery	810,913	693,135	225,726	179,610	110,199	53,795	2,073,378
XIV. Drugs, chemicals, and by-products	493,223	486,491	17,825	152,186	90,003	2,944	1,242,672
XV. Surgical and other scientific instruments	39,550	29,880	12,218	8,232	5,839	..	95,719
XVI. Jewellery, time-pieces, and plated ware	151,615	180,605	24,225	33,794	12,389	4,277	406,905
XVII. Heat, light & power	1,089,342	1,239,329	265,914	338,826	83,621	124,890	3,141,922
XVIII. Leatherware, n.e.i.	160,036	164,810	19,741	12,746	(a)	1,080	358,413
XIX. Minor wares, n.e.i.	433,965	529,400	25,169	40,106	(b)32,542	4,046	1,065,228
Total	27,050,730	25,547,192	7,447,959	5,943,745	3,500,625	1,642,901	71,133,152

(a) Included in Class XIX.

(b) Includes Class XVIII.

The maximum amount of salaries and wages paid in any particular class during 1922-23 was in Class V., the amount being £16,062,399, or 22.58 per cent. on the total amount; the minimum amount was in Class X., £79,865, or 0.11 per cent. on the total. The State in which the largest amount was paid was New South Wales.

(ii) *Totals and Averages, 1918-19 to 1922-23.* The following statement shows the total amount of salaries and wages paid, and the average amount paid per employee in each State, during each of the years 1918-19 to 1922-23. The figures are exclusive of working proprietors and of the amounts drawn from the business by them :—

SALARIES AND WAGES PAID IN FACTORIES.—TOTAL AND AVERAGE PER ANNUM PER EMPLOYEE, 1918-19 TO 1922-23.

Year. (a)	Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
1918-19	Total amount paid . .	16,957,919	14,080,403	5,121,188	3,651,715	1,730,896	963,974	42,506,095
	Average per employee . .	137.33	120.47	129.45	136.64	138.55	115.57	129.80
1919-20	Total amount paid . .	21,681,196	17,702,173	5,364,818	3,988,082	2,173,350	1,205,959	52,115,558
	Average per employee . .	154.87	135.52	135.86	141.63	145.24	126.03	143.65
1920-21	Total amount paid . .	25,618,591	21,377,216	6,718,905	4,866,211	2,870,567	1,480,228	62,931,718
	Average per employee . .	182.39	159.41	161.12	166.96	173.60	150.86	169.28
1921-22	Total amount paid . .	26,783,242	23,846,495	7,217,773	5,313,927	3,386,550	1,502,874	68,050,861
	Average per employee . .	186.21	172.84	177.12	177.76	191.04	156.93	179.24
1922-23	Total amount paid . .	27,050,730	25,547,192	7,447,959	5,943,745	3,500,625	1,642,901	71,133,152
	Average per employee . .	184.44	175.79	178.16	178.83	189.32	167.23	179.92

(a) See general note on first page of this Chapter.

In comparing the figures in the preceding table, regard should be paid to the nature of certain industries which are carried on to a greater extent in some States than in others. In Victoria, for instance, there is a large number of hands employed in Class VII., comprising a heavy percentage of women and children. The highest average wage per employee is paid in Western Australia, where the percentage of males employed is largest.

The salaries and wages paid in factories have advanced considerably during recent years in consequence of the rapid rise in the cost of living. During the past four years the average wage increased by £50.12, or 38.61 per cent., while the additional outlay for wage increases amounted in the aggregate to nearly £20,000,000.

(iii) *Earnings of Males and Females, 1922-23.* The following table shows the approximate amount paid in salaries and wages to males and females in each class of industry in each State during the year 1922-23 :—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
MALES.							
	£	£	£	£	£	£	£
I. Treating raw material product of agricultural and pastoral pursuits, etc. . .	842,352	844,623	142,101	173,657	53,622	46,590	2,102,945
II. Treating oils and fats, animal, vegetable, etc. . .	250,042	157,319	27,559	46,364	18,766	3,565	503,615
III. Processes in stone, clay, glass, etc. . .	1,684,422	1,225,128	156,510	406,676	200,510	49,884	3,723,130
IV. Working in wood . .	1,642,208	1,917,872	915,119	323,186	1,074,616	255,644	6,128,645
V. Metal works, machinery, etc. . .	7,001,227	4,612,128	1,417,162	1,840,413	639,367	302,328	15,902,625

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES,
1922-23—*continued.*

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
MALES—<i>continued.</i>							
	£	£	£	£	£	£	£
VI. Connected with food and drink, etc. . .	2,894,486	3,037,697	2,437,997	642,736	417,328	254,307	9,684,551
VII. Clothing and textile fabrics, etc. . .	1,828,651	2,841,655	365,594	269,829	117,238	84,181	5,507,148
VIII. Books, paper, printing and engraving . .	2,039,707	1,816,221	539,077	327,316	236,866	138,819	5,098,006
IX. Musical Instruments, etc. . .	182,028	88,687	..	9,811	2,212	..	282,738
X. Arms and explosives	2,647	61,295	..	288	..	..	64,230
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,058,735	1,055,669	207,215	528,647	129,474	77,109	3,056,849
XII. Ship and boat building and repairing	1,177,448	134,550	13,050	90,156	7,341	10,213	1,492,758
XIII. Furniture, bedding, and upholstery . .	747,256	646,606	217,068	174,312	107,226	51,894	1,944,362
XIV. Drugs, chemicals, and by-products . . .	404,721	420,682	11,083	143,213	85,136	2,736	1,067,571
XV. Surgical and other scientific instruments . . .	35,560	28,562	11,708	7,712	5,191	..	88,733
XVI. Jewellery, timepieces, and plated ware . .	141,481	170,659	22,547	32,852	12,101	4,065	383,705
XVII. Heat, light, and power	1,078,738	1,169,277	260,494	330,606	83,263	123,802	3,046,180
XVIII. Leatherware, n.e.i.	127,326	126,065	15,775	8,029	(a)	950	278,145
XIX. Minor wares, n.e.i. . .	317,386	444,451	21,823	36,537	(b)27,090	3,663	850,950
Total ..	23,456,421	20,799,146	6,781,882	5,392,340	3,217,347	1,499,750	61,146,886
FEMALES.							
I. Treating raw material product of agricultural and pastoral pursuits, etc. . .	17,920	3,895	828	764	523	70	24,000
II. Treating oils and fats, animal, vegetable, etc. . .	35,267	15,785	1,437	3,075	402	475	56,441
III. Processes in stone, clay, glass, etc. . .	13,578	15,870	1,289	1,148	3,914	272	36,071
IV. Working in wood . .	17,465	19,630	7,243	4,050	1,533	1,284	51,205
V. Metal works, machinery, etc. . .	75,757	54,346	9,059	14,531	3,233	2,848	159,774
VI. Connected with food and drink, etc. . .	498,563	501,039	74,598	54,963	30,400	29,938	1,189,591
VII. Clothing and textile fabrics, etc. . .	2,248,516	3,477,659	463,016	371,555	197,096	88,073	6,845,915
VIII. Books, paper, printing and engraving . .	321,559	306,056	69,764	50,932	27,807	12,775	788,893
IX. Musical instruments, etc. . .	7,400	1,972	..	169	156	..	9,697
X. Arms and explosives	197	15,438	..	..	..	..	15,635
XI. Vehicles and fittings, saddlery and harness, etc. . .	26,437	18,568	8,523	17,979	3,538	3,494	78,539
XII. Ship and boat building and repairing	5,474	440	..	..	..	..	5,914
XIII. Furniture, bedding, and upholstery . .	63,657	46,529	8,658	5,298	2,973	1,901	129,016
XIV. Drugs, chemicals, and by-products . . .	88,502	65,809	6,742	8,973	4,867	208	175,101
XV. Surgical and other scientific instruments . . .	3,990	1,318	510	520	648	..	6,986
XVI. Jewellery, timepieces, and plated ware . .	10,134	9,946	1,678	942	288	212	23,200
XVII. Heat, light, and power	10,604	70,052	5,420	8,220	358	1,088	95,742
XVIII. Leatherware, n.e.i.	32,710	38,745	3,966	4,717	(a)	130	80,268
XIX. Minor wares, n.e.i. . .	116,579	84,949	3,346	3,569	(b) 5,452	383	214,278
Total ..	3,594,309	4,748,046	666,077	551,405	283,278	143,151	9,986,266

(a) Included in Class XIX.

(b) Includes Class XVIII.

(iv) *Total and Average Earnings of Males and Females, 1918-19 to 1922-23.* Similar information for the last five years is given in the table hereunder:—

SALARIES AND WAGES.—MALE AND FEMALE FACTORY EMPLOYEES, 1918-19 TO 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
1918-19. <i>a</i> Amount paid .. £	14,966,669	11,531,666	4,710,717	3,344,623	1,578,600	892,743	37,025,018
Per cent. on total ..	88.26	81.90	91.98	91.59	91.20	92.61	87.11
Average per employee £	160.82	150.89	146.19	157.55	156.41	127.75	154.25
1919-20. <i>a</i> Amount paid .. £	19,128,348	14,483,166	4,909,725	3,605,180	2,000,474	1,116,679	45,243,572
Per cent. on total ..	88.23	81.82	91.52	90.40	92.05	92.60	86.81
Average per employee £	181.06	166.98	151.09	162.43	161.84	138.51	169.14
1920-21. <i>a</i> Amount paid .. £	22,766,216	17,668,917	6,168,744	4,430,269	2,647,957	1,376,822	55,058,925
Per cent. on total ..	88.87	82.65	91.81	91.04	92.25	93.01	87.49
Average per employee £	210.99	195.63	178.49	190.05	191.16	165.07	197.85
1921-22. <i>a</i> Amount paid .. £	23,466,566	19,497,451	6,596,101	4,827,612	3,155,091	1,388,741	58,931,562
Per cent. on total ..	87.62	81.76	91.39	90.85	93.17	92.41	86.60
Average per employee £	218.03	213.07	196.28	203.02	209.65	173.57	210.79
1922-23. <i>a</i> Amount paid .. £	23,456,421	20,799,146	6,781,882	5,392,340	3,217,347	1,499,750	61,146,886
Per cent. on total ..	86.71	81.41	91.06	90.72	91.91	91.29	85.96
Average per employee £	213.83	215.56	199.57	202.85	210.53	187.99	210.84
FEMALES.							
1919-20. <i>a</i> Amount paid .. £	1,991,250	2,548,737	410,471	307,092	152,296	71,231	5,481,077
Per cent. on total ..	11.74	18.10	8.02	8.41	8.80	7.39	12.89
Average per employee £	65.46	63.00	55.95	55.88	63.46	52.65	62.67
1919-20. <i>a</i> Amount paid .. £	2,552,848	3,219,007	455,093	382,882	172,876	89,280	6,871,986
Per cent. on total ..	11.77	18.18	8.48	9.60	7.95	7.40	13.19
Average per employee £	74.33	73.35	65.07	64.20	66.41	59.24	72.11
1920-21. <i>a</i> Amount paid .. £	2,852,375	3,708,299	550,161	435,942	222,610	103,406	7,872,793
Per cent. on total ..	11.13	17.35	8.19	8.96	7.75	6.99	12.51
Average per employee £	87.61	84.71	77.04	74.71	82.94	70.30	84.23
1921-22. <i>a</i> Amount paid .. £	3,316,676	4,349,044	621,672	486,315	231,459	114,133	9,119,299
Per cent. on total ..	12.38	18.24	8.61	9.15	6.83	7.59	13.40
Average per employee £	91.62	93.60	87.01	79.54	89.19	72.42	91.11
1922-23. <i>a</i> Amount paid .. £	3,594,309	4,748,046	666,077	551,405	283,278	143,151	9,986,266
Per cent. on total ..	13.29	18.59	8.94	9.23	8.09	8.71	14.04
Average per employee £	97.23	97.21	85.13	82.87	88.30	75.55	94.80

(a) See general note on first page of this Chapter.

(v) *Managers, Overseers, and Other Employees.* A further analysis of salaries and wages paid is given in the following table, the amounts paid to managers, overseers, etc., being differentiated from those paid to other employees. As previously mentioned, amounts drawn by working proprietors are excluded in all cases.

SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER FACTORY EMPLOYEES, AUSTRALIA, 1922-23.

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks.		All other Employees.		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
	£	£	£	£	£	£	£
I. Treating raw material product of agricultural and pastoral pursuits, etc. . . .	230,176	10,750	1,872,769	13,250	2,102,945	24,000	2,126,945
II. Treating oils and fats, animal, vegetable, etc. . . .	104,002	12,156	399,613	44,285	503,615	56,441	560,056
III. Processes in stone, clay, glass, etc. . . .	384,800	18,551	3,338,330	17,520	3,723,130	36,071	3,759,201
IV. Working in wood . . .	679,665	40,157	5,448,980	11,048	6,128,645	51,205	6,179,850
V. Metal works, machinery, etc. . . .	1,629,801	88,903	14,272,824	70,871	15,902,625	159,774	16,062,399
VI. Connected with food and drink, etc. . . .	1,758,914	172,482	7,925,637	1,017,109	9,684,551	1,189,591	10,874,142
VII. Clothing and textile fabrics, etc. . . .	886,603	357,321	4,620,545	6,488,594	5,507,148	8,845,915	12,353,063
VIII. Books, paper, printing and engraving . . .	1,084,206	161,384	4,013,800	627,509	5,098,006	788,893	5,886,899
IX. Musical instruments, etc. . . .	29,511	4,493	253,227	5,204	282,738	9,697	292,435
X. Arms and explosives . . .	18,928	616	45,302	15,019	64,230	15,635	79,865

**SALARIES AND WAGES.—MANAGERS, OVERSEERS, AND OTHER
FACTORY EMPLOYEES, AUSTRALIA, 1922-23—continued.**

Class of Industry.	Salaries and Wages Paid to—						
	Managers, Overseers, Accountants, and Clerks.		All Other Employees.		All Employees.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
XI. Vehicles and fittings, saddlery and harness, etc.	305,270	48,591	2,751,579	29,948	3,056,849	78,539	3,135,388
XII. Ship and boat building and repairing	160,537	4,823	1,272,221	1,091	1,432,758	5,914	1,438,672
XIII. Furniture, bedding, and upholstery	149,873	23,332	1,794,489	105,684	1,944,362	129,016	2,073,378
XIV. Drugs, chemicals, and by-products	253,849	36,715	813,722	138,386	1,067,571	175,101	1,242,672
XV. Surgical and other scientific instruments	15,323	2,385	73,410	4,801	88,733	6,986	95,719
XVI. Jewellery, timepieces, and plated ware	34,888	9,860	348,817	13,340	383,705	23,200	406,905
XVII. Heat, light, and power	620,769	43,239	2,425,411	52,503	3,046,180	95,742	3,141,922
XVIII. Leatherware, n.e.i.	44,816	8,751	233,329	71,517	278,145	80,268	358,413
XIX. Minor wares, n.e.i.	122,926	15,050	728,024	199,228	850,950	214,278	1,065,228
Total	8,514,857	1,059,559	52,632,029	8,926,707	61,146,886	9,986,266	71,133,152
Average paid per employee	821.51	131.23	199.72	91.78	210.84	94.80	179.92

3. Value of Fuel and Light Used.—(i) *Total Amount, 1922-23.* The expenditure in factories on fuel and light is of considerable importance; in 1922-23 it amounted to £8,659,615. The classes of industry in which fuel was most extensively used were Class V., Metal Works, Machinery, etc., £2,157,348; Class XVII., Heat, Light, Power, etc., £1,863,494, of which amount £1,624,908 was expended on generating electric light and power; Class VI., Connected with Food, Drink, etc., £1,731,534; and Class III., £1,251,053. The following table shows the value of fuel and light used in the different classes of industry during 1922-23 :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	£ 130,189	£ 116,117	£ 19,904	£ 22,722	£ 7,336	£ 2,277	£ 298,545
II. Treating oils and fats, animal, vegetable, etc.	48,666	37,148	3,015	5,165	5,638	484	100,116
III. Processes in stone, clay, glass, etc.	550,841	425,586	34,738	158,843	64,902	16,143	1,251,053
IV. Working in wood	60,192	41,115	20,045	8,933	11,250	4,484	146,019
V. Metal works, machinery, etc.	1,285,678	300,693	113,545	317,200	37,254	102,978	2,157,348
VI. Connected with food and drink, etc.	569,828	560,548	362,653	138,899	74,123	25,483	1,731,534
VII. Clothing and textile fabrics, etc.	103,291	216,177	17,778	13,436	5,993	4,226	365,901
VIII. Books, paper, printing, engraving	81,482	98,868	21,254	13,063	7,623	3,415	225,705
IX. Musical instruments, etc.	3,372	1,727	..	138	11	..	5,248
X. Arms and explosives	63	7,744	..	8	..	..	7,815
XI. Vehicles and fittings, saddlery and harness, etc.	34,775	33,124	4,577	18,114	6,116	2,704	99,410
XII. Ship and boat building and repairing	53,650	5,903	213	5,467	69	130	65,432
XIII. Furniture, bedding, and upholstery	21,319	20,855	6,773	5,223	2,646	1,281	58,097
XIV. Drugs, chemicals, and by-products	44,624	56,971	976	28,937	7,344	293	139,145
XV. Surgical and other scientific instruments	743	1,168	367	320	126	..	2,724
XVI. Jewellery, timepieces, and plated ware	5,174	6,604	962	1,781	294	177	14,992
XVII. Heat, light, and power	999,240	417,185	83,006	204,268	130,133	29,662	1,863,494
XVIII. Leatherware, n.e.i.	1,904	5,330	302	226	(a)	16	7,778
XIX. Minor wares, n.e.i.	26,037	90,818	548	712	(b)1,132	12	119,259
Total	4,021,068	2,443,681	690,656	948,455	361,990	193,765	8,659,615

(a) Included with Class XIX.

(b) Includes Class XVIII.

(ii) *Total Amount, 1918-19 to 1922-23.* The following table gives the sums expended on fuel and light during the past five years :—

VALUE OF FUEL AND LIGHT USED IN FACTORIES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
1918-19	2,298,041	1,457,124	424,099	644,687	211,950	105,392	5,141,293
1919-20	2,710,666	1,723,220	531,612	558,802	222,334	112,555	5,850,189
1920-21	3,608,744	2,184,096	766,500	704,775	273,061	155,222	7,692,488
1921-22	3,983,730	2,329,760	668,224	798,495	324,619	151,553	8,256,381
1922-23	4,021,068	2,413,681	690,656	948,455	361,990	193,765	8,659,615

(a) See general note on first page of this Chapter.

4. *Value of Raw Materials Used.*—(i) *Total Amount, 1922-23.* The value of raw materials worked up (i.e., exclusive of fuel, lubricants, etc.) in factories in Australia during 1922-23 was £186,082,663, which represents 56.99 per cent. of the total value of the final output. (See next sub-section.) The following table shows the value of the raw materials worked up in various classes of industry in each State :—

VALUE OF RAW MATERIALS USED IN FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	6,925,316	4,678,979	1,350,492	856,556	444,149	339,484	14,594,976
II. Treating oils and fats, animal, vegetable, etc.	1,697,955	790,919	108,836	221,477	89,554	11,541	2,920,282
III. Processes in stone, clay, glass, etc.	1,395,561	561,230	138,783	295,586	116,575	15,577	2,523,312
IV. Working in wood	4,105,083	2,346,950	1,482,114	1,287,808	277,431	150,015	9,649,401
V. Metal works, machinery, etc.	13,538,294	6,460,452	1,434,976	4,704,760	719,589	807,302	27,665,373
VI. Connected with food and drink, etc.	31,012,354	24,841,387	13,786,677	5,038,471	2,165,123	1,259,300	78,103,312
VII. Clothing and textile fabrics, etc.	7,317,746	12,953,821	1,612,191	1,029,108	655,982	268,050	23,836,898
VIII. Books, paper, printing, and engraving	2,831,800	2,675,426	527,443	490,167	246,657	140,934	6,912,427
IX. Musical instruments, etc.	195,690	111,824	..	5,788	16,905	..	330,207
X. Arms and explosives	7,270	222,653	..	606	..	..	230,529
XI. Vehicles and fittings, saddlery and harness, etc.	1,147,683	1,201,133	333,411	863,458	157,832	79,775	3,783,292
XII. Ship and boat building and repairing	497,441	121,202	8,249	93,242	3,803	5,452	729,389
XIII. Furniture, bedding, and upholstery	1,440,814	1,128,892	341,828	211,794	139,208	53,151	3,315,687
XIV. Drugs, chemicals, and by-products	2,241,459	1,635,958	43,363	534,196	394,095	21,330	4,870,401
XV. Surgical and other scientific instruments	33,064	25,013	8,817	6,231	8,211	..	81,336
XVI. Jewellery, timepieces, and platedware	128,282	242,188	16,811	36,353	14,891	1,670	440,195
XVII. Heat, light, and power	1,695,492	1,240,320	138,623	209,254	55,916	71,964	3,411,569
XVIII. Leatherware, n.e.i.	325,549	407,283	34,954	27,256	(a)	1,200	796,242
XIX. Minor wares, n.e.i.	685,548	1,012,533	36,172	103,441	(b) 47,426	2,715	1,887,835
Total	77,222,401	62,658,163	21,403,740	16,015,552	5,553,347	3,229,460	186,082,663

(a) Included in Class XIX.

(b) Includes Class XVIII.

The largest value of raw materials used was in Class VI., "Connected with Food and Drink, etc.," the total being £78,103,312. The next in order of importance was Class V., "Metal Works, Machinery, etc.," in which raw materials valued at £27,665,373 were used. The minimum value appears in Class XV., "Surgical and other Scientific Instruments," the total being only £81,336.

(ii) *Total Amount, 1918-19 to 1922-23.* The following table presents particulars of the values of raw materials used in factories during the past five years:—

VALUE OF RAW MATERIALS USED IN FACTORIES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1918-19 ..	69,737,452	52,098,737	19,693,043	13,759,882	3,963,470	3,230,188	162,482,772
1919-20 ..	81,188,497	65,563,104	19,386,068	12,970,957	5,051,114	3,563,137	187,722,877
1920-21 ..	91,104,505	65,401,425	24,073,200	14,375,430	6,677,414	4,234,308	205,866,282
1921-22 ..	82,090,396	60,352,561	24,808,420	14,087,930	6,087,693	2,983,265	190,410,265
1922-23 ..	77,222,401	62,658,163	21,403,740	16,015,552	5,553,347	3,229,460	186,082,663

(a) See general note on first page of this Chapter.

5. **Total Value of Output.** (i) *Total, 1922-23.* The value of the output of new goods manufactured and of repairs effected in factories of various classes in each State during 1922-23 is shown in the following table. The figures given represent not only the increase in value due to the process of manufacture, but also include the value of the raw materials used. The difference between the value of the materials used and the total output (see sub-section 6 hereof) is the real value of production from manufactories.

TOTAL VALUE OF OUTPUT OF FACTORIES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	8,799,767	6,314,548	2,199,970	1,174,575	594,273	445,322	19,528,455
II. Treating oils and fats, animal, vegetable, etc.	2,501,477	1,362,465	206,022	349,197	136,634	17,042	4,572,837
III. Processes in stone, clay, glass, etc.	5,004,400	3,144,545	497,491	1,137,010	442,538	111,184	10,337,168
IV. Working in wood	6,647,741	5,518,461	2,907,778	1,783,410	1,683,344	540,285	19,081,019
V. Metal works, machinery, etc.	25,774,784	13,709,244	3,592,652	7,756,338	1,506,960	1,699,006	54,038,984
VI. Connected with food and drink, etc.	41,751,398	34,269,930	21,115,294	6,857,218	3,265,673	1,826,966	109,086,479
VII. Clothing and textile fabrics, etc.	14,195,473	23,799,997	2,977,934	2,038,517	1,111,853	570,609	44,689,383
VIII. Books, paper, printing, and engraving	7,387,579	6,750,988	1,717,169	1,114,636	757,172	386,731	18,114,275
IX. Musical instruments, etc.	498,507	250,804	..	29,267	20,368	..	798,946
X. Arms and explosives	14,475	370,308	..	992	..	..	385,775
XI. Vehicles and fittings, saddlery and harness, etc.	2,793,337	2,911,085	721,520	1,748,315	357,731	205,131	8,737,119
XII. Ship and boat building and repairing	1,765,265	294,051	23,269	205,863	13,411	18,533	2,320,392
XIII. Furniture, bedding, and upholstery	2,667,046	2,251,480	683,912	491,913	290,412	137,276	6,522,039
XIV. Drugs, chemicals, and by-products	4,096,600	2,756,575	90,876	808,690	612,649	28,963	8,304,353
XV. Surgical and other scientific instruments	95,179	76,867	29,453	27,233	15,096	..	244,728
XVI. Jewellery, timepieces, and plated ware	370,682	558,436	51,717	96,022	30,698	8,854	1,116,419
XVII. Heat, light, and power	6,302,605	4,409,843	874,039	1,074,095	387,908	419,114	13,467,604
XVIII. Leatherware, n.e.i.	595,873	696,008	68,079	47,980	(a)	3,054	1,410,994
XIX. Minor wares, n.e.i.	1,472,952	1,840,708	66,926	167,494	(b) 93,931	8,156	3,650,167
Total	132,735,140	111,286,343	37,824,101	26,903,775	11,321,551	6,426,226	326,497,136

(a) Included in Class XIX.

(b) Includes Class XVIII.

New South Wales far exceeds the other States in respect of the total value of output, the value being £132,735,140, or 40.65 per cent. on the total for all States. Next in order of value is Victoria, which produced 34.08 per cent.; the value of the output of Queensland was 11.59 per cent.; of South Australia 8.24 per cent.; of Western Australia 3.47 per cent.; and of Tasmania 1.97 per cent. The two most important classes in order of value of output (Classes VI. and V.) are the same as in order of value of raw materials used.

(ii) *Totals and Averages, 1918-19 to 1922-23.* The following statement shows the value of output of factories, value per employee, and value per head of mean population in each State during the five years ended 1922-23 :—

TOTAL VALUE OF OUTPUT OF FACTORIES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
TOTAL.							
	£	£	£	£	£	£	£
1918-19 ..	104,803,018	80,195,677	30,559,839	20,810,630	7,003,505	5,684,219	249,056,888
1919-20 ..	123,213,480	101,475,363	32,452,744	20,454,539	8,723,928	6,216,554	292,536,608
1920-21 ..	137,841,386	106,008,294	39,190,242	22,358,109	11,443,080	7,151,972	323,993,083
1921-22 ..	132,820,065	106,243,181	40,334,298	23,854,857	11,291,739	5,796,625	320,340,765
1922-23 ..	132,735,140	111,286,343	37,824,101	26,903,775	11,321,551	6,426,226	326,497,136

PER EMPLOYEE.

	£	£	£	£	£	£	£
1918-19 ..	821	655	746	745	542	652	731
1919-20 ..	853	743	794	695	566	621	777
1920-21 ..	951	753	907	735	672	699	838
1921-22 ..	892	733	955	765	623	572	810
1922-23 ..	872	729	871	775	593	622	792

PER HEAD OF MEAN POPULATION.

	£	£	£	£	£	£	£
1918-19 ..	53.43	55.79	43.72	45.47	22.75	28.67	49.13
1919-20 ..	60.45	67.50	44.78	42.47	27.30	30.32	55.41
1920-21 ..	65.92	69.37	52.43	45.52	34.72	33.99	59.95
1921-22 ..	62.44	68.50	52.75	47.46	33.88	27.17	58.28
1922-23 ..	61.09	69.98	48.43	52.42	33.33	29.92	58.11

(a) See general note on first page of this Chapter.

6. Value Added in Process of Manufacture.—(i) *Total in Classes, 1922-23.* The difference between the figures given in sub-section 5 and the corresponding figures in sub-section 4 represents the amount added to the value of the raw materials by the process of manufacture. This is the real measure of the value of production of manufacturing industries. The following table shows the value added in this manner during 1922-23 in each State for the various classes of factories :—

VALUE ADDED IN PROCESS OF MANUFACTURE, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	£ 1,874,451	£ 1,635,569	£ 849,478	£ 318,019	£ 150,124	£ 105,838	£ 4,933,470
II. Treating oils and fats, animal, vegetable, etc.	803,522	571,546	97,186	127,720	47,080	5,501	1,652,555
III. Processes in stone, clay, glass, etc.	3,608,839	2,583,315	358,708	841,424	325,963	95,607	7,813,856
IV. Working in wood	2,542,658	3,171,511	1,425,664	495,602	1,405,913	390,270	9,431,618
V. Metal works, machinery, etc.	12,236,490	7,248,792	2,157,676	3,051,578	787,371	891,704	26,378,611
VI. Connected with food and drink, etc.	10,739,044	9,428,543	7,328,617	1,818,747	1,100,550	567,666	30,983,167
VII. Clothing and textile fabrics, etc.	6,877,727	10,846,176	1,365,743	1,004,409	455,871	302,559	20,852,485
VIII. Books, paper, printing, and engraving	4,555,779	4,075,562	1,189,726	624,469	510,515	245,797	11,201,848
IX. Musical instruments, etc.	302,817	138,980	..	23,479	3,463	..	468,739
X. Arms and explosives.	7,205	147,655	..	386	..	..	155,246
XI. Vehicles and fittings, saddlery and harness, etc.	1,645,654	1,709,952	388,109	884,857	199,899	125,356	4,953,827
XII. Ship and boat building and repairing	1,267,824	172,849	15,020	112,621	9,608	13,081	1,591,003
XIII. Furniture, bedding, and upholstery	1,226,232	1,122,588	342,084	280,119	151,204	84,125	3,206,352
XIV. Drugs, chemicals, and by-products	1,855,141	1,120,617	47,513	274,494	218,554	7,633	3,523,952
XV. Surgical & other scientific instruments	62,115	51,854	20,636	21,002	7,785	..	163,392
XVI. Jewellery, timepieces, and plated ware	242,400	316,248	34,906	59,679	15,807	7,184	676,224
XVII. Heat, light, and power	4,607,113	3,169,523	735,416	864,841	331,992	347,150	10,056,035
XVIII. Leatherware, n.e.i.	270,324	288,725	33,125	20,724	(a)	1,854	614,752
XIX. Minor wares, n.e.i.	787,404	828,175	30,754	64,053	(b) 46,505	5,441	1,762,332
Total	55,512,739	48,623,180	16,420,361	10,888,223	5,768,204	3,196,766	140,414,473

(a) Includes Class XVIII.

(b) Included in Class XIX.

(ii) *Totals and Averages, 1918-19 to 1922-23.* The amount of the value added in each State is in much the same order as in the case of value of output, the six most important classes being VI., V., VII., VIII., XVII., and IV., in the order named. The value added to raw material by process of manufacture and the amount per employee and per head of mean population are shown in the following table for the years 1918-19 to 1922-23 :—

FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE,
1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
VALUE.							
1918-19	£ 35,065,566	£ 28,096,940	£ 10,866,796	£ 7,050,748	£ 3,040,035	£ 2,454,031	£ 86,574,116
1919-20	42,024,983	35,912,259	13,066,676	7,483,582	3,672,814	2,653,417	104,813,731
1920-21	46,736,881	40,606,869	15,117,042	7,982,679	4,765,666	2,917,664	118,126,801
1921-22	50,729,669	45,890,620	15,525,878	9,766,927	5,204,046	2,813,360	129,930,500
1922-23	55,512,739	48,623,180	16,420,361	10,888,223	5,768,204	3,196,766	140,414,473

(a) See general note on first page of this Chapter.

FACTORIES.—VALUE ADDED IN PROCESS OF MANUFACTURE, 1918-19 TO 1922-23—*continued.*

Year (a).	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
PER EMPLOYEE.							
	£	£	£	£	£	£	£
1918-19 ..	275	230	265	253	235	282	254
1919-20 ..	291	263	320	254	238	265	278
1920-21 ..	322	289	350	262	280	285	306
1921-22 ..	341	317	367	313	287	278	329
1922-23 ..	365	319	378	314	302	310	340
PER HEAD OF MEAN POPULATION.							
	£	£	£	£	£	£	£
1918-19 ..	17.88	19.55	15.55	15.41	9.88	12.38	17.08
1919-20 ..	20.62	23.89	18.03	15.54	11.49	12.94	19.85
1920-21 ..	23.35	26.57	20.22	16.25	14.46	13.86	21.86
1921-22 ..	23.85	29.59	20.30	19.43	15.62	13.19	23.63
1922-23 ..	25.55	30.58	21.02	21.22	16.98	14.88	24.99

(a) See general note on first page of this Chapter.

7. Value of Output and Cost of Production.—As the total value of the output for Australia for 1922-23 was estimated at £326,497,136, there remained, after payment of £186,082,663, the value of the raw materials used, of £71,133,152 for salaries and wages, and of £8,659,615 for fuel, the sum of £60,621,706 to provide for all other expenditure and profits. The following table gives corresponding particulars for each State, expressed absolutely, and as percentages on the total value of the output for the year 1922-23 :—

FACTORIES.—VALUE OF OUTPUT AND COST OF PRODUCTION, 1922-23.

State.	Raw Materials Used.	Fuel and Light.	Salaries and Wages.	All other Expenditure, Interest, and Profits.	Total Value of Output.
VALUE AND COST, ETC.					
	£	£	£	£	£
New South Wales, 1922-23	77,222,401	4,021,068	27,050,730	24,440,941	132,735,140
Victoria, 1922-23 ..	62,658,163	2,443,681	25,547,192	20,637,307	111,286,343
Queensland, 1922 ..	21,403,740	690,656	7,447,959	8,281,746	37,824,101
South Australia, 1922-23 ..	16,015,552	948,455	5,943,745	3,996,023	26,903,775
Western Australia, 1922 ..	5,553,347	361,990	3,500,625	1,905,589	11,321,551
Tasmania, 1922 ..	3,229,460	193,765	1,642,901	1,360,100	6,426,226
Australia ..	186,082,663	8,659,615	71,133,152	60,621,706	326,497,136

PERCENTAGE OF COSTS, ETC., ON TOTAL VALUE.

	%	%	%	%	%
New South Wales, 1922-23	58.18	3.03	20.38	18.41	100.00
Victoria, 1922-23 ..	56.30	2.20	22.96	18.54	100.00
Queensland, 1922 ..	56.59	1.83	19.69	21.89	100.00
South Australia, 1922-23 ..	59.53	3.53	22.09	14.85	100.00
Western Australia, 1922 ..	49.05	3.20	30.92	16.83	100.00
Tasmania, 1922 ..	50.25	3.02	25.57	21.16	100.00
Australia ..	56.99	2.65	21.79	18.57	100.00

§ 8. Value of Land, Buildings, Plant, and Machinery.

1. **General.**—As an indication of the permanent character and stability of the industries which have been established in Australia, it may be noted that the values of land and buildings and of plant and machinery used in the factories are rapidly increasing. Thus, for the whole of Australia the total value of land and buildings and plant and machinery has increased from 1918–19 to 1922–23 by £58,286,505, i.e., from £102,176,713 to £160,463,218, or at the rate of £14,571,626 per annum.

The following statement shows the values of land and buildings and of plant and machinery used in connexion with manufacturing industries in each State during the year 1922–23 :—

VALUE OF LAND, BUILDINGS, PLANT, AND MACHINERY, 1922–23.

Value of—	N.S.W. 1922–23.	Victoria. 1922–23.	Q'land. 1922.	S. Aust. 1922–23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
	£	£	£	£	£	£	£
Land and buildings	34,559,510	22,428,525	6,615,350	5,324,484	4,001,366	1,452,073	74,381,308
Plant and machinery	37,548,766	23,994,715	11,098,375	5,519,035	4,218,550	3,702,469	88,081,910
Total ..	72,108,276	46,423,240	17,713,725	10,843,519	8,219,916	5,154,542	160,463,218

The total capital invested in land, buildings, plant, and machinery in manufacturing industries in Australia during the year 1922–23 was approximately £160,463,218 (or £28 11s. 3d. per head of population); of that sum £74,381,308 was invested in land and buildings occupied as manufactories, the remaining £86,081,910 being the value of the plant and machinery used in connexion therewith.

2. **Value of Land and Buildings.**—(i) *Total, Australia, 1918–19 to 1922–23.* The value of the land and buildings occupied in connexion with manufacturing industries may be conveniently classified according to the nature of the industry concerned.

The following table shows for Australia as a whole the approximate values of land and buildings occupied in connexion with manufacturing industries of various classes during each year from 1918–19 to 1922–23 inclusive :—

VALUE OF LAND AND BUILDINGS.—AUSTRALIA, 1918–19 TO 1922–23.

Class of Industry.	1918–19.a	1919–20.a	1920–21.a	1921–22.a	1922–23.a
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	1,415,725	1,588,513	1,811,005	1,910,816	1,983,100
II. Treating oils and fats, animal, vegetable, etc.	610,573	614,877	680,763	741,683	831,004
III. Processes in stone, clay, glass, etc.	1,943,848	2,216,901	2,814,447	3,067,776	3,242,782
IV. Working in wood	2,349,500	2,622,071	3,061,888	3,359,738	3,889,858
V. Metal works, machinery, etc.	8,163,051	8,897,496	10,409,753	10,607,622	11,396,983
VI. Connected with food and drink, etc.	12,403,204	13,411,552	14,218,716	15,306,571	17,064,884
VII. Clothing and textile fabrics, etc.	6,059,980	6,876,671	8,265,497	10,122,483	11,588,846
VIII. Books, paper, printing, and engraving	4,029,014	4,270,008	4,738,597	5,158,723	6,132,123
IX. Musical instruments, etc.	121,885	134,462	195,072	226,751	304,432
X. Arms and explosives	257,520	264,020	275,482	277,582	207,500
XI. Vehicles and fittings, saddlery and harness, etc.	2,156,572	2,467,633	3,093,034	3,576,519	4,145,937
XII. Ship and boat building and repairing	1,059,529	1,122,468	1,391,113	1,880,720	1,796,690
XIII. Furniture, bedding, and upholstery	1,189,103	1,325,762	1,663,780	1,839,005	2,109,655
XIV. Drugs, chemicals, and by-products	1,393,237	1,446,721	1,687,297	2,059,410	2,171,915
XV. Surgical and other scientific instruments	106,225	104,628	132,161	156,048	189,777
XVI. Jewellery, timepieces, and plated ware	369,050	425,214	487,763	578,963	580,094
XVII. Heat, light, and power	3,999,806	4,342,913	4,867,348	5,138,371	5,277,183
XVIII. Leatherware, n.e.l.	178,444	231,073	304,506	310,904	359,636
XIX. Minor wares, n.e.l.	472,639	554,588	733,756	1,022,793	1,108,904
Total ..	48,278,905	53,017,571	60,331,468	67,322,458	74,381,308

(a) See general note on first page of this Chapter.

As shown in the above table, the total net increase during the four years was £26,102,403, or an annual average of £6,525,601. The largest increases were in Classes VII., VI., V., VIII., XI., and IV., and amounted to £5,528,866, £4,661,680, £3,233,937, £2,103,109, £1,989,365, and £1,540,358 respectively.

(ii) *Value in each State, 1922-23.* The following table gives similar information for each State for the past year:—

VALUE OF LAND AND BUILDINGS.—STATES, 1922-23.

Class of Industry.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
	£	£	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc. . .	872,602	766,045	130,956	133,508	59,242	20,747	1,983,100
II. Treating oils and fats, animal, vegetable, etc.	507,114	199,935	36,576	62,896	20,218	4,265	831,004
III. Processes in stone, clay, glass, etc. . .	1,782,238	795,270	144,922	308,756	178,028	33,568	3,242,782
IV. Working in wood . .	1,829,847	815,430	365,096	249,799	551,059	78,627	3,889,658
V. Metal works, machinery, etc.	5,841,826	2,806,100	761,060	1,101,719	683,446	202,837	11,396,688
VI. Connected with food and drink, etc. . .	6,584,411	4,644,725	3,060,107	1,128,231	1,061,184	586,226	17,064,884
VII. Clothing and textile fabrics, etc. . .	4,730,391	5,068,015	620,149	630,934	363,765	175,592	11,588,846
VIII. Books, paper, printing, and engraving . . .	2,863,847	1,899,535	614,221	390,228	291,998	72,294	6,132,123
IX. Musical instruments, etc.	159,437	112,920	..	25,445	6,630	..	304,432
X. Arms and explosives . .	4,750	199,250	..	3,500	..	..	207,500
XI. Vehicles and fittings, saddlery and harness, etc. . .	1,888,554	1,114,285	261,158	521,884	233,937	126,119	4,145,937
XII. Ship and boat building and repairing . . .	1,492,385	234,790	10,007	48,528	7,830	3,150	1,796,690
XIII. Furniture, bedding, and upholstery . . .	891,942	734,085	193,086	139,073	117,086	34,383	2,109,655
XIV. Drugs, chemicals, and by-products . . .	1,194,982	622,075	18,205	203,406	121,672	11,575	2,171,915
XV. Surgical and other scientific instruments . .	85,007	43,520	25,788	17,580	17,882	..	189,777
XVI. Jewellery, timepieces, and plated ware . .	244,546	220,605	31,555	44,301	25,785	13,302	580,094
XVII. Heat, light, and power	3,006,473	1,420,555	295,402	251,070	216,677	87,006	5,277,183
XVIII. Leatherware, n.e.i. . .	180,378	149,165	21,536	8,325	(a)	232	359,636
XIX. Minor wares, n.e.i. . .	398,780	582,220	25,526	55,301	(b)44,927	2,150	1,108,904
Total . . .	34,559,510	22,428,525	6,615,350	5,324,484	4,001,366	1,452,073	74,381,308

(a) Included in Class XIX.

(b) Includes Class XVIII.

The maximum value for Australia of land and buildings in any particular class was in Class VI., amounting to £17,064,884, or 22.94 per cent. on the total value. The next in order of importance were Classes VII., V., VIII., and XVII., in which the values were £11,588,846, £11,396,988, £6,132,123, and £5,277,183 respectively. The sum of the values for the five classes mentioned amounted to £51,460,024, or 69.18 per cent. on the total value for all classes.

(iii) *Value in each State, 1918-19 to 1922-23.* The total value of factory land and buildings at the end of each year from 1918-19 to 1922-23 is given hereunder.

VALUE OF LAND AND BUILDINGS, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
1918-19 . .	22,081,877	13,673,515	5,519,316	3,672,831	2,487,667	843,999	48,278,905
1919-20 . .	24,108,890	14,957,535	5,886,215	3,977,099	3,132,014	955,768	53,017,571
1920-21 . .	28,428,917	17,313,350	6,261,266	4,495,867	3,350,608	981,660	60,831,468
1921-22 . .	32,052,308	19,810,170	6,373,504	4,711,022	3,206,295	1,169,164	67,322,458
1922-23 . .	34,559,510	22,428,525	6,615,350	5,324,484	4,001,366	1,452,073	74,381,308

(a) See general note on first page of this Chapter.

Since 1918-19 there has been a general increase throughout Australia, the States showing the greatest progress being New South Wales, Victoria, and South Australia, with annual average increases of £3,119,408, £2,188,753, and £412,913 respectively.

3. Value of Plant and Machinery.—(i) *Total, Australia, 1918-19 to 1922-23.* The following table shows for Australia as a whole the approximate value of plant and machinery used in factories during each year from 1918-19 to 1922-23 inclusive :—

VALUE OF PLANT AND MACHINERY.—AUSTRALIA, 1918-19 TO 1922-23.

Class of Industry.	1918-19.(a)	1919-20.(a)	1920-21.(a)	1921-22.(a)	1922-23.(a)
	£	£	£	£	£
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	1,382,538	1,668,023	1,823,119	1,915,266	2,064,189
II. Treating oils and fats, animal, vegetable, etc.	688,737	712,583	829,390	881,060	1,035,461
III. Processes in stone, clay, glass, etc.	2,414,539	2,853,294	3,565,033	4,231,438	4,841,188
IV. Working in wood	3,063,111	3,398,146	4,083,711	4,543,992	4,734,078
V. Metal works, machinery, etc.	10,702,907	11,959,693	14,688,625	15,833,262	16,701,195
VI. Connected with food and drink, etc.	13,648,102	14,532,708	16,472,128	18,037,602	20,214,770
VII. Clothing and textile fabrics, etc.	2,255,623	3,059,732	3,781,164	4,840,385	5,775,392
VIII. Books, paper, printing, and engraving	3,225,151	3,684,858	4,246,439	4,890,224	5,800,029
IX. Musical instruments, etc.	26,532	31,302	53,078	66,274	86,660
X. Arms and explosives	345,880	327,700	304,800	271,845	216,667
XI. Vehicles and fittings, saddlery and harness, etc.	532,361	627,087	853,259	941,849	1,047,440
XII. Ship and boat building and repairing	1,627,143	1,711,746	1,520,756	2,161,809	2,035,576
XIII. Furniture, bedding, and upholstery	306,853	369,738	466,952	505,870	559,354
XIV. Drugs, chemicals, and by-products	1,091,229	1,264,703	1,497,619	1,646,119	1,785,912
XV. Surgical and other scientific instruments	23,333	23,257	32,299	36,542	39,577
XVI. Jewellery, timepieces, and plated ware	84,453	103,690	114,892	125,764	137,512
XVII. Heat, light, and power	12,025,382	13,127,358	13,515,725	16,032,361	17,587,928
XVIII. Leatherware, n.e.l.	40,477	48,136	66,544	76,251	91,306
XIX. Minor wares, n.e.l.	413,457	490,840	734,687	997,767	1,027,676
Total	53,897,808	59,999,594	68,655,270	78,085,680	86,081,910

(a) See general note on first page of this Chapter.

During the past four years there has been a steady and substantial net increase amounting in all to £32,184,102, or an annual average of £8,046,026. All classes of industry participated, the largest increase being in Class VI., "Connected with Food and Drink, etc.," where it amounted to £6,566,668, while the next in order were Class V., "Metal Works, Machinery, etc.," with an increase of £5,998,288, and Class XVII., "Heat, Light, and Power," £5,862,546.

(ii) *Value in each State, 1918-19 to 1922-23.* The figures in the previous table refer to Australia as a whole. In the following table results are shown for each State, and it will be seen that the increase is general throughout the States. New South Wales shows by far the largest advance, viz., £13,897,614; while Victoria comes next with £10,349,495.

VALUE OF PLANT AND MACHINERY.—STATES, 1918-19 TO 1922-23.

Year.(a)	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
	£	£	£	£	£	£	£
1918-19	23,651,152	13,645,220	8,391,480	3,551,386	2,742,386	1,916,184	53,897,808
1919-20	26,366,083	15,846,935	8,867,803	3,931,562	2,938,889	2,048,322	59,999,594
1920-21	31,115,444	18,179,385	9,615,509	4,473,247	3,340,158	1,931,527	68,655,270
1921-22	35,229,530	21,182,110	10,253,104	4,896,264	3,596,377	2,927,795	78,085,680
1922-23	37,548,766	23,994,715	11,098,375	5,519,035	4,218,550	3,702,469	86,081,910

(a) See general note on first page of this Chapter.

(iii) *Value according to Industry, 1922-23.* The following table shows the value of plant and machinery used in factories in each State during 1922-23, classified according to the nature of the industry in which used:—

VALUE OF PLANT AND MACHINERY.—INDUSTRIES, 1922-23.

Class of Industry.	N. S. W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
I. Treating raw material, product of agricultural and pastoral pursuits, etc.	948,401	682,795	182,113	121,466	62,253	67,161	2,064,180
II. Treating oils and fats, animal, vegetable, etc.	568,971	234,485	58,152	137,382	35,796	675	1,035,461
III. Processes in stone, clay, glass, etc.	2,734,703	938,190	246,025	530,432	308,678	33,160	4,841,188
IV. Working in wood	1,336,569	1,027,445	735,688	135,474	1,309,806	189,096	4,734,078
V. Metal works, machinery, etc.	9,809,929	2,930,135	1,034,161	958,141	471,590	1,497,233	16,701,195
VI. Connected with food and drink, etc.	6,706,542	4,689,135	6,223,180	1,036,769	890,758	668,386	20,214,770
VII. Clothing and textile fabrics, etc.	1,753,891	3,432,905	211,657	209,518	72,323	95,098	5,775,392
VIII. Books, paper, printing, and engraving	2,592,549	2,130,265	409,513	304,047	271,640	92,015	5,800,029
IX. Musical instruments, etc.	52,522	31,770	..	2,193	175	..	86,660
X. Arms and explosives	2,677	213,640	..	350	..	..	216,667
XI. Vehicles and fittings, saddlery and harness, etc.	450,087	307,945	67,402	154,008	45,476	22,522	1,047,440
XII. Ship and boat building and repairing	1,815,227	107,460	30,210	77,452	3,307	1,920	2,035,576
XIII. Furniture, bedding and upholstery	226,940	166,485	75,039	45,397	30,777	14,716	559,354
XIV. Drugs, chemicals, and by-products	753,649	468,535	15,737	391,415	147,008	9,568	1,785,912
XV. Surgical and other scientific instruments	15,647	12,060	5,843	4,184	1,843	..	39,577
XVI. Jewellery, timepieces, and plated ware	50,092	64,220	6,718	12,357	2,520	1,595	137,512
XVII. Heat, light, and power	7,390,667	5,780,290	1,788,121	1,374,454	545,316	1,008,580	17,887,928
XVIII. Leatherware, n.e.l.	36,540	50,320	2,731	1,365	(a)	340	91,306
XIX. Minor wares, n.e.l.	303,163	676,615	6,985	22,631	(b)18,778	404	1,027,676
Total	37,548,766	23,994,715	11,098,375	5,519,035	4,218,550	3,702,469	86,081,910

(a) Included with Class XIX.

(b) Includes Class XVIII.

The greatest value for any particular class of industry is for Class VI., "Connected with Food and Drink, etc.," and amounts to £20,214,770, or 23.48 per cent. on the total for all classes. The next in order of importance is Class XVII., "Heat, Light, and Power," amounting to £17,887,928, or 20.78 per cent. on the total, followed by Class V., "Metal Works, Machinery, etc.," which amounts to £16,701,195, or 19.40 per cent. on the total value. The total for these three classes amounts to £54,803,893, or 63.66 per cent. on the total value for all classes.

§ 9. Individual Industries.

1. *General.*—The preceding remarks and tables furnish a general view of the recent development of particular classes of industries in Australia treated under the nineteen categories adopted by the Conference of Statisticians in 1906. In order to make the information complete, it is necessary to furnish details of the development of individual industries. While it is not possible, within the limits of this work, to give a full and detailed account of all the manufacturing industries of Australia, it is proposed to deal herein with such particular industries as are of special importance by reason of the number of persons employed, the number of factories, the amount of capital invested therein, the value of the production, or other features of special interest. In cases where there are only one or two establishments of a particular class in any State, returns relative to output are not published, in order to avoid disclosing information as to the operations of individual factories.

2. Tanneries.—(i) *Details for each State, 1922-23.* In Class I. the most important industry is tanning. Formerly the production of tanneries in Australia was confined to the coarser class of leathers, but the tanning of the finer skins is now undertaken with satisfactory results. The position of the industry in the several States is as follows :—

TANNERIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	78	49	17	10	6	3	163
Number of employees	1,395	2,443	336	204	97	67	4,542
Actual horse-power of engines employed	2,827	3,858	312	318	267	158	7,740
Approx. value of land and buildings £	294,597	381,000	24,860	32,639	23,609	12,623	769,328
Approx. value of plant and machinery £	207,555	338,160	33,438	21,420	18,778	8,209	627,560
Total amount of wages paid during year £	305,968	520,487	60,651	43,068	19,669	12,683	963,526
Value of fuel used	23,045	41,380	3,883	3,926	1,900	930	75,064
Value of raw material worked up £	1,424,513	1,825,999	282,110	112,932	76,896	43,531	3,765,981
Total value of output	1,979,964	2,775,224	445,751	172,174	122,402	72,843	5,568,358
Value added in process of manufacture £	555,451	949,225	163,641	59,242	45,506	29,312	1,802,377

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of the tanning industry during the period 1918-19 to 1922-23 is shown in the following table :—

TANNERIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	153	160	164	164	163
Number of employees	3,688	4,147	4,026	4,438	4,542
Actual horse-power of engines used	5,247	6,367	6,868	7,697	7,740
Approx. value of land and buildings £	459,163	552,521	684,892	721,699	769,328
Approx. value of plant and machinery £	360,682	422,976	520,400	581,008	627,560
Total amount of wages paid	£ 577,043	777,368	825,751	935,009	963,526
Value of fuel used	£ 45,957	60,981	62,247	72,581	75,064
Value of raw materials worked up £	£ 4,423,092	6,837,835	4,596,271	3,684,000	3,765,981
Value of final output	£ 5,762,741	8,772,336	6,179,417	5,451,596	5,568,358
Value added in process of manufacture £	£ 1,339,649	1,934,501	1,583,146	1,767,596	1,802,377

The above table shows increases in the number of factories, hands employed, and the equipment of the establishments in the tanning industry during the past four years. Owing to fluctuations in prices the financial figures in respect of materials used and output reveal a decline, whereas the industry has made good progress, the production of leather increasing from 45,668,951 lbs. in 1918-19 to 55,913,930 lbs. in 1922-23, while the number of basils turned out increased by 326,301 during the period.

(iii) *Raw Materials Used and Production, 1922-23.* The quantities of raw materials used and leather produced in tanneries in each State are shown in the following table :—

TANNERIES.—RAW MATERIALS USED AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Hides and calf skins No.	1,020,478	1,444,034	146,225	67,377	42,823	19,113	2,740,050
Sheep pelts	4,450,426	1,642,074	97,903	71,187	..	62,000	6,323,590
Other skins	354,632	761,866	311,036	2,250	28,653	1,319	1,459,756
Bark	11,524	13,683	2,739	1,166	1,091	467	30,670
Leather made	Lb. 21,407,476	27,325,665	3,929,059	1,380,158	1,558,074	313,498	55,913,930
Basils produced	3,293,744	1,676,324	97,899	71,307	..	40,260	5,179,534

3. **Fellmongering and Wool-scouring Works.**—(i) *Details for each State, 1922-23.* The next industry in importance in Class I. is that of fellmongering and wool-scouring, one of the earliest industries established in Australia. The following table gives particulars of the industry in each State during the past year :—

FELLMONGERING AND WOOL-SCOURING WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	46	30	17	3	3	..	99
Number of employees	1,504	609	340	86	37	..	2,576
Actual horse-power of engines used	3,883	1,672	645	192	138	..	6,530
Approx. value of land and buildings £	254,315	174,960	88,389	14,678	10,031	..	542,373
Approx. value of plant and machinery £	387,166	180,655	128,353	25,000	12,745	..	733,919
Total amount of wages paid £	312,714	137,539	70,316	16,433	9,013	..	546,015
Value of fuel used	£ 52,658	35,199	13,328	4,066	2,768	..	108,019
Value of raw material worked up £	3,945,744	1,507,302	1,040,038	175,684	180,017	..	6,848,785
Value of final output	£ 4,698,835	1,802,440	1,686,664	214,081	200,092	..	8,602,182
Value added in process of manufacture £	753,141	295,138	646,626	38,397	20,075	..	1,753,377

(ii) *Development in Australia, 1918-19 to 1922-23.* The following return furnishes particulars of fellmongering and wool-scouring establishments in Australia for the last five years :—

FELLMONGERING AND WOOL-SCOURING WORKS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	107	110	97	97	99
Number of employees	3,392	3,610	2,707	2,571	2,576
Actual horse-power of engines used	5,707	6,025	6,278	6,657	6,530
Approx. value of land and buildings £	466,658	514,499	548,084	541,561	542,373
Approx. value of plant and machinery £	584,343	683,227	681,366	720,972	733,919
Total amount of wages paid	£ 517,161	652,842	510,286	533,705	546,015
Value of fuel used	£ 84,478	99,981	84,833	99,741	108,019
Value of raw materials worked up	£ 11,213,481	12,279,135	6,682,138	5,660,278	6,848,785
Value of final output	£ 13,126,314	14,745,652	7,913,477	6,699,452	8,602,182
Value added in process of manufacture £	1,912,833	2,466,517	1,231,339	1,039,174	1,753,377

The wool-scouring industry developed considerably under the régime of the Central Wool Committee, and during 1919-20 the record output of 107,726,653 lbs. of scoured wool was produced. The production fell to 63,393,044 lbs. in 1920-21, but increases were recorded during the past two years, and the output of scoured wool in 1922-23 was 71,442,322 lbs.

4. **Soap and Candle Factories.**—(i) *Details for each State, 1922-23.* In Class II., soap and candle factories are the most important establishments. The manufacture of these two products is frequently carried on in the same factory, so that separate returns cannot be obtained; it may, however, be noted that the manufacture of soap is the more important. The following table gives particulars of soap and candle factories in each State during the year 1922-23 :—

SOAP AND CANDLE FACTORIES, 1922-23.

Items.	N. S. W. 1922-23.	Victoria. 1922-23.	Q. land. 1922.	S. Aust. 1922-23.	W. A. 1922. (c)	Tas. 1922.	Australia.
Number of factories	28	19	11	6	4	1	69
Number of employees	1,125	769	166	213	121	25	2,419
Actual horse-power of engines employed	1,027	662	189	311	121	10	2,320
Approx. value of land and buildings £	270,442	172,790	36,576	50,025	a	a	563,216 ^b
Approx. value of plant and machinery £	352,744	196,355	58,152	115,570	a	a	759,192 ^b
Total amount of wages paid during year £	179,478	142,685	28,996	41,314	a	a	415,681 ^b
Value of fuel used	33,930	23,686	3,015	3,985	a	a	75,728 ^b
Value of raw material worked up £	739,860	661,836	108,836	178,923	a	a	1,790,540 ^b
Total value of output	1,242,704	1,152,270	206,022	287,948	a	a	3,042,506 ^b
Value added in process of manufacture £	502,344	490,434	97,186	109,025	a	a	1,251,966 ^b

(a) Particulars not available for publication.

(b) Including Western Australia and Tasmania.

(c) Includes one oil and grease establishment.

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table gives similar particulars for the last five years as regards Australia as a whole :—

SOAP AND CANDLE FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19. ^a	1919-20. ^b	1920-21. ^b	1921-22. ^c	1922-23. ^d
Number of factories	60	61	62	69	69
Number of employees	1,902	2,163	2,008	2,329	2,419
Actual horse-power of engines used	1,568	1,749	1,782	2,015	2,320
Approx. value of land and buildings £	426,909	428,824	426,339	479,872	563,216
Approx. value of plant and machinery £	488,402	486,187	537,534	610,418	759,192
Total amount of wages paid	£ 251,762	296,352	326,449	394,567	415,681
Value of fuel used	£ 65,469	81,938	88,728	94,204	75,728
Value of raw material worked up	£ 1,830,417	2,389,706	2,119,957	1,755,252	1,790,540
Value of final output	£ 2,618,806	3,377,783	2,941,833	3,007,286	3,042,506
Value added in process of manufacture £	788,389	988,077	821,876	1,252,034	1,251,966

(a) Excluding three soap and candle establishments in Western Australia, and one in Tasmania.

(b) Excluding three soap and candle establishments in Western Australia.

(c) Including two bark mills, one fibre works, and one olive oil establishment in Western Australia.

(d) Including one oil and grease establishment in Western Australia.

(iii) *Raw Materials Used and Production, 1918-19 to 1922-23.* The following statement shows the quantities of certain raw materials used, together with the production, in soap and candle factories in Australia during the years 1918-19 to 1922-23 :—

SOAP AND CANDLE FACTORIES.—RAW MATERIALS USED AND PRODUCTION, AUSTRALIA, 1918-19 TO 1922-23.

Particulars.	1918-19. ^a	1919-20. ^a	1920-21. ^a	1921-22. ^a	1922-23. ^a
Tallow used cwt.	431,638	390,267	353,001	460,164	482,422
Alkali used	126,981	123,101	120,882	134,994	144,092
Coconut oil used gal.	624,802	469,549	459,013	591,117	662,161
Soap made cwt.	694,456	788,478	692,192	824,002	878,238
Candles made	97,692	104,676	87,304	91,116	101,586

(a) Exclusive of Western Australia.

5. Saw-mills, etc.—(i) *Details for States, 1922-23.* The most important industry in Class IV. is that of saw-milling. As separate particulars of forest saw-mills are not available for some of the States, both forest and other saw-mills, as well as joinery, moulding, and box factories, have been combined in the following table :—

SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC., 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	744	573	326	94	177	159	2,067
Number of employes	8,701	9,209	4,971	1,634	5,035	1,623	31,173
Actual horse-power of engines employed	19,111	14,650	9,746	2,653	9,272	2,183	57,615
Approximate value of land and buildings £	1,606,075	718,570	336,143	240,949	549,869	73,627	3,525,233
Approximate value of plant and machinery £	1,207,270	941,635	674,482	133,415	1,304,248	185,466	4,446,516
Total amount of wages paid during year £	1,528,014	1,784,207	879,663	316,969	1,074,304	248,980	5,832,137
Value of fuel used £	51,771	35,784	16,938	8,683	10,727	4,203	128,106
Value of raw material worked up £	3,874,194	2,177,304	1,382,312	1,262,316	2,67,437	141,009	9,104,572
Total value of output £	6,171,288	5,096,309	2,713,992	1,739,695	1,670,664	520,417	17,912,365
Value added in process of manu- facture £	2,297,094	2,919,005	1,331,680	477,379	1,403,227	379,408	8,807,793

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of forest and other saw-mills, etc., since 1918-19 is shown in the following table :—

SAW-MILLS, FOREST AND OTHER ; JOINERY, ETC.—AUSTRALIA,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of establishments	1,621	1,766	1,897	1,943	2,067
Number of employes	24,427	28,171	30,074	30,522	31,173
Actual horse-power of engines used ..	46,641	51,691	57,947	56,046	57,615
Approx. value of land and buildings £	2,132,509	2,376,011	2,773,952	3,036,444	3,525,233
Approx value of plant and machinery £	2,937,691	3,253,706	3,868,390	4,271,225	4,446,516
Total amount of wages paid	3,189,087	4,052,707	5,248,331	5,701,531	5,832,137
Value of fuel used £	78,294	91,341	102,195	115,049	128,106
Value of raw material worked up	5,773,999	7,624,110	9,344,674	8,348,619	9,104,572
Value of final output £	10,890,530	14,276,983	17,446,035	16,832,110	17,912,365
Value added in process of manufacture £	5,116,531	6,652,873	8,101,361	8,488,491	8,807,793

The pre-war development in Australia in the building and other trades using timber received a temporary check during the war years, but the all-round increases since 1918-19 in the number of employes, in wages, value of materials used, and final output, as well as in capital invested in land and buildings and plant and machinery, show that the industries concerned have practically regained their normal rate of progression.

6. *Agricultural Implement Works.*—(i) *General.* The manufacture of agricultural implements is an important industry in Australia, and is of particular interest, owing to the fact that it was one of the first to which it was sought to apply the so-called "New Protection." The articles manufactured include stripper-harvesters, strippers, stump-jump and other ploughs, harrows, disc and other cultivators, winnowers, corn-shellers and baggers, drills, and other implements employed in agriculture. The stripper-harvester, which combines the stripper with a mechanism for winnowing and bagging grain, is an Australian invention, and is exported to many countries.

(ii) *Details for States, 1922-23.* The following table gives particulars of the agricultural implement works in each State for the year 1922-23 :—

AGRICULTURAL IMPLEMENT WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	28	61	8	51	6	..	154
Number of employees	549	2,654	190	1,099	182	..	4,674
Actual horse-power of engines employed	328	1,723	242	1,091	235	..	3,619
Approx. value of land and buildings £	136,433	191,245	26,705	109,504	36,100	..	499,987
Approx. value of plant and machinery £	55,233	313,295	25,626	91,088	23,679	..	508,921
Total amount of wages paid during year £	111,398	555,394	38,516	193,595	42,875	..	941,778
Value of fuel used £	4,172	36,935	1,291	10,149	1,999	..	54,546
Value of raw material worked up £	114,428	626,561	51,724	199,374	193,818	..	1,190,905
Total value of output £	326,111	1,511,724	110,703	474,424	262,380	..	2,685,342
Value added in process of manufacture £	211,683	885,163	58,979	275,050	63,562	..	1,494,437

(iii) *Development in Australia, 1918-19 to 1922-23.* The Agricultural Implement industry declined considerably during the war years, but steady development has taken place since 1918-19, and substantial increases have occurred in all the items enumerated, although a slight decrease on the previous year's figures was noticeable in the returns for 1922-23. Details for the past five years are as follows :—

AGRICULTURAL IMPLEMENT WORKS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.a	1919-20.a	1920-21.a	1921-22.	1922-23.
Number of factories	138	141	141	140	154
Number of employees	2,914	3,116	4,299	4,696	4,674
Actual horse-power of engines used	2,335	2,505	2,576	3,312	3,619
Approx. value of land and buildings £	367,951	368,897	392,870	435,233	499,987
Approx. value of plant and machinery £	350,754	372,949	431,152	478,896	508,921
Total amount of wages paid £	420,750	465,558	794,554	987,610	941,778
Value of fuel used £	26,755	30,096	55,709	60,410	54,546
Value of raw material worked up £	531,766	586,048	1,064,611	1,387,571	1,190,905
Value of final output £	1,149,121	1,282,931	2,288,713	2,863,875	2,685,342
Value added in process of manufacture £	617,355	696,883	1,224,102	1,476,304	1,494,437

(a) Excluding three establishments in Western Australia.

7. Engineering Works, Ironworks, and Foundries.—(i) *Details for States, 1922-23.* The classification in these industries is not very satisfactory. Generally, engineering shops, ironworks, and foundries are included, as also are factories for making nails, safes, patterns, meters, and springs. Railway workshops, agricultural implement factories, cyanide, smelting, pyrites, and metallurgical works, galvanized iron works, stove and oven-making works, and wire-working establishments are not included. The combination of industries is rendered necessary owing to the limited classification still adopted by some of the States.

ENGINEERING WORKS, IRONWORKS, AND FOUNDRIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	475	584	103	96	86	24	1,368
Number of employees	14,388	11,061	2,216	2,631	1,094	432	31,872
Actual horse-power of engines employed	32,242	13,639	1,791	1,824	1,564	268	51,328
Approximate value of land and buildings £	2,594,268	1,283,750	206,633	270,808	166,026	38,545	4,560,030
Approximate value of plant and machinery £	4,008,230	1,478,485	240,599	273,443	147,123	53,437	6,201,317
Total amount of wages paid during year £	2,625,899	2,183,506	494,421	496,650	193,499	79,991	6,078,966
Value of fuel used £	281,310	188,619	32,332	39,926	13,931	4,665	560,783
Value of raw materials worked up £	4,615,718	2,721,701	483,285	710,729	218,935	45,655	8,794,023
Total value of output £	8,538,895	6,285,387	1,296,468	1,471,825	513,451	154,919	13,260,945
Value added in process of manufacture £	3,922,177	3,563,686	813,183	761,096	296,516	109,264	9,466,922

In addition to engineering works which supply ordinary requirements, there is now a large number of establishments which engage in the manufacture of special classes of machinery and implements. The manufacture of mining and smelting machinery and apparatus forms an important section of this industry.

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of engineering works, ironworks, and foundries in Australia since 1918-19 is shown in the following table :—

**ENGINEERING WORKS, IRONWORKS, AND FOUNDRIES.—AUSTRALIA,
1918-19 TO 1922-23.**

Items.	1918-19a.	1919-20a.	1920-21a.	1921-22.	1922-23.
Number of factories	1,058	1,141	1,248	1,281	1,368
Number of employees	25,834	31,050	33,914	30,628	31,872
Actual horse-power of engines used ..	47,078	53,410	48,852	51,780	51,328
Approx. value of land and buildings £	3,139,984	3,527,933	4,108,640	4,197,014	4,560,030
Approx. value of plant and machinery £	5,120,625	6,339,285	5,702,388	5,933,667	6,201,317
Total amount of wages paid £	3,821,623	5,161,441	6,523,651	6,265,599	6,078,966
Value of fuel used	£ 649,119	1,037,012	831,032	623,273	560,783
Value of raw material worked up £	9,942,386	11,928,660	14,247,190	11,727,407	8,794,023
Value of final output	£ 16,291,175	20,209,329	24,361,080	21,468,595	18,260,945
Value added in process of manufacture £	6,348,789	8,280,669	10,113,890	9,741,188	9,466,922

(a) Including three agricultural implement establishments in Western Australia.

The expansion of local industry during recent years has necessitated an increased provision of machinery, and the difficulty of obtaining overseas supplies during the war and for some years after created an opportunity of which the Australian engineering trade has availed itself largely. Since 1918-19 the number of establishments has increased by more than 29 per cent. and the number of employees by 23 per cent., while the capital invested in land, buildings, plant and machinery increased from £8,260,609 to £10,761,347. It is difficult to measure the output of the engineering industries owing to price fluctuations, but the closing down of the Broken Hill Proprietary Company's Steel Works at Newcastle during the major part of 1922-23 was mainly responsible for the greatly reduced output recorded for that year. These industries are all large consumers of Australian materials, and for this reason their progress is doubly important.

8. *Railway and Tramway Workshops.*—(i) *Details for each State, 1922-23.* The railway and tramway workshops which form an important item in Class V. are chiefly State-owned institutions. The following table giving details concerning them includes, however, private and municipal establishments for manufacturing and repairing rolling-stock :—

RAILWAY AND TRAMWAY WORKSHOPS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	37	18	11	19	20	7	112
Number of employees	10,538	5,706	2,607	2,665	1,756	400	23,672
Actual horse-power of engines employed	6,567	3,233	3,009	1,228	2,306	260	16,603
Approximate value of land and buildings	£ 1,475,346	781,110	350,786	346,083	474,576	1,165	3,429,066
Approximate value of plant and machinery	£ 1,725,382	734,760	206,355	242,359	298,528	91,868	3,299,252
Total amount of wages paid during year	£ 2,616,029	1,211,233	615,171	658,213	392,621	98,253	5,591,520
Value of fuel used	£ 59,763	35,777	10,822	25,052	21,050	3,331	155,795
Value of raw material worked up	£ 1,788,691	1,663,131	366,201	325,408	285,474	30,694	4,450,590
Total value of output	£ 4,475,613	3,213,280	906,286	1,126,501	693,982	177,387	10,603,049
Value added in process of manufacture	£ 2,686,922	1,550,149	540,085	811,093	408,508	146,693	6,143,450

In addition to the above, a railway workshop is in operation in the Northern Territory. The work is confined almost exclusively to repairs to rolling-stock, etc., no new goods being manufactured. For the sake of convenience this establishment is not included in any of the tables in this chapter.

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table shows the development of railway and tramway workshops in Australia since 1918-19 :—

RAILWAY AND TRAMWAY WORKSHOPS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	94	94	103	101	112
Number of employees	19,036	21,488	23,670	23,802	23,672
Actual horse-power of engines used ..	13,434	15,626	16,142	15,889	16,603
Approx. value of land and buildings £	2,944,626	2,976,838	3,123,818	3,287,393	3,429,066
Approx. value of plant and machinery £	2,636,591	2,616,001	2,810,282	3,111,789	3,299,252
Total amount of wages paid	£ 3,106,829	£ 3,977,702	£ 5,273,942	£ 5,609,957	£ 5,511,520
Value of fuel used	£ 90,818	£ 104,496	£ 132,956	£ 143,357	£ 155,795
Value of raw material worked up ..	£ 2,082,557	£ 2,829,907	£ 3,808,850	£ 4,518,058	£ 4,459,599
Value of final output	£ 5,418,996	£ 7,116,984	£ 9,488,649	£ 10,610,662	£ 10,603,049
Value added in process of manufacture £	£ 3,336,439	£ 4,287,077	£ 5,679,799	£ 6,092,604	£ 6,143,450

The growth of the railway and tramway systems, conjointly with heavy increases in passenger and goods traffic throughout Australia, has resulted in corresponding activity in workshops engaged in the manufacture or repair of rolling-stock, etc. During the war, the operations of these establishments were restricted to necessary work, but since 1918-19 the rate of expansion has been rapid. The number of employees has risen from 19,036 to 23,672, and the value of the output has been almost doubled during the past four years.

9. *Smelting Works, etc.*—The following table gives particulars of metal smelting, cyanide, pyrites, and metallurgical works. The classification of these works is not uniform in the several States, and the combination of industries is, therefore, somewhat unsatisfactory. The returns do not include particulars of plants used on mines.

SMELTING, CYANIDE, PYRITES, ETC., WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922. (a)	Tas. 1922.	Australia.
Number of factories	17	11	5	2	..	3	38
Number of employees	2,849	81	552	1,548	..	714	5,754
Actual horse-power of engines employed ..	24,334	90	4,501	6,439	..	19,516	54,880
Approx. value of land and buildings £	465,128	17,685	15,332	b	..	b	c 920,665
Approx. value of plant and machinery £	2,790,449	15,555	438,836	b	..	b	c 4,866,551
Total amount of wages paid during year £	£ 571,752	£ 14,379	£ 96,524	b	..	b	c 1,243,121
Value of fuel used	£ 816,039	£ 5,391	£ 65,151	b	..	b	c 1,217,060
Value of raw material worked up ..	£ 3,928,632	£ 101,008	£ 222,056	b	..	b	c 8,193,241
Total value of output	£ 7,215,521	£ 141,321	£ 641,177	b	..	b	c13,492,807
Value added in process of manufacture £	£ 3,286,889	£ 40,313	£ 419,121	b	..	b	c 5,299,566

(a) See third paragraph below.

(b) Information not available for publication.

(c) Including South Australia and Tasmania.

In New South Wales the figures quoted represent seventeen smelting works; those for Victoria include three cyanide and eight metallurgical works; Queensland smelting and cyaniding works; South Australia two smelting works; and Tasmania three smelting works.

The output of the base metal industry has declined in Australia during the past four years, although considerable improvement has been effected on the production figures for 1919-20, when the industry suffered a serious depression owing to the slump in metal prices. The equipment of these metal establishments has been greatly developed since 1918-19, the value of the plant and machinery used therein increasing from £1,832,731 to £4,866,551, while the actual horse-power of the engines used was nearly doubled.

In Western Australia all the plants are worked on the mines, and are therefore not included.

10. Bacon-curing Factories.—(i) *Details for each State, 1922-23.* The following table gives particulars of factories engaged in bacon-curing in each State during the past year :—

BACON-CURING FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	21	24	6	10	6	4	71
Number of employees	308	494	404	144	55	21	1,426
Actual horse-power of engines employed	505	1,262	764	218	204	76	3,029
Approximate value of land and buildings £	124,048	168,350	109,955	25,201	35,779	4,685	468,108
Approximate value of plant and machinery £	71,037	104,075	63,039	16,908	17,360	1,932	274,351
Total amount of salaries and wages paid £	78,353	104,841	90,776	27,604	13,292	3,357	318,223
Value of fuel used £	13,253	16,905	10,829	2,700	2,501	485	46,673
Value of raw material worked up ..	811,996	1,030,686	515,427	215,599	106,511	52,701	2,732,920
Total value of output £	983,962	1,289,267	987,480	281,336	131,440	59,289	3,732,774
Value added in process of manu- facture £	171,966	258,581	472,053	65,737	24,929	6,588	999,854

(ii) *Quantity and Value of Production.* The following table shows the number of pigs killed and the quantity and value of the production of bacon-curing factories in each State for the year 1922-23 :—

BACON-CURING FACTORIES.—PIGS KILLED, AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Aus- tralia.
PIGS KILLED.							
Number	201,542	186,524	171,246	52,232	(a)17,028	10,486	639,058
PRODUCTS (,000 OMITTED).							
Bacon and ham lbs.	17,506	17,293	14,593	4,141	1,795	1,070	56,398
Lard	754	861	782	144	120	77	2,738
VALUE.							
Bacon and ham £	891,801	880,953	691,615	227,440	106,482	52,935	2,851,226
Lard	23,939	27,334	26,943	5,308	3,522	2,354	89,400
Other products £	64,371	330,980	268,922	48,588	21,436	4,000	788,297

(a) In Western Australia, a portion of the bacon and ham treated in factories is imported and subsequently smoked in that State.

Bacon and ham and other pig products are dealt with more fully in Chapter XVIII. *Farmyard, Dairy, and Bee Products.*

11. Butter, Cheese, and Condensed Milk Factories.—(i) *Details for each State, 1922-23.* The subjoined table gives particulars of butter, cheese and condensed milk factories in each State during the year 1922-23 :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	170	182	129	51	8	33	573
Number of employes	1,295	2,278	1,102	284	38	144	5,141
Actual horse-power of engines employed	4,556	4,768	2,629	673	266	257	13,149
Approximate value of land and buildings	£ 432,234	£ 683,640	£ 194,936	£ 125,885	£ 21,346	£ 32,688	£ 1,490,729
Approximate value of plant and machinery	£ 548,089	£ 863,620	£ 369,637	£ 102,135	£ 18,671	£ 232,609	£ 2,184,761
Total amount of wages paid	£ 287,130	£ 503,355	£ 227,054	£ 45,883	£ 9,060	£ 18,736	£ 1,091,218
Value of fuel used	£ 79,188	£ 115,608	£ 38,160	£ 7,244	£ 1,700	£ 2,244	£ 244,144
Value of raw material worked up	£ 6,004,647	£ 6,773,312	£ 3,608,190	£ 787,511	£ 85,220	£ 205,378	£ 17,464,258
Total value of output	£ 6,742,110	£ 7,899,377	£ 4,795,689	£ 924,329	£ 110,196	£ 275,081	£ 20,746,782
Value added in process of manufacture	£ 737,463	£ 1,126,065	£ 1,187,499	£ 136,818	£ 24,970	£ 69,703	£ 3,282,524

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table shows the progress of the factories in this industry during the past five years :—

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—AUSTRALIA,
1918-19 TO 1922-23.**

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	558	563	579	591	573
Number of employes	4,369	4,544	4,981	5,368	5,141
Actual horse-power of engines used	9,491	10,102	11,920	11,947	13,149
Approx. value of land and buildings	£ 907,148	£ 1,060,544	£ 1,229,964	£ 1,335,760	£ 1,490,729
Approx. value of plant and machinery	£ 1,107,127	£ 1,262,706	£ 1,491,974	£ 1,711,169	£ 2,184,761
Total amount of wages paid	£ 633,076	£ 742,341	£ 944,873	£ 1,109,860	£ 1,091,218
Value of fuel used	£ 140,125	£ 167,142	£ 225,356	£ 263,585	£ 244,144
Value of raw material worked up	£ 13,177,643	£ 13,737,678	£ 22,096,843	£ 18,082,449	£ 17,464,258
Value of final output	£ 15,120,395	£ 15,989,419	£ 25,400,335	£ 22,003,615	£ 20,746,782
Value added in process of manufacture	£ 1,942,752	£ 2,251,741	£ 3,303,492	£ 3,941,166	£ 3,282,524

(iii) *Quantity and Value of Production.* The following table shows the quantity and value of butter, cheese, and condensed milk produced, and the quantity of milk used in butter, cheese, and condensed milk factories in each State during the past year :—

BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
MILK USED (,000 OMITTED).							
Butter factories .. gals.	155,721	180,998	104,949	21,550	3,188	9,168	475,574
Cheese " " "	5,183	3,349	9,765	3,191	..	747	22,235
Condensed milk factories " "	1,907	9,693	2,701	..	..	..	14,301

PRODUCTS (,000 OMITTED).

	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
Butter lbs.	69,255	78,774	51,412	10,927	1,518	3,823	215,709
Cheese lbs.	4,978	3,336	10,553	3,261	..	741	22,869
Condensed and concentrated milk lbs.	1,444	28,700	9,602	..	..	..	39,746
Powdered milk	2,100	9,615	..	..	..	..	11,715

**BUTTER, CHEESE, AND CONDENSED MILK FACTORIES.—PRODUCTION,
1922-23—continued.**

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Aus- tralia.
VALUE (,000 OMITTED).							
Butter	£ 6,131	6,220	4,001	803	119	249	17,523
Cheese	£ 239	145	415	121	..	28	946
Condensed and con- centrated milk ..	£ 59	879	380	..	..	..	1,318
Powdered milk ..	£ 169	456	..	..	..	..	625

The butter, cheese, and condensed milk industries are dealt with more fully in the Chapter entitled *Farmyard, Dairy, and Bee Products*.

12. Meat and Fish Preserving, Ice and Refrigerating Works.—These industries are now of considerable importance in Australia. Large freezing works have been installed at many ports throughout the continent for the purpose of freezing produce chiefly for export, while insulated space for the carriage of frozen produce is provided by a number of steamship companies trading between Australia and other parts of the world.

The details given in the subjoined table include ice-making and freezing works, also meat-canning factories, separate particulars for each item for all the States not being available.

MEAT AND FISH PRESERVING, ICE AND REFRIGERATING WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	155	54	65	17	41	12	344
Number of employees	2,146	1,656	3,156	282	374	80	7,694
Actual horse-power of engines employed	10,374	8,110	11,702	1,820	3,447	250	35,703
Approximate value of land and buildings	£ 1,298,510	1,007,930	1,561,597	171,384	498,158	59,010	4,596,587
Approximate value of plant and machinery	£ 1,178,132	697,150	937,329	124,104	386,547	26,120	3,349,382
Total amount of wages paid dur- ing year	£ 404,795	369,872	534,589	55,599	82,261	11,145	1,458,261
Value of fuel used	£ 129,833	79,444	95,026	23,645	23,283	2,287	353,518
Value of raw material worked up ..	£ 4,888,688	1,853,823	957,048	42,896	159,508	5,302	7,907,265
Total value of output	£ 6,019,361	2,631,860	2,055,155	153,089	415,425	34,510	11,314,400
Value added in process of manu- facture	£ 1,130,673	778,037	1,098,107	115,193	255,917	29,208	3,407,135

Exclusive of Victoria, for which State particulars are not available, the returns show that 206,047 tons of ice, valued at £435,896, were manufactured in Australia in 1922-23.

Full particulars regarding quantities and values of beef, mutton, and lamb preserved by cold process, exported from Australia during a series of years, will be found in Chapter XVI.

13. Biscuit Factories.—The following table gives particulars regarding establishments at which the manufacture of biscuits, cakes, etc., was carried on in each State during the year 1922-23 :—

BISCUIT, ETC., FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	11	8	21	3	14	3	60
Number of employes	1,993	1,364	539	133	273	137	4,519
Actual horse-power of engines employed	1,224	515	292	122	149	53	2,355
Approximate value of land and buildings £	192,860	105,095	85,237	31,138	30,326	22,300	466,956
Approximate value of plant and machinery £	118,503	96,920	51,179	14,810	18,374	9,800	309,591
Total amount of wages paid during year £	227,285	191,112	108,076	19,933	40,901	16,155	606,462
Value of fuel used £	25,908	22,244	5,018	2,063	4,754	1,358	62,245
Value of raw material worked up £	763,206	662,725	195,023	60,510	127,861	46,594	1,855,919
Total value of output £	1,348,555	1,079,128	411,099	102,050	200,438	73,247	3,215,417
Value added in process of manufacture £	535,349	416,403	216,076	42,440	72,577	26,653	1,359,498

14. Jam and Fruit Preserving, Pickles, Sauces, and Vinegar Factories.—(i) *Details for each State, 1922-23.* The subjoined table gives particulars of factories at which these industries were carried on in each State during the year 1922-23. Separate returns for the different branches of the industry are not available for most of the States.

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	46	47	19	20	13	25	170
Number of employes	1,785	2,200	417	549	124	908	5,983
Actual horse-power of engines employed	795	1,330	294	248	80	951	3,698
Approximate value of land and buildings £	343,710	217,905	78,776	101,356	15,966	137,800	895,513
Approximate value of plant and machinery £	214,960	173,915	65,012	73,751	13,023	66,055	606,716
Total amount of wages paid during year £	210,946	327,708	49,436	66,775	14,261	112,303	781,429
Value of fuel used £	14,262	22,779	4,230	6,111	1,292	8,044	56,718
Value of raw material worked up £	890,546	986,127	152,078	255,825	57,118	353,662	2,704,356
Total value of output £	1,618,206	1,660,783	283,505	392,246	75,582	513,894	4,549,216
Value added in process of manufacture £	718,660	674,656	131,427	139,421	18,464	165,232	1,844,860

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table refers to jam and fruit preserving, etc., establishments in Australia for the last five years:—

JAM AND FRUIT PRESERVING, PICKLES, ETC., FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	143	152	154	164	170
Number of employes	6,174	6,974	6,243	5,958	5,983
Actual horse-power of engines employed	1,945	2,526	2,996	3,257	3,698
Approx. value of land and buildings £	528,572	576,302	760,855	830,484	895,513
Approx. value of plant and machinery £	284,085	348,549	516,348	556,801	606,716
Total amount of wages paid £	570,291	731,473	749,980	685,017	781,429
Value of fuel used £	44,477	57,848	58,737	48,987	56,718
Value of raw material worked up £	3,326,546	3,757,611	3,465,562	2,541,268	2,704,356
Total value of output £	4,663,026	5,487,960	5,282,608	3,975,779	4,549,216
Value added in process of manufacture £	1,336,480	1,730,349	1,797,046	1,434,511	1,844,860

The progress of the jam industry was very marked during the war years, when an important export trade was built up. During the past four years, however, the exports have declined to insignificant proportions, and the production of jams and jellies fell from 135,737,756 lbs. in 1918-19 to 66,971,456 lbs. in 1922-23. The output of preserved fruit and sauce has, however, increased during the same period.

(iii) *Production.* The following table shows the quantity and value of jams, pickles, and sauces manufactured in each State during 1922-23 :—

JAMS, PRESERVED FRUIT, PICKLES AND SAUCES.—OUTPUT, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Aus- tralia.
QUANTITY (,000 OMITTED).							
Jams lbs.	23,259	23,180	4,034	7,101	371	9,026	66,971
Pulp "	834	12,837	41	2,726	..	10,834	27,272
Fruit, preserved "	10,886	24,770	5,129	3,134	..	521	44,440
Pickles pints	2,152	2,107	478	266	122	10	5,135
Sauces "	7,357	8,439	899	2,414	177	25	19,311
VALUE.							
Jams £	781,785	779,147	138,001	181,080	10,989	263,068	2,154,070
Pulp £	4,004	231,923	296	17,246	..	195,735	449,204
Fruit, preserved £	278,506	633,660	86,341	62,046	..	13,389	1,073,962
Pickles £	77,067	75,466	17,105	11,501	4,310	500	185,949
Sauces £	242,399	278,055	18,326	88,343	5,673	850	633,646

15. *Confectionery Factories.*—(i) *Details for each State, 1922-23.* The growth of this industry will be apparent when it is stated that at the close of 1900 there were in New South Wales only 16 establishments, with 706 employees, and in Victoria 16 establishments, employing 731 persons, the plant and machinery in the former State being valued at £2,815, and in the latter at £19,070. Returns for 1922-23 are given hereunder :—

CONFECTIONERY FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Aus- tralia.
Number of factories	97	116	10	20	6	9	258
Number of employees	2,782	3,442	610	534	266	311	7,945
Actual horse-power of engines employed	1,729	3,435	206	393	277	394	6,434
Approximate value of land and buildings £	773,057	424,475	66,914	63,909	43,249	216,742	1,593,346
Approximate value of plant and machinery £	704,611	711,445	28,091	68,093	48,368	186,130	1,746,738
Total amount of wages paid during year £	414,893	530,550	74,254	56,184	33,960	50,139	1,159,980
Value of fuel used £	36,461	63,612	2,673	6,649	2,478	3,074	114,947
Value of raw material worked up £	1,487,961	1,386,511	112,693	175,963	99,462	73,759	3,336,349
Total value of output £	2,682,667	2,454,519	261,625	307,339	144,529	91,012	5,941,691
Value added in process of manufacture £	1,194,706	1,068,008	148,932	131,376	45,067	17,253	2,605,342

(ii) *Development in Australia, 1918-19 to 1922-23.* The growth of the confectionery industry during the past four years is exhibited in the following table :—

CONFECTIONERY FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	156	181	200	223	258
Number of employees	6,710	7,323	7,137	7,399	7,945
Actual horse-power of engines employed	3,503	4,067	4,862	5,313	6,434
Approx. value of land and buildings £	775,670	878,305	1,041,380	1,185,539	1,593,346
Approx. value of plant and machinery £	562,475	664,452	1,278,882	1,419,984	1,746,738
Total amount of wages paid during year £	654,818	755,238	937,536	1,046,797	1,159,980
Value of fuel used £	74,995	75,084	93,975	105,479	114,947
Value of raw material worked up £	2,354,062	2,897,859	3,421,474	3,220,680	3,336,349
Total value of output £	3,597,143	4,559,437	5,410,985	5,597,920	5,941,691
Value added in process of manufacture £	1,242,186	1,661,578	1,998,511	2,377,240	2,605,342

The confectionery industry has expanded considerably during recent years, largely as a result of the stimulus afforded by the embargo placed on the importation of luxuries during the period of the war. The establishments engaged therein found employment for 7,945 persons in 1922-23, and the value of the output amounted to £5,941,691, or more than 65 per cent. greater than the value of the production in 1918-19. The Australian market has been captured, and an export trade has been built up.

16. Flour Mills.—(i) *Details for States, 1922-23.* The following table shows the position of the flour-milling industry in each State in 1922-23 :—

FLOUR MILLS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922. a	S. Aust. 1922-23. a	W. Aust. 1922. a	Tas. 1922.	Australia.
Number of factories ..	60	47	11	39	17	10	184
Number of employees ..	1,146	1,089	273	598	386	134	3,626
Actual horse-power of engines employed ..	6,724	5,593	1,141	3,185	2,788	444	19,875
Approximate value of land and buildings ..	£ 591,180	£ 287,750	£ 83,038	£ 148,505	£ 158,628	£ 23,000	£ 1,292,101
Approximate value of plant and machinery ..	£ 752,301	£ 418,985	£ 105,131	£ 211,225	£ 159,967	£ 27,705	£ 1,675,314
Total amount of wages paid during year ..	£ 281,317	£ 244,436	£ 64,251	£ 118,566	£ 77,525	£ 21,896	£ 807,991
Value of fuel used ..	£ 64,615	£ 53,518	£ 8,436	£ 26,348	£ 18,093	£ 2,459	£ 173,469
Value of raw material worked up ..	£ 4,634,682	£ 4,476,424	£ 768,002	£ 1,389,166	£ 1,167,135	£ 403,318	£ 12,838,727
Total value of output ..	£ 5,412,427	£ 5,415,067	£ 922,870	£ 1,688,444	£ 1,442,662	£ 442,187	£ 15,323,657
Value added in process of manufacture ..	£ 777,745	£ 938,643	£ 154,868	£ 299,278	£ 275,527	£ 38,869	£ 2,484,930

(a) The manufacture of cornflour, oatmeal, etc., was also carried on in some of these establishments.

(ii) *Production of Flour and By-products, 1918-19 to 1922-23.* The production of flour by the mills in each State for the years 1918-19 to 1922-23 was as follows :—

FLOUR MILLS.—PRODUCTION OF FLOUR, 1918-19 TO 1922-23.

Year (b).	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	Tons.a	Tons.a	Tons.a	Tons.a	Tons.a	Tons.a	Tons.a
1918-19 ..	377,107	347,841	45,589	138,734	119,876	17,121	1,046,268
1919-20 ..	348,691	353,683	49,300	134,727	141,516	22,311	1,050,228
1920-21 ..	244,818	260,032	54,383	98,557	120,125	23,596	801,511
1921-22 ..	336,572	308,532	54,694	108,893	82,148	20,613	911,452
1922-23 ..	354,704	352,002	51,476	103,761	94,316	23,220	985,479

(a) Tons of 2,000 lbs. (b) See general note on first page of this Chapter.

The total production of flour in Australia for the last year, viz., 985,479 tons, was valued at £11,820,800. In addition, 402,336 tons of bran and pollard, valued at £3,290,892, were made. The total quantity of wheat ground was 47,035,086 bushels.

17. Sugar Mills.—(i) *Details for 1922-23.* The following table shows the position of the cane-crushing branch of the sugar-making industry in Queensland and New South Wales in 1922-23. Sugar-cane is not grown in the other States. Details regarding the area, yield, etc., of sugar-cane will be found in Chapter XVII., "Agricultural Production."

SUGAR MILLS, 1922-23.

Items.	N.S.W. 1922-23.	Queensland. 1922.	Australia.
Number of factories	3	38	41
Number of employees	446	5,589	6,035
Actual horse-power of engines employed	1,921	29,978	31,899
Approximate value of land and buildings	£ 108,672	506,389	615,061
Approximate value of plant and machinery	£ 434,688	3,889,331	4,324,019
Total amount of wages paid during year	£ 68,980	1,081,020	1,150,000
Value of fuel used	£ 10,223	147,452	157,675
Value of raw material worked up	£ 366,600	5,883,478	6,250,078
Total value of output	£ 563,562	8,720,056	9,283,618
Value added in course of manufacture	£ 196,962	2,836,578	3,033,540

The products of the sugar mill are raw sugar and molasses, the former being sent to the refineries in different parts of Australia for further treatment. Part of the molasses produced is used for distillation, part is prepared for human consumption, part is turned into food-cake for cattle, and part is used for manuring land, but a considerable quantity is allowed to run to waste.

(ii) *Progress of Industry.* (a) *New South Wales.* The following table shows the progress of this industry in New South Wales since 1918-19 :—

SUGAR MILLS.—NEW SOUTH WALES, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	3	3	3	3	3
Number of employees	432	419	437	428	446
Cane crushed .. tons	105,234	91,321	131,313	149,474	147,992
Sugar produced .. tons	12,278	10,837	15,124	17,806	18,580
Molasses produced .. gals.	586,925	494,600	649,800	940,700	816,720

The number of New South Wales mills has been reduced to three during recent years owing chiefly to the tendency towards concentration of cane-crushing in mills fitted with modern machinery, and the consequent closing of the small home mill. On the north coast of New South Wales some land formerly devoted to sugar-cane has been turned into pasture in connexion with the dairying industry, but a revival in cane-growing in this district has led to a movement for the erection of additional mills to treat the increased production.

(b) *Queensland.* Details for Queensland from 1911 onwards are given hereunder.

SUGAR MILLS.—QUEENSLAND, 1911 TO 1922.

Items.	1911.	1919.	1920.	1921.	1922.
Number of factories	49	32	34	43	38
Number of employees	4,295	4,098	4,851	6,091	5,589
Cane crushed .. tons	1,534,451	1,258,760	1,339,455	2,287,416	2,167,990
Sugar produced .. tons	173,296	162,136	167,401	282,198	287,785
Molasses—					
Sold to distillers and others .. gals.	2,393,669	916,291	985,951	2,738,795	1,774,224
Used as fodder .. gals.	789,564	1,517,167	1,381,041	2,053,338	1,916,393
Used as manure .. gals.	223,000	141,175	24,000	78,720	322,113
Run to waste or burnt <i>a</i> .. gals.	1,847,333	3,347,655	3,050,901	4,866,272	5,503,099
In Stock .. gals.	1,197,626	933,542	733,974	997,274	803,050
Total Molasses <i>a</i> .. gals.	6,451,192	6,855,830	6,175,867	10,734,399	10,318,879

(a) Quantity recorded; large quantities run to waste of which no record is kept.

18. **Sugar Refineries.**—The establishment of the sugar-refining industry considerably antedates the establishment of the sugar-milling industry, the raw material operated upon being originally brought chiefly from Mauritius and the East. In 1922-23 there were two sugar refineries in each of the States of Victoria and Queensland, and one in each of the States of New South Wales and South Australia. The returns for the individual States cannot be disclosed.

In the six refineries, an average number of 1,709 hands was employed during the year. The approximate value of land and buildings was £686,548, of plant and machinery, £1,344,548; and the total amount of wages paid during the year was £341,212. The value of all materials used in sugar refineries was £9,577,739, while the total output reached £11,802,413. The amount of crude sugar used was 286,154 tons, and of refined sugar produced 279,084 tons, valued at £11,720,674.

19. **Breweries.**—(i) *Details for each State, 1922-23.* The following table gives particulars concerning breweries in each State :—

BREWERIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.(a)	Tas. 1922.	Australia.
Number of breweries	16	14	9	8	10	4	61
Number of employees	1,230	1,091	498	381	447	127	3,774
Actual horse-power of engines employed	3,389	3,809	1,753	1,098	1,196	247	11,492
Approximate value of land and buildings	£ 744,460	435,135	180,799	104,590	183,887	61,450	1,710,321
Approximate value of plant and machinery	£ 925,979	630,425	202,959	154,462	176,209	50,620	2,140,654
Total amount of wages paid during year	£ 344,794	291,935	126,115	107,355	127,429	30,061	1,027,689
Value of fuel used	£ 74,708	61,049	18,338	18,328	17,493	4,408	194,324
Value of raw material worked up	£ 1,161,652	977,949	195,299	240,420	260,679	77,410	2,913,409
Total value of output	£ 2,559,523	2,322,814	683,901	510,442	543,236	252,676	6,872,682
Value added in process of manufacture	£ 1,397,871	1,344,865	488,692	270,022	282,557	175,266	3,959,273

(a) Includes malting.

(ii) *Development in Australia, 1918-19 to 1922-23.* The following table shows the progress of this industry during the past four years :—

BREWERIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of breweries	68	68	67	64	61
Number of employees	3,355	3,710	3,752	3,814	3,774
Actual horse-power of engines used	9,922	18,091	10,833	12,132	11,492
Approx. value of land and buildings	£ 1,692,220	1,109,813	1,619,027	1,676,471	1,710,321
Approx. value of plant and machinery	£ 1,654,600	1,243,272	1,882,956	1,993,699	2,140,654
Total amount of wages paid	£ 668,579	831,779	937,563	1,032,430	1,027,689
Value of fuel used	£ 128,650	160,609	195,135	214,803	194,324
Value of raw material worked up	£ 2,215,487	2,760,601	3,341,707	3,087,460	2,913,409
Value of final output	£ 5,184,649	6,631,409	6,991,770	6,798,223	6,872,682
Value added in process of manufacture	£ 2,960,162	3,870,808	3,650,063	3,710,763	3,959,273

The main feature in the history of the brewing industry, which was established at an early date in Australia, has been the change from the small local brewery in every township of moderate size to the large centralized city brewery. This, however, has not been so much in evidence during the period embraced in the above table, the reduction of the number of establishments during recent years being mainly due to amalgamations. The total value of output of breweries in Australia increased from £5,184,649 in 1918-19 to £6,872,682 in 1922-23, but the increase was mainly due to higher

prices, for the quantity of ale and stout brewed varies little from year to year, the respective totals for the years 1918-19 and 1922-23 being 64,821,400 and 66,491,395 gallons. The consumption of ale and stout per head of the population declined slightly in Australia during the past four years, and for 1922-23 the quantity consumed amounted to about 11½ gallons.

(iii) *Materials Used and Production.* The table below shows the quantity of raw materials used and the quantity and value of ale and stout brewed in each State during the year 1922-23.

BREWERIES.—MATERIALS USED AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tasmania. 1922.	Australia.
RAW MATERIALS USED.							
Malt .. bushels	826,804	723,511	201,436	169,152	159,489	58,559	2,138,951
Hops .. lbs.	780,015	768,870	250,146	189,398	165,340	88,998	2,242,767
Sugar .. cwt.	101,975	110,051	32,147	26,669	24,511	5,791	301,144
RAW MATERIALS USED PER 1,000 GALLONS OF ALE AND STOUT PRODUCED.							
Malt .. bushels	33.84	31.17	29.25	30.57	31.97	40.74	32.16
Hops .. lbs.	31.92	33.12	36.32	34.22	33.14	61.92	33.73
Sugar .. cwt.	4.17	4.74	4.67	4.82	4.91	4.03	4.53
ALE AND STOUT BREWED.							
Quantity gallons	24,432,133	23,212,004	6,837,772	5,534,112	4,988,140	1,437,234	66,491,395
Value(a) £	2,529,750	2,322,814	684,132	506,888	532,543	252,231	6,828,358

(a) Exclusive of excise duty.

20. *Distilleries.*—The subjoined table gives particulars of distilleries in four States. There are no distilleries in Western Australia or Tasmania.

DISTILLERIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	Australia.
Number of distilleries	5	10	4	27	46
Number of employees	39	113	65	159	376
Actual horse-power of engines employed ..	199	326	185	521	1,231
Approx. value of land and buildings ..	£ 26,542	170,525	13,553	92,436	303,056
Approx. value of plant and machinery ..	£ 84,669	109,330	149,783	93,512	437,294
Total amount of wages paid during year ..	£ 10,568	24,957	16,371	21,466	73,362
Value of fuel used	£ 5,106	7,533	5,344	12,036	30,019
Value of raw materials worked up ..	£ 77,994	81,256	25,721	187,495	372,466
Total value of output	£ 119,704	140,345	66,094	263,695	589,838
Value added in process of manufacture ..	£ 41,710	59,089	40,373	76,200	217,372

The total quantity of spirit distilled during the year was 3,925,761 proof gallons, while the materials used comprised 530,472 cwt. of molasses, and 6,536,692 gallons of wine.

21. *Tobacco, etc., Factories.*—(i) *Details for each State, 1922-23.* During the year 1922-23 there were twenty-nine establishments in which the manufacture of tobacco, cigars, and cigarettes was carried on. There were no factories engaged in this industry in Queensland or Tasmania.

TOBACCO, CIGAR, AND CIGARETTE FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S.A. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	12	13	..	1	3	..	29
Number of employees	2,311	1,920	..	26	62	..	£ 4,319
Actual horse-power and engines employed	722	739	..	..	5	..	1,466
Approx. value of land and buildings	£ 299,913	186,040	..	a	a	..	649,597
Approx. value of plant and machinery	£ 272,389	151,040	..	a	a	..	642,825
Total amount of wages paid during year	£ 378,032	317,686	..	a	a	..	673,070
Value of fuel used	£ 14,369	6,053	..	a	a	..	620,612
Value of raw material worked up	£ 3,070,563	1,520,060	..	a	a	..	64,603,218
Total value of output	£ 4,246,014	2,418,996	..	a	a	..	66,690,701
Value added in process of manufacture	£ 1,175,448	898,936	..	a	a	..	62,087,483

(a) Not available for publication.

(b) Including South Australia and Western Australia.

(ii) *Development in Australia.* This industry was among the first to be established in Australia. In 1861 New South Wales had eleven factories, producing 177,744 lbs. of manufactured tobacco; in the same year there was one factory in Victoria, but the quantity of tobacco manufactured is not available. The Australian market has for many years been largely supplied with local manufactures. The imports into Australia during 1922-23 comprised—manufactured tobacco 616,736 lbs., cigars 102,923 lbs., and cigarettes 220,622 lbs., while the quantities manufactured in Australian factories were respectively 14,636,184 lbs., 483,433 lbs., and 4,384,352 lbs. The following tables show the development of the tobacco manufacturing industry in Australia during recent years:—

TOBACCO, CIGAR, AND CIGARETTE FACTORIES.—AUSTRALIA,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	37	37	40	36	29
Number of employees	3,008	4,480	4,525	4,340	4,319
Actual horse-power of engines used	948	1,144	1,186	1,203	1,466
Approx. value of land and buildings	£ 420,124	432,247	490,494	490,414	493,597
Approx. value of plant and machinery	£ 270,953	313,619	369,287	413,119	427,825
Total amount of wages paid	£ 490,172	633,694	706,218	724,919	734,070
Value of fuel used	£ 13,147	16,200	18,201	20,354	20,612
Value of raw material worked up	£ 3,110,373	4,559,110	5,091,272	4,925,066	4,603,218
Value of final output	£ 4,306,140	6,466,649	6,709,298	6,710,757	6,690,701
Value added in process of manufacture	£ 1,195,767	1,907,539	1,618,026	1,785,691	2,087,483

LEAF USED AND PRODUCTION.

	1,000 lbs.	a13,351	16,137	16,636	16,867	17,104
Leaf used	1,000 lbs.	a13,351	16,137	16,636	16,867	17,104
Tobacco made .. ..	..	a10,991	13,158	13,268	14,216	14,636
Cigars .. ..	..	a441	552	544	508	483
Cigarettes .. ..	..	a3,726	4,837	5,324	4,907	4,384

(a) Incomplete.

Though the manufacturing side of the tobacco industry is so firmly established in Australia the production of locally-grown leaf is comparatively small, and manufacturers are dependent on imported leaf for the supply of their raw material. The respective quantities of Australian and imported leaf used during 1922-23 were 1,250,028 and 15,853,910 lbs.

22. *Woollen, Cotton, and Tweed Mills.*—(i) *Details for each State, 1922-23.* The manufacture of woollens and tweeds was established in Australia at an early period in its history, and was under Government control, the first record in New South Wales dating back to 1801, when a few blankets were made by the convicts; the first record

in Victoria was in 1867. There are no woollen mills in Western Australia. The following table, which gives particulars for 1922-23 shows that the industry is now well established :—

WOOLLEN, COTTON, AND TWEED MILLS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W.A. 1922.	Tas. 1922.	Australia.
Number of factories	9	23	2	2	..	4	40
Number of employees	1,536	4,601	307	210	..	274	6,928
Actual horse-power of engines employed	2,422	9,072	134	289	..	430	12,347
Approx. value of land and buildings £	306,624	742,470	a	a	..	32,300	1,181,396b
Approx. value of plant and machinery	488,187	1,754,525	a	a	..	78,600	2,428,133b
Total amount of wages paid during year	£ 234,636	657,367	a	a	..	30,469	991,801b
Value of fuel used	£ 26,769	90,034	a	a	..	2,146	127,573b
Value of raw material worked up	£ 508,205	1,824,362	a	a	..	58,071	2,511,204b
Total value of output	£ 1,068,073	3,264,025	a	a	..	131,913	4,712,964b
Value added in process of manufacture	£ 559,868	1,439,663	a	a	..	73,842	2,201,760b

(a) Information not available for publication.

(b) Including Queensland and South Australia.

(ii) *Development in Australia, 1918-19 to 1922-23.* The progress of woollen and tweed milling in Australia during the last four years is shown in the following table :—

WOOLLEN, COTTON, AND TWEED MILLS.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	25	29	34	36	40
Number of employees	4,087	5,029	5,783	6,101	6,928
Actual horse-power of engines used	7,212	8,705	9,617	11,630	12,347
Approx. value of land and buildings £	434,735	626,822	751,858	940,578	1,131,396
Approx. value of plant and machinery	£ 721,418	1,192,913	1,378,903	1,849,919	2,428,133
Total amount of wages paid	£ 398,641	560,149	762,131	842,683	991,801
Value of fuel used	£ 50,818	75,722	93,691	109,514	127,573
Value of raw material worked up	£ 1,249,094	1,865,477	2,060,892	1,940,050	2,511,204
Value of final output	£ 2,330,253	3,290,511	4,241,964	4,096,803	4,712,964
Value added in process of manufacture	£ 1,081,159	1,425,034	2,151,072	2,156,758	2,201,760

(iii) *Quantity and Value of Production.* The production consists chiefly of tweed cloths, flannels, and blankets, all of which have acquired a reputation for purity and durability. Detailed particulars for the several States are not available for publication. The total length of tweed and cloth manufactured in Australia during 1922-23 was 5,043,494 yards. In New South Wales 1,929,916 yards of tweed and cloth, and in Victoria 1,714,460 yards were manufactured. The production of flannel amounted to 7,823,943 yards, while blankets, shawls, and rugs to the number of 1,028,981 were manufactured.

In addition to the woollen and tweed factories there were 240 hosiery and knitting mills operating throughout Australia during 1922-23. These establishments provided employment for 7,475 persons, of whom 6,279 were females, and the value of their output amounted to £3,731,062.

Cotton ginning has been carried on intermittently in the Northern States, and the recent development in cotton growing has led to the establishment of modern ginning plants at convenient centres in Queensland.

23. **Boot Factories.**—(i) *Details for each State, 1922-23.* Among the manufacturing of Australia the boot and shoe industry holds an important place in regard to employment afforded and extent of output. The following table gives particulars of this industry for each State during 1922-23 :—

BOOT AND SHOE FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	387	371	36	63	25	14	896
Number of employees	5,982	12,434	1,443	941	419	288	21,487
Actual horse-power of engines employed	1,939	2,994	345	327	152	80	5,837
Approx. value of land and buildings	£ 859,659	£ 874,435	(a)	(a)	62,162	18,598	1,975,873b
Approx. value of plant and machinery	£ 309,606	£ 464,120	(a)	(a)	17,014	10,089	881,298b
Total amount of wages paid during year	£ 944,241	£ 1,922,345	(a)	(a)	56,672	38,318	3,302,811b
Value of fuel used	£ 16,038	£ 34,131	(a)	(a)	1,122	439	56,636b
Value of raw material worked up	£ 1,590,321	£ 3,059,769	(a)	(a)	102,723	56,379	5,263,889b
Total value of output	£ 3,001,714	£ 6,157,132	(a)	(a)	183,849	120,533	10,486,294b
Value added in process of manufacture	£ 1,471,393	£ 3,097,363	(a)	(a)	81,126	64,154	5,222,405b

(a) Information not available for publication. (b) Including Queensland and South Australia.

(ii) *Development in Australia, 1918-19 to 1922-23.* The progress of the industry in the last four years is shown in the following table :—

BOOT AND SHOE FACTORIES.—AUSTRALIA, 1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	438	532	592	744	896
Number of employees	15,960	17,987	16,573	20,390	21,487
Actual horse-power of engines used	3,998	4,462	4,746	5,130	5,837
Approx. value of land and buildings	£ 849,759	£ 1,017,437	£ 1,258,361	£ 1,612,761	£ 1,975,873
Approx. value of plant and machinery	£ 475,983	£ 530,327	£ 617,721	£ 711,449	£ 881,298
Total amount of wages paid	£ 1,792,001	£ 2,232,746	£ 2,198,586	£ 3,050,125	£ 3,302,811
Value of fuel used	£ 31,852	£ 41,206	£ 41,077	£ 49,244	£ 56,636
Value of raw material worked up	£ 4,451,458	£ 6,661,483	£ 5,208,027	£ 5,291,027	£ 5,263,889
Value of final output	£ 7,120,164	£ 10,206,065	£ 8,895,411	£ 10,241,279	£ 10,486,294
Value added in process of manufacture	£ 2,668,706	£ 3,545,482	£ 3,086,784	£ 4,950,252	£ 5,222,405

The above table shows consistent progress in the manufacture of boots and shoes in Australia from 1918-19 to 1922-23. During this period the number of employees increased by 5,527, and the value of the final output rose from £7,120,164 to £10,486,294, while the increase in the number of boots and shoes made amounted to 2,020,942 pairs.

(iii) *Quantity and Value of Production.* The number and value of boots, shoes, and slippers made at factories in each State are shown in the following table :—

BOOT AND SHOE FACTORIES.—OUTPUT, 1922-23.

Particulars.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
QUANTITY (,000 OMITTED).							
Boots and shoes .. pairs	3,810	7,592	862	576	315	198	13,353
Slippers pairs	424	851	21	32	1	3	1,332
Uppers(a) pairs	48	22	3	10	2	5	90
VALUE.							
Boots and shoes £	2,564,583	5,110,143	576,481	328,673	154,608	111,214	8,845,702
Slippers £	76,327	153,490	5,935	8,527	373	1,319	245,971
Uppers(a) £	17,433	8,034	1,573	4,503	1,132	1,414	34,089

(a) Made for other than factory use.

24. Clothing (Tailoring and Slop) Factories.—(i) *Details for each State, 1922-23.*
The importance of this industry in the several States is shown in the following table :—

CLOTHING (TAILORING AND SLOP) FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	487	531	136	143	77	44	1,418
Number of employees	11,071	10,017	3,329	2,532	1,183	690	23,822
Actual horse-power of engines employed	698	541	162	123	66	27	1,617
Approximate value of land and buildings £	1,590,759	983,355	339,498	271,715	156,437	103,709	3,445,473
Approximate value of plant and machinery £	127,472	108,765	41,699	30,282	13,088	7,041	328,347
Total amount of wages paid dur- ing year £	1,366,364	1,178,820	347,290	265,465	139,931	72,388	3,370,258
Value of fuel used £	19,464	21,345	5,315	6,386	2,750	934	56,194
Value of raw material worked up £	2,039,854	2,132,059	603,339	379,204	255,739	111,301	5,521,496
Total value of output £	4,111,625	3,914,120	1,196,813	797,884	467,701	231,757	10,719,900
Value added in process of manu- facture £	2,071,771	1,782,061	593,474	418,680	211,962	120,456	5,198,404

(ii) *Development in Australia, 1918-19 to 1922-23.* The development in the tailoring and slop branch of the clothing industry during the past four years, despite the high range of prices, may be accepted as an indication of the general prosperity of the community. The number of employees increased by 3,809, and the value of the output rose from £7,807,130 in 1918-19 to £10,719,900 in 1922-23. The number of persons engaged in the industry during 1922-23, however, was still 2,000 less than the highest point reached before the war. Details for the past five years are as follows :—

CLOTHING (TAILORING AND SLOP) FACTORIES.—AUSTRALIA,
1918-19 TO 1922-23.

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	1,206	1,219	1,272	1,379	1,418
Number of employees	25,013	26,190	25,803	27,616	23,822
Actual horse-power of engines used	1,313	1,287	1,408	1,386	1,617
Approx. value of land and buildings £	2,224,646	2,402,571	2,753,171	3,230,794	3,445,473
Approx. value of plant and machinery £	202,868	220,903	263,067	290,453	328,347
Total amount of wages paid £	2,007,826	2,556,112	2,859,971	3,189,402	3,370,258
Value of fuel used £	37,181	40,941	44,042	49,525	56,194
Value of raw material worked up £	4,451,166	5,566,172	6,020,891	5,978,992	5,521,496
Total value of output £	7,807,130	9,957,672	10,679,919	10,782,182	10,719,900
Value added in process of manufacture £	3,355,964	4,391,500	4,659,028	4,803,190	5,198,404

25. Dressmaking and Millinery Establishments.—(i) *Details for each State, 1922-23.*
Particulars of dressmaking and millinery establishments are given in the following table :—

DRESSMAKING AND MILLINERY ESTABLISHMENTS, 1922-23.

Items.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	228	505	49	43	70	27	922
Number of employees	3,859	9,152	1,136	995	744	327	16,213
Actual horse-power of engines employed	152	448	45	8	34	6	693
Approximate value of land and buildings £	630,912	893,740	57,030	63,330	78,643	9,210	1,732,865
Approximate value of plant and machinery £	32,080	94,930	9,654	4,750	7,657	1,171	150,242
Total amount of wages paid dur- ing year £	358,815	824,802	87,860	74,408	66,443	23,557	1,435,885
Value of fuel used £	3,400	12,154	972	786	654	286	13,252
Value of raw material worked up £	522,852	1,618,128	123,846	113,383	110,407	25,524	2,514,140
Total value of output £	1,099,326	3,000,713	246,101	223,654	189,005	56,642	4,815,441
Value added in process of manu- facture £	576,474	1,382,585	122,255	110,271	78,598	31,118	2,301,301

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of dressmaking and millinery establishments in Australia during the past four years is shown in the following table :—

**DRESSMAKING AND MILLINERY ESTABLISHMENTS.—AUSTRALIA,
1918-19 TO 1922-23.**

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of factories	876	854	860	910	922
Number of employees	17,683	17,954	16,856	16,572	16,213
Actual horse-power of engines used	623	636	673	709	693
Approximate value of land and buildings	£ 1,159,550	£ 1,167,568	£ 1,392,998	£ 1,579,428	£ 1,732,865
Approximate value of plant and machinery	£ 116,093	£ 128,645	£ 150,475	£ 146,814	£ 150,242
Total amount of wages paid	£ 1,044,263	£ 1,237,811	£ 1,350,596	£ 1,467,066	£ 1,435,885
Value of fuel used	£ 14,125	£ 15,070	£ 15,864	£ 17,207	£ 18,252
Value of raw material worked up	£ 2,051,177	£ 2,685,382	£ 2,782,042	£ 2,695,834	£ 2,514,140
Value of final output	£ 3,634,695	£ 4,882,988	£ 4,951,519	£ 5,000,412	£ 4,815,441
Value added in process of manufacture	£ 1,583,518	£ 2,197,606	£ 2,169,477	£ 2,304,573	£ 2,301,301

Though the number of persons engaged in dressmaking and millinery establishments decreased by more than 1,400, the value of the output rose from £3,634,695 in 1918-19 to £4,815,441 in 1922-23, and notwithstanding price variations during the years quoted, the volume of output has also increased.

26. *Electrotyping, Stereotyping, Printing, and Binding Works.*—(i) *Details for each State, 1922-23.* Printing ranks high in importance among the industries of Australia. It affords employment for nearly 26,000 employees, and pays over £5,000,000 in salaries and wages. During 1922-23 the total value of the output amounted to £15,382,659.

The following table gives particulars of these industries in each State for the year 1922-23 :—

**ELECTROTYPING, STEREOTYPING, PRINTING, AND BINDING ESTABLISHMENTS,
1922-23.**

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	452	436	131	79	80	25	1,203
Number of employees	9,947	9,189	3,074	1,587	1,193	867	25,857
Actual horse-power of engines employed	6,052	5,320	1,531	1,115	922	322	15,262
Approximate value of land and buildings	£ 2,314,947	£ 1,548,990	£ 587,499	£ 332,005	£ 278,933	£ 72,294	£ 5,134,668
Approximate value of plant and machinery	£ 1,968,964	£ 1,649,260	£ 391,835	£ 244,766	£ 266,529	£ 92,015	£ 4,613,369
Total amount of wages paid during year	£ 2,032,918	£ 1,862,234	£ 578,686	£ 302,424	£ 255,005	£ 151,594	£ 5,182,861
Value of fuel used	£ 56,163	£ 48,621	£ 20,637	£ 10,824	£ 7,229	£ 3,415	£ 146,889
Value of raw materials worked up	£ 2,189,372	£ 2,254,202	£ 499,213	£ 342,153	£ 233,120	£ 140,934	£ 5,658,994
Total value of output	£ 6,053,467	£ 5,752,302	£ 1,632,957	£ 831,697	£ 725,505	£ 386,731	£ 15,382,659
Value added in process of manufacture	£ 3,864,095	£ 3,408,100	£ 1,133,744	£ 489,544	£ 492,385	£ 245,797	£ 9,723,665

(ii) *Development in Australia, 1918-19 to 1922-23.* The development of electrotyping, stereotyping, printing, and binding in Australia since 1918-19 is shown in the following table :—

**ELECTROTYPING, STEREOTYPING, PRINTING AND BINDING ESTABLISHMENTS.—
AUSTRALIA, 1918-19 TO 1922-23.**

Items.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
Number of establishments	1,101	1,125	1,132	1,175	1,203
Number of employees	20,662	22,149	23,053	23,992	25,857
Actual horse-power of engines used	11,444	12,022	12,534	13,257	15,262
Approximate value of land and buildings	£ 3,474,345	£ 3,661,054	£ 3,976,321	£ 4,219,547	£ 5,134,668
Approximate value of plant and machinery	£ 2,722,729	£ 3,087,143	£ 3,392,044	£ 3,849,895	£ 4,613,369
Total amount of wages paid	£ 2,861,412	£ 3,327,409	£ 4,083,732	£ 4,557,165	£ 5,182,861
Value of fuel used	£ 94,257	£ 105,093	£ 126,657	£ 135,188	£ 146,889
Value of raw materials worked up	£ 4,386,629	£ 5,003,681	£ 5,626,081	£ 6,434,932	£ 5,658,994
Value of final output	£ 9,381,799	£ 10,906,244	£ 13,845,574	£ 14,408,689	£ 15,382,659
Value added in process of manufacture	£ 4,995,170	£ 5,902,563	£ 7,319,493	£ 7,073,757	£ 9,723,665

Since 1918-19 the expansion in this industry has necessitated the employment of 5,005 additional workers and 3,818 extra horse-power units, while the salaries bill increased by £2,321,449, and the value of the fuel by £52,632. The value of the final output increased by £6,000,860, or nearly 64 per cent.

27. Coach and Wagon Building Works.—This industry forms the principal branch of manufacture in Class XI. The particulars given in the subjoined table include establishments for the manufacture of wheels, spokes, etc.

COACH AND WAGON BUILDING WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	196	305	61	80	55	24	721
Number of employees	1,654	2,696	450	626	398	212	6,036
Actual horse-power of engines employed	1,240	1,128	271	485	205	93	3,422
Approximate value of land and buildings £	311,147	336,305	69,963	97,800	71,646	29,878	916,739
Approximate value of plant and machinery £	109,004	104,975	23,958	31,548	20,327	6,733	296,545
Total amount of wages paid during year £	265,773	444,856	72,383	89,208	62,279	25,833	960,332
Value of fuel used £	12,846	15,451	1,498	6,750	4,279	1,515	42,339
Value of raw material worked up £	332,816	522,060	79,576	118,187	75,610	44,168	1,172,417
Total value of output £	754,402	1,210,539	192,088	267,656	171,607	93,295	2,689,587
Value added in process of manufacture £	421,586	688,479	112,512	149,469	95,997	49,127	1,517,170

28. Furniture and Cabinet Making and Billiard Table Making Factories.—These industries constitute the principal manufactures in Class XIII. The following table gives particulars for each State :—

FURNITURE AND CABINET MAKING AND BILLIARD TABLE MAKING FACTORIES, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	250	310	87	53	43	19	762
Number of employees	3,477	3,334	1,155	950	510	327	9,753
Actual horse-power of engines employed	2,871	2,416	1,050	998	565	280	8,180
Approximate value of land and buildings £	645,440	535,845	147,999	100,403	96,790	26,976	1,553,453
Approximate value of plant and machinery £	183,704	123,980	59,620	37,584	28,280	11,359	444,527
Total amount of wages paid during year £	624,644	520,634	195,365	157,698	98,596	45,654	1,651,591
Value of fuel used £	16,057	14,925	5,587	4,376	2,298	973	44,216
Value of raw material used £	862,337	700,433	279,283	142,763	113,434	39,053	2,143,303
Total value of output £	1,754,813	1,531,609	574,518	378,465	246,865	107,535	4,593,805
Value added in process of manufacture £	892,476	831,176	295,235	229,702	133,431	68,482	2,450,502

29. Electric Light and Power Works.—Particulars of the electric light and power works of Australia are given in the subjoined table. In 1918-19 there were 266 establishments employing 3,557 hands, whose salaries and wages amounted to £640,017; in 1922-23 the figures had increased to 278 establishments, 4,698 hands, salaries and wages £1,211,243, while the production of electric light and power rose during the four years from 487,290,730 to 792,913,314 British units. The figures relating to the amount of electric light and power produced are, except for small quantities, exclusive of electricity generated by the Victorian Railway Commissioners. The amount so produced in 1922-23 was 221,775,000 units, of which only 30,000,000 units are included above.

ELECTRIC LIGHT AND POWER WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	121	88	16	12	27	14	278
Number of employees	1,532	1,451	508	781	222	204	4,698
Actual horse-power of engines employed	139,604	72,106	25,327	26,361	27,308	36,303	327,009
Approximate value of land and buildings £	1,715,678	593,295	103,955	207,779	163,456	11,234	2,795,397
Approximate value of plant and machinery £	3,865,953	4,042,910	711,423	798,388	473,573	785,247	10,677,494
Total amount of wages paid during year £	408,723	377,048	125,036	196,424	55,175	48,837	1,211,243
Value of fuel used £	845,724	398,393	73,631	176,759	123,082	7,319	1,624,908
Total value of output £	2,745,831	1,614,139	408,562	520,266	284,475	193,179	5,766,452

30. Gas and Coke Works.—(i) *Details for each State, 1922-23.* Gas works are in operation in nearly all the chief towns in Australia. In New South Wales there are fourteen and in Queensland two coke factories which are worked as separate industries. The subjoined table gives particulars of gas and coke works in each State for the year 1922-23 :—

GAS AND COKE WORKS, 1922-23.

Items.	N.S.W. 1922-23.	Vic. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
Number of factories	62	47	18	6	4	3	140
Number of employees	2,580	2,457	592	548	70	298	6,545
Actual horse-power of engines employed	6,649	2,047	555	1,051	72	4,041	14,415
Approximate value of land and buildings £	1,013,849	502,725	191,447	a	30,591	a	61,827,274
Approximate value of plant and machinery £	3,408,148	1,507,050	1,076,698	a	66,304	a	66,850,840
Total amount of wages paid during year £	497,231	642,262	140,878	a	18,622	a	61,488,394
Value of fuel used £	145,583	5,899	9,375	a	6,463	a	6,215,899
Value of raw material used £	1,387,133	891,286	138,623	a	33,860	a	62,680,898
Total value of output £	3,025,011	1,955,124	465,477	a	79,852	a	66,221,672
Value added in process of manu- facture £	1,637,878	1,063,838	326,854	a	45,992	a	63,540,774

(a) Information not available for publication. (b) Including South Australia and Tasmania.

(ii) *Coal Used and Production, 1922-23.* The following table shows the quantity and value of the production of gas and coke works in each State during the year 1922-23 :—

GAS AND COKE WORKS.—COAL USED AND PRODUCTION, 1922-23.

Particulars.	N.S.W. 1922-23.	Victoria. 1922-23.	Q'land. 1922.	S. Aust. 1922-23.	W. Aust. 1922.	Tas. 1922.	Australia.
COAL USED.							
Coal tons	1,146,005	402,537	97,456	a	11,764	a	61,752,632
PRODUCTS.							
Gas .. 1,000 cubic feet	8,932,941	5,443,993	1,215,052	a	182,380	a	617,005,977
Coke tons	725,363	260,526	54,229	a	5,719	a	6,110,463
VALUE.							
Gas £	1,795,349	1,498,328	364,500	a	64,179	a	64,160,591
Coke £	851,472	260,526	48,654	a	9,364	a	61,273,432

(a) Not available for publication. (b) Including South Australia and Tasmania.

In order to cope with the general expansion, the production of gas increased from 15,653,815 cubic feet in 1918-19 to 17,005,977 cubic feet in 1922-23. Owing to the suspension of activities at the Newcastle Steel Works the output of coke in coke works declined during 1922-23.

CHAPTER XXIII.

WATER CONSERVATION AND IRRIGATION.

§ 1. Artesian Water.

1. **General.**—In every country in which droughts are recurrent, there are few problems the solution of which is of greater importance than that of an adequate system of water conservation. Much has been done in Australia so far as the supply of water to centres of population is concerned, and a description of several of the metropolitan water works will be found herein, viz., in the chapter dealing with Local Government. Interstate Conferences on artesian water were held in 1912, 1914, and 1921, when combined Governmental action was agreed upon with reference to delimitation of the artesian basins, hydrographic surveys, analyses and utilization of artesian water, etc. (See map on page 891.)

2. **The Great Australian Artesian Basin.**—In speaking of the "Great Australian Artesian Basin," the area is understood which includes (a) considerably more than one-half of Queensland, taking in practically all that State lying west of the Great Dividing Range, with the exception of an area in the north-west contiguous to the Northern Territory; (b) a considerable strip of New South Wales along its northern boundary and west of the Great Dividing Range; and (c) the north-eastern part of South Australia proper, together with the extreme south-eastern corner of the Northern Territory. This basin (shown approximately by the map on page 891) is said to be the largest yet discovered, and measures about 600,000 square miles, of which 376,000 square miles are in Queensland, 118,000 square miles in South Australia, 80,000 square miles in New South Wales, and 25,000 square miles in the Northern Territory. The area of the intake beds is estimated at 60,010 square miles, viz., 50,000 square miles in Queensland and 10,010 square miles in New South Wales. A description of the basin and its geological formation will be found in previous issues of the Year Book (see No. 6, p. 569).

3. **The Western Australian Basins.**—The Western Australian Basins fall naturally within five distinct groups, viz., the Eucla Basin, in the extreme south-east of the State, extending well into South Australia along the shores of the Great Australian Bight; the Coastal Plain Basin, west of the Darling Range; the North-West Basin, between the Murchison and Ashburton Rivers; the Gulf Basin, between Cambridge Gulf and Queen's Channel; and the Desert Basin, between the De Grey and Fitzroy Rivers.

The Recent and Tertiary strata which enter Western Australia at its eastern border, and which have a prevailing dip towards the Great Australian Bight, form the Eucla artesian water area. Where boring operations have been undertaken, the water has been found to be salt or brackish, and there are other conditions affecting the supply, such as local variations in the thickness of the beds, their relative porosity, and the unevenness of the floor upon which they rest, which, so far, have not been examined with sufficient thoroughness to enable many particulars to be given in regard to this basin.

In the Coastal Plain Basin to the west of the Darling Ranges artesian boring has, on the other hand, been carried on successfully for many years.

4. **The Murray River Basin.**—The Murray River basin extends over south-western New South Wales, north-western Victoria, and south-eastern South Australia. It is bounded on the west by the azoic and palæozoic rocks of the Mount Lofty and other ranges, extending northwards from near the mouth of the Murray to the Barrier Ranges, and on the east and north-east by the ranges of Victoria and New South Wales. This tertiary water-basin is occupied by a succession of sedimentary formations, both porous and impervious. It is of interest to note that the waters of the Murray River are partly

supplied by influx from the water-bearing beds of this basin; this is proved by the fact that, at low water, springs are observed at certain places flowing into it from beneath the limestone cliffs from Pyap Bend downwards. Similar springs exist along the courses of other branches of the River Murray system, where they cut through the tertiary formation. On the Victorian side bores have been put down, and water has been struck at various levels.

5. *Plutonic or Meteoric Waters.*—In previous Year Books will be found a statement of the theory of Professor Gregory* as to the origin of the water in the Australian artesian basins together with the objections held thereto by a former Government Geologist of New South Wales.† (See Year Book No. 6, p. 570.)

6. *Artesian and Sub-Artesian Bores.*—(i) *General.* The following table gives particulars of artesian and sub-artesian bores in each State and in the Northern Territory :—

ARTESIAN AND SUB-ARTESIAN BORES, 1922-23.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust. (c)	W. Aust.	Tas. (e)	N. Ter.	Total.
Bores existing .. No.	508	326	2,902	147	198	4	164	4,249
Total depth bored .. feet	849,101	90,600	d3,602,072	115,065	179,609	454	53,142	4,890,243
Daily flow ..,000 gals.	a82,732	b	a299,564	a13,204	58,078	46	b	b
Depth at which artesian water was struck—								
Maximum .. feet	4,338	700	6,000	4,850	3,325	90	1,760	6,000
Minimum .. feet	89	150	10	55	39	19	62	10
Temperature of flow—								
Maximum .. °Fahr.	140	b	210	208	140	b	b	210
Minimum .. °Fahr.	72	b	81	82	75	b	b	72

(a) Flowing bores only. (b) Not available. (c) Government bores only. (d) Total depth of all bores. (e) Sub-artesian bores.

(ii) *New South Wales.*—(a) *Artesian Water Supply.* The New South Wales portion of the great Australian basin, comprising approximately 80,000 square miles, is situated in the north-western portion of the State. Artesian boring in New South Wales dates from 1879, when a private bore was put down on the Kallara pastoral holding, between Bourke and Wilcannia. The first Government bore was that at Goonery, on the Bourke-Wanaaring road, completed in 1884.

The following statement shows the extent of the work successfully carried out by the Government and by private owners up to 30th June, 1923 :—

EXISTING ARTESIAN BORES.—NEW SOUTH WALES, 1923.

Bores.	Flowing.	Pumping.	Total.	Total Depth.
For Public Watering-places, Artesian Wells, etc.	130	36	166	340,641
For Country Towns Water Supply	3	1	4	6,533
For Improvement Leases	27	3	30	47,289
Total Government Bores	160	40	200	394,463
Private Bores	224	84	308	454,638

* See J. W. Gregory, F.R.S., D.Sc.: "The Dead Heart of Australia," London, John Murray, 1906; "The Flowing Wells of Central Australia," Geogr. Journ., July and August, 1911.

† E. F. Pittman, A.R.S.M., formerly Government Geologist of New South Wales: "Problems of the Artesian Water Supply of Australia, with special reference to Professor Gregory's Theory," (Clarke Memorial Lecture, delivered before the Royal Society of New South Wales, 31st October, 1907); "The Great Australian Artesian Basin," Sydney, 1914; "The Composition and Porosity of the Intake Beds of the Great Australian Artesian Basin," Sydney, 1915.

The average depth is 1,972 feet in the case of Government bores, and of private bores 1,476 feet, and it ranges from 89 to 4,338 feet. The two deepest wells in New South Wales are those at Boronga, in the County of Stapylton, with a depth of 4,338 feet and a present outflow of 831,180 gallons; and at Dolgelly, in the Parish of Carenga, in County Stapylton, with a depth of 4,086 feet, and a present discharge of 520,010 gallons per day. The largest flow at the present time is that at the Wirrah bore, in the County of Benarba, which yields 1,027,366 gallons a day, and has a depth of 3,578 feet.

Of the 556 bores which have been sunk, 384 are flowing, and give an aggregate discharge of 82,731,703 gallons per day; 124 bores give a pumping supply, the balance of 48 being failures; the total depth bored represents 910,043 feet.

The flow from 77 bores is utilized for supplying water for stock on holdings served in connexion with Bore Water Trusts or Artesian Districts under the Water Act of 1912. The total flow from these bores amounts to 32,790,169 gallons per day, watering an area of 4,496,799 acres by means of 2,768 miles of distributing channels. The average rating by the Bore Trusts to repay the capital cost with 4 per cent. interest in twenty-eight years, is 1.5d. per acre, including the cost of maintenance and administration.

In the majority of cases the remaining bores are used by pastoralists for stock-watering purposes only, but in a few instances the supply is utilized in connexion with country towns.

The watering of the north-western country by means of bore water has largely increased the carrying capacity of the land; and, what is of perhaps greater importance, it has made comparatively small pastoral holdings practicable in country previously confined almost entirely to the operations of companies holding immense areas.

It having been determined that multiplicity of bores is the chief factor governing the annual decrease in bore flows, and also that limiting the discharge from a bore will prolong its flowing life, action has been taken to prevent any waste by controlling the bore flow to actual requirements. It is confidently anticipated that this action will materially reduce the rate of decrease in the future.

(b) *Private Artesian Bores.* Much has been done in the way of artesian boring by private enterprise. As far as can be ascertained, 332 private bores have been undertaken in New South Wales, of which 24 were failures. The yield of the flowing bores is estimated at 37 million gallons per day. No data are available regarding the pumping bores.

(c) *Shallow Boring.* The scheme described in Official Year Book No. 9 (p. 520) for assisting settlers by sinking shallow bores has met with considerable success.

Operations commenced with one plant only, but the number has been increased gradually until 29 plants are at work.

A large number of applications from settlers wishing to take advantage of the liberal conditions offered under the regulations has been received, and further applications are coming to hand daily, consequently the plants now in use will probably be insufficient to cope with the demand. Out of 1,193 bores put in hand up to 30th June, 1923, 209 have proved failures.

There can be no question that the added value of the holdings represented by the bores already put down is considerably in excess of their cost, and as fairly conclusive evidence of this, it might be stated that in several instances the Government Savings Bank has, on completion of a bore, made the settler a sufficient advance to enable him to pay the total cost in cash.

In addition to the work carried out under the Shallow Boring Regulations outlined above, shallow boring plants have sunk 22 bores in the Pilliga scrub and on Crown lands for the Lands and Forestry Departments.

The fact that of the bores put down in the Pilliga scrub, 52 are giving a flowing supply, adds much to their value, and is of special interest as indicating the possibility of tapping a small and hitherto unknown artesian basin.

(iii) *Victoria.* Victoria lies altogether outside the Great Australian Artesian Basin, and as water is generally available from surface or shallow underground supplies, there has not been much occasion for artesian boring. As early as 1880, however, an artesian well

was bored at Sale, which gave a large supply of water of fair quality before it failed through corrosion of the casing. In 1905 a new bore was put down, which at a depth of 277 feet yielded sufficient water to fill Lake Guthridge, a local depression. As the water was, however, impure, and contained an excess of sulphuretted hydrogen, boring operations were continued to 520 feet, when the lowering of the casing shut off the supply of water. A further bore was then put down at some distance from the first, and this, at a depth of 238 feet, yielded a fresh and clear water supply of about 145,000 gallons per day. Corrosion troubles occurred here also, and at the end of 1912 another bore was put down to a depth of 235 feet, artesian flows being struck at 187 feet and 235 feet. Towards the end of 1915 a flow of 200,000 gallons per day was struck at a depth of 125 feet on the Powerscourt Estate, near Maffra. Other bores are being put down in the locality.

Largely due to the failure of surface supplies in the drought of 1878 to 1886, no less than 499 bores were, before the end of 1888, put down by shire councils aided by the Government. The total depth bored was 40,000 feet; fresh water was struck in 78 instances; 47 yielded brackish but usable water; 229 were salt, while the balance were dry. The bores covered practically the whole of the settled portions of Northern and North-western Victoria and parts of Gippsland.

In the late eighties a number of bores were put down in the north-western part of the State, varying from 200 to over 2,000 feet in depth, but without any notable success. In 1897 a Board reported on boring for artesian water supply in the Mallee country, but this report was adverse, except as regards the extreme northern portion thereof. In 1906 eight bores were put down on the Overnewton Estate, Maribyrnong, to depths varying from 147 to 272 feet; small supplies of good and medium water for stock purposes were obtained, but only one of the wells yielded water fit for domestic purposes. In 1908 boring was commenced in the Mallee country near the border east of Pinnaroo in South Australia, and a line of bores from the Border to Kow Plains has proved the existence of a large sheet of underground water. Altogether, 94 bores have been successful in striking fresh water, and their depths vary from 155 to 752 feet, the water rising to within from 207 to 6 feet of the surface. In three instances the bores flow, the water rising from 4 to 17 feet above the surface. The fresh water extends nearly as far east as the 142nd meridian, and its northern limit is approximately the 35th parallel.

At the 30th June, 1923, the number of existing bores in use in the north-western portion of Victoria (Mallee) was 326, from which supplies are obtained by pumping. The total depth bored amounted to 90,600 feet, while the maximum and minimum depths at which water was struck were 700 and 150 feet respectively. The figures include also about 232 existing private bores, with a total depth of about 47,000 feet.

(iv) *Queensland.* A return relating to the 30th June, 1923, classifies the Queensland artesian bores under the following headings:—

ARTESIAN BORES.—QUEENSLAND, 30th JUNE, 1923.

Sunk by—	Artesian Flows.	Sub-Artesian or Pumped Supplies.	In Progress, Abandoned, or Uncertain.	Total.
Government	70	89	144	303
Local governing authorities	16	22	24	62
Private owners	1,201	1,504	976	3,681
Total	1,287	1,615	1,144	4,046

The estimated yield of water from 1,287 flowing bores on 30th June, 1923, was 299,564,420 gallons per diem. The deepest well was about 40 miles west of Blackall, lying east of the Barcoo River; this had a depth of 7,009 feet, and was stated to yield 70,000 gallons daily. Further sinking is in progress. The flow is, of course, a comparatively small

one, many wells yielding, when uncontrolled, from one to three million gallons a day. The waters of many of the wells have been analyzed, and some found suitable for wool-scouring only, others are suitable for watering stock but not for irrigation, owing to the presence of alkali; others again serve for both stock and irrigation, while some, such as those containing sulphuretted hydrogen, are not of any use. Water fit for stock may generally be said to be "safe" for domestic purposes in spite of its slightly mineral taste. The wells yielding the mineral waters known as "Helidon Spa," "Boonah Spa," and "Junot Spa," which are much in use in Queensland and New South Wales, are shallow wells from 60 to 200 feet in depth.

Of the 4,046 bores in Queensland, 365 have been put down by the State Government or Local Authorities, while 3,681 have been sunk by private enterprise; 1,287 bores are flowing, and 1,615 give a pumping supply, the balance of 1,144 are either in progress of construction, or are abandoned, or uncertain. The total depth bored is 3,602,072 feet. The minimum and maximum depths at which artesian water was struck are 10 feet and 6,000 feet respectively, while the temperature of the flow ranged from 81 to 210 degrees Fahr.

Forty-two Bore Water Supply Areas were completed on 30th June, 1923, comprising a total of 3,506,597 acres within the gazetted areas over which water was distributed in 1,592 miles of drains. Eight additional Bore Water Supply Areas were in hand on 30th June, 1923, comprising an area of 961,629 acres, and 437 miles of drains.

(v) *South Australia.*—(a) *General.* There were in South Australia 147 Government bores existing at 30th June, 1923, of which 37 were artesian and 110 sub-artesian. Of these, 108 were under 1,000 feet in depth; 24 from 1,000 to 2,000 feet; 7 from 2,000 to 3,000 feet; 5 from 3,000 to 4,000 feet; and 3 over 4,000 feet. The deepest flowing bore was at Patchawarra, on the Farina to Haddon, via Innamincka route, measuring 5,458 feet, but now yielding only 50 gallons per day. The maximum flow, viz., 1,250,000 gallons, is obtained at Coonie Creek, east of Lake Frome.

The following table gives particulars as to South Australian bores at 30th June, 1923:—

EXISTING ARTESIAN BORES. (b)—SOUTH AUSTRALIA, 1923.

Particulars.	Artesian and Sub-artesian.
Bores existing	147
Total depth bored	115,065
Daily flow gallons	(a) 13,204
Depth at which water was struck—	
Maximum feet	4,850
Minimum feet	55
Temperature of flow—	
Maximum °Fahr.	208
Minimum °Fahr	82
Total cost of construction of bores up to 30th June, 1923	£330,058
Expenditure during year on boring operations	£3,447

(a) Flowing bores only. (b) Government bores only.

Of the above-mentioned bores, 48 are situated within the Great Artesian Basin, and the remainder are in the Lower Murray and other local basins.

(b) *Bores between the Murray and the Eastern Boundary of the State.* The sinking of bores across the Ninety-mile Desert between the Murray and the Victorian boundary was commenced in 1886 at Coonalpyn; with the exception, however, of salt water at 55 feet, no success was met with. Ki Ki bore was sunk in 1887, and at 361 feet a good supply of water fit for stock was struck. Tintinarra bore was sunk in 1887; it was artesian when first tapped. The water was found to be fit for locomotive engines and is

still used for that purpose. The bore at Emu Flat was also sunk in 1887. In 1904 a bore was sunk at Cotton, and numerous successful bores have since been put down by the Public Works Department, and subsequently by residents of the district. The water rises to a distance from the surface of from 15 to 320 feet, and the maximum quantity obtained per diem is 48,000 gallons at the Gosden bore. Several wells, ranging in depth from 55 to 221 feet, have also been sunk in this district. The latest Government bores are Pata bore in the Hundred of Pyap, and Beulah bore in the Hundred of Wilson, at both of which large supplies of water containing $\frac{3}{4}$ oz. of solids per gallon were obtained.

(c) *Bores West of Oodnadatta.* A series of bores has been sunk, beginning with Breden bore, 20 miles west of Oodnadatta, which was put down in 1911. The others since put down in this district are at Gypsum, Imbitcha, Mirackina, Raspberry Creek, Appreetinna, Wintinna, and Marla. Of these, the only artesian supply is at Raspberry Creek, where 1,000,000 gallons per day of good water are obtained. The depths of these bores range from 280 feet at Mirackina to 1,122 feet at Breden, and the water from all of them is good. Warranarrea bore situated 72 miles west of Oodnadatta on Pastoral Lease No. 1297 has been completed to a depth of 466 feet, a large supply of good water being obtained.

(d) *Eyre Peninsula.* From time to time bores have been sunk on Eyre Peninsula, but with little success. In some instances, stock water ($1\frac{1}{2}$ oz. salts to the gallon) was obtained, but this occurred only on the Nullarbor plains. In all other cases the water struck was too salt to be used. Consequently the supply of water is now principally from catchments, and a number of reservoirs have been constructed to hold from 1,000,000 to 18,500,000 gallons each, while many underground tanks have been built to contain from 40,000 up to 500,000 gallons each.

(vi) *Western Australia.*—(a) *General.* The work by which the Government of Western Australia provides a permanent supply of water to Kalgoorlie, Boulder, and adjacent districts on the eastern goldfields comes properly under the heading of "Water Supply Works." A description of this undertaking is fully given in previous issues of the Year Book. (See No. 6, p. 576.)

Statistics in connexion with the Goldfields Water Supply undertaking and the Mines Water Supplies will be found in the chapter of this book dealing with *Local Government*.

The following table gives particulars regarding Western Australian artesian bores at 30th June, 1923 :—

EXISTING ARTESIAN BORES.—WESTERN AUSTRALIA, 30th JUNE, 1923.

Particulars.	State.	Private.	Total.
Bores existing	108	90	198
Total depth feet	91,703	88,106	179,809
Daily flow gallons	28,870,260	29,207,900	58,078,160
Depth at which artesian water was struck—			
Maximum feet	2,527	3,325	3,325
Minimum feet	39	70	39
Temperature of flow—			
Maximum °Fahr.	140	(a)	140
Minimum °Fahr.	75	(a)	75

(a) Not available.

To 30th June, 1923, the total number of Government bores was 108, while there were, in addition, approximately 90 private bores recorded.

(b) *The Coastal Plain Basin or Perth Area*, which, generally speaking, extends from Cape Leeuwin to Dongarra, and from which the Metropolitan Water Supply is largely drawn, yields a supply of water mostly fresh and suitable for domestic purposes, though towards the north it becomes brackish and is only suitable for stock.

There are 48 bores in the Metropolitan area, several of which have been put down to augment the hills supply and the domestic supply of the suburbs, and Fremantle is largely dependent upon this source.

(c) *The North-west Basin or Carnarvon Area* may be said to extend from Gantheaume Bay in the south to Onslow in the north, and embraces a very large tract of ideal sheep country.

Many private bores have been put down on sites which permit of the gravitation of the water for miles, and, by this means, a very considerable area has been made available for stock-raising. In all, about 75 bores have been put down.

(d) *The Gulf Basin or Broome Area*. So far very little development work has been done. Artesian bores have been put down in the town site, and the domestic requirements of the town are entirely supplied from this source. The area extends from Condon in the south-west to the Meda River beyond Derby in the north, and for a considerable distance inland. So far only 8 bores have been sunk, 3 being at Broome, 2 at Derby, and 3 on the telegraph line on the road between Derby and Hall's Creek, about 12, 67 and 80 miles inland.

(e) *Eucla Area*. This area extends from Eucla, on the South Australian border, to west of Israelite Bay. So far, beyond the bores put down on the route of the Trans-Australian Railway, very little has been done in proving the resources of this area. In 1902 the first bore was sunk, about 35 miles north of Madura, and sub-artesian water was struck at 430 feet, at an elevation of 400 feet above sea level. Following upon this, a deep bore was put down at Madura, below the cliff and nearer the coast, when an artesian supply of stock water was obtained at a depth of 2,041 feet, yielding 5,700 gallons per day. Later, about 20 bores were sunk along the survey line of the railway, which runs east and west about 90 miles inland. These bores were put in at intervals between the 205 mile peg and the South Australian border, and ranged in depth between 323 and 1,344 feet. In most instances only stock water was struck at depths varying between 300 and 1,300 feet, and the largest supply was estimated at about 10,000 gallons per day.

(vii) *Tasmania*. Sub-artesian bores were recorded for the first time in Tasmania during 1922-23. The number existing at the end of the year was four, giving a supply of 46,000 gallons per diem. The maximum and minimum depths at which water was struck were 90 and 19 feet respectively, and the total depth bored was 454 feet.

(viii) *Northern Territory*. In the Northern Territory, bores to the number of 164 were put down up to 30th June, 1923, which number does not include bores put down by hand-boring plants for test purposes. One bore is artesian, and the others give a pumping supply. The total depth bored in State and private bores was 53,142 feet, and the maximum and minimum depths were 1,760 and 62 feet respectively.

§ 2. Irrigation.

1. *General*.—Australia's first experiments in irrigation were made with the object of bringing under cultivation areas in which an inadequate rainfall rendered agricultural and even pastoral occupations precarious and intermittent, and, although these original settlements have generally proved fairly successful, most of the States, instead of promoting new settlement in unoccupied regions, are adopting the policy of making

existing settlement closer, by repurchasing large estates, subdividing them into holdings of suitable sizes for cultivation, and selling the land upon easy terms of payment. It is in connexion with this Closer Settlement policy that the special value of irrigation is recognized.

2. *New South Wales.*—(i) *General.* The recognition of the fact that the area suitable for cultivation might be extended largely by a system of water conservation and irrigation has induced the Government to undertake various detached works and schemes, which will constitute portion of the system necessary to serve the whole State.

The system, and the works necessary to its maintenance and development within the State of New South Wales, are under the control of the Water Conservation and Irrigation Commission, which consists of the Minister for Agriculture for the time being as Chairman, and two other Commissioners. The works controlled by the Commission include the great Murrumbidgee Irrigation Scheme; the small irrigation settlements at Hay and Wentworth; national works of water conservation; shallow boring for settlers; and water trusts and artesian bore trusts operating under the Water Act. The Commission has control also of storages and diversions of water by private persons for purposes of conservation and irrigation.

(ii) *Murrumbidgee Irrigation Scheme.* The main features of the scheme include a storage dam across the Murrumbidgee at Burrinjuck to retain the floodwaters, which will be released for use lower down the river during the dry summer months; a movable diversion weir at Berembed, about 240 miles below the dam, to turn the required amount of water from the river into the main canal; a main canal, leaving the river near the weir; four main branch canals and a series of subsidiary canals and distributing channels throughout the area to be irrigated; bridges, checks, regulators and other structures throughout the entire system, and meters for measuring the volume allowed to each farm. Towns and villages, roadways to serve each farm, and a general surface drainage system, are also included in this scheme.

Further details in respect of the storage dam, diversion weir and canals, together with the areas thrown open for settlement and the conditions of tenure, are contained in previous issues of the Year Book. (See Year Book No. 15, page 442.)

The irrigation area is situated on the northern side of the Murrumbidgee River where it is anticipated that there will ultimately be upwards of 200,000 acres under irrigation in blocks devoted to fruit and vegetable growing, dairying, stock-raising, etc. With the aid of irrigation the soil and climate of these areas are suitable for the production of apricots, peaches, nectarines, prunes, pears, plums, almonds, melons, cantaloupes, and citrus fruits, also wine and table grapes, raisins, sultanas, figs, olives, and most varieties of vegetables and fodder crops. Dairying and pig-raising are being undertaken by large numbers of settlers in the areas, and the canning and drying of fruit and the production of wine are becoming industries of large dimensions. The district is already one of the greatest fresh fruit producing centres in the State.

An up-to-date butter factory, which is managed co-operatively by dairymen on the areas, is in operation at Leeton. The output for the year under review was approximately 422 tons, from 280 suppliers. The factory supplies ice to town residents and settlers. A fruit and vegetable canning factory has also been provided, which purchases vegetables and fruits grown by the settlers, and the output is rapidly increasing. Co-operative companies have been successfully floated for the handling of fruit not suitable for canning. Successful pooling schemes have been evolved for the economic handling of fresh fruit. A bacon factory and abattoirs under the same management as the butter factory have been erected at Yanco, where the settlers' pigs are treated, and where stock for butchers is slaughtered for local consumption.

The Department of Agriculture, which controls the Yanco Experiment Farm, has also established at Griffith (Mirrool irrigation area), a viticultural nursery for the propagation of vines on phylloxera resistant stocks. These stocks are intended not only for the supply of settlers on the areas, but for vigneron in all parts of the State.

An electric power station having been erected near Yanco Siding, electric light and power are supplied to the various factories, business people, and residents of Leeton, Griffith and Yanco, and the supply is also available for settlers when the number of applicants in any centre warrants the connexions being made.

On the 30th June, 1923, 2,064 farms were held, representing a total area of 119,609 acres. The number of town blocks held was 839.

In the matter of cultivation, the following particulars indicate the extent of the work performed by the settlers :—There are approximately 8,036 acres under deciduous fruit, 5,033 under citrus fruits, and 5,641 under vines. The estimated population of the areas is about 12,000.

(iii) *Curlwaa Irrigation Area.* The Curlwaa irrigation area is situated on the Murray River near its junction with the Darling River, and comprises 10,600 acres, of which on 30th June, 1923, irrigable holdings consisting of 1,945 acres had been taken up in areas of $1\frac{1}{2}$ to 40 acres, with a leasehold tenure of 30 years, at rentals of from 1s. to 10s. per acre per annum for the most part, and up to 35s. per acre in some blocks set apart during recent years. Of the balance, 7,586 acres were leased as non-irrigable holdings for short terms, in the majority of cases up to five years, with rentals of from 7d. to 5s. per acre, while the remainder of the area is made up of roads, channels, and other reserves. Of the irrigable area, 1,117 acres are planted as orchards and vineyards, of which 868 acres are in full bearing. There is also a small area under lucerne. It has been proved that the Curlwaa soil is eminently suited to the growth of citrus and other kinds of fruit, and some of the finest oranges grown in New South Wales are produced on this area.

The estimated weight of dried fruits produced on the Curlwaa area in the year 1922–23 was 12,187 cwt., the principal yields being sultanas, 3,588 cwt.; peaches, 2,800 cwt.; and currants, 2,625 cwt. The value of the dried fruit production was estimated at £37,380, while fresh fruit, crops, and other produce of the value of £21,519 were also produced.

Water is pumped from the Murray River by a suction gas plant in 3 units, with a total capacity of 12,500 gallons per minute and a lift of about 36 feet, and is supplied to the lessees at a flat rate of 20s. per acre per annum. There is also a general rate of 14s. per acre per annum upon the portion of the irrigated area in productive bearing. During the season 1922–23 the quantity of water supplied was 245,000,000 cubic feet, or 5,624 acre-feet, the average area watered during six irrigations being 1,337 acres. Each lessee is entitled to receive a quantity of water equivalent to a depth of 30 inches per annum.

A section of 525 acres comprising 395 acres of irrigable land has been excised from portion of the area previously held under dry lease, and a contract is in progress for the construction of the channels required to deliver water to 23 blocks, which will be set apart during next financial year.

(iv) *Hay Irrigation Area.* The Hay irrigation area consists of about 4,500 acres, of which on 30th June, 1923, the area held and used for irrigation purposes was 1,035 acres, in 108 blocks of from 3 to 34 acres. The term of lease is generally 30 years, and the annual rental from 5s. to 12s. per acre. In addition, there was at that date an area of 2,698 acres of non-irrigated land taken up in 48 blocks for short terms up to five years, with rentals of from 1s. to 10s. per acre. Water is lifted from the Murrumbidgee River by suction gas-driven pumping machinery in 2 units, with a total capacity of 4,000 gallons per minute, and a maximum lift of 30 feet. The rate charged to settlers is £1 10s. per acre per annum, but no general rate is levied as at Curlwaa. During the 1922–1923 season 172,906,732 cubic feet of water were pumped with nine pumpings. The principal industry is dairying, milk being supplied to the town of Hay, and cream to the local butter factory.

(v) *Projected Irrigation Schemes.*—(a) *General.* The Water Conservation and Irrigation Commission is investigating schemes for utilizing the New South Wales share of the Murray waters, and for storing water for the purpose of irrigation and stock and domestic supply on the Lachlan, Macquarie, Hunter, Namoi and Peel Rivers.

(b) *Murray River.* The effect of constructing the Upper Murray storage will be to ensure at all times sufficient flow below Albury to permit of diversions for irrigation and stock and domestic supplies, and also to make good the losses in the river due to

seepage, evaporation, and lockages. The Act provides that, subject to certain conditions, New South Wales and Victoria shall share the regulated flow of the river at Albury, and shall each have the full use of all tributaries of the River Murray within its territory below Albury, with the right to divert, store, and use the flows thereof.

It is estimated that the New South Wales regulated river flow after the construction of the Upper Murray storage will amount to at least 120,000 acre-feet per month at Albury during the irrigating season, and this will permit of a considerable amount of irrigation development along the river.

An investigation is being made into the manner in which the New South Wales proportion of the Murray waters can be most profitably applied, but as yet no conclusion has been reached.

(c) *Lachlan River.* The construction of a storage reservoir at Wyangala, below the confluence of the Abercrombie River, is being investigated with the intention of providing water in the river channel for pastoral purposes and for the irrigation of limited areas along the river banks. A proposal is also being investigated for the increase of the storage in Lake Cudgellico, which is fed from the Lachlan River, portion of the stored water being released in the summer months to supplement the flow of the river when necessary. The possibility of constructing a series of low weirs between the towns of Cowra and Booligal is also receiving consideration.

(d) *Macquarie River.* The construction of a storage reservoir on the river at Burrendong, below the confluence of the Cudgegong River, for the purpose of affording water for irrigation and stock and domestic supply below Wellington is now being investigated. Smaller schemes for the construction of storage dams at White Rock and on Campbell's River, at Bathurst, have also received consideration. Systematic gaugings are being made of the river flow with a view to determining the quantity of water which will be available if the storage dam be constructed.

(e) *Hunter, Namoi, and Peel Rivers.* Pumping by licensed private irrigators under the Water Act is increasing at such a rapid rate that in the case of some of the rivers, such as the Peel and the Hunter, it will not be possible to adequately supply the pumps in dry seasons until head storage works have been constructed. Investigations are in progress for storage dams on the Hunter and Peel Rivers, for dams on the Namoi River above Manilla, and lower down above the junction of the Peel River at alternate sites.

(vi) *Water Rights.* By Part II. of the Water Act 1912, the right to the use and flow and to the control of the water in all rivers and lakes which flow through, or past, or are situate within the land of two or more occupiers is vested in the Crown. Private rights are almost wholly abolished, riparian law is simplified, and a system of licences is established for the protection of private works of water conservation, irrigation, water supply, drainage and the prevention of inundation of land. The enactment prevents litigation and determines the rights of riparian owners.

During the year ending 30th June, 1923, 226 applications were received for fresh licences, comprising 181 in respect of pumps, or pumps in conjunction with dams or other works, 23 in regard to dams, and 22 other works. The number of applications received for the renewal of existing licences was 127; 77 of the applications were in respect of pumps, in some cases used in conjunction with dams or other works, 46 respecting dams, and 4 races and other works. Approximately 1,573 licences were in force on the 30th June, 1922, and in the succeeding twelve months 139 new licences were issued and 16 were allowed to lapse, so that there were about 1,696 licences current on the 30th June, 1923.

(vii) *Water Trusts and Bore Trusts.* Part III. of the Water Act 1912 provides for the supply of water either for irrigation, stock, or domestic purposes, or for drainage. The liabilities thereon are repaid to the Crown, with interest spread over a period of usually 21 or 28 years, and the works are administered by trustees appointed from among the beneficiaries under the Act, except in the case of trusts in the Western Division, where the Western Land Board is appointed as trustee. For the supply of

water, trusts have been constituted in connexion with (a) seventy-nine artesian wells; (b) nine schemes for the improvement of natural off-takes of effluent channels, for the purpose of diverting supplies from the main rivers; (c) in four instances for the construction of weirs across stream channels; (d) three pumping schemes, two from natural water-courses, and one from a well; and (e) one for impounding by means of regulators water which flows into natural lakes. The total area included within these trusts amounts to 7,814,657 acres.

3. Victoria.—(i) *General.* The Water Conservation Works in Victoria consist of irrigation works proper, and those providing mainly a domestic supply, such as the works for the supply of Melbourne, controlled by the Melbourne and Metropolitan Board of Works; the Coliban, Wonthaggi, Broken River, Kerang Lakes, Naval Base and Mornington Peninsula, and Mallee Supply Works administered by the State Rivers and Water Supply Commission; and other works of domestic supply controlled by Water Works Trusts or Municipal Corporations. Particulars of the works not controlled by the Commission will be found in the chapter on Local Government in this volume. With the exception of that of the First Mildura Irrigation and Water Supply Trust, all the irrigation schemes, and the more important domestic and stock water-supply works in rural districts, are vested in and controlled by the State Rivers and Water Supply Commission, a body composed of three members, which was created by the Water Act 1905, now incorporated in the Water Act 1915.

(ii) *Irrigation Schemes.* (a) *General.* This division comprises the schemes constructed and under construction for the supply of water to some twenty-four irrigation districts. Up to 1906 these schemes were controlled by local Trusts, which had obtained the moneys for their construction on loan from the State. By the Water Act 1905 all local control was abolished except in the case of Mildura, and the districts were transferred to the State Rivers and Water Supply Commission. Since that date the Government has adopted a vigorous irrigation policy, and the capital expenditure at 30th June, 1923, on water supply in the irrigation and water supply districts under the control of the Commission and at Mildura, exclusive of the amount £673,000 expended by it on River Murray Agreement Works, was £6,374,000. The irrigation works draw their supplies mainly from headworks constructed on the Goulburn, Murray, and Loddon Rivers. The cost of these headworks, which now stands at £1,126,000, is not debited to any particular districts, but is borne by the State. The extent of land under irrigated culture last year for all kinds of crop was 350,727 acres, being an increase of 62,820 acres over the area irrigated in the previous year, and 44,765 acres above the average of the last four years.

(b) *Goulburn Irrigation System.* The Goulburn Irrigation System (see Official Year Book No. 13, map on page 561) is the largest project of the kind in Victoria. The need for irrigation in the Goulburn Valley is indicated by its low annual rainfall, 18 inches, while the great variation in the rainfall over the catchment area, 20 inches to 52 inches, in the rate of flow, 180 cusecs* to 80,000 cusecs, and in the volume of the annual river discharge, 620,000 acre-feet to 6,200,000 acre-feet, reveal clearly the necessity for regulating the river flow by storage. The progress made in this direction is shown by the fact that the existing storages of this system will hold some 400,000 acre-feet. The completion of works under construction will increase this to 654,000 acre-feet, and this, added to 300,000 acre-feet divertible direct from the river, brings the total artificial supply to 954,000 acre-feet.

The Goulburn Scheme was inaugurated by the construction of the diversion work known as the Goulburn Weir, near Nagambie, which was commenced in the year 1887 and completed in 1891. It is built of concrete masonry, backed with coursed granite blocks. It is 695 feet in length over the abutments, exclusive of the space occupied by the channel regulators—a further 230 feet—or 925 feet in all, and raises the summer level of the river about 45 feet, to 408 feet above sea level, the height necessary to command the lands to be irrigated. The weir is provided with 21 flood-gates of wrought and cast iron, each gate being 20 feet by 10 feet and weighing 7 tons. To provide a clear waterway for the discharge of floods these gates are lowered into recesses in the body of the structure

* Cusecs = Cubic feet per second.

during high stages of the river flow. The gates are raised and lowered by means of screw-gearing operated by three turbines, the motive power being derived from the river water.

The water is diverted by two main channels, the eastern carrying 660 acre-feet per day a distance of 32 miles to the Shepparton Irrigation District, north of the Broken River, while the western channel, with a capacity of 3,434 acre-feet per day, and a length of 23 miles, supplies the eastern half of the Rodney main channels, and fills Waranga Reservoir, the present principal storage basin of the scheme.

Waranga Reservoir has been formed out of a natural depression 6,000 acres in extent and some 6 feet deep. The construction of an earthen embankment $4\frac{1}{2}$ miles long formed a reservoir covering about 19 square miles to a mean depth of nearly 21 feet. This work was commenced in the dry year 1902 and completed in 1905 to a capacity of 201,300 acre feet. The progress of closer settlement and the increasing demand for water led to the enlargement of the embankment so as to raise the water level 10 feet. This work, recently completed, increases the length of the embankment to $4\frac{1}{2}$ miles, the submerged area to 23 square miles, and the storage capacity to 333,400 acre-feet.

Two main channels issue from this reservoir—the Waranga—Rodney—capacity 500 acre feet per day, which feeds the western half of the Rodney Main Channels, and the Waranga Western Main Channel—92 miles in length—which leaves the reservoir with a capacity of 2,000 acre feet per day, crosses the Campaspe River as a reinforced concrete syphon, and reduces to 400 acre feet per day at the Serpentine Creek—the present termination. This channel is being extended to the west side of the Loddon—98 miles westward from the reservoir.

In view of the continually increasing demand for water in dry seasons, and the repeated requests for extensions of the system, the Commission had investigations made to determine the most suitable site for an additional storage reservoir. After a number of sites had been examined as to foundations, probable storage capacity, and estimated cost, the Commission adopted what is known as the Sugarloaf site, just below the junction of the Goulburn and Delatite Rivers, as the most economical. The first section of the dam, which will be carried to a height of 135 feet above the river bed, has its foundation in places 75 feet below the natural surface. This section will have an over-all length of 3,000 feet, of which 2,300 feet will consist of "rock fill" bank with a reinforced concrete core wall, the remaining 700 feet being of mass concrete, and forming a flood spillway. The first section of the work will submerge an area of 7,600 acres and permit the storage of 300,000 acre-feet of water, of which about 60,000 can now be impounded, and the design provides that the dam may ultimately be carried to a height of 190 feet from the river bed. The dam so raised would submerge 16,200 acres and impound 918,000 acre-feet. The catchment area above this reservoir is 1,500 square miles. The storing of water was commenced in 1922.

The portion of the State at present served by the Goulburn system comprises 21,000 acres east of the river, 565,000 acres between the Goulburn and the Campaspe, and 284,000 acres between the Campaspe and the Loddon. These areas include the irrigated closer settlements at Shepparton, Stanhope, Tongala, Rochester, Echuca North, and Dingee, as well as the districts formerly controlled by the Rodney and Tragowel Plains Trusts, where the holdings are larger than in closer settlement areas. The main channels of the system have an aggregate length of 150 miles, in addition to which there are 1,650 miles of distributaries, a total for the whole system of 1,800 miles.

The balance of the area, including Deakin District, is provided with a domestic and stock supply, and water is sold for occasional irrigation on application. The amount of the compulsory charge for irrigation water allotted as a "right" is at present 7s. per acre-foot in the two districts—Tragowel Plains and Dingee—farthest removed from the sources of supply, and 6s. per acre foot elsewhere.

Following strong demands for the extension of existing districts and the provision of an irrigation supply for new areas, the Commission is having the eastern main channel enlarged for its whole length, and extended to command large areas of land north of Shepparton District, and to serve also the suitable lands commanded south of the Broken River. The Waranga western main channel is being extended to the west side of the

Loddon, to improve the supply to Boort District; and a new channel, from the Waranga main channel near Tandarra, through Calivil, to the No. 1 main of Tragowel Plains district, is already under construction. These works will have the effect of strengthening existing supplies, and of bringing large areas of new irrigable land under irrigation.

(c) *River Murray Irrigation Schemes.* The group of irrigation schemes for the service of the districts along the frontage of the River Murray, and drawing supplies direct from that river, ranks next in importance in point of development to the Goulburn Irrigation System. These schemes already supply an area of 340,000 acres, served by 1,000 miles of channels, and are capable of considerable expansion when the Hume Storage Reservoir, now under construction, becomes operative.

The districts supplied are all situated in the portion of the Murray Valley below the town of Echuca, and in an area of comparatively low rainfall. Those between Echuca and Swan Hill, excepting Tresco, are supplied by gravitation, while the Tresco district, and those lower down the river—Nyah, Merbein, Mildura and Red Cliffs—are supplied by pumping.

The present headwork of the gravitation schemes is a weir and lock at Torrumbarry—some 20 miles (by road) down-stream from Echuca—constructed under the powers conferred by the River Murray Waters Acts, the constructing authority being the State Rivers and Water Supply Commission.

This weir was commenced early in 1919 and completed in the latter part of 1923. It raises the summer level of the river by some 16 feet, and thus substitutes continuous diversion for the intermittent diversion hitherto dependent on the varying level in the river, and at the same time provides for the passing of river craft but without offering serious obstruction to the passage of floods.

These objects have been achieved by the construction of a concrete foundation, combined with movable steel trestles, which support stop bars to the height necessary to keep the river at diverting level. In times of flood the drop bars, and if necessary the trestles themselves, are removed to the river bank.

The effect of this work, as regards irrigation, is the ensuring of a regular supply by gravitation throughout the year to the districts between Torrumbarry and Swan Hill. The districts first benefited by this supply are those known as Cobuna, Gannawarra, Koondrook and Swan Hill, comprising in all 150,000 acres on the river frontage (hitherto dependent on pumping plants during low stages of river flow), and the Kerang districts and adjacent areas, containing about 100,000 acres, more distant from the river, and receiving a more or less irregular supply, by gravitation, from the Kow Swamp Free Headworks. These headworks comprise a gravitation offtake at the effluence from the Murray of the Gunbower Creek, a main channel thence (the Gunbower Creek improved) to Kow Swamp Reservoir, a natural depression improved so as to hold 40,860 acre feet, and a main supply channel therefrom (the Macorna channel) westward to the Loddon River.

The quantity of water allotted as a "right" in these districts is one acre-foot per irrigable acre. The compulsory charge is at present 6s. per acre-foot of such water right in Swan Hill district, and 7s. per acre-foot in the other three districts. In Kerang district—not yet under a compulsory irrigation charge—water is sold to irrigators on application at a charge not exceeding 3s. per acre foot of water supplied. In the Swan Hill district 3,800 acres of irrigable land were specially purchased for soldier settlement, and subdivided into 121 holdings. The channel system has been correspondingly extended.

In addition to improving the supplies to existing irrigation districts, the Torrumbarry weir will enable large areas adjacent to these districts to be commanded by extensions of existing channel systems.

Extensions of irrigation schemes dependent on the River Murray, hitherto impracticable owing to lack of storage on that river, will be rendered possible on the completion of the Hume Reservoir.

This storage work, now in course of construction jointly by the States of New South Wales and Victoria, is one of the works authorized by the River Murray Water Acts.

The site of the dam, which is on the Upper Murray, just below the junction of the Mitta River, and 6 miles due east of Albury, was adopted as being the one most suitable, having regard to foundations, storage capacity, cost of construction, and of lands to be submerged.

The reservoir will receive the run-off from a catchment of 6,000 square miles of mountain range country comprising the whole of the Mitta watershed area of 1,650 square miles, and 4,350 square miles of the area drained by the Murray and its tributaries above the Mitta Junction. The original design provides for a storage capacity of 1,100,000 acre-feet, i.e., the quantity required to cover 1,100,000 acres to a depth of one foot; but later investigations show that it will be practicable to increase the capacity to 2,000,000 acre-feet should the need arise. The stored water will be backed up along the Murray Valley for a distance of about 32 miles, covering an area of 16,820 acres, and along the Mitta for 17 miles, submerging 13,480 acres, and will thus form a lake having a surface area of 30,500 acres or 47 square miles. These figures can best be appreciated by comparison with some well-known standard. For instance, the surface area of Sydney Harbour is 17 square miles, so that the Hume Reservoir, when full, will have a water spread $2\frac{1}{2}$ times as large as Sydney Harbour, and second to no other artificial sheet of fresh water in Australia.

The dam is being constructed in three sections:—(1) Earthen embankment, 2,700 feet in length, with a concrete core for the full height. (2) Concrete spillway, including turbine wells, 740 feet in length. (3) Outlet works, 161 feet, making a total length of 3,601 feet.

The earthen embankment will be on the Victorian side of the river. The crest will be 85 feet above the river flats, and 12 feet clear above the full supply level of the reservoir. The width of the crest will be 32 feet, which includes provision for a roadway.

The concrete spillway will be built in the river channel. The crest will be 79 feet above the bed of the river, and will be surmounted by flood gates 15 feet high, to work between piers which will support the roadway. The motive power for operating the gates will be derived from the river water. The spillway has been designed to discharge over 100,000 cusecs, or 200,000 acre-feet per day.

The irrigation areas supplied by means of pumping, and not commandable by gravitation from the Torrumbarry offtake, stated in geographical order, are the Tresco Irrigation district, the Nyah and Merbein Murray Frontage Settlements, the First Mildura Irrigation Trust District, and the recently established Red Cliffs Soldier Settlement.

The Tresco District of 4,000 acres, created by private enterprise, and recently taken over by the State Rivers and Water Supply Commission, is supplied by water lifted from Lake Boga by pumps throwing 80 acre-feet per day. Its channel mileage is 50. The water supplied is $2\frac{1}{2}$ acre-feet to each irrigable acre, and the compulsory charge at present £2 per acre.

The Nyah Irrigation Area is supplied with water diverted from the Murray by a high-lift pumping plant—capacity, 94 acre-feet per day. The total length of the channels is 46 miles. The settlement contains 3,800 acres, subdivided into 208 holdings of an average area of 17 acres—practically all settled. The settlers include 60 discharged soldiers. Water rights are apportioned to these holdings on the basis of $2\frac{1}{2}$ acre-feet of water for each irrigable acre, and the compulsory charge is at present 20s. per acre-foot of such water rights. The land is devoted mainly to vineyards and orchards, and the settlers, taken as a whole, are making good progress. The value of irrigation to the district is reflected in the selling price of the land, fully planted blocks bringing remarkably high prices.

The Merbein Irrigation Area comprises 8,300 acres, originally Crown lands. This settlement now contains 384 holdings, averaging 21 acres each, all of which are settled, the settlers including 166 discharged soldiers. The water is obtained from the Murray by pumps, which deliver 244 acre-feet per day. The main and distributary channels have a combined length of 60 miles. The land settlement conditions and the water rights apportioned are the same as at Nyah, but the compulsory charge is 24s. per acre foot.

The Red Cliffs Irrigation Settlement comprises 15,000 acres of first class irrigable land adjoining the Mildura Settlement. It is the irrigable portion of the large Red Cliffs estate of 33,000 acres, known as the Debenture Holders' Land, acquired by the State for soldier settlement. The scheme of works for this district, when completed, will rank first in importance among Victoria's pumping systems. It includes a pumping plant capable of delivering 500-acre feet of water per day, lifted 105 feet, a reinforced concrete

rising main 6 feet 6 inches in diameter, 34 chains long, an electric generator of about 350 k.w. capacity, to provide for re-lifts and a system of main and distributary channels to command every holding in the district. Two pumping units out of three have already been installed and are in operation. The third is under construction. The total length of channels constructed to date is 104 miles, the excavation involved totalling 620,000 cubic yards. Some 700 discharged soldiers have been allotted blocks on this settlement.

(d) *Loddon River Scheme.* This also is wholly a gravitation system, with a regulating weir on the Loddon at Laanecoorie as its headwork. Its storage capacity is 14,000 acre feet, and other works include timber diversion weirs at Serpentine and Kinypanial, and 160 miles of channels in the Boort district, which supply an area of 74,000 acres for domestic and stock purposes and partial irrigation.

(e) *Werribee River Schemes.* (1) *Bacchus Marsh.* The headwork of this gravitation scheme is a reservoir of 15,000 acre-feet capacity on Pyke's Creek, a tributary of the Werribee, the intake from the creek catchment being supplemented by a tunnel through a dividing spur, which taps the Werribee River near Ballan. The area of the district is 6,700 acres—half of which is irrigable—and includes some of the richest lucerne land in the State. The annual water right is one acre-foot per irrigable acre, and the present compulsory charge is 22s. 6d. per acre-foot of such right. The higher portion of the district receives a supply for domestic and stock purposes.

(2) *Werribee.* This is another gravitation scheme on the same river, with a reservoir at Melton as its headwork. The irrigation district comprises 10,000 acres of first-class land, being the irrigable portion of the Werribee Closer Settlement Estate, which is within 20 miles south-westerly of Melbourne. The water right allotment is one acre-foot per irrigable acre, and the charge at present is 12s. per acre-foot. The non-irrigable portion of the estate, containing about 13,000 acres, is supplied with water for domestic and stock purposes.

(f) *Macallister River (Maffra) Scheme.* The works of this scheme, now in course of construction, comprise a storage reservoir on the Macallister River, at Glenmaggie near Heyfield, and a system of main and distributary channels capable of commanding by gravitation some 80,000 acres of the rich river flats along the Macallister, Avon, and Thomson Rivers, near Maffra, Stratford, and Sale. The conditions in these areas as to quality of lands and annual rainfall are similar to those at Bacchus Marsh and Werribee before irrigation. The design for the dam—a large cyclopean concrete structure—provides for the raising of water to a maximum height of 100 feet above the foundations. The capacity of the storage will be 150,000 acre-feet, while the unregulated flow of the river will yield an additional 100,000 acre-feet. The construction of the works is well advanced, and it is expected that the settlers on the Boisdale Closer Settlement portion of the district will be supplied with water during the coming year. The commanded lands are specially suitable for beet culture and dairying, and include some 10,000 acres acquired by the State Rivers and Water Supply Commission for soldier settlement. Outlets for the produce of irrigated farms are already provided by the sugar, butter, and condensed milk factories, which are within easy reach; while the proximity to railway stations ensures to settlers the necessary transport facilities.

(iii) *Domestic and Stock Schemes.* (a) *General.* The second division takes into account the schemes constructed and under construction for the supply of water for domestic and stock purposes, the capital expenditure on which at 30th June, 1923, was £6,090,000. The area of country lands artificially supplied with water for these purposes is nearly 21,300 square miles. The number of towns supplied, exclusive of the City of Melbourne and its suburbs, is 175, serving an estimated population of 339,000. In addition to the Commission's districts, some large areas are still administered by local authorities.

(b) *Wimmera-Mallee System.* The principal scheme in this division is that known as the Wimmera-Mallee Gravitation Channel System. This comprehensive scheme of works will compare favorably, it is believed, with any similar individual scheme for domestic and stock service, in any part of the world. The main supply is drawn from

four reservoirs in the catchment area of the Wimmera River, at the foot of the Grampians Ranges, viz. :—Lake Lonsdale, Wartook, Fyans Lake, and Taylor's Lake. The reservoirs in use, including some minor works, have a combined storage capacity of 148,000 acre-feet. The completion of the works in progress will bring this total to 210,000 acre-feet. The water is conveyed partly by natural water-courses but chiefly by artificial channels aggregating over 4,500 miles in length over farming districts comprising about 11,000 square miles, approximately one-eighth of the whole State (see Official Year Book No. 13, map on page 562).

(c) *Northern Mallee Water Supply Scheme.* In what is known as the northern Mallee, an area of about 1,250,000 acres, adjoining the Wimmera-Mallee Gravitation Channel System, but above its channel level, the Commission has provided a water supply for the large wheat holdings in the Walpeup district, by means of bores and large public tanks. The number of successful Government bores in use in this area is 94, their average depth being 420 feet. There are also 176 tanks, having a total capacity of 950,800 cubic yards, or 160 million gallons.

(d) *Millewa Scheme.* This recent and important addition to Victoria's water supply schemes for domestic and stock purposes is designed to serve 1,000,000 acres of the extreme northern Mallee between the Mildura railway and the South Australian border, which is being opened up for settlement by this water supply scheme, and the construction of 51 miles of railway from Red Cliffs westward toward South Australia. The water for this extensive area will be drawn from the River Murray. The scheme comprises two main lifts, of about 125 and 150 feet respectively, the first lift being from Lake Cullulleraine on the flats 5 miles from the Murray. This lake, the main storage of the scheme, which holds 2,000 acre-feet, will be filled from No. 9 Lock now in course of construction. Holdings aggregating 200,000 acres have already been allotted to settlers, and, for the service of this area, 210 miles of channels have been excavated, and 14 earthen storages, with a combined capacity of 250,000 cubic yards, have been constructed at convenient distances from railway stations. The first unit of the pumping scheme and the rising main being near completion, water will be turned into the channels and storages early in 1924. The construction of the remaining works of the scheme will precede the throwing open of additional lands for settlement.

(e) *The Coliban System* comprises two main storage reservoirs on the Coliban River, on the northern slope of the Dividing Range, the "Upper Coliban" with a capacity of 22,500 acre-feet, and "Malsbury" with a capacity of 12,300 acre-feet, together with main and distributary channels aggregating 330 miles in length, 23 subsidiary reservoirs, and 300 miles of urban pipe reticulation. This scheme supplies water for domestic and stock purposes to the city of Bendigo, also to Castlemaine, Maldon, and eighteen other townships, and the interjacent rural districts, containing in all some 235,000 acres. The population served is 61,000. This system also supplies the demands of the quartz and sluice mining industries throughout this area, and provides water for irrigation for orchards, market gardens and similar purposes, the area irrigated annually being about 6,000 acres.

(f) *Naval Base and Mornington Peninsula Scheme.* Another scheme in this division which calls for mention here is the Naval Base and Mornington Peninsula Scheme. This comprehensive scheme—prepared at the request of the Naval Authorities—is for the supply of water to the Flinders Naval Base, and for the service of fifteen townships *en route*, including Berwick, Beaconsfield, Pakenham, Aspendale, Chelsea, Carrum, Frankston, Mornington, and Hastings. An ample supply of water is obtainable both for ordinary domestic and stock use and for market gardening, in the vicinity of Dandenong, from the headwaters of the Bunyip River, which drains some 30 square miles of forest country above the point of off-take. The works are so far advanced that water is already being delivered at the Naval Base, and to the townships of Mornington, Frankston, Carrum, Aspendale, and the intervening bayside resorts, as well as the inland townships of Beaconsfield, Berwick, Cranbourne, Somerville, and Bittern.

The scheme is being extended to supplement the supply to the township of Dandenong, hitherto controlled by a local Trust, the works of which were recently transferred to the Commission, which will administer them as part of the general scheme.

(g) *The Kerang North-West Lakes Works* consist of a chain of lakes, situate a few miles to the north-west of Kerang, connected by channels to each other and to the Loddon River, and improved so as to be capable of storing 88,500 acre-feet of water. This system serves, for domestic and stock purposes, an area of 40,000 acres, constituted the "Kerang North-West Lakes Waterworks District." The lakes are filled by gravitation from the Torrumbarry Weir, on the River Murray, via the Kow Swamp Irrigation Works. The water is diverted along Sheepwash Creek—an improved natural effluent from the Loddon—the river level having been raised by a concrete weir at Kerang. As in the Coliban District, limited quantities of water are sold on application for irrigation purposes, about 5,500 acres having been irrigated annually from this source for some years. These irrigation facilities have been so appreciated that, in response to a strong demand, an Irrigation District of 18,000 acres ("Mystic Park") has been constituted on the west of the Lakes, and works are in course of construction to provide an irrigation supply to some 9,000 acres on the east.

(h) *The Broken River Works* comprise two weirs—"Casey's" and "Gowangardie"—above Shepparton, and offtake works therefrom, for the diversion of water into the channels of the Tungamah, Shepparton, and Numurkah Waterworks Trusts.

(i) *The Wonthaggi Works* comprise a storage reservoir on Lance Creek, capacity 421,000,000 gallons, a main pipe line therefrom 9 miles in length to the coal-mining town of Wonthaggi, a service reservoir—capacity 1,400,000 gallons, and 18 miles of pipe reticulation for the service of that town. The population supplied is 5,000, in addition to the State Coal Mine and Railways Department.

(iv) *Flood Protection.* The Water Acts of Victoria provide for the constitution of Flood Protection Districts, in which the residents are rated for schemes carried out for their benefit. The works are constructed, and districts administered by the State Rivers and Water Supply Commission, and the Commission is carrying out extensive schemes at Koo-wee-rup and Cardinia, in the south-eastern portion of the State, and works on a smaller scale at Echuca.

The Koo-wee-rup and Cardinia Flood Protection Districts together embrace the whole of a large continuous depression south of the main Gippsland railway and along the sea-board of Westernport, containing in all about 100,000 acres of very fertile country, the proper development of which was seriously retarded by periodical inundations. A large portion of the land was reclaimed, subdivided, and settled by the State, but it became evident, during periods of heavy rainfall, that only a comprehensive drainage scheme for the whole area affected would afford the needed protection from flooding.

At the request of the settlers, the Commission prepared schemes for this purpose, and, after the concurrence of the settlers had been obtained, practically carried the schemes into effect; and the two large districts above-mentioned were constituted, and are now being rated on an acreage basis in respect of benefits derived from the works. The Commission's works are now well advanced, and provide flood protection from all but abnormal floods. They consist of the substantial enlargement and remodelling of most of the existing principal drains, the construction of new internal drains, and the cutting of several distinct outlets, thus avoiding concentration of flood waters in the main drains.

(v) *Mildura.* The Mildura Irrigation Scheme is controlled by the First Mildura Irrigation Trust, and water is obtained by pumping from the River Murray. The area of the settlement is 45,000 acres, of which 13,000 acres are under intense culture, vines predominating. During the year ending 30th June, 1923, the Trust's receipts aggregated £54,217, and its expenditure £48,846, whilst loans—exclusive of £7,510, arrears of interest—advanced by the Government amounted at 30th June, 1923, to £95,893. The number of water acres supplied during the year was 42,807.

4. Queensland.—The main irrigation works in Queensland are as follows:—

(i) *Dawson Valley Scheme.* The Dawson Valley Irrigation Scheme, now under construction, comprises:—(a) A concrete dam at Nathan's Gorge, some 30 miles below the town of Taroom, to impound 2,500,000 acre-feet of water. (b) An offtake weir 27 miles down stream for the diversion of water for the irrigation of 200,000 acres in the Dawson Valley.

The Dawson River rises in the Great Dividing Range. The catchment above the proposed Nathan Dam is 9,000 square miles, over which the average annual rainfall is 27 inches.

An arched dam is involved, with termini on lines tangential to the curve. The rock forming the foundations is a hard sandstone, the crushing strength of which ranges from 3,000 to 5,000 lb. per square inch. It is designed to fix the water level 130 feet above summer water level at the site, and the crest height at 140 feet, with a spillway on the right bank. The crest length of the dam will be 860 feet, 500 feet on the curved portion. The reservoir will be the largest artificial storage in the world.

The main canal is being given a fall of 1 foot per mile, and water for irrigation purposes can be diverted from it shortly after leaving the regulating weir. A model garden town has been laid out on the banks of the river.

The irrigable lands are of a good agricultural type, suitable for irrigation, with good capillarity, ample humus, and containing liberal amounts of all mineral plant foods in ready available form. About 120,000 acres are commanded on the eastern side of the river, and 80,000 on the western side. A hydro-electric station will utilize the water power to irrigate 50,000 acres of high level lands situated above the river flats, and not commanded by gravitation.

The Dawson Valley Works are situated in the central division of the State. The area of the latter is 209,340 square miles, and the population, as derived from the 1921 census, 88,945. Since then, agriculture has increased on account of cotton cultivation proving successful, and in 1922 a third of the State's crop came from the Dawson Valley.

A railway line is in course of construction through the irrigation areas from the present terminus of the Dawson Valley Line at Baralaba.

In order to minimize heavy interest charges accruing during the process of construction the project has been designed on the zone system, by which one area is prepared for settlement and completed before the next zone is proceeded with.

(ii) *Inkerman Irrigation Area.* This area is situated at Home Hill, Ayr district, using the waters of the Burdekin River, with electrically operated shallow well pumps. The number of wells and pumps is 230, and the acreage under irrigation at the end of 1923 was 4,500. Provision is being made to increase this area to 10,000 acres.

(iii) *Other Schemes.* Smaller schemes include Townsville (wells, creek, and river); Rockhampton (wells, river, creek, &c.); those at Bingera, near Bundaberg, which utilize water pumped from the Burnett River just above the point of meeting of the salt and fresh waters; and those at Fairymead, which utilize water pumped from a number of shallow spear wells sunk on the alluvial flats on the north side of the Burnett River and about 6 miles from Bundaberg.

(iv) *Extent of Irrigation.* There were 858 irrigators in the State in 1922, chiefly farmers and graziers, and the area irrigated was 14,314 acres.

5. South Australia.—(i) *The Renmark Irrigation Trust.* The Renmark Irrigation Trust was established on similar lines to Mildura, but on a smaller scale. The area of settlement is 30,000 acres, and the irrigated area 7,850 acres. The population of the town and settlement is 4,800. Sultanas, currants, doradillas, gordos, oranges, apricots, peaches, pears, prunes, olive oil, and grape spirit are the chief products. There are two distilleries for the manufacture of grape spirit and several packing sheds for dried fruits. The dried fruit pack for 1923 amounted to 2,750 tons, consisting of currants, 1,000 tons; sultanas, 975 tons; lexias, 520 tons; apricots, 175 tons; peaches, 50 tons; and pears 30 tons.

(ii) *Other Waterworks.* A number of country water works are under the control of the Public Works Department. As, however, they are not irrigation works properly so called, but are used for supplying water for domestic purposes, etc., to several towns, no further reference will be made to them in this chapter. (See the chapter on Local Government.)

(iii) *Areas under Irrigation.* The Irrigation Areas on the River Murray above Morgan under Government control up to the end of February, 1924, contained 17,827 acres of irrigable land, allotted to 1,068 settlers, including 587 returned soldiers, and 11,264 acres ready for allotment. The pumping plants at present installed or being installed on these areas aggregate 8,050 brake horse-power, with a pumping capacity of 12 million gallons per hour.

The *Cadell Irrigation Area* is 7 miles by river above Morgan, and comprises 2,726 acres, of which 1,183 are irrigable. Blocks have been allotted to 77 soldier settlers and 4 civilian settlers, and the balance is ready for allotment in 4 blocks. The area is suitable for fruit-growing. The pumping plant is a 190 b.h.p. steam plant, with a capacity of 4,200 gallons per minute against a head of 90 feet. This area was first allotted on 30th September, 1919.

The *Waikerie Irrigation Area* is 39 miles above Morgan by river, and includes the old Waikerie and Ramco settlements. The total area is 9,300 acres, of which 3,103 acres is first class irrigable land, growing fruit trees and vines. The area allotted is divided between 183 settlers, the first allotment taking place on 5th July, 1910. The pumping plant consists of five units, four suction gas and one steam unit, with a total of 1,440 b.h.p. The capacity of the plant is 17,700 gallons per minute against a total head of 150 feet.

The *Holder Irrigation Area* adjoins the Waikerie Irrigation Area, and has been incorporated as a portion of that area. It contains 471 acres of irrigable land, and 1,890 acres of dry land. Blocks have been allotted to 19 settlers, including 9 soldier settlers, and a further 3 settlers can be accommodated. An area of 115 acres of the irrigable land has been subdivided into 42 small allotments. The pumping plant consists of two steam units, with a total of 338 b.h.p., and a capacity of 3,750 gallons per minute. An adjoining irrigable area of 110 acres, held by Holder Ltd., is irrigated by this plant.

The *Kingston Irrigation Area* is situated 75 miles above Morgan by river, and comprises the old village settlement of that name. It has a total area of 3,748 acres, of which 493 acres are irrigable. This area was allotted to 30 settlers in July, 1914, and is used for fruit and vine culture. The water is pumped by a 118 b.h.p. steam plant with a capacity of 2,000 gallons per minute against a total head of 118 feet.

The *Moorook Irrigation Area*, adjoining the Kingston Area, contains 5,960 acres of land, of which 1,049 acres is good land suitable for vines and fruit culture. Altogether 961 acres of irrigable land have been allotted to 52 settlers, of whom 31 are soldier settlers. The first allotment took place in March, 1916. This area is irrigated by a 430 b.h.p. steam plant of two units, with a capacity of 7,160 gallons per minute against a total head of 142 feet.

The *Cobdogla Irrigation Area* is on the opposite side of the river to Kingston and Moorook Areas. It was formerly a sheep station, and was resumed by the Government for irrigation purposes. The total area of the station was 160,000 acres, of which 23,400 acres had been set apart as the Berri Area, and the remaining 136,600 acres as the Cobdogla Area. The latter area includes Lake Bonney, 4,000 acres in extent. This lake is situated 3 miles inland from the Murray, and is filled at high rivers by Chambers Creek. The water is retained in the lake by a weir with movable shutters, erected at the junction of the lake and creek.

The Cobdogla Area contains about 30,000 acres of first class land capable of intense culture. The area is divided into 5 divisions, viz., the Cobdogla, Nookamka, Loveday, McIntosh, and Weigall divisions.

The Cobdogla division has been developed as a low-lift area, the pumping head being about 40 feet, to irrigate 1,836 acres of land, suitable for vine and fodder growing. An area of 671 acres has been allotted to 20 settlers, and 1,133 acres are ready for allotment.

The Nookamka division, south of Lake Bonney, has an irrigable area of 2,604 acres, of which 1,976 acres have been allotted to 119 soldier and 9 civilian settlers, 64 acres are reserved as a nursery, while the balance is ready for allotment. The first allotment took place on 16th March, 1922.

The Loveday division has an irrigable area of 8,800 acres, divided into 570 blocks. The construction work on this area has been completed, and 34 blocks have been allotted to soldier settlers. The reticulation is by means of pipe lines, for both main and branches, instead of open channels. The pipes are of reinforced concrete, and the work has been carried out by the Hume Pipe Co. (Australia) Ltd.

Pumping plants have been installed on the Cobdogla, Nookamka, and Loveday divisions. On the Cobdogla division a 340 b.h.p. steam plant with a capacity of 16,700 gallons per minute has been installed. Two "Humphrey" gas pumps are in course of installation with a combined capacity of 47,600 gallons per minute. The Nookamka division has two steam units, totalling 650 b.h.p., with a capacity of 13,000 gallons per minute. The Loveday division has a 275 b.h.p. plant, with a capacity of 6,000 gallons per minute; two other units are being installed of 1,315 b.h.p., with a total pumping power of 33,300 gallons per minute.

The *Berri Irrigation Area* is 120 miles above Morgan by river, and contains a total area of 23,400 acres, of which 8,100 acres is first class land for fruit and vine culture. A total of 7,671 acres of irrigable land has been allotted to 463 settlers, of whom 270 are soldier settlers, and 342 acres are ready for allotment in 28 blocks. An area of 80 acres of the irrigable land is used as an experimental farm. The first allotment of the older portion of this area took place in January, 1911. The pumping plant consists of five units, three suction gas and two steam units, with a total of 2,250 b.h.p., and a capacity of 42,500 gallons per minute against total heads varying from 50 feet to 120 feet.

The *Chaffey Irrigation Area* comprises a large area of country adjacent to Renmark, at present known as Ral Ral. Preliminary survey work has been carried out over 14,000 acres of prospective irrigable land. A portion of this area, 1,760 acres, has been subdivided into 114 blocks, 58 of which have been allotted to settlers, 47 being soldier settlers. A pumping plant with a capacity of 12,500 gallons per minute against a total head of 50 feet has been installed.

The *Irrigation and Reclaimed Swamp Areas* under Government control on the River Murray below Morgan contain 5,800 acres of high, irrigable, and reclaimed swamp land allotted to 241 settlers, of whom 56 are discharged soldiers. The former land is irrigable by pumping, and the latter by gravitation. There are also 7,900 acres ready for allotment or in course of preparation, which will accommodate 360 additional settlers. Pumping plants installed total 2,000 b.h.p., with a capacity of 5 million gallons per hour.

Mobilong and Burdett Areas adjoin Murray Bridge, and contain 575 acres of reclaimed fodder land with 47 settlers.

Long Flat and Monteith Flat below Murray Bridge have between them a reclaimed area of 1,342 acres, divided between 57 settlers.

Swanport Area below Murray Bridge has 191 acres of fruit and fodder land, and has 4 soldier settlers.

The *Jervois Irrigation Area* is in course of construction. It is 15 miles below Murray Bridge, and includes 1,370 acres of irrigable and reclaimed land, which will accommodate 44 settlers when completed.

The *Woods Point Area* is 12 miles below Murray Bridge, and contains in its total area of 3,726 acres about 1,090 acres of reclaimed land. The area is in course of preparation, and will accommodate 49 settlers.

The *Wellington Area* is 18 miles below Murray Bridge, and has an area of over 12,000 acres; of this area about 1,627 acres are reclaimed land. Provision is made for 67 settlers, and the land is at present in course of preparation for settlement.

The *Mypolonga Area* is 9 miles above Murray Bridge, and has a river frontage of 7 miles. The total area of this settlement is 5,800 acres, of which 1,036 are irrigable, and 1,627 acres reclaimed land. The settlers thereon number 84.

The *Pompoota Area* is situated 13 miles above Murray Bridge, and was previously used as a Training Farm for prospective soldier settlers. The area contains 4,127 acres, of which 670 acres are fruit and fodder land. Blocks have been allotted to 24 soldier settlers, and a further 7 settlers can be accommodated.

The *Wall Area*, 16 miles above Murray Bridge, has 768 acres of irrigable and reclaimed land. Twelve soldier settlers are settled on the area, and blocks are available for 15 more.

The *Neeta and Cowirra Irrigation Areas* are 20 miles above Murray Bridge, and include 422 acres of high irrigable land, and 1,621 acres of reclaimed fodder land. These areas are ready for allotment. At present 13 soldier settlers have been placed on the blocks, and a further 87 settlers can be accommodated.

The *Baseby Area* is about 21 miles above Murray Bridge, and has an area of 1,350 acres, of which 528 acres will be reclaimed and allotted to 26 settlers. Development work is proceeding on this area.

The reclaimed lands consist of peaty soils composed of rich river silt, and are eminently suitable for the growth of lucerne and other fodders, onions, potatoes, etc. The soils of the irrigable lands have already proved their suitability for the production of peaches, apricots, nectarines, oranges, lemons, figs, and grapes.

(iv) *Allotment of Irrigated Land.* All lands are allotted under perpetual lease, and blocks are surveyed into areas varying up to 50 acres of irrigable or reclaimed land. No lessee is permitted to hold more than 50 acres of irrigable or reclaimed land, or of both irrigable and reclaimed, except that in the case of a partnership 50 acres may be allotted for each member of the partnership up to a maximum of 150 acres.

In addition, areas of non-irrigable land are allotted to lessees of irrigation and reclaimed blocks for dry farming. The rentals of the blocks are fixed by the Irrigation Commission immediately prior to the land being offered for application. For the reclaimed land an amount is charged sufficient to cover interest on cost of the land and reclamation, while for the irrigable land the rent is based on the unimproved value of Crown lands, or to cover interest on cost of repurchased lands.

The water rates are fixed from year to year. On the irrigable land, the present rate is 60s. per acre per annum. On the reclaimed lands an amount is charged to meet the annual management, drainage, and maintenance expenses. A sliding scale covers the rent on all land and water rates on the irrigable land for the first four years, i.e., first year, one-quarter of the rent and water rates; second year, one-half; third, three-quarters; fourth and afterwards, full amount, per acre. This sliding scale is subject to variation in the case of blocks which are wholly or partially planted at time of allotment. On the irrigable lands, each lessee is entitled for the water rates to 24 acre-inches per annum, supplied in four irrigations; special irrigations and domestic supplies are supplied at times other than during the general irrigation at a nominal cost. On the reclaimed lands, water is supplied regularly by reticulation from the river.

The Commission assists settlers by fencing, clearing, grading, and constructing irrigation channels and tanks; but before the work is commenced a deposit must be paid equal to 15 per cent. of the Commission's estimated value of such improvements. It may also make cash advances to the lessee of any block for effecting further improvements, in accordance with the conditions of the Irrigation Act 1922.

The total amount of money expended or advanced by the Irrigation Commission in respect to any one piece of land shall not exceed the sum of £600, or £30 per acre of the irrigable portion of the land, whichever is the greater.

The money so expended or advanced shall remain as a mortgage loan on the land, repayable with current rate of interest per annum in 70 equal half-yearly instalments after the expiration of five years, or at such shorter period as the lessee may desire. During the first five years interest only at the current rate per annum would be payable on the total amount of the advance.

Any lessee is permitted to accept the contract for carrying out his own improvements according to the specifications and estimates of the Commission, up to the maximum amount per acre, as mentioned above.

Blocks of land offered to soldier settlers have in most instances been prepared for settlement by the construction of channels and drains, clearing, grading, partially planting, and fencing by the Irrigation Commission.

6. *Western Australia.*—In this State an Irrigation Act provides for the constitution of irrigation districts. At Harvey, works for irrigating about 4,000 acres devoted to fruit growing, principally oranges, were opened on the 21st June, 1916. A scheme is now in preparation for irrigating a further area in the same district.

Numerous small private irrigation schemes are in full operation on many of the south-west rivers, in connexion with fruit, fodder, and potato growing.

7. *Murray Waters.*—(i) *River Murray Agreement.* The River Murray Agreement, entered into by the Governments of the Commonwealth and the States of New South Wales, Victoria, and South Australia in 1914, and which was brought into operation by proclamation on 31st January, 1917, provides for the construction of the following works :—

The Hume Reservoir,

The Lake Victoria Storage,

26 Weirs and Locks in the River Murray between Echuca and Blanchetown, and

9 Weirs and Locks in the River Murrumbidgee, or, alternatively, at the discretion of the Government of New South Wales, in the River Darling.

(The Government of New South Wales decided in favour of the construction of these weirs and locks in the River Murrumbidgee.)

The Agreement provides that the construction of these works shall be undertaken by the Governments of the three States. The Hume Reservoir and 17 weirs and locks between Echuca and Wentworth to be constructed by the Governments of New South Wales and Victoria severally or jointly, as may be mutually agreed upon by them; the nine weirs and locks in the River Murrumbidgee to be constructed by the Government of New South Wales; and the Lake Victoria Storage and 9 weirs and locks in the River Murray below Wentworth by the Government of South Australia.

The River Murray Commission, appointed in pursuance of the Agreement referred to, and comprising a representative of each of the Governments named, is charged with the duty of giving effect to the Agreement and the River Murray Waters Acts.

The Agreement directs that the Governments of the three States shall submit to the Commission a general scheme of the works to be undertaken by them respectively; and, further, that before the commencement of any particular work designs and estimates in relation thereto shall be forwarded to the Commission for approval by that body.

(ii) *Amendment of the Agreement.* As a result of proposals placed before the Conferences of Premiers which met on 25th May and 20th July, 1920, and the discussions which took place thereon, an agreement, providing for the amendment of the River Murray Agreement of 1914, was entered into by the four contracting Governments on 23rd November, 1920. In the Agreement as so amended it was proposed that the construction of all works covered by the River Murray Scheme should be placed under the control of the River Murray Commission in lieu of the three Constructing Authorities as provided for in the Agreement of 1914. It was also provided that the four Contracting Governments should contribute towards the cost of the scheme in equal shares, and that all plant required for the construction of works should be purchased by the Commission from funds provided by the four Contracting Governments. The Parliaments of the Commonwealth and the States of Victoria and South Australia passed legislation giving effect to the amendments proposed. As the Parliament of New South Wales did not, however, pass the Agreement in the terms approved by the four Contracting Governments, the amending Agreement in question was not ratified.

Following upon a Conference of Ministers representing the four Contracting Governments in May, 1923, an agreement was entered into by the four Governments providing for the variation of the 1914 Agreement, as follows :—

- (1) The Weir and Lock at Wentworth, one of the 17 weirs and locks set down in the 1914 Agreement for construction between Echuca and Wentworth, to be constructed by the Governments of New South Wales and Victoria at a site below the junction of the Rivers Murray and Darling.
- (2) The construction of works which will provide for the needs of irrigation to have precedence over the construction of any works which will be primarily for the requirements of navigation.
- (3) All tolls collected at the various weirs and locks to be distributed in equal proportions among the three Contracting States.
- (4) The period of seven years referred to in Clause 44 of the Agreement relating to the distribution of waters following upon the completion of the Upper Murray Storage to be extended to twelve years; the amount of water to be allowed to pass for supply to South Australia in the meantime to be determined by a three-fourths majority of the River Murray Commission.
- (5) The Commonwealth Government's contribution towards the cost of the works covered by the River Murray Agreement to be increased from £1,000,000 to a quarter share, upon the understanding that it is the intention to carry out the original agreement subject to any modifications thereof as are at any time mutually agreed upon by all the Contracting Governments.

This amending Agreement was subsequently ratified by the four Parliaments concerned, and came into operation as from the 16th November, 1924.

(iii) *Works.* The whole of the works which have been put in hand to date, with the exception of the weir and lock at Blanchetown, which was commenced before the Agreement came into operation, and which was in that Agreement specifically exempted from the provisions thereof, have been constructed, or are being constructed, in accordance with designs approved by the River Murray Commission.

The following are the works which have been put in hand :—

The Hume Reservoir,	} By the Governments of New South Wales and Victoria.
Weir and Lock at Torrumbarry (near Echuca),	
Weir and Lock No. 11 (Mildura),	
Weir and Lock No. 10 (Wentworth), a little below the junction of the Rivers Murray and Darling,	
The Lake Victoria Storage,	} By the Government of South Australia.
Weirs and Locks Nos. 1, 2, 3, 5, 9,	

Of the above works the weir and lock at Blanchetown (No. 1) and that at Torrumbarry have been completed and brought into operation.

The site of the Hume Reservoir, which has been designed to provide for a capacity of 1,100,000 acre-feet, is located a little below the junction of the Rivers Murray and Mitta Mitta. The work is being carried out by the Constructing Authorities in the States of New South Wales and Victoria. On the New South Wales section of the work considerable progress has been made in connexion with the excavations for foundations for the concrete structure, and with the construction of the concrete wing walls. The construction of the concrete core wall and the earthen embankment on the Victorian side of the river is proceeding steadily.

The Lake Victoria Storage is situated in the south-west corner of the State of New South Wales. The scheme approved for the provision of a storage at Lake Victoria consists of the construction of extensive embankments and channels, and inlets and outlet regulators. These works are now approaching completion. The storage when completed will have a capacity of 514,000 acre-feet.

(iv) *Finance.* In the River Murray Agreement of 1914 the estimated total cost of the whole of the works was set down at £4,663,000, and it was provided that the four Contracting Governments contribute towards such estimated expenditure in the following proportions, viz. :—

Commonwealth	..	..	..	£1,000,000
New South Wales	..	..	..	1,221,000
Victoria	..	..	..	1,221,000
South Australia	..	..	..	1,221,000
				£4,663,000

It is now clear, from the experience which has been gained in connexion with the works which have been put in hand to date, that the total cost of the whole of the works will be considerably in excess of the estimate referred to. The total expenditure incurred up to 31st December, 1923, on that portion of the scheme completed and in course of construction amounted to £2,333,000, towards which expenditure the four Contracting Governments, in conformity with the amending Agreement previously referred to, have contributed in equal shares.

The Commission's estimate of expenditure during the current year forwarded to the four Contracting Governments, in accordance with the requirements of Clause 34 of the River Murray Agreement, amounted to £1,039,000. The total expenditure incurred during the first half of the year amounted to £314,154.

The Commission's estimate of expenditure in respect of the year 1924-25 is as follows:—

New South Wales—

Hume Reservoir	..	..	..	..	£300,000
Weir and Lock No. 10 (Wentworth)	..	..	..	..	80,000
Surveys and Borings	..	..	..	..	10,000
					£390,000

Victoria—

Hume Reservoir	..	..	..	..	180,000
Weir and Lock No. 11 (Mildura)	..	..	..	..	90,000
Completion of Torrumbarry Weir and Lock	..	..	..	..	1,000
Surveys, Investigations, and Supplies of Materials for other Weirs and Locks	..	..	..	..	29,000
					300,000

South Australia—

Weir and Lock No. 2	..	..	..	..	50,000
Weir and Lock No. 3	..	..	..	..	30,000
Weir and Lock No. 5	..	..	..	..	100,000
Weir and Lock No. 9	..	..	..	..	80,000
Lake Victoria Works	..	..	..	..	35,000
					295,000
					£985,000

(v) *Gaugings.* The River Murray Agreement placed upon the Commission the duty of carrying on an effective and uniform system of making and recording continuous gaugings of the main stream of the River Murray and its tributaries within the boundaries of each of the States of New South Wales, Victoria, and South Australia, and of all diversions, whether natural or artificial or partly natural and partly artificial, from the main stream and its tributaries. It is further provided that, in lieu of making any such gaugings, the Commission may accept any gaugings made and recorded by any of the Contracting State Governments.

Arrangements have been made with the three Contracting State Governments for the adoption of uniform methods in connexion with all gaugings on the River Murray and its tributaries, and for the submission periodically to the Commission, for purposes of the River Murray Agreement, of the results of such gaugings.

The gaugings made at the Renmark Gauging Station during the year 1922-23 indicated that the total flow of the river at that point was 4,400,417 acre-feet during the year. The flow at the same station during the preceding year was 14,180,792 acre-feet, the average for all years being about 8,500,000 acre-feet.

The approximate quantities of water diverted from the river by the three States by artificial or partly artificial means during the same period were as follow :—

	Acre-feet.
New South Wales	573,310
Victoria	912,260
South Australia	76,495
	1,562,065

(vi) *Proposal to utilize the Hume Reservoir for Hydro-electric Development.*—The question of the advisability of utilizing the Hume Reservoir works for the purpose of hydro-electric generation having been placed before the four Contracting Governments, a Conference representative of each of those Governments was convened to investigate the matter, and also to inquire into and report upon the question as to whether the reservoir could with advantage be enlarged.

The following estimates of cost of reservoirs of different capacities, including provision for special outlets for power, were furnished to the Conference :—

Capacity Acre-feet.	Estimate of Cost.
1,100,000	£2,577,000
1,400,000	2,856,000
1,500,000	3,000,000
1,700,000	3,225,000
2,000,000	3,486,000

The cost of the additional work necessary to permit of the capacity of the reservoir being increased in the future to 1,500,000 acre-feet, assuming that the work is completed to the height required for a reservoir of 1,100,000 acre-feet, is estimated at about £250,000, while the estimated cost of such additional work to provide for increasing the capacity in the future to 2,000,000 acre-feet is set down at about £350,000.

The report of the Conference, in which are included the recommendations set out below, has been submitted to the four Contracting Governments, and now awaits consideration by a Conference of Ministers representing those Governments.—(1) That provision be made for outlet works at the Hume Reservoir suitable for the purpose of hydro-electric generation, in addition to the purposes set out in the River Murray Agreement, at an estimated additional cost of £40,000, and that the cost of such works be borne by the interested parties. (2) That the Hume Dam be carried to a height sufficient at present for a reservoir of a capacity of 1,100,000 acre-feet only, but that the work be constructed in such a manner as will permit of the dam being raised later to provide for a capacity of 2,000,000 acre-feet. (3) That the question of the benefits to be derived by each State from any increased storage provided, and the proportion of the additional cost to be borne by each party to the River Murray Agreement, be a matter for discussion and agreement by a Conference of responsible Ministers at an early date. (4) That the Governments concerned concur in the River Murray Commission at once approving of the expenditure during the next six months of a sum of approximately £20,000 in connexion with foundation work included in the estimate of cost of widening the base of the dam to permit of subsequently increasing the capacity of the reservoir; this matter to be treated as one of special urgency, as the work is being delayed pending decision as to width of the base of the dam.

CHAPTER XXIV.

POPULATION.

§ 1. Enumerations and Estimates.

The nature of the early "musters" of the population and the subsequent Census enumerations which have been conducted in Australia were reviewed in Official Year Book, Number 15, pp. 1083-5. This review was accompanied by a tabular statement showing the dates on which the various enumerations were made, and the numbers counted on such occasions.

§ 2. Census of 4th April, 1921.

1. Numbers Enumerated.—The Census for the whole of Australia was taken as for the night between the 3rd and the 4th of April, 1921, and was the second Census under the provisions of the Commonwealth Census and Statistics Act 1905-20, which provides for the enumeration being dealt with from one centre, instead of each State being responsible for its own count as on previous occasions. The numbers recorded in the several States and Territories were as follows :—

POPULATION.—4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

States and Territories.	Males.	Females.	Persons.
States—			
New South Wales	1,071,501	1,028,870	2,100,371
Victoria	754,724	776,556	1,531,280
Queensland	398,969	357,003	755,972
South Australia	248,267	246,893	495,160
Western Australia	177,278	155,454	332,732
Tasmania	107,743	106,037	213,780
Territories—			
Northern	2,821	1,046	3,867
Federal Capital	1,567	1,005	2,572
Australia	2,762,870	2,672,864	5,435,734

2. Increase since Census of 1881.—(i) *Australia*.—The increase of population between the Census of 3rd April, 1911, and that of 4th April, 1921, was 980,729, of which 449,835 were males and 530,894 were females, as compared with an increase of 681,204, comprising 335,107 males and 346,097 females, for the preceding ten years. The population of each sex enumerated at the Censuses of 3rd April, 1881, 5th April, 1891, 31st March, 1901, 3rd April, 1911, and 4th April, 1921, was as follows :—

POPULATION.—AUSTRALIA, LAST FIVE CENSUSES.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Date of Census.	Males.	Females.	Persons.	(a) Masculinity.
3rd April, 1881	1,214,913	1,035,281	2,250,194	7.98
5th April, 1891	1,704,039	1,470,353	3,174,392	7.36
31st March, 1901	1,977,928	1,795,873	3,773,801	4.83
3rd April, 1911	2,313,035	2,141,970	4,455,005	3.84
4th April, 1921	2,762,870	2,672,864	5,435,734	1.66

(a) Excess of males over females per 100 of population.

(ii) *States and Territories.* The increases in the population of the several States and Territories during the past four intercensal periods have been as follow :—

POPULATION.—STATES, ETC., INTERCENSAL INCREASES.

State or Territory.	1881-1891.		1891-1901.		1901-1911.		1911-1921.	
	Numerical.	Per cent.	Numerical.	Per cent.	Numerical.	Per cent.	Numerical.	Per cent.
N.S. Wales ..	(a) 374,129	49.90	(a) 230,892	20.54	(a) 293,602	21.67	453,637	27.55
Victoria ..	278,274	32.30	61,230	5.37	114,481	9.53	215,729	16.40
Queensland ..	180,193	84.39	104,411	26.52	107,684	21.62	150,159	24.79
South Australia ..	39,119	14.15	42,813	13.57	50,212	14.01	86,602	21.20
Western Australia ..	20,074	67.57	134,342	269.86	97,990	53.22	50,618	17.94
Tasmania ..	30,962	26.76	25,808	17.60	18,736	10.86	22,569	11.80
N. Territory ..	1,447	41.93	(b)-87	(b)-1.78	(b)-1,501	(b)-31.20	557	16.83
Fed. Cap. Ter. ..	..	..	..	..	..	..	858	50.06
Total ..	924,198	41.07	599,409	18.88	681,204	18.05	980,729	22.01

(a) Including Federal Capital Territory. (b) Decrease.

For Australia as a whole, the increase during the period 1911-1921 was greater by 299,525 than that for the period 1901-1911, the rate of increase being 22.01 per cent. for 1911-1921, as against 18.05 for 1901-1911. The former corresponds to an increase of 1.67 per cent. per annum, the latter to an increase of 2.01 per cent. per annum.

As regards the separate States, both the numerical and relative increases in the case of New South Wales, Victoria, Queensland, South Australia, and Tasmania were greater for 1911-1921 than for 1901-1911. On the other hand, Western Australia experienced a smaller increase during the decade 1911-1921 than in either of the two immediately preceding decades. The Northern Territory showed during the period 1911-1921 its first increase in population since the decade 1881-1891.

§ 3. Distribution and Fluctuation of Population.

1. *Present Number.*—The population of Australia on the 31st December, 1923, was estimated at 5,749,807 persons, of whom 2,930,302, or 50.96 per cent., were males, and 2,819,505, or 49.04 per cent., were females. The increase during the year 1923 was 116,526, equal to 2.07 per cent., males having increased by 63,341, or 2.23 per cent., and females by 52,685, or 1.90 per cent. Of the increase referred to, 78,986, or 67.79 per cent., was due to the excess of births over deaths, and 37,540, or 32.21 per cent., was due to the excess of immigration over emigration.

2. *Growth and Distribution.*—The following tables show the population of the States at decennial intervals from their foundation to the year 1910, and for each of the

last five years. In issues of the Year Book up to No. 15 the male and female population of Australia as a whole were given at quinquennial periods from 1788, but it is considered that the abridged table presented herewith will suffice for general purposes.

POPULATION.—1788 TO 1923.

Year.	Estimated Population at end of Year.								
	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern	Federal Capital.	
(a) 1800	3,780	..	..	..	..	..	..	..	3,780
1810	7,585	..	..	..	..	..	..	..	7,585
1820	23,784	..	..	..	..	..	..	..	23,784
1830	33,900	..	..	..	..	877	(b) 18,108	..	52,885
1840	85,560	..	..	8,272	1,434	32,040	..	..	127,306
1850	154,976	..	..	35,902	3,576	44,229	..	..	238,683
1860	197,851	(b) 330,302	(b) 16,817	64,340	9,597	49,653	..	..	668,560
1870	272,121	397,230	69,221	94,894	15,511	53,517	..	..	902,494
1880	404,952	450,558	124,013	147,438	16,985	60,568	..	..	1,204,514
1890	602,704	595,519	223,252	166,049	28,854	76,453	..	..	1,692,331
1900	716,047	601,773	274,684	180,349	110,088	89,763	(c) 4,288	..	1,976,992
1910	858,181	646,482	325,513	206,557	157,971	98,866	2,738	..	2,296,308
1919	1,042,379	739,956	390,122	240,203	174,981	106,352	3,377	(b) 1,008	2,698,378
1920	1,067,945	753,803	396,555	245,300	176,895	107,259	2,911	1,062	2,751,570
1921	1,084,399	764,905	404,907	252,144	178,500	110,026	2,718	1,128	2,798,727
1922	1,107,695	783,626	415,802	257,475	183,386	109,494	2,540	1,443	2,866,461
1923	1,127,195	806,546	428,312	265,340	159,429	109,546	2,527	1,407	2,930,302

MALES.

(a) 1800	1,437	..	..	..	..	..	..	..	1,437
1810	3,981	..	..	..	..	..	..	..	3,981
1820	9,759	..	..	..	..	..	..	..	9,759
1830	10,688	..	..	..	295	(b) 6,171	..	..	17,154
1840	41,908	..	..	6,358	877	13,959	..	..	63,102
1850	111,924	..	..	27,798	2,310	24,641	..	..	166,673
1860	150,695	(b) 207,932	(b) 11,239	61,242	5,749	40,168	..	..	477,025
1870	225,871	326,695	46,051	89,652	9,624	47,369	..	..	745,262
1880	336,190	408,047	87,027	123,955	12,576	54,222	..	..	1,027,017
1890	510,571	538,209	168,864	152,893	19,648	68,334	..	..	1,458,524
1900	644,258	594,440	219,163	176,901	69,879	83,137	(c) 569	..	1,788,347
1910	785,674	654,926	273,503	200,311	118,861	94,937	563	..	2,128,775
1919	996,368	763,079	346,016	241,260	152,879	103,515	1,168	(b) 911	2,605,196
1920	1,023,777	774,106	354,069	245,706	154,428	105,493	1,078	910	2,659,567
1921	1,043,517	785,781	363,324	250,267	157,215	108,290	1,016	936	2,710,346
1922	1,065,237	801,599	372,488	255,719	160,222	109,430	1,011	1,114	2,766,820
1923	1,082,250	818,834	382,856	259,408	164,366	109,528	1,028	1,215	2,819,505

PERSONS.

1788	859	..	..	..	..	..	..	..	859
1790	2,056	..	..	..	..	..	..	..	2,056
1800	5,217	..	..	..	..	..	..	..	5,217
1810	11,566	..	..	..	..	..	..	..	11,566
1820	33,543	..	..	..	..	..	..	..	33,543
1830	44,588	..	..	..	1,172	(b) 24,279	..	..	70,039
1840	127,468	..	..	14,630	2,311	45,999	..	..	190,408
1850	266,900	..	..	63,700	5,886	68,870	..	..	405,356
1860	348,546	(b) 538,234	(b) 28,056	125,582	15,346	89,821	..	..	1,145,585
1870	497,992	723,925	115,272	184,546	25,135	100,856	..	..	1,647,756
1880	741,142	858,605	211,400	276,393	29,561	114,790	..	..	2,231,531
1890	1,113,275	1,133,728	392,116	318,947	48,502	144,787	..	..	3,151,355
1900	1,360,305	1,196,213	493,847	357,250	179,967	172,900	(c) 4,857	..	3,765,339
1910	1,643,855	1,301,408	599,016	406,863	276,832	193,803	3,301	..	4,425,083
1919	2,038,747	1,503,035	736,138	481,463	327,860	209,867	4,545	(b) 1,919	5,303,574
1920	2,091,722	1,527,909	750,624	491,006	331,323	212,752	3,989	1,972	5,411,297
1921	2,127,916	1,550,686	768,231	502,411	335,715	218,316	3,734	2,064	5,509,073
1922	2,172,932	1,590,225	788,290	513,194	343,608	218,924	3,551	2,557	5,633,281
1923	2,209,445	1,625,380	811,168	524,748	353,815	219,074	3,555	2,622	5,749,807

(a) Details as to sex not available for earlier decennial dates. (b) Previously included with New South Wales. (c) Previously included with South Australia.

So far as the numbers can be ascertained, the nucleus of the population of Australia consisted of 1,204 persons, including the military, who landed in Sydney Cove on the 26th January, 1788. For many years the number increased very slowly, and in 1825, when Tasmania (then known as Van Diemen's Land) was separated from New South Wales and constituted a separate colony, *i.e.*, 37 years after the first settlement, the total population was only 52,505 persons, of whom 38,313 were in New South Wales, and 14,192 were in Tasmania. The total for Australia attained its first million in 1858, 70 years after settlement. At this time the population was distributed among the States, or Colonies as they were then, as follows:—New South Wales, 31.97 per cent.; Victoria, 47.22 per cent.; Western Australia, 1.38 per cent.; South Australia, 11.29 per cent.; and Tasmania, 8.14 per cent. The second million was reached in 1877, after a lapse of nineteen years, by an average rate of increase of 3.53 per cent. per annum. The third million was reached twelve years later, in 1889, by an annual rate of increase of 3.48 per cent.; the fourth million sixteen years later, in 1905, at the rate of increase of 1.74 per cent. per annum; and the fifth million thirteen years later in 1918, by an annual average rate of 1.79 per cent. It had been anticipated that the fifth million would be reached in 1915, but the suspension of immigration and the despatch of Australian troops to the war delayed its attainment until March, 1918.

The growth of the population of Australia and of each State thereof, is illustrated by the graph accompanying this Chapter.

3. Increase at Decennial Periods since 1790.—The following table furnishes particulars relative to the increase in population of Australia during each decade, and the percentage of such increase on the population at the commencement of the decade:—

POPULATION.—AUSTRALIA, DECENNIAL INCREASE.

Decade ended 31st December—	Increase during Decade—					
	Numerical.			Percentage.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
1790	(a)	(a)	2,056	%	%	%
1800	(a)	(a)	3,161	(a)	(a)	153.75
1810	3,805	2,544	6,349	100.66	177.04	121.70
1820	16,199	5,778	21,977	213.57	145.14	190.01
1830	29,101	7,395	36,496	122.36	75.78	108.80
1840	74,421	45,948	120,369	140.72	267.86	171.86
1850	111,377	103,571	214,948	87.49	164.13	112.89
1860	429,877	310,352	740,229	180.10	186.20	182.61
1870	233,934	268,237	502,171	34.99	56.23	43.84
1880	302,020	281,755	583,775	33.47	37.81	35.43
1890	488,317	431,507	919,824	40.54	42.02	41.22
1900	284,161	329,823	613,984	16.79	22.61	19.48
1910	319,316	340,428	659,744	16.15	19.04	17.52
1920	455,422	530,792	986,214	19.83	24.93	22.29

(a) Not available.

4. Area, Population, Masculinity, and Density—States, 1923.—A previous table showed the estimated number of persons on the 31st December, 1923, in each of the States and Territories. In the following table the proportions of the total area, and of the total population represented by each State or Territory, are given, together with the masculinity and the density of population:—

AREA, POPULATION, MASCULINITY, AND DENSITY.—STATES, 1923.

State or Territory.	Percentage on Total Area.	Per cent. Estimated Population, 31st December, 1923.			Masculinity. (a)	Density. (b)
		Males.	Females.	Persons.		
New South Wales	10.40	38.47	38.39	38.43	2.03	7.14
Victoria	2.96	27.52	29.04	28.27	-0.76	18.49
Queensland	22.54	14.62	13.58	14.11	5.60	1.21
South Australia	12.78	9.05	9.20	9.13	1.13	1.38
Western Australia	32.81	6.46	5.83	6.15	7.08	0.36
Tasmania	0.88	3.74	3.88	3.81	0.01	8.36
Northern Territory	17.60	0.09	0.04	0.06	42.17	0.007
Federal Capital Territory	0.03	0.05	0.04	0.04	7.32	2.79
Total	100.00	100.00	100.00	100.00	1.93	1.93

(a) Excess of males over females in each 100 persons.

(b) Number of persons per square mile.

NOTE—The minus sign (—) indicates excess of females over males in each 100 persons.

5. **Urban and Rural Distribution.**—The following table shows the number of persons and the percentage on the total population recorded at the Census of the 4th April, 1921, as resident in urban and rural areas respectively. The metropolitan divisions include the capital city and the adjoining urban areas; the urban provincial districts cover those cities and towns which are not adjacent to the metropolitan areas, and which are incorporated for local government purposes; those persons classed as migratory were mostly on board ships in Australian ports:—

URBAN AND RURAL POPULATION.—AUSTRALIA, CENSUS, 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Particulars.	States.						Territories.		Australia.
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern	Federal Capital	
NUMBER.									
Urban—									
Metropolitan	899,059	766,465	209,946	255,375	154,873	52,361	..	..	2,338,079
Provincial	525,007	187,490	183,720	41,637	42,571	55,644	1,399	..	1,037,468
Rural	664,590	571,577	359,014	195,054	130,098	105,123	2,403	2,563	2,030,422
Migratory	11,715	5,748	3,292	3,094	5,190	652	65	9	29,765
Total	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734
PERCENTAGE ON TOTAL.									
Urban—									
Metropolitan	42.80	50.05	27.77	51.57	46.55	24.49	..	..	43.01
Provincial	25.00	12.24	24.30	8.41	12.79	26.03	36.18	..	19.09
Rural	31.64	37.33	47.49	39.39	39.10	49.17	62.14	99.65	37.35
Migratory	0.56	0.38	0.44	0.63	1.56	0.31	1.68	0.35	0.55
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

For Australia as a whole 62.10 per cent. of the population is urban, this percentage being exceeded by New South Wales, 67.80 per cent., and Victoria 62.29 per cent. Tasmania, with 50.52 per cent., has the smallest percentage of urban population in all the States.

During the ten years between the Censuses of 1911 and of 1921 the population of the metropolitan areas in the aggregate increased in proportion to the total population of Australia from 38.03 per cent. in 1911 to 43.01 per cent. in 1921. This movement was common to all the States, though in varying degree. The relative accretion to the metropolitan total was greatest in Western Australia, where it increased from 37.85 per cent. to 46.55 per cent. of the population of the State, and was least in New South Wales, where it increased from 38.23 per cent. to 42.80 per cent. The abnormal increase in the proportion of the metropolitan population to the total population of Western Australia is not due entirely to the actual increase to the population of Perth and suburbs, but is caused in some measure by the departure from the State of many persons who had been engaged in connexion with the mining industry in extra-metropolitan districts.

In Victoria and in South Australia more than half the population lives within the metropolitan areas. At the Census of 1921, 50.05 per cent. of the population of Victoria, and 51.57 per cent. of the population of South Australia, were resident in their respective capitals. Of the total population of Australia 43.01 per cent. was in the metropolitan areas; the proportion of the total males being 40.35 per cent., and of the females 45.77 per cent. The post-censal estimates, which are given in the following table, show a higher proportion in each of the capitals than was shown by the Census.

6. Metropolitan Population—Australia and Other Countries.—The abnormal concentration of population in the capitals of the States of Australia, as compared with other countries, may be readily seen from the following table. It may be mentioned, however, that, in most of the European countries, the capital is not always the most populous of many big cities, whereas, in Australia, the capital is invariably the most populous city, and in some States is the only town of important magnitude.

METROPOLITAN POPULATION.—AUSTRALIA AND OTHER COUNTRIES.

State or Country.	Metropolis.	Year.	Population.	Percentage on total of State or Country.
				%
New South Wales ..	Sydney ..	} 31st Dec., 1923.	981,400	44.42
Victoria ..	Melbourne ..		852,850	52.47
Queensland ..	Brisbane ..		235,687	29.08
South Australia ..	Adelaide ..		278,856	53.14
Western Australia ..	Perth ..		171,859	48.67
Tasmania ..	Hobart ..		55,243	25.22
Australia ..	(6 Cities) ..		2,575,895	44.85
New Zealand ..	Wellington ..	1.4. 1924	114,510	8.85
Northern Ireland ..	Belfast ..	1922	425,000	33.10
Austria ..	Vienna ..	1923	1,863,783	28.57
Denmark ..	Copenhagen ..	1921	700,610	21.44
Hungary ..	Budapest ..	1921	1,184,616	14.91
Irish Free State ..	Dublin ..	1923	431,000	13.62
Saxony ..	Dresden ..	1919	587,758	12.58
England ..	London (a) ..	1923	4,564,109	11.88
Belgium ..	Brussels ..	1922	783,522	10.39
Netherlands ..	Amsterdam ..	1922	696,484	9.83
Norway ..	Christiania ..	1920	258,483	9.75
Bavaria ..	Munich ..	1919	630,711	8.83
Scotland ..	Edinburgh ..	1923	426,000	8.69
France ..	Paris ..	1921	2,906,472	7.41
Portugal ..	Lisbon ..	1921	435,359	7.31
Sweden ..	Stockholm ..	1923	429,812	7.16
Finland ..	Helsingfors ..	1921	200,208	5.88
Greece ..	Athens ..	1920	292,991	5.29
Czecho-Slovakia ..	Prague ..	1921	676,657	4.98
Spain ..	Madrid ..	1922	764,139	3.53
Poland ..	Warsaw ..	1921	936,046	3.44
Germany ..	Berlin ..	1919	1,979,000	3.31
Switzerland ..	Berne ..	1920	104,626	2.70
Italy ..	Rome ..	1921	688,561	1.85
Russia (European) ..	Leningrad ..	1920	894,000	0.87

(a) Population of Greater London in 1923 was 7,618,229.

7. **Principal Urban Centres.**—Apart from seaports and certain mining centres, the concentration of population in Australia is often associated with the rainfall, and in the following list of "Urban Incorporated Areas" the average annual rainfall is shown for all such places where rainfall records are kept.

The following table gives particulars of the principal Urban Incorporated Areas in Australia which at the date of the Census, on 4th April, 1921, had a population of over 3,000. There were, in all, 50 localities returned as having a population upwards of 20,000. Of these 19 were in New South Wales, 18 in Victoria, 7 in Queensland, 3 in South Australia, 1 in Western Australia, and 2 in Tasmania.

By the term "Urban Incorporated Areas" is meant those urban districts which have been incorporated for municipal purposes. The populations shown in each case are those recorded within the municipal boundaries.

**POPULATION AND RAINFALL, PRINCIPAL URBAN INCORPORATED AREAS.—
AUSTRALIA, CENSUS, 4th APRIL, 1921.**

Town.	State in which Situated.	Approx. Population.	Average Annual Rainfall.	Town.	State in which Situated.	Approx. Population.	Average Annual Rainfall.
100,000 and over—			Inches.	10,000 and under			Inches.
Sydney ..	N.S.W.	104,153	48.04	20,000—			
Melbourne ..	Vic.	103,251	25.66	Annandale ..	N.S.W.	12,648	(a)
				Auburn ..	"	13,563	(a)
				Ballarat East ..	Vic.	13,452	(a)
50,000 and under				Bankstown ..	N.S.W.	10,670	34.32
100,000—				Bexley ..	"	14,746	(a)
Perth ..	W.A.	64,166	23.91	Burwood ..	"	15,709	40.24
Prahran ..	Vic.	50,290	25.38	Coburg ..	Vic.	18,114	(a)
Randwick ..	N.S.W.	50,841	45.07	Concord ..	N.S.W.	11,013	(a)
				Drummoyne ..	"	18,761	(a)
20,000 and under				Fremantle ..	W.A.	17,566	29.83
50,000—				Geelong ..	Vic.	14,805	21.35
Adelaide ..	S.A.	39,552	21.05	Goulburn ..	N.S.W.	12,715	24.84
Ashfield ..	N.S.W.	33,636	40.71	Granville ..	"	13,328	(a)
Ballarat ..	Vic.	21,215	26.96	Hamilton ..	"	14,196	(a)
Balmain ..	N.S.W.	32,104	(a)	Hindmarsh ..	S.A.	12,454	(a)
Bendigo ..	Vic.	25,682	21.17	Hurstville ..	N.S.W.	13,394	(a)
Brighton ..	"	21,235	24.93	Illawarra Central			
Brisbane ..	Qld.	42,629	45.65	and North ..	"	11,560	(a)
Brisbane South ..	"	37,151	(a)	Kew ..	Vic.	17,382	27.93
Broken Hill ..	N.S.W.	26,337	10.08	Kogarah ..	N.S.W.	18,226	(a)
Brunswick ..	Vic.	44,484	(a)	Lidcombe ..	"	10,522	34.40
Camberwell ..	"	23,835	27.63	Lithgow ..	"	13,275	33.44
Canterbury ..	N.S.W.	37,639	39.89	Manly ..	"	18,507	46.93
Caulfield ..	Vic.	40,693	27.58	Maryborough ..	Qld.	10,629	45.81
Collingwood ..	"	34,239	(a)	Mascot ..	N.S.W.	10,929	(a)
Essendon ..	"	35,269	24.24	Newcastle ..	"	14,566	46.41
Fitzroy ..	"	34,938	(a)	Norwood and			
Footscray ..	"	33,775	(a)	Kensington ..	S.A.	15,000	24.63
Glebe ..	N.S.W.	22,754	46.00	Parramatta ..	N.S.W.	14,594	36.03
Hawthorn ..	Vic.	29,165	27.87	Port Melbourne ..	Vic.	13,089	(a)
Hobart ..	Tas.	43,589	23.59	Ryde ..	N.S.W.	14,854	35.22
Ipswich ..	Qld.	20,517	34.52	Sandringham ..	Vic.	11,316	(a)
Ithaca ..	"	20,905	(a)	St. Peters ..	N.S.W.	12,700	(a)
Launceston ..	Tas.	24,305	28.16	St. Peters ..	S.A.	11,098	22.29
Leichhardt ..	N.S.W.	29,356	(a)	Subiaco ..	W.A.	13,647	33.35
Malvern ..	Vic.	32,306	31.14	Thebarton ..	S.A.	14,031	(a)
Marrickville ..	N.S.W.	42,240	39.09	Toowong ..	Qld.	9,987	36.59
Melbourne South ..	Vic.	46,873	(a)	Waratah ..	N.S.W.	12,192	(a)
Mosman ..	N.S.W.	20,056	45.19	Waterloo ..	"	11,199	(a)
Newtown ..	"	28,168	(a)	Wickham ..	"	12,151	(a)
Northcote ..	Vic.	30,519	(a)	Williamstown ..	Vic.	19,442	(a)
Paddington ..	N.S.W.	26,364	(a)	Windsor ..	Qld.	18,250	35.24
Petersham ..	"	26,236	(a)				
Port Adelaide ..	S.A.	30,101	(a)	5,000 and under			
Redfern ..	N.S.W.	23,978	(a)	10,000—			
Richmond ..	Vic.	43,174	25.65	Albury ..	N.S.W.	7,751	27.95
Rockdale ..	N.S.W.	25,189	(a)	Alexandria ..	"	9,793	(a)
Rockhampton ..	Qld.	24,168	40.17	Armidale ..	"	5,407	31.77
St. Kilda ..	Vic.	38,579	(a)	Bathurst ..	"	9,440	23.93
Sydney North ..	N.S.W.	48,438	(a)	Botany ..	"	6,214	45.73
Toowoomba ..	Qld.	20,676	36.66	Boulder ..	W.A.	8,212	9.84
Townsville ..	"	21,353	48.39	Bundaberg ..	Qld.	9,276	43.87
Unley ..	S.A.	34,093	24.98				
Waverley ..	N.S.W.	36,797	(a)				
Willoughby ..	"	28,067	49.75				
Woolahra ..	"	25,439	(a)				

(a) No record.

POPULATION AND RAINFALL, PRINCIPAL URBAN INCORPORATED AREAS.—
AUSTRALIA, CENSUS 4TH APRIL, 1921—*continued.*

Town.	State in which Situated.	Approx. Population.	Average Annual Rainfall.	Town.	State in which Situated.	Approx. Population.	Average Annual Rainfall.
5,000 and under			Inches.	3,000 and under			Inches.
10,000—cont.				5,000—			
Cairns ..	Qld.	7,464	90.48	Adamstown ..	N.S.W.	3,959	(a)
Carrum ..	Vic.	5,225	(a)	Albany ..	W.A.	3,976	36.68
Castlemaine ..	"	5,331	22.21	Ararat ..	Vic.	4,653	23.60
Charters Towers	Qld.	9,439	25.63	Bunbury ..	W.A.	4,475	36.47
Claremont ..	W.A.	5,511	31.24	Canley Vale ..	N.S.W.	3,106	35.10
Cottesloe ..	"	5,033	(a)	Carrington ..	"	3,115	(a)
Dubbo ..	N.S.W.	5,032	22.13	Casino ..	"	3,455	43.52
Enfield ..	"	8,530	(a)	Collie ..	W.A.	3,313	38.28
Erskineville ..	"	7,553	38.05	Cootamundra ..	N.S.W.	3,531	23.20
Geelong West ..	Vic.	9,641	(a)	Cowra ..	"	3,716	23.62
Glenelg ..	S.A.	7,994	18.37	Darlington ..	"	3,651	(a)
Glenorchy ..	Tas.	6,344	25.86	Daylesford ..	Vic.	3,328	33.96
Grafton and Grafton South	N.S.W.	6,077	33.86	Dundas ..	N.S.W.	3,523	(a)
Gympie ..	Qld.	6,537	46.25	Eaglehawk ..	Vic.	4,719	(a)
Hamilton ..	"	8,873	(a)	Echuca ..	"	3,745	16.91
Hamilton ..	Vic.	5,097	26.94	Forbes ..	N.S.W.	4,375	19.84
Hunter's Hill ..	N.S.W.	7,300	41.33	Fremantle East ..	W.A.	4,423	33.64
Kalgoorlie ..	W.A.	7,897	9.84	North ..	"	3,545	32.65
Katoomba ..	N.S.W.	9,055	55.75	Geraldton ..	"	4,174	18.92
Lane Cove ..	"	7,592	(a)	Glen Innes ..	N.S.W.	4,974	31.83
Lismore ..	"	8,700	51.05	Henley and Grange	S.A.	3,980	17.72
Liverpool ..	Qld.	6,302	(a)	Horsham ..	Vic.	3,790	17.71
Mackay ..	Qld.	6,313	69.15	Inverell ..	N.S.W.	4,369	30.46
Maitland West ..	N.S.W.	8,457	34.01	Junee ..	"	3,560	20.44
Mentone and Mor-dialloc	Vic.	5,674	26.05	Kempsey ..	"	3,613	44.42
Merewether ..	N.S.W.	5,908	(a)	Lambton ..	"	3,691	40.67
Mildura ..	Vic.	5,101	11.15	Lambton, New ..	"	3,550	(a)
Mount Morgan ..	Qld.	7,220	31.43	Maitland East ..	"	3,551	32.86
Newtown and Chil-well	Vic.	7,240	(a)	Maryborough ..	Vic.	4,744	20.77
Oakleigh ..	"	6,076	29.78	Midland Junction	W.A.	4,937	37.14
Orange ..	N.S.W.	7,398	25.26	Moree ..	N.S.W.	3,020	23.63
Port Pirie ..	S.A.	9,801	13.55	Mount Gambler ..	S.A.	3,969	31.34
Prospect and Sher-wood	N.S.W.	8,737	33.70	Mudgee ..	N.S.W.	3,170	25.75
Sandgate ..	Qld.	6,273	46.89	Northam ..	W.A.	3,602	16.86
Smithfield and Fairfield	N.S.W.	5,303	(a)	Parkes ..	N.S.W.	3,941	20.92
Strathfield ..	"	7,594	(a)	Perth ..	Qld.	3,604	29.87
Tamworth ..	"	7,264	27.39	Roma ..	Qld.	3,249	24.03
Wagga Wagga ..	"	7,679	21.40	Sale ..	Vic.	3,769	23.82
Wallsend ..	"	6,446	(a)	Singleton ..	N.S.W.	3,270	28.67
Warrnambool ..	Vic.	7,730	27.84	Southport ..	Qld.	3,550	54.76
Warwick ..	Qld.	6,091	28.12	Stawell ..	Vic.	4,413	21.31
Wollongong ..	N.S.W.	6,708	44.52	Stockton ..	N.S.W.	4,598	(a)
Wonthaggi ..	Vic.	5,170	34.83	Temora ..	"	3,048	20.34
Wynnum ..	Qld.	8,355	38.17	Vanduse ..	"	3,727	47.60
				Walleroo ..	S.A.	3,308	14.18
				Wangaratta ..	Vic.	3,689	24.67
				Wellington ..	N.S.W.	3,924	23.01
				Windsor ..	"	3,808	30.42
				Young ..	"	3,283	25.16

(a) No record.

§ 4. Elements of Increase.

1. Natural Increase.—(i) *General.* The two factors which contribute to the growth of a population are the "natural increase" by excess of births over deaths, and the "net immigration," i.e., the excess of arrivals over departures. While the relative potency of these factors depends upon a variety of causes, it may be said that, in general, in the case of a new country "net immigration" provides an important part of the increase of population, while in an old country "natural increase," modified more or less by "net emigration," or excess of departures over arrivals, is the principal element of increase. A graph showing the natural increase to the population of each State and of Australia, from year to year since 1860, accompanies this Chapter.

POPULATION.—NATURAL INCREASE (a), 1861 TO 1923.

Period.	States.						Territories.		Australia.
	N.S.W. (b)	Victoria.	Q'land.	S. Aust. (c)	W. Aust.	Tas.	North- ern. (d)	Fed. Cap. (e)	

MALES.

1861 to 1870	47,905	69,283	8,183	20,526	1,519	7,174	..	..	154,590
1871 to 1880	64,107	67,117	14,664	23,655	1,733	6,549	..	..	177,825
1881 to 1890	97,411	73,142	25,858	33,488	2,757	11,377	..	..	244,033
1891 to 1900	105,526	79,251	38,249	28,320	4,838	13,262	..	..	269,446
1901 to 1910	115,306	73,280	38,043	26,649	19,045	16,658	-487	..	288,494
1911 to 1920	149,100	87,548	54,391	35,086	22,517	18,059	-326	153	366,528
1921 ..	16,515	9,626	6,241	3,467	1,779	1,778	- 31	12	39,387
1922 ..	17,204	10,551	5,891	3,613	2,169	1,911	- 14	12	41,337
1923 ..	15,744	9,430	5,464	3,249	2,107	1,748	5	- 4	37,743
1861 to 1923	628,818	479,228	196,984	178,053	58,464	78,516	-853	173	1,619,383

FEMALES.

1861 to 1870	56,670	80,534	11,137	21,210	2,406	9,059	..	..	181,016
1871 to 1880	75,843	79,023	21,997	25,552	2,840	8,891	..	..	214,146
1881 to 1890	112,294	87,964	39,500	35,353	4,347	13,592	..	..	293,050
1891 to 1900	121,037	93,664	49,794	30,235	10,430	14,499	..	..	319,659
1901 to 1910	130,460	82,460	48,958	27,455	24,822	16,549	61	..	330,765
1911 to 1920	168,873	93,144	65,736	36,143	29,447	18,425	197	150	412,115
1921 ..	18,095	9,800	6,946	3,525	2,548	1,780	30	11	42,735
1922 ..	18,800	10,582	6,944	3,780	2,795	1,909	24	14	44,848
1923 ..	17,277	9,228	6,625	3,482	2,817	1,772	29	13	41,243
1861 to 1923	719,349	546,399	257,637	186,735	82,452	86,476	341	188	1,879,577

PERSONS.

1861 to 1870	104,575	149,817	19,320	41,736	3,925	16,233	..	..	335,606
1871 to 1880	139,950	146,140	36,661	49,207	4,573	15,440	..	..	391,971
1881 to 1890	209,705	161,106	65,358	68,841	7,104	24,969	..	..	537,083
1891 to 1900	226,563	172,915	88,043	58,555	15,268	27,761	..	..	589,105
1901 to 1910	245,766	155,740	87,001	54,104	43,867	33,207	-426	..	619,259
1911 to 1920	317,973	180,692	120,127	71,229	51,964	36,484	-129	303	778,643
1921 ..	34,610	19,426	13,187	6,992	4,327	3,558	- 1	23	82,122
1922 ..	36,004	21,133	12,835	7,393	4,964	3,820	10	26	86,185
1923 ..	33,021	18,658	12,089	6,731	4,924	3,520	34	9	78,986
1861 to 1923	1,348,167	1,025,627	454,621	364,788	140,916	164,992	-512	361	3,498,960

(a) Excess of births over deaths. (b) Including Federal Capital Territory prior to 1911.

(c) Including Northern Territory prior to 1901. (d) Included in South Australia prior to 1901.

(e) Part of New South Wales prior to 1911.

NOTE.—Minus sign — denotes excess of deaths over births.

In the natural increase, females have exceeded the males during the period under review. This is due to the higher death rate among males, the effect of which is augmented by the larger number of males subject to the greater risk of death. Although males predominate in both births and deaths, they exceed the females to a greater degree in the deaths than in the births.

(ii) *Comparison with Other Countries.*—Notwithstanding its comparatively low birth-rate, Australia has a high rate of natural increase, owing to the fact that its death-rate is very low. The following table gives a comparison between the average rates per annum of natural increase for some of the principal countries of the world for which such information is available, and those for the several States of Australia and the Dominion of New Zealand:—

NATURAL INCREASE PER ANNUM PER 1,000 OF MEAN POPULATION.

(VARIOUS COUNTRIES.)

Country.	Natural Increase per 1,000.	Country.	Natural Increase per 1,000.
Australasia (1919-23)--		Europe— <i>continued.</i>	
Tasmania	16.74	Switzerland	(f) 5.00
Queensland	15.79	Spain	(c) 4.60
New South Wales	15.09	Prussia	(e) 3.98
Australia	14.07	Ireland	(d) 3.89
South Australia	13.51	Belgium	(e) 0.55
Western Australia	13.35	Asia—	
New Zealand	13.78	Japan	(e) 9.66
Victoria	11.80	Ceylon	(f) 6.78
Europe—		Africa—	
Netherlands	(f) 13.16	Union of South Africa	
Norway	(a) 11.82	(whites only)	(f) 16.22
England and Wales	(g) 11.00	America—	
Denmark	(d) 10.93	Province of Quebec	(e) 19.79
Scotland	(g) 10.14	Jamaica	(b) 12.56
Finland	(d) 3.84	Province of Ontario	(d) 10.06
Italy	(b) 8.11	Chile	(c) 10.27
France	(f) -3.36		
Sweden	(g) 7.76		

(a) 1911-15.

(b) 1913-17.

(c) 1915-19.

(d) 1916-20.

(e) 1917-21.

(f) 1918-22.

(g) 1919-23.

NOTE.—The minus sign (—) indicates a decrease.

Graphs of natural increase for each of the States, as well as for Australia, accompany this chapter.

2. *Net Immigration.**—The other factor of increase in the population, viz., the excess of arrivals over departures, known as "net immigration" is, from its nature, much more subject to variations than is the factor of "natural increase." These variations are due to numerous causes, some of which are referred to later in this chapter, in dealing with the influences which affect the growth of population.

* The subject of immigration is dealt with at some length later in this chapter.

POPULATION.—INCREASE BY NET IMMIGRATION, 1861 TO 1923 INCLUSIVE.

Period.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	North- ern. (b)	Fed. Cap. (c)	
MALES.									
1861 to 1870	26,365	- 2,355	44,221	10,028	4,395	- 3,310	..	..	79,344
1871 to 1880	68,724	- 13,789	40,128	28,889	- 259	502	..	..	124,195
1881 to 1890	100,341	71,819	73,381	- 14,877	9,112	4,508	..	..	244,284
1891 to 1900	7,817	- 72,997	13,183	- 9,732	76,396	48	..	..	14,715
1901 to 1910	26,828	- 28,571	12,786	- 441	28,838	- 7,555	- 1,063	..	30,822
1911 to 1920	61,633	19,773	16,651	3,657	- 3,593	- 9,666	- 499	- 60	88,894
1921 ..	61	1,476	2,111	3,377	- 174	989	- 162	54	7,610
1922 ..	6,092	13,170	5,004	1,718	2,717	- 2,443	- 164	303	26,397
1923 ..	3,756	8,490	7,046	4,616	3,936	- 1,696	- 18	- 32	26,098
1861 to 1923	301,495	- 2,984	214,511	27,235	121,368	- 18,623	- 908	265	642,359
FEMALES.									
1861 to 1870	18,506	38,229	23,675	7,200	1,469	- 1,858	..	..	87,221
1871 to 1880	34,476	2,329	18,979	13,751	112	- 2,038	..	..	67,609
1881 to 1890	62,087	42,198	42,337	- 11,410	2,725	520	..	..	138,457
1891 to 1900	12,650	- 37,433	505	- 5,663	39,801	304	..	..	10,164
1900 to 1910	10,956	- 21,974	5,382	- 4,045	24,160	- 4,749	- 67	..	9,663
1911 to 1920	69,906	26,036	14,830	9,252	6,120	- 7,869	- 318	84	118,677
1921 ..	1,645	1,875	2,309	1,036	239	1,017	- 92	15	8,044
1922 ..	2,920	5,236	2,220	1,672	212	- 769	- 29	164	11,626
1923 ..	- 264	8,007	3,743	207	1,347	- 1,674	- 12	88	11,442
1861 to 1923	212,882	64,503	113,980	12,000	76,185	- 17,116	118	351	462,903
PERSONS.									
1861 to 1870	44,871	35,874	67,896	17,228	5,864	- 5,168	..	..	166,565
1871 to 1880	103,200	- 11,460	59,107	42,640	- 147	- 1,536	..	..	191,804
1881 to 1890	162,428	114,017	115,718	- 26,287	11,837	5,028	..	..	382,741
1891 to 1900	20,467	- 110,430	13,688	- 15,395	116,197	352	..	..	24,879
1901 to 1910	37,784	- 50,545	18,168	- 4,486	52,998	- 12,304	- 1,130	..	40,485
1911 to 1920	131,539	45,809	31,481	12,909	2,527	- 17,535	817	24	207,571
1921 ..	1,584	3,351	4,420	4,413	65	2,006	- 254	69	15,654
1922 ..	9,012	18,406	7,224	3,390	2,929	- 3,212	- 193	467	38,023
1923 ..	3,492	16,497	10,789	4,823	5,283	- 3,370	- 30	56	37,540
1861 to 1923	514,377	61,519	328,491	39,235	197,553	- 35,739	- 790	616	1,105,262

(a) Including Northern Territory up to 1900. (b) Included in South Australia up to 1900.

(c) Part of New South Wales prior to 1911.

NOTE.—Minus sign (-) indicates the excess of departures over arrivals.

From 1860 to 1923 the increment to the population arising from the excess of births over deaths amounted to 3,498,960, or 75.99 per cent. of the total increase, while the increase from net immigration amounted to 1,105,262 or 24.01 per cent. During the 23 years of the present century the total increase to the population was made up of 1,645,195, or 82.90 per cent. natural increase, and 339,273 or 17.10 per cent. by net immigration. The greatest increase to the population by net immigration which has occurred in any one decade was during the ten years 1881 to 1890. This period, however, concluded in world wide speculation which in Australia took the form of speculation in land values, and the effect of the financial collapse which followed this boom is shown by the small increment by migration from 1891 to 1910. For many of the years during this last-mentioned period there was an actual loss to Australian population by net migration.

In 1907 the stream of migration again turned in favour of Australia, and during the five years 1909-1913 the net immigration represented 281,193. The war interrupted the flow, but in 1923 the net immigration represented 37,540 persons.

3. Total Increase.—The total increase of the population is obtained by the combination of the natural increase with the net immigration.

The following table gives the total increase in each decade from 1861 to 1920 and for the years 1921, 1922 and 1923 :—

POPULATION.—TOTAL INCREASE, 1861 TO 1923.

Period.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tas.	North- ern. (b)	Fed. Cap. (c)	
MALES.									
1861 to 1870	74,270	66,928	52,404	30,554	5,914	3,864	..	..	233,934
1871 to 1880	132,831	53,328	54,792	52,544	1,474	7,051	..	..	302,020
1881 to 1890	197,752	144,961	99,239	18,611	11,869	15,885	..	..	488,317
1891 to 1900	113,343	6,254	51,432	18,588	81,234	13,310	..	..	284,161
1901 to 1910	142,134	44,709	50,829	26,208	47,883	9,103	-1,550	..	319,316
1911 to 1920	210,733	107,321	71,042	38,743	18,924	8,393	173	93	455,422
1921 ..	16,454	11,102	8,352	6,844	1,605	2,767	- 193	66	46,997
1922 ..	23,296	23,721	10,895	5,331	4,886	- 532	- 178	315	67,734
1923 ..	19,500	17,920	12,510	7,865	6,043	52	- 13	- 36	63,841
1861 to 1923	930,313	476,244	411,495	205,288	179,832	59,893	-1,761	438	2,261,742
FEMALES.									
1861 to 1870	75,176	118,763	34,812	28,410	3,875	7,201	..	..	268,237
1871 to 1880	110,319	81,352	40,976	39,303	2,952	6,853	..	..	281,755
1881 to 1890	174,381	130,162	81,837	23,943	7,072	14,112	..	..	431,507
1891 to 1900	133,687	56,231	50,299	24,572	50,231	14,803	..	..	329,823
1900 to 1910	141,416	60,486	54,340	23,410	48,982	11,800	- 6	..	340,428
1911 to 1920	238,779	119,180	80,566	45,395	35,567	10,556	515	234	530,792
1921 ..	19,740	11,675	9,255	4,561	2,787	- 62	- 62	26	50,779
1922 ..	21,720	15,818	9,164	5,452	3,007	1,140	- 5	178	56,474
1923 ..	17,013	17,235	10,368	3,689	4,164	98	17	101	52,685
1861 to 1923	932,231	610,902	371,617	198,735	158,637	69,360	459	539	2,342,480
PERSONS.									
1861 to 1870	149,446	185,691	87,216	58,964	9,789	11,065	..	..	502,171
1871 to 1880	243,150	134,680	95,768	91,847	4,426	13,904	..	..	583,775
1881 to 1890	372,133	275,123	181,076	42,554	18,941	29,997	..	..	919,824
1891 to 1900	247,030	62,485	101,731	43,160	131,465	28,113	..	..	613,984
1901 to 1910	283,550	105,195	105,169	49,618	96,865	20,903	-1,556	..	659,744
1911 to 1920	449,512	226,501	151,608	84,138	54,491	18,949	688	327	986,214
1921 ..	36,194	22,777	17,607	11,405	4,392	5,564	- 255	92	97,776
1922 ..	45,016	39,539	20,059	10,783	7,893	608	- 183	493	124,208
1923 ..	36,513	35,155	22,878	11,554	10,207	150	4	65	116,526
1861 to 1923	1,862,544	1,087,146	783,112	404,023	338,469	129,253	-1,302	977	4,604,222

(a) Including Northern Territory up to 1900.

(b) Included in South Australia up to 1900.

(c) Part of New South Wales prior to 1911.

NOTE.—Minus sign (-) denotes decrease.

For Australia as a whole the greatest numerical increase during any decennial period occurred in the decade 1911 to 1920. The increase during this decade amounted to 986,214, or 22.29 per cent. The greatest proportional increase, on the other hand,

occurred during the decade 1881–1890 when it amounted to 919,824, which, on the smaller population of that time represented an increase of 41.22 per cent. for the decade. Of this increase of 919,824, 537,083 or 58.38 per cent. was from the excess of births over deaths, whereas during the decade 1911–1920, of the total increase of 986,214 the natural increase produced 778,643 or 78.96 per cent. A graph showing the increase in the population of each State and of Australia from year to year since 1860 accompanies this chapter.

As regards the individual States the maximum increases in any decennium are as follows:—New South Wales, 449,512, in 1911–20; Victoria, 275,123, in 1881–90; Queensland, 181,076, in 1881–90; South Australia, 91,847, in 1871–80; Western Australia, 131,465, in 1891–1900; Tasmania, 29,997, in 1881–1890.

4. Rates of Increase.—(i) *For various Countries.* The table hereunder gives rates of increase in population for Australia, and its component States, and for other countries:—

POPULATION.—RATES OF INCREASE (VARIOUS COUNTRIES), 1887 TO 1923.

Countries.	Annual Rate of Increase in Population during period—							1923.
	1887 to 1891.	1892 to 1896.	1897 to 1901.	1902 to 1906.	1907 to 1911.	1912 to 1916.	1917 to 1921.	
AUSTRALASIA—	%	%	%	%	%	%	%	%
Australia ..	3.06	1.86	1.49	1.38	2.03	1.95	1.99	2.07
New South Wales ^(a) ..	3.23	1.99	1.57	1.99	2.03	2.61	2.17	1.68
Victoria ..	3.12	0.37	0.52	0.18	2.17	1.38	1.68	2.21
Queensland ..	3.80	2.49	2.25	1.35	2.76	2.20	2.21	2.90
South Australia ^(b) ..	1.15	1.63	0.77	0.27	2.46	1.52	2.34	2.25
Western Australia ..	5.54	20.81	7.25	6.22	2.43	1.76	1.27	2.97
Tasmania ..	2.87	1.06	1.83	1.33	0.65	0.58	1.84	0.07
New Zealand ..	1.47	2.41	1.98	2.86	2.56	1.61	2.32	1.88
EUROPE—								
England and Wales ..	1.11	1.15	1.15	1.04	1.04	−0.95	1.89	0.64
Scotland ..	0.75	1.06	1.06	0.55	0.56	0.31	0.24	0.23
Ireland ..	−0.94	−0.60	−0.43	−0.22	−0.06	−0.21	0.58	..
Austria ..	0.83	0.79	1.05	0.87	0.86	(c) 0.80	(g)	..
Belgium ..	0.75	1.15	0.92	1.26	0.69	0.54	−0.56	..
Denmark ..	0.87	0.99	1.32	1.12	1.26	1.20	2.13	..
Finland ..	1.51	1.20	1.41	1.36	1.43	1.18	0.25	..
France ..	0.06	0.09	0.24	0.15	0.16	−0.72	0.55	^h 0.13
Germany ..	1.09	1.17	1.51	1.46	1.36	0.71	−1.62	..
Hungary ..	1.01	0.92	1.03	0.77	0.84	(c) 0.84	(g)	..
Italy ..	0.71	0.68	0.61	0.52	0.80	1.16	..	..
Netherlands ..	1.03	1.28	1.30	1.53	1.22	1.72	1.16	..
Norway ..	0.54	0.96	1.31	0.52	0.66	(e) 0.98	..	..
Prussia ..	1.15	1.29	1.59	1.57	1.48	0.85	−1.67	..
Rumania ..	1.34	1.15	1.41	1.46	1.48	(e) 2.77	(g)	..
Serbia ..	2.08	1.37	1.57	1.52	1.55	(c) 1.72	(g)	..
Spain ..	0.48	0.45	0.45	0.52	0.87	0.66	(f) 0.34	..
Sweden ..	0.40	0.61	0.86	0.61	0.84	0.70	0.64	0.56
Switzerland ..	0.40	1.22	1.10	1.28	1.17	0.81	0.01	^h 0.21
ASIA—								
Ceylon ..	1.35	1.41	2.03	1.62	1.20	1.71	1.28	^h 1.26
Japan ..	1.12	0.96	1.25	1.29	1.08	1.42	0.37	..
AMERICA—								
Canada ..	1.08	0.97	1.19	2.99	2.99	(d) 3.87	(i) 2.00	..
Chile ..	0.72	2.66	0.90	1.53	1.56	1.66	0.07	..
Jamaica ..	1.37	1.66	1.72	1.63	0.28	1.36	(f) 0.62	..
United States ..	2.15	1.93	2.02	2.00	1.82	1.67	1.21	..

(a) Including Federal Capital Territory. (b) Including Northern Territory. (c) 1911 to 1912.

(d) 1911 to 1914.

(e) 1911 to 1915.

(f) 1916 to 1920.

(g) Not available owing to changes of boundaries.

(h) Year 1922.

(i) 1911–21.

NOTE.—The minus sign (−) denotes decrease.

(ii) *Variations in the Rates.*—The fluctuations in the rates of increase in the population of Australia are, for the greater part, due to variations in the volume of immigration. The more important of these periodic variations, so far as they affected the population of Australia as a whole, have been referred to in the preceding sub-sections dealing with net immigration. The large increase in the population of Western Australia during the quinquennium 1892–6 marks the opening up of the gold mines of that State.

§ 5. Seasonal Variations of Population.

1. *Variations in Natural Increase.*—The following table shows the natural increase to the population, during each quarter of the year, based on the experience of the ten years 1914–1923. For Australia as a whole, the rate of natural increase was greatest in the quarter ended 31st March, and least in the quarter ending 31st December, the difference between the rates of increase for these two periods being equal to 21 persons for every 100,000 of the population. In New South Wales, Victoria, and Western Australia the March quarter was the most favourable, in Queensland and South Australia the June quarter, and in Tasmania the September quarter. The natural increase was lowest in Queensland, South Australia, and Western Australia in the December quarter, in New South Wales and Tasmania in the June quarter, and in Victoria in the September quarter. The differences between the least favourable and the most favourable quarters ranged from 18 per 100,000 of the population in Victoria to 49 per 100,000 in Western Australia.

During recent years there have been two unusual occurrences which have considerably disturbed the normal contributions of the several quarters. The first of these was the payment of the Maternity Allowance which commenced on the 10th October, 1912, with the result that births were registered in the December quarter of that year, which otherwise would not have been registered until the March quarter of the following year. As the results given in this connexion are the averages for decennial periods, this factor is present in the results given for the December quarter up to and including the decade 1912–21, but, with the increasing population it became less important from year to year. Although this factor did not seriously disturb the order of increase in the various quarters, it very materially reduced the margins between the highest and the lowest quarters.

The other disturbance referred to was the influenza epidemic of 1919. The total number of deaths during 1919, for which influenza was stated to be the primary cause, was 11,989, which were distributed over the four quarters of the year as follows:—March quarter, 926; June quarter, 5,958; September quarter, 4,658; December quarter, 447. Prior to this epidemic, the September quarter had been consistently the highest, and the June quarter had been, almost invariably, next in order during each decade from 1901–10 to 1909–18, while the March quarter had been almost consistently the lowest. The same consistency, however, did not prevail throughout the individual years. The deaths from influenza in the June and September quarters, and the comparative freedom of the March quarter from such deaths, have given the March quarter precedence in the four successive decennial periods in which the year 1919 is included. During the same periods, the September quarter has been consistently second, and the December quarter has most frequently been the lowest.

The precedence—with regard to its contribution to the natural increase in population—which was so consistently held by the September quarter prior to the influenza epidemic of 1919, was due entirely to its higher birth rate. With the exception of the year 1915, the September quarter was distinguished by a greater number of births than any other quarter in each of the 17 years 1906–22, and with the exceptions of 1915 and 1919, it

showed the greatest birth rate per 1,000 persons. On the other hand, with the same two exceptions, the September quarter showed the highest death rate per 1,000. The high death rate in conjunction with the high birth rate is due in some measure to the increased risk, from the greater number of births, of infantile deaths and deaths due to childbirth.

POPULATION.—AVERAGE QUARTERLY NATURAL INCREASE, 1914 TO 1923.

State or Territory.	Average Natural Increase for Quarter ended on last day of—								Average Natural Increase per Annum, 1914-23.	
	March.		June.		September.		December.		Persons.	%°
	Persons.	%°	Persons.	%°	Persons.	%°	Persons.	%°		
N.S.W.	8,381	4.23	7,954	3.99	8,171	4.09	8,068	4.01	32,574	16.44
Victoria	4,675	3.18	4,503	3.05	4,499	3.04	4,562	3.07	18,239	12.40
Q'land.	3,098	4.34	3,187	4.43	3,109	4.27	2,909	3.97	12,303	17.23
S. Aust.	1,777	3.80	1,791	3.82	1,733	3.69	1,664	3.53	6,965	14.91
W. Aust.	1,275	3.96	1,273	3.94	1,257	3.88	1,132	3.47	4,937	15.33
Tas. . .	905	4.41	882	4.32	938	4.63	907	4.47	3,632	17.70
N. Ter.	..	..	2	0.47	2	0.47	-4	-0.93	..	..
F.C.Ter.	8	3.84	6	2.26	7	2.62	7	2.62	28	13.43
Total	20,119	3.89	19,598	3.78	19,716	3.78	19,245	3.68	78,678	15.23

NOTE.—The minus sign (-) indicates an excess of deaths over births, and %° denotes "per thousand."

2. Variations in Net Immigration.—In the following table the figures relating to the separate States and Territories include interstate migrants, but so far as these persons are concerned, the arrivals into any State are departures from some other State, so that they do not affect the figures shown for Australia as a whole, which, therefore, represent the oversea arrivals and departures. For each of the decades from 1901-1910 to 1904-1913 inclusive, the December quarter showed the greatest rate of increase from migration, with the other quarters consistently in order directly reverse to their position on the calendar. The dispatch of troops from Australia during November and December, 1914, and the effects of the war on the oversea passenger traffic, altered the position so that in the decade 1905-14, and in each decade since, the September quarter has been the highest, with the March quarter second. On the average, however, of the four years 1920-23, which were not seriously affected by the movements of troops, the December quarter again has first place. The precedence of the December quarter during the last three years was due rather to the small number of departures (22.51 per cent.) than to the large number of arrivals (24.98 per cent.) during that quarter. The normal quota for each quarter would of course be 25 per cent. in both cases. Notwithstanding that the interstate movement is very much greater than the oversea migration, the results shown in the following table are to some extent vitiated in their application to the particular States, by the inclusion of the war period. For instance, the losses shown for New South Wales in the December quarter, for Victoria in the June quarter, and for South Australia in the March and June quarters are entirely due to large embarkations of troops during those periods of the years 1914, 1915, and 1916. Although it is usual for Queensland to show a loss of population during the December quarter, owing to the return of sugar workers and tourists to the southern States, the loss for the decade 1914-23 is aggravated by the dispatch of troops. Again, Western Australia shows an annual loss of population by emigration, the quarters in which these losses occurred coinciding with times of heavy embarkations. The gain to Tasmania in the December quarter represents the influx of tourists from the mainland, whereas the loss during the remainder of the year represents the departure of tourists and of other persons to the number of 1,693 per year.

POPULATION.—AVERAGE QUARTERLY NET IMMIGRATION, 1914 TO 1923.

State or Territory.	Quarter ended on last day of—								Average Net Immigration per Annum, 1914-23.	
	March.		June.		September.		December.			
	Persons.	°/°	Persons.	°/°	Persons.	°/°	Persons.	°/°	Persons.	°/°
N.S.W.	2,265	1.14	- 386	0.19	2,833	1.42	- 812	- 0.40	3,900	1.97
Victoria	1,432	0.97	- 1,014	- 0.69	918	0.62	1,420	0.96	2,756	1.87
Q'land.	1,551	2.17	5,737	7.98	1,432	1.97	- 6,287	- 8.59	2,433	3.41
S. Aust.	- 653	- 1.40	- 862	- 1.84	1,026	2.19	1,542	3.27	1,053	2.25
W. Aust.	- 513	- 1.59	241	0.75	453	1.40	- 1,730	- 5.31	- 1,549	- 4.81
Tas. ..	- 2,009	- 9.79	- 2,409	- 11.80	- 762	- 3.76	3,487	17.20	- 1,693	- 8.25
N.T. ..	30	7.15	62	14.68	8	1.87	- 106	- 24.67	- 6	- 1.43
F.C.Ter.	567	271.94	..	..	- 23	- 8.63	- 509	- 190.42	35	16.79
Total	2,670	0.52	1,369	0.26	5,885	1.13	- 2,995	- 0.57	6,929	1.34

NOTE.—The minus sign (-) denotes excess of departures over arrivals, and °/° denotes "per thousand" of population.

§ 6. Influences affecting Increase and Distribution.

1. **Mineral Discoveries.**—The discovery of gold in Australia in 1851 was undoubtedly one of the most influential factors in bringing about a rapid settlement of the country. Its effect may be gauged by comparing the increase during the ten years preceding with that during the ten years succeeding the discovery. From 31st December, 1840, to 31st December, 1850, the increase was only 214,948 (from 190,408 to 405,356). During the succeeding decennium there was an increase of 740,229, the population advancing to 1,145,585 on 31st December, 1860. In 1861, owing to the opening up of the New Zealand goldfields, a rush of population from Australia set in, the result being that the net increase per annum to the population of Australia, which in 1855 amounted to 98,343, and even in 1860 was as much as 48,280, fell in 1861 to 22,564. In fact, during the year 1861 the departures from Australia exceeded the arrivals by 6,283, the gain of 22,564 being due to the births exceeding the deaths by 28,847.

In 1886 and subsequent years the gold discoveries of Western Australia led to such extensive migration to that State that its population, which on 31st December, 1885, amounted to only 35,959, increased during the next twenty years by 595 per cent., or by 10.18 per cent. per annum, to 250,138 in 1905. In this case, however, the additions to the population of the western State were largely drawn from the eastern States, so that the actual gain of population to Australia was relatively small.

2. **Pastoral Development.**—Very early in the colonization of Australia it was recognized that large areas were well adapted for pastoral pursuits, and pastoral developments led to the spread of population in various directions. As the numbers engaged in connexion therewith, compared with the value of the interests involved, are relatively small, and as pastoral occupancy tends to segregation rather than aggregation of population, the growth of the pastoral industry is not noticeably reflected in the population statistics.

3. **Agricultural Expansion.**—At the present time the area under crop in Australia is over 1½ million acres. Although substantial in itself, this area, viewed in relation to the total area of Australia, is relatively small, and represents only 0.87 per cent. of the total area. Per head of population the area under crop, however, is 2.9 acres, a fairly large area when allowance is made for the recency of Australian settlement. About 79 per cent. of the area under crop in 1922-23 was devoted to the production of wheat and hay, both of which, for profitable production in Australia, require a considerable area

in the one holding. Consequently, the agricultural districts are for the most part sparsely populated, though in a less marked degree than the pastoral areas.

4. **Progress of Manufacturing Industries.**—One direct effect of the development of manufacturing industries is the concentration of population in places offering the greatest facilities for the production of particular commodities. In Australia, where manufacturing industries are as yet in their infancy, the tendency throughout has been to concentrate the manufacturing establishments in each metropolis. This has accentuated the growth of the capital cities to an extent which, when compared with that of the rest of the country, appears somewhat abnormal.

5. **Influence of Droughts.**—Droughts, which at times so seriously affect the agricultural and pastoral industries of Australia, have a marked influence on the distribution of population. Districts, which in favourable seasons are fairly populous, become more or less depopulated in times of drought. This movement, however, ordinarily affects only the internal distribution of the population, and not the total, but severe drought may even make its influence felt in the statistics of the total population. Thus, in the case of the drought of 1902-3, the departures from Australia exceeded the arrivals for the two years 1903 and 1904 by 12,859. It may be noted also, that for the former of these years, the natural increase of population by excess of births over deaths was abnormally low, being only 51,150, as compared with 54,698 in the preceding, and 60,541 in the succeeding year. As the solution of the problem of dealing with droughts is advanced, their influence will be less marked.

6. **Assisted Immigration.**—Assisted immigration has been a factor of some importance in the increase of population. The number of persons brought to Australia by this means has varied considerably in different periods, according to the activities of Governments in this direction. The table given in sub-section 5 of § 10 hereinafter shows that 914,436 persons have been brought to Australia in connexion with schemes for assisting immigration.

7. **Other Influences.**—(i) *Commercial Crises.* The effect on population of a commercial crisis, such as that which occurred in the early nineties of last century, is clearly indicated by comparing the migration statistics of Australia for the five years 1887 to 1891 with those for the five years 1892 to 1896. During the earlier period the arrivals exceeded the departures by 146,872, whereas in the later period the excess of arrivals was only 2,064.

(ii) *War.* The war in South Africa left its impress on the population statistics of Australia, the departures during 1899 and 1900 exceeding the arrivals by 10,546. The effect of the recent European war is, of course, much more marked.

§ 7. Density.

1. **General.**—From certain aspects population may be less significant in respect of its absolute amount than in its relation to the area of the country. Australia, with an area of 2,974,581 square miles, and a population on 31st December, 1923, of 5,809,807, including aborigines, has a density of only 1.96 persons to the square mile, and is, therefore, the most sparsely populated of the civilized countries of the world. For the other continents the densities are approximately as follows:—Europe, 115; Asia, 61; Africa, 11; North and Central America, 17; and South America, 9. The population of Australia has thus about 21 per cent. of the density of South America; about 18 per cent. of that of Africa; about 11 per cent. of that of North and Central America; about 3 per cent. of that of Asia; and about $1\frac{1}{2}$ per cent. of that of Europe.

A map showing the density of population throughout Australia as at the Census of 1921 accompanies this chapter.

Particulars concerning the number and density of the population of the various countries of the world for the latest dates for which such information is available are given in the following table. These figures have in the main been taken from the 1924 issue of the "Statesman's Year Book," and in some instances, more particularly in the case of Africa, must be considered as rough approximations only, complete data not being obtainable.

POPULATION, WORLD'S.—NUMBER AND DENSITY.

Country.	Population.	Density. (a)	Country.	Population.	Density. (a)
EUROPE.			ASIA—continued.		
Russia	102,532,564	56.74	British Borneo, Brunei and Sarawak	883,258	11.46
Germany	59,852,682	328.37	Laos	850,000	8.81
United Kingdom	47,694,319	392.12	Palestine	757,182	84.13
France	39,209,518	184.35	Hong Kong and Dependencies	625,166	1,598.89
Italy	38,835,941	329.17	Goa, etc.	548,472	334.84
Poland	27,192,674	185.21	Khiva	519,438	21.37
Spain (including Canary and Balearic Islands)	21,658,222	111.18	Oman	500,000	6.10
Rumania	17,393,149	142.24	Timor, etc.	377,915	51.54
Czecho-Slovakia	13,611,349	250.94	Cyprus	310,709	86.69
Jugo-Slavia	12,017,323	125.01	French India	268,338	1,369.06
Hungary	8,084,167	225.88	Bhutan	250,000	12.50
Belgium	7,539,568	641.56	Kwan Chau Wan	182,000	937.39
Netherlands	7,086,913	536.68	Weihaiwei	154,416	541.81
Austria	6,526,661	201.74	Bahrain Islands	110,000	440.00
Portugal	6,032,991	169.99	Macao, etc.	74,866	18,716.50
Sweden	5,987,520	34.60	Maldive Islands	70,000	608.70
Greece	5,536,375	132.03	Aden and Dependencies	54,923	6.10
Bulgaria	4,958,400	124.45	Sokotra	12,000	8.68
Switzerland	3,880,320	242.90			
Finland	3,402,593	25.68	Total	1,008,949,708	60.87
Denmark	3,239,183	191.88			
Norway	2,649,775	21.20			
Georgia	2,372,403	92.10			
Lithuania	2,293,100	38.45			
Azerbaijan	2,096,973	61.73			
Turkey	1,891,000	173.77			
Latvia	1,885,870	75.43			
Estonia	1,110,538	65.50			
Albania	831,877	57.37			
Danzig	385,000	484.08			
Luxemburg	260,767	261.03			
Malta	224,680	1,904.07			
Iceland	94,690	2.38			
Monaco	22,956	2,869.50			
Gibraltar	20,638	10,319.00			
San Marino	12,027	316.50			
Liechtenstein	10,716	184.86			
Andorra	5,231	27.39			
Spitzbergen	980	0.04			
	458,471,653	115.10			
ASIA.			AFRICA.		
China and Dependencies	436,094,953	101.96	Nigeria and Protectorate	18,750,000	55.85
British India	247,003,293	225.97	Egypt	13,717,000	39.19
Japan and Dependencies	76,988,379	295.27	Abyssinia	10,000,000	28.57
Fedutory Independent States	71,939,187	101.39	Belgian Congo	8,500,000	9.34
Netherlands East Indies	49,155,374	85.79	Union of South Africa	6,928,580	14.65
Russia in Asia	23,329,654	3.71	Anglo-Egyptian Sudan	5,912,402	5.83
Turkey, including Armenia and Kurdistan	12,657,800	46.66	Algeria	5,806,090	26.13
Philippine Islands	10,314,310	89.67	Morocco	5,400,000	24.13
Siam	9,207,355	47.32	Tanganyika Territory	4,124,438	11.30
Persia	9,000,000	14.33	Angola	4,119,000	8.50
Afghanistan	9,000,000	36.73	Madagascar	3,613,341	15.85
Tonking	6,850,453	169.02	Uganda Protectorate	3,132,312	28.40
Annam	5,731,189	144.15	Portuguese East Africa	3,011,600	7.03
Nepal	5,600,000	103.70	Upper Volta	2,974,142	19.26
Ceylon	4,504,549	177.83	French Equatorial Africa	2,845,936	2.90
Arabia	4,500,000	4.50	French Sudan	2,474,589	4.01
Cochin China	3,795,304	172.51	Kenya Protectorate	2,376,000	11.88
Syria	3,000,000	50.00	Tunis	2,095,090	41.90
Bokhara	3,000,000	37.76	Gold Coast and Protectorate	2,078,043	25.98
Iraq	2,849,282	19.89	French Guinea	1,875,996	19.70
Cambodia	2,402,585	41.50	Liberia	1,750,000	43.75
Federated Malay States	1,324,890	48.17	Rhodesia	1,738,120	3.95
Armenia	1,214,391	79.68	Ivory Coast	1,700,000	13.94
Malay Protectorate, including Johore	1,123,264	47.83	Sierra Leone and Protectorate	1,541,311	49.72
Kwantung	907,549	1686.39	French Cameroon	1,500,000	9.01
Straits Settlements	907,366	567.10	Senegal	1,225,523	16.54
			Nyasaland Protectorate	1,187,816	30.02
			Territory of the Niger	1,084,043	3.12
			Dahomey	842,243	19.84
			French Sahara	800,000	0.52
			Tripolitania and Cyrenaica	799,560	1.97
			Togoland (French)	673,047	30.74
			Italian Somaliland	650,000	4.66
			Spanish Morocco	600,000	77.92
			British Cameroon	550,000	17.74
			Basutoland	498,781	42.57
			Eritrea	396,403	8.72
			Mauritius and Dependencies	385,074	475.98
			Somaliland Protectorate	300,000	4.41
			Portuguese Guinea	289,000	20.78
			Mauritania	261,746	0.75
			South-West Africa	227,732	0.71
			Gambia and Protectorate	209,000	50.56
			French Somaliland	208,000	35.92

(a) Number of persons per square mile.

POPULATION, WORLD'S.—NUMBER AND DENSITY—*continued.*

Country.	Population.	Density. (a)	Country.	Population.	Density. (a)
AFRICA—<i>continued.</i>			SOUTH AMERICA.		
Zanzibar	197,000	193.14	Brazil	30,635,605	9.85
Togoland (British) ..	188,265	14.94	Argentine Republic ..	8,750,000	7.59
Réunion	178,190	178.55	Colombia	5,855,077	13.28
Bechuanaland Protectorate	152,983	0.56	Peru	5,550,000	7.68
Spanish Guinea	150,000	13.88	Chile	3,754,723	12.96
Cape Verde Islands ..	149,793	101.21	Bolivia	2,889,970	5.62
Swaziland	133,563	20.00	Venezuela	2,411,952	6.05
Comoro and Mayotte ..	109,860	139.06	Ecuador and Galapagos..	2,000,000	11.48
St. Thomas and Principe	58,907	163.63	Uruguay	1,603,000	22.22
Seychelles	25,176	161.38	Paraguay	1,000,000	13.21
Ifni	20,000	20.73	Panama Republic	442,522	13.67
Fernando Po, etc. ..	15,896	19.99	British Guiana	307,391	3.44
St. Helena	3,670	78.09	Dutch Guiana	128,822	2.80
Rio de Oro and Adrar ..	495	0.01	French Guiana	44,202	1.38
Ascension	250	7.35	Panama Canal Zone ..	24,968	47.38
			Falkland Islands and South Georgia	3,477	0.48
Total	130,531,006	10.55	Total	65,401,709	8.93
NORTH AND CENTRAL AMERICA.			OCEANIA, ETC.		
United States	105,710,620	34.93	Australia	5,809,807	1.96
Mexico	15,501,684	20.21	New Zealand	1,340,039	12.90
Canada	8,788,483	2.36	Territory of New Guinea	400,000	4.40
Cuba	3,123,040	70.71	Papua	276,888	3.06
Haiti	2,048,000	200.71	Hawaii	255,912	39.68
Guatemala	2,004,900	41.52	Dutch New Guinea ..	195,460	1.22
Salvador	1,526,000	115.82	Fiji	157,266	22.20
Porto Rico	1,299,809	378.40	Solomon Islands (British)	150,583	13.69
Santo Domingo	897,405	16.42	New Hebrides	60,000	10.91
Jamaica, including Turks and Caicos Islands, etc.	896,557	202.34	Marshall Islands, etc. ..	52,219	54.39
Honduras	673,408	15.21	New Caledonia	50,608	6.62
Nicaragua	638,119	12.35	Western Samoa	36,655	30.92
Costa Rica	485,049	21.09	Gilbert and Ellice Islands		
Trinidad and Tobago ..	374,650	189.60	Colony	86,122	35.73
Newfoundland and Labrador	263,033	1.62	French Oceania	31,655	20.83
Martinique	244,439	634.91	Tonga	23,562	61.20
Guadeloupe and De- pendencies	229,839	334.07	Guam	15,413	73.40
Windward Islands ..	165,743	321.21	Samoa (American) ..	8,194	141.28
Barbados	158,169	952.83	Nauru	2,067	206.70
Leeward Islands	122,242	170.97	Norfolk Island	717	55.15
Alaska	55,036	0.09	Total	8,905,167	2.58
Bahamas	56,924	12.93			
Curacao	56,038	139.05	SUMMARY.		
British Honduras ..	45,317	5.27	Europe	458,471,653	115.10
Virgin Islands	26,051	197.36	Asia	1,008,949,708	60.87
Bermudas	20,410	1,074.21	Africa	130,531,006	10.55
Greenland	14,355	0.31	America, North and Central	145,429,238	16.90
St. Pierre et Miquelon ..	3,918	42.13	America, South	65,401,709	8.93
			Oceania, etc.	8,905,167	2.58
Total	145,429,238	16.90	Total	1,817,688,481	31.74

(a) Number of persons per square mile.

2. Position of the British Empire.—The approximate relationship of the British Empire to the world as a whole in regard to its area and population is given hereunder:—

BRITISH EMPIRE IN RELATION TO THE WORLD.

Particulars.	The World.	British Empire.
Area in square miles (exclusive of Polar Circles)	52,000,000	13,359,000
Population	1,818,000,000	451,000,000
Population per square mile	34.7	33.7

§ 8. General Characteristics.

1. Sex Distribution:—(i) *General.* The distribution of the sexes in the populations of young countries shows marked contrasts to that of older countries. In young countries there will be, invariably, a greater number of males than females, whereas in countries which have been long settled there is a reverse tendency. In the older countries the populations have grown almost entirely by the excess of births over deaths, which tends to an equality in the numbers of the sexes. The table on page 914, however, shows that in many instances, this natural tendency has been deflected to an excess of females. This has been due possibly to the following causes—(a) preponderance of males amongst emigrants; (b) greater propensity of males to travel; (c) employment of males away from the home country in the army, navy, and mercantile marine; (d) effects of war. In a young country, on the other hand, the increase in the population is largely brought about by immigration, in which males preponderate. The pioneering conditions of a young country, naturally, are less attractive to females than to males, and in the case of Australia, the disabilities which are inseparable from the early stages of settlement were aggravated by the great distance from the mother country and by the circumstances and methods of colonization, and so accentuated the difference in numbers between the sexes.

Australia presented few attractions to the explorers who visited its shores during the seventeenth and early part of the eighteenth centuries, and it was only when the Declaration of Independence of the United States, in 1776, closed to the British prison authorities the American plantations as a domicile for deported convicts, that they looked to this country to relieve their overcrowded gaols.

Information regarding the sexes of the first settlers in Australia is not available, but on the 31st December, 1796—nearly nine years later—there was an excess of 44 males in every 100 of a total population of 4,100.

The subsequent development of the natural industries of the country attracted male rather than female immigrants, and notwithstanding the equalizing tendency of the expanding factor of natural increase, and notwithstanding also the heavy loss of males through the war, the population of Australia, on the 31st December, 1923, contained an excess of 1.93 males in every 100 persons.

The relation between the degree of the development of a country, and the masculinity of its population, is further exemplified by the existing conditions in the various States of Australia. The table given on page 898 shows that, among the States, the greatest masculinity is associated with the smallest density of population, i.e., the masculinity is greater in the less developed States. For instance, in Queensland, which embraces over 22 per cent. of the area of Australia, but which holds only 14 per cent. of the total population (1.21 persons per sq. mile) the masculinity is 5.60, and in Western Australia, where the density of population is less (0.36 persons per sq. mile), the masculinity is greater (7.08). On the other hand, in Victoria, where the density is greatest (18.49 persons per sq. mile), there is an excess of females of 0.76 per 100 persons. In fact, if either New South Wales or South Australia be excluded, the indexes to masculinity will fall in reverse sequence to the indexes to density for all the other States.

With regard to the density of its population, the position in South Australia is somewhat unusual, inasmuch as the people of that State are concentrated within a relatively small area, while a large portion of the area carries no population. Consequently the condition of the people of South Australia, in this connexion, is governed by the density of that part of it which is populated.

(ii) *Masculinity.* On pages 163 to 165 in the second issue of this publication a table was included showing the masculinity of the population of each of the States for each year from 1796 to 1907. In the fifth issue, on page 123, the figures in this table for the years 1901 to 1907 were modified in accordance with the results of the Census of 3rd April, 1911.

The figures given in the tables last mentioned represent the number of males to each 100 females, but it is considered that a more satisfactory representation of masculinity is obtained by computing the ratio of the excess of males over females to the total population. This ratio, expressed as a percentage, has now been adopted by the Commonwealth Bureau of Census and Statistics as the "masculinity" of the population, and the ratios so computed are given hereunder for intervals of 10 years from 1800 to 1910 and for the five years 1919 to 1923, for Australia and each of its component States and Territories:—

POPULATION.—MASCULINITY, 1800 TO 1923.

(EXCESS OF MALES OVER FEMALES PER 100 OF POPULATION.)

Year.	States.						Territories.		Australia.
	N.S.W.(a)	Victoria.	Q'land.	S.A.(b)	W. Aust.	Tasmania.	North'n (c)	Fed. Cap. (d)	
1800	44.91	..	..	..	..	..	..	..	44.91
1810	31.16	..	..	..	..	..	..	..	31.16
1820	41.81	..	..	..	..	..	..	..	41.81
1830	52.06	..	..	..	49.66	49.17	..	..	51.02
1840	34.25	..	..	13.08	24.10	39.31	..	..	33.72
1850	16.13	..	..	12.72	21.51	28.44	..	..	17.76
1860	13.53	22.74	19.88	2.47	25.07	10.56	..	..	16.72
1870	9.29	9.74	20.10	2.84	23.42	6.09	..	..	9.54
1880	9.28	4.95	17.53	6.69	14.92	5.53	..	..	7.95
1890	8.28	5.06	13.87	4.12	18.98	5.61	..	..	7.43
1900	5.28	0.61	11.24	1.98	22.34	3.83	76.57	..	5.01
1910	4.41	-0.65	8.69	1.54	14.13	2.03	65.89	..	3.79
1919	2.26	-1.54	5.99	-0.22	6.74	1.35	48.60	5.05	1.76
1920	2.11	-1.33	5.66	-0.08	6.78	0.83	45.95	7.71	1.70
1921	1.92	-1.35	5.41	0.37	6.34	0.80	45.58	9.30	1.60
1922	1.95	-0.82	5.49	0.34	6.74	0.03	43.06	12.87	1.77
1923	2.03	-0.76	5.60	1.13	7.08	0.01	42.17	7.32	1.93

(a) Including Federal Capital Territory prior to 1911. (b) Including Northern Territory prior to 1900. (c) Included with South Australia prior to 1900. (d) Part of New South Wales prior to 1911.

NOTE.—The minus sign (-) denotes excess of females over males per 100 of population.

The above table shows clearly the progress towards an equalization of the sexes as the country developed, and conditions suitable to family life became more general.

The effect of the war on the masculinity of the population is very marked. In 1913 there was in Australia as a whole an excess of 4.41 males in every 100 persons, but by 1918 the excess was on the side of females to the extent of 0.96 per 100 persons. This excess of females was experienced in Victoria, South Australia, and Tasmania, but, largely by the return of the military forces, males are again more numerous than females in all the States except Victoria, though in Tasmania the difference in the numbers is very small.

Graphs showing the masculinity of the population of each State and of Australia accompany this chapter.

The difference between young and old countries in the masculinity of their populations is clearly illustrated by the comparisons furnished in the following table, which are based on the latest statistics available. It is interesting to note that of the countries named, Chile is the only non-European country with an excess of females.

POPULATION OF VARIOUS COUNTRIES.—MASCULINITY.

Country.	Year.	Excess of Males over Females in each 100 of Population.	Country.	Year.	Excess of Males over Females in each 100 of Population
Argentine Republic ..	1918	7.27	Finland	1920	-1.32
Ceylon	1921	5.91	Belgium	1920	-1.62
Union of South Africa(a)	1923	2.34	Switzerland ..	1910	-1.66
British India	1921	2.73	Sweden	1923	-1.81
India (Feudatory States)	1921	2.73	France	1911	-1.74
New Zealand	1923	2.01	Italy	1911	-1.81
United States of America	1920	1.98	Denmark	1921	-2.44
Australia	1923	1.93	Norway	1920	-2.60
Ireland	1919	1.08	Spain	1910	-2.84
Rumania	1919	0.75	Poland	1921	-3.37
Greece	1907	0.68	Scotland	1921	-3.79
Canada	1921	0.31	Austria	1920	-4.24
Japan	1921	1.05	Prussia	1922	-3.33
Bulgaria	1921	0.04	England and Wales	1921	-4.54
Chile	1920	-0.57	German Empire ..	1919	-4.78
Netherlands	1922	-0.72	Portugal	1911	-5.08
Russia (European) ..	1914	-1.05			

NOTE.—The minus sign (-) denotes excess of females over males in each 100 of population.
(a) White population only.

2. Age Distribution.—(i) *Australia.* The causes which brought about the excess of males also made the age constitution of the population of Australia essentially different from that of older countries. The high birth rate of the earlier years, combined with the low average age of immigrants, produced a population in which young and middle-aged persons were above, and the persons of advanced ages were below, the normal proportions. With time, however, these differences have been modified, so that they are no longer important.

The following table shows the proportions of the population of Australia over a period of 60 years, and of England and Wales over a period of 50 years, in three main groups of ages. The percentages are in all cases based on Census results. The Australian figures for 1861 include the results of the Western Australian Census of 1859, and those for 1871 include the results of the Western Australian and Tasmanian Censuses of 1870. Similar figures for England and Wales for 1921 are not yet available, consequently, as it is probable that the age composition has been affected by the war, comparisons must be confined to the 50 years ended with 1911.

Throughout the period covered by the table, the age distribution of the Australian population has varied considerably in consequence of the fluctuations of the birth-rate and of net migration. The age composition of the separate sexes also shows marked divergences according to the relative numbers of males and females from time to time in the net immigration. The high percentage of males of working age (15-65) in 1861 was due to the large male element amongst immigrants in that period. The net immigration of males—almost entirely of working age—due to the discovery of gold, was particularly heavy during the fifties. The reaction from this rush of immigration, and the consequent departure of many males, caused a marked fall in the proportion of the "15-65" group, and, of course, a corresponding increase in the proportion under 15 years, during the next decade. The effect of this reaction also influenced the female age composition, though to a less extent than that of the males.

The difference between the age composition of the males, as compared with the females in the earlier years under review is most strikingly indicated by the larger proportion of females under 15 years—43.03 per cent., as against a corresponding proportion of males of 31.41 per cent. in 1861. It has already been shown that in 1860 the population of Australia contained an excess of 16.72 males in every 100 persons in consequence of the larger number of male immigrants, also that the male immigrants were almost entirely of working age; it follows, therefore, that the proportion of males under 15 years would be relatively small as compared with females.

It is interesting to note the steady approach to similarity of the age composition of males to that of females in harmony with the equalization of the numbers of each sex in the Australian population, and also the increasing similarity in the composition of the Australian population to that of older countries as represented by England and Wales.

POPULATION.—AGE DISTRIBUTION.

Census Year.	Males.				Females.				Persons.			
	Under 15 Years.	15 and under 65.	65 and over.	Total.	Under 15 Years.	15 and under 65.	65 and over.	Total.	Under 15 Years.	15 and under 65.	65 and over.	Total.
AUSTRALIA, 1861 TO 1921.												
1861..	31.41	67.42	1.17	100	43.03	56.20	0.77	100	36.28	62.72	1.00	100
1871..	38.84	59.11	2.05	100	46.02	52.60	1.38	100	42.09	56.17	1.74	100
1881..	36.37	60.85	2.78	100	41.89	56.07	2.04	100	38.91	58.65	2.44	100
1891..	34.77	62.02	3.21	100	39.36	58.08	2.56	100	36.90	60.20	2.90	100
1901..	33.87	61.82	4.31	100	36.50	59.85	3.65	100	35.12	60.83	4.00	100
1911..	30.84	64.82	4.34	100	32.52	63.28	4.20	100	31.65	64.08	4.27	100
1921..	31.67	63.86	4.47	100	31.80	63.83	4.37	100	31.73	63.85	4.42	100
ENGLAND AND WALES, 1861 AND 1911.												
1861..	36.69	58.98	4.33	100	34.62	60.44	4.94	100	35.64	59.72	4.64	100
1911..	31.70	63.66	4.64	100	29.64	64.62	5.74	100	30.63	64.16	5.21	100

(ii) *States and Territories.* The disparity in sex distribution exhibited by the several States is accompanied by a corresponding inequality in the age distribution. For convenient comparison in respect to ages, the several populations may each be divided into groups, indicative of dependence on the one hand, and ability to support on the other. The usual division for this purpose is into an initial group of "under 15" classed as "dependent age," a second group of "15 and under 65" classed as "supporting age," and a final group of "65 and upwards" classed "old age." From certain points of view the division might be into two classes, the "supporting" and the "dependent," as the majority of those aged "65 and upwards" strictly belong to the dependent class. The number of persons in each State and Territory at the Census of 4th April, 1921, in each of the three groups mentioned, and the proportion to the total for each State or Territory and Australia, were as follows:—

POPULATION.—DEPENDENT, SUPPORTING, AND OLD AGE GROUPS,
4th APRIL, 1921.

State or Territory.	Number of Persons of—				Proportion of Population of—		
	Dependent age (under 15).	Supporting age (15 and under 65).	Old age (65 and upwards).	All ages.	Dependent age (under 15).	Supporting age (15 and under 65).	Old age (65 and upwards).
States—					%	%	%
New South Wales	678,364	1,331,673	90,334	2,100,371	32.30	63.40	4.30
Victoria ..	455,936	1,002,093	73,251	1,531,280	29.78	65.44	4.78
Queensland ..	251,586	474,102	30,284	755,972	33.28	62.71	4.01
South Australia	156,636	313,242	25,282	495,160	31.63	63.26	5.11
Western Australia	107,394	214,553	10,785	332,732	32.28	64.48	3.24
Tasmania ..	73,444	130,265	10,071	213,780	34.36	60.93	4.71
Territories—							
Northern ..	804	2,858	205	3,867	20.79	73.91	5.30
Federal Capital	840	1,659	73	2,572	32.66	64.50	2.84
Total ..	1,725,004	3,470,445	240,285	5,435,734	31.73	63.85	4.42

Victoria has the highest proportion of the population in the "supporting" age-group, while Tasmania has the lowest proportion. This high proportion in Victoria is largely due to the relatively low birth-rate in that State during the years which produced the lives under 15 years at the Census of 1921. The relatively small proportion of the population in the age group 15-65 in Tasmania is due to the fact that many Tasmanian natives, in their early adult years, seek the wider opportunities available on the mainland.

The following tables show for the several States and Territories and for Australia as a whole the numbers of males and females and of persons in quinquennial age groups, and also the number of minors and adults recorded at the Census of the 4th April, 1921:—

POPULATION.—IN AGE GROUPS, 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Age last Birthday.	States.						Territories.		Australia.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
MALES.									
0-4 ..	121,529	79,210	46,174	27,597	17,804	12,872	169	167	305,522
5-9 ..	118,284	79,452	43,849	27,763	19,149	12,776	140	160	301,573
10-14 ..	104,166	72,424	38,020	24,184	17,493	11,494	91	131	268,003
15-19 ..	88,476	66,020	33,241	20,841	14,945	10,130	113	190	233,956
20-24 ..	83,333	62,096	33,008	19,467	12,910	8,654	194	168	219,830
25-29 ..	87,361	62,845	38,525	20,232	12,295	7,907	235	125	224,525
30-34 ..	92,215	59,244	33,653	20,822	12,928	7,617	271	133	226,883
35-39 ..	79,737	50,696	28,085	18,404	12,257	6,875	181	121	196,356
40-44 ..	66,785	44,885	23,875	14,987	12,703	6,014	209	104	169,562
45-49 ..	54,723	39,556	20,022	12,060	12,361	5,157	222	83	144,184
50-54 ..	49,235	40,174	18,572	11,215	11,108	4,947	268	44	135,563
55-59 ..	41,877	35,923	15,844	9,266	8,281	4,383	255	47	115,876
60-64 ..	33,694	26,660	12,330	8,219	5,526	3,584	220	43	90,276
65-69 ..	21,737	15,054	7,918	5,673	3,020	2,331	121	26	55,880
70-74 ..	13,030	9,035	4,688	3,376	1,663	1,380	51	9	33,232
75-79 ..	7,698	5,415	2,748	2,047	859	737	11	11	19,526
80-84 ..	3,402	2,991	1,465	936	367	385	2	1	9,549
85-89 ..	1,251	1,336	432	333	125	142	1	3	3,623
90 and over ..	329	413	125	93	30	40	..	1	1,031
Unspecified ..	2,639	1,295	1,395	752	1,454	318	67	..	7,920
Total ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870
Under 21 ..	449,943	310,250	168,068	104,474	72,346	49,192	550	703	1,155,526
21 and over ..	618,919	443,179	229,506	143,041	103,478	58,233	2,204	864	1,599,424
Unspecified ..	2,639	1,295	1,395	752	1,454	318	67	..	7,920
Total ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870
FEMALES.									
0-4 ..	117,811	76,426	43,974	26,305	17,173	12,674	162	159	294,684
5-9 ..	115,140	77,680	42,806	27,035	18,735	12,507	149	133	294,185
10-14 ..	101,434	70,744	36,763	23,752	17,040	11,121	93	90	261,037
15-19 ..	86,702	64,589	32,229	20,342	14,723	9,721	83	83	228,472
20-24 ..	88,753	67,503	33,309	20,771	12,859	9,118	91	77	232,481
25-29 ..	91,155	69,647	32,203	22,076	12,134	8,794	94	90	236,193
30-34 ..	88,157	63,439	29,205	20,439	11,368	7,945	74	105	220,732
35-39 ..	75,866	53,790	23,622	18,306	10,665	6,862	77	73	189,281
40-44 ..	62,275	47,914	19,446	14,893	10,182	5,844	53	47	160,654
45-49 ..	50,727	42,378	16,171	11,921	9,116	4,791	29	40	135,173
50-54 ..	42,587	40,391	13,941	10,881	7,336	4,300	27	30	119,493
55-59 ..	35,034	34,841	11,077	9,316	5,082	3,800	18	38	99,206
60-64 ..	28,411	27,016	8,595	7,655	3,441	3,283	9	18	78,428
65-69 ..	18,131	15,717	5,371	5,308	2,102	2,077	7	11	48,724
70-74 ..	12,017	10,204	3,464	3,414	1,292	1,317	2	4	31,714
75-79 ..	7,430	6,826	2,292	2,164	746	684	1	4	20,347
80-84 ..	3,367	3,831	1,145	1,164	317	502	1	3	10,330
85-89 ..	1,297	1,672	408	524	123	183	1	..	4,208
90 and over ..	335	575	89	159	23	51	..	..	1,232
Unspecified ..	2,221	1,373	893	468	997	263	75	..	6,290
Total ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864
Under 21 ..	439,139	303,204	162,488	101,596	70,455	47,989	510	480	1,125,861
21 and over ..	587,510	471,979	193,622	144,829	84,002	57,785	461	525	1,540,713
Unspecified ..	2,221	1,373	893	468	997	263	75	..	6,290
Total ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864

POPULATION.—IN AGE GROUPS, 4TH APRIL, 1921—*continued.*

(Exclusive of Full-blood Aborigines.)

Age last Birthday.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed.Cap.	
PERSONS.									
0-4 ..	239,340	155,636	90,148	53,902	34,977	25,546	331	326	600,206
5-9 ..	233,424	157,132	86,655	54,798	37,884	25,283	289	293	595,758
10-14 ..	205,600	143,168	74,783	47,936	34,533	22,615	184	221	529,040
15-19 ..	175,178	130,609	65,470	41,183	29,668	19,851	196	273	462,428
20-24 ..	172,086	129,599	66,317	40,238	25,769	17,772	285	245	452,311
25-29 ..	178,516	132,492	65,728	42,308	24,429	16,701	329	215	460,718
30-34 ..	180,372	122,683	62,858	41,261	24,296	15,562	345	238	447,615
35-39 ..	155,623	104,486	51,707	36,710	22,922	13,737	258	194	385,637
40-44 ..	129,060	92,799	43,321	29,880	22,885	11,858	262	151	330,216
45-49 ..	105,450	81,934	36,193	23,981	21,477	9,948	251	123	279,357
50-54 ..	91,822	80,565	32,513	22,096	18,444	9,247	295	74	255,056
55-59 ..	76,911	70,764	26,921	18,582	13,363	8,183	273	85	215,082
60-64 ..	62,105	53,676	20,925	15,874	8,967	6,867	229	61	168,704
65-69 ..	39,868	30,771	13,289	10,981	5,122	4,408	128	37	104,604
70-74 ..	25,047	19,239	8,152	6,790	2,955	2,697	53	13	64,946
75-79 ..	15,128	12,241	5,040	4,211	1,605	1,621	12	15	39,873
80-84 ..	6,789	6,822	2,610	2,100	684	887	3	4	19,879
85-89 ..	2,548	3,003	840	857	248	325	2	3	7,831
90 and over	664	988	214	252	53	91	..	1	2,263
Unspecified	4,860	2,668	2,288	1,220	2,451	581	142	..	14,210
Total ..	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734
Under 21 ..	889,082	613,454	330,556	206,070	142,801	97,181	1,060	1,183	2,281,387
21 and over	1,208,429	915,158	423,123	287,870	187,480	116,013	2,865	1,389	3,140,137
Unspecified	4,860	2,668	2,288	1,220	2,451	581	142	..	14,210
Total ..	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734

3. Race and Nationality.—(i) *General.* With regard to its racial characteristics, the population of Australia may be divided into two main groups, one comprising the aboriginal natives, and the other consisting of the various immigrant races which have made the country their home. The term "immigrant races," of course, covers not only those residents of Australia who were born in other countries, but also their descendants who were born in Australia.

(ii) *Aborigines.* With the assistance of the Chief Protectors of Aborigines in the several States, an estimate was made at the time of the Census of 1921 of the number of full-blood aborigines. The numbers so ascertained are shown in the following table. As the Chief Protector for Western Australia estimated that there were 10,000 aborigines with whom his department was not in touch, that number, equally divided between the sexes, has been included in the tabulated figures.

POPULATION.—FULL-BLOOD AUSTRALIAN ABORIGINES, 4TH APRIL, 1921.

Particulars.	N.S.W.	Victoria.	Queens-land.	South Australia.	Western Australia.	Northern Territory.	Australia.
Males ..	923	62	7,234	876	13,611	9,466	32,172
Females ..	674	49	5,380	733	11,976	7,883	26,695
Total ..	1,597	111	12,614	1,609	25,587	17,349	58,867

(iii) *Immigrant Races.* The immigrant races consist mainly of natives of the British Isles and their descendants. Of the total population (5,435,734) enumerated at the Census of 1921, 5,387,243, or over 99 per cent., were of European race. Of the remainder, 30,975 were full-blood, and 17,616 were half-caste non-Europeans.

It may be well to mention here that the Census figures include all persons on board ships which were in Australian waters on the night of the Census. There were on board these ships 4,579 persons of full-blood, and 49 half-castes of non-European race. Included in the 4,579 full-bloods were 1,018 Chinese, 1,330 Japanese, 942 Hindus, and 623 Malays.

The following table shows the number of full-blood and half-caste persons of non-European race—according to continental divisions—who were included in the Census of 1921. Of the 28,087 full-blood Asiatics, 17,157 were Chinese, 2,881 Hindus, 2,892 Syrians, 2,740 Japanese, and 1,087 Malays. The number of full-blood non-Europeans enumerated at the Census of 1921 was less than in 1911 by 6,814, or 13.03 per cent., whereas the half-caste non-Europeans had increased by 3,062, or 21.03 per cent. During the intercensal period the number of full-blood Chinese declined by 5,596, Japanese by 749, and Hindus by 418. It may be noticed that the non-European element is relatively strongest in those parts of Australia where there are bêche-de-mer and pearl fisheries. More detailed information relating to the non-European races in the Australian population may be found in the Census Bulletins and Parts.

POPULATION.—NON-EUROPEAN RACES, CENSUS, 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

States and Territories.	Australian.	Asiatic.		African.		American.		Polynesian.		Indefinite.		Total.	
	Half-caste Aborigines.	Full-blood.	Half-caste.										
States—													
N.S. Wales ..	4,588	10,608	2,081	72	116	31	35	332	162	38	7	11,081	6,989
Victoria ..	442	4,292	1,255	15	40	8	19	8	8	23	1	4,346	1,765
Queensland ..	3,090	7,122	1,453	42	27	25	21	1,869	247	155	6	9,213	4,844
S. Australia ..	811	1,210	224	13	5	17	4	..	2	56	2	1,296	1,048
W. Australia ..	1,960	3,734	242	13	7	14	7	10	4	3	3	3,774	2,223
Tasmania ..	152	327	78	1	..	..	..	..	2	1	..	329	232
Territories—													
Northern ..	460	913	21	3	..	..	..	7	1	4	..	927	482
Federal Capital	33	9	..	..	..	..	..	..	..	..	..	9	33
Total ..	11,536	28,215	5,354	159	195	95	86	2,226	426	280	19	30,975	17,616

The proportion of population of non-European race (exclusive of full-blood aborigines) in each State and Territory, is shown in the following table, full-blood and half-caste non-Europeans being shown separately :—

POPULATION.—NON-EUROPEAN RACES, PROPORTIONS, CENSUS, 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

States and Territories.	Total Population.	Non-European Race.					
		Full-blood.		Half-caste.		Total.	
		Number.	Number per 1,000 of Total Population.	Number.	Number per 1,000 of Total Population.	Number.	Number per 1,000 of Total Population.
States—							
N.S. Wales ..	2,100,371	11,081	5.27	6,989	3.33	18,070	8.60
Victoria ..	1,531,280	4,346	2.84	1,765	1.15	6,111	3.99
Queensland ..	755,972	9,213	12.19	4,844	6.41	14,057	18.60
S. Australia ..	495,160	1,296	2.62	1,048	2.11	2,344	4.73
W. Australia ..	332,732	3,774	11.34	2,223	6.67	5,997	18.01
Tasmania ..	213,780	329	1.54	232	1.09	561	2.63
Territories—							
Northern ..	3,867	927	239.70	482	124.64	1,409	364.34
Fed. Capital	2,572	9	3.50	33	12.83	42	16.33
Total ..	5,435,734	30,975	5.70	17,616	3.24	48,591	8.94

(iv) *Biological and Sociological Significance.* The population of Australia is fundamentally British in race and nationality, and furnishes an example of the transplanting of a race into conditions greatly different from those in which it had been developed. The biological and sociological significance of this will ultimately appear in the physical and moral constitution produced by the complete change of climatic and social environment. The new conditions are likely to considerably modify both the physical characteristics and the social instincts of the constituents of the population. At present, the characteristics of the Australian population, whether physical, mental, moral, or social, are only in the making, and probably a distinct Australian type will not appear until three or four generations more have passed. Even then, it is probable that, with the great extent of territory and varying conditions presented there will be a number of types varying with locality. At present the Australian is little more than a transplanted Briton, with the essential characteristics of his British forbears, with perhaps some accentuation of the desire for freedom from restraint. The greater opportunity for an open-air life, and the absence of the restricting conventions of older countries, may be mainly responsible for this development.

(v) *Nationality.* Prior to the Census of 1921 no attempt had been made to ascertain the allegiance of the people, except in so far as a person was or was not a British subject. At the last Census all persons were asked to state their nationality, and the results which are given in the following table, show that of a total population of 5,435,734, as many as 5,387,205, or over 99 per cent., were definitely stated to be British subjects. Of the foreign element, the Chinese are the most numerous, representing 30 per cent. of the foreign people and 2.56 in every 1,000 of the total population.

POPULATION.—NATIONALITY (ALLEGIANCE), AUSTRALIA, CENSUS,
4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Nationality	4th April, 1921.			Nationality.	4th April, 1921.		
	Males.	Females.	Persons.		Males.	Females.	Persons.
British ..	2,722,152	2,665,053	5,387,205	<i>Foreign—continued.</i>			
Foreign—				Jugo-Slavian ..	502	107	609
Austrian ..	217	40	257	Norwegian ..	960	65	1,025
Belgian ..	171	106	277	Polish ..	351	149	500
Bulgarian ..	56	10	66	Russian ..	1,655	662	2,317
Chinese ..	13,614	185	13,799	Spanish ..	405	140	545
Czecho-Slovakian	97	22	119	Swedish ..	1,399	80	1,479
Danish ..	956	260	1,216	Swiss ..	413	151	564
Dutch ..	1,430	187	1,617	Turkish ..	72	26	98
Finnish ..	517	37	554	U.S. of America ..	2,520	737	3,257
French ..	1,221	867	2,088	Other ..	1,042	376	1,418
German ..	2,538	1,017	3,555	Total Foreign ..	39,067	6,687	45,754
Greek ..	2,430	387	2,817	Not stated ..	1,651	1,124	2,775
Hungarian ..	23	7	35	Grand Total ..	2,762,870	2,672,864	5,435,734
Italian ..	3,984	919	4,903				
Japanese ..	2,489	150	2,639				

(vi) *Birthplaces.* The proportion of native-born in the Australian population has increased rapidly in recent years. At the Census of 1921 the Australian-born numbered 4,581,663 persons, or 84.51 per cent. of a total population of 5,421,242 persons whose birthplaces were specified. Of the remainder, 676,387, or 12.48 per cent., were natives of the British Isles, and 38,611, or 0.71 per cent., were natives of New Zealand, so that 97.70 of the total population at that time had been born either in Australasia or in the British Isles. Excluding these, the following countries are the most important recorded as the birthplaces of persons in Australia at the Census of 1921:—

Germany, 22,396 (0.41 per cent.); China, 15,224 (0.28 per cent.); Scandinavia (comprising Sweden, Norway, and Denmark), 14,341 (0.26 per cent.); Italy, 8,135 (0.15 per cent.); British India, 6,918 (0.13 per cent.); United States of America, 6,604 (0.12 per cent.); Union of South Africa, 5,408 (0.10 per cent.); Canada, 3,550 (0.07 per cent.).

It may be noticed that among the States, the Australian-born element is lowest in Western Australia and Queensland, where the density of population is also least, but where the masculinity is greatest. On the other hand, in Tasmania, where the density is high and the masculinity is low, the proportion of Australian-born is highest. These related facts indicate that conditions throughout these territorially larger but less developed States hitherto have been, on the whole, less attractive to women and less conducive to the rearing of families than the conditions existing in the more settled States.

Information in greater detail respecting birthplaces will be found in Bulletins and other matter published in connexion with the Census of 1921.

POPULATION.—BIRTHPLACES AT CENSUS OF 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Birthplace.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	

MALES.

Australia ..	880,892	646,023	303,654	215,630	126,794	98,102	1,654	1,250	2,273,999
New Zealand ..	9,913	5,460	1,827	630	1,445	672	36	19	20,002
British Isles ..	145,966	83,712	70,171	24,513	37,539	6,909	337	261	389,408
Other European Countries ..	15,212	9,765	13,137	4,674	5,746	679	132	12	49,357
Asia ..	9,586	4,246	6,237	1,273	3,939	475	607	13	26,376
Africa ..	1,500	999	428	249	313	94	7	2	3,590
America ..	3,388	1,800	1,181	486	647	173	27	5	7,707
Polynesia (a) ..	957	174	1,044	40	52	28	7	4	2,306
At Sea ..	675	524	321	187	115	46	3	1	1,872
Unspecified ..	3,412	2,021	971	585	688	565	11	..	8,253
Total ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870

FEMALES.

Australia ..	891,722	684,113	288,509	221,361	122,072	98,143	882	862	2,307,664
New Zealand ..	9,353	5,750	1,122	588	1,095	688	5	8	18,609
British Isles ..	114,460	77,405	58,063	21,813	29,200	5,841	73	124	306,979
Other European Countries ..	4,736	3,501	6,927	1,697	1,510	272	36	6	18,635
Asia ..	1,450	972	508	245	471	236	31	3	3,916
Africa ..	1,269	1,005	315	224	264	98	9	1	3,185
America ..	1,856	1,222	582	268	324	106	7	..	4,385
Polynesia (a) ..	925	180	174	42	33	30	1	1	1,386
At Sea ..	608	587	268	207	119	46	1	..	1,336
Unspecified ..	2,491	1,821	535	448	366	577	1	..	6,239
Total ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864

PERSONS.

Australia ..	1,772,614	1,330,136	592,163	436,991	248,866	196,245	2,536	2,112	4,581,663
New Zealand ..	19,266	11,210	2,949	1,218	2,540	1,360	41	27	38,611
British Isles ..	260,426	161,117	128,234	46,326	66,739	12,750	410	385	676,387
Other European Countries ..	19,948	13,266	20,064	6,371	7,256	951	168	18	68,042
Asia ..	11,036	5,218	6,745	1,518	4,410	711	638	16	30,292
Africa ..	2,769	2,004	741	473	577	192	16	3	6,775
America ..	5,244	3,022	1,763	754	971	279	34	5	12,072
Polynesia (a) ..	1,882	354	1,218	82	85	58	8	5	3,692
At Sea ..	1,283	1,111	589	394	234	92	4	1	3,703
Unspecified ..	5,903	3,842	1,506	1,033	1,054	1,142	12	..	14,492
Total ..	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734

(a) Includes Norfolk Island, Papua, and the Territory of New Guinea.

POPULATION.—BIRTHPLACES AT CENSUS OF 1921—*continued.*

Birthplace.	States.					Territories.			Australia.
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
PERCENTAGE OF TOTAL POPULATION.									
	%	%	%	%	%	%	%	%	%
Australia ..	84.64	87.08	78.49	88.44	75.03	92.29	65.78	82.12	84.51
New Zealand ..	0.92	0.74	0.39	0.25	0.77	0.64	1.06	1.05	0.71
British Isles ..	12.43	10.55	17.00	9.37	20.12	6.00	10.64	14.97	12.48
Other European Countries ..	0.95	0.87	2.66	1.29	2.19	0.45	4.36	0.70	1.26
Asia ..	0.53	0.34	0.89	0.31	1.33	0.33	16.55	0.62	0.56
Africa ..	0.13	0.13	0.10	0.09	0.17	0.09	0.42	0.12	0.12
America ..	0.25	0.20	0.23	0.15	0.29	0.13	0.88	0.19	0.22
Polynesia (a) ..	0.09	0.02	0.16	0.02	0.03	0.03	0.21	0.19	0.07
At Sea ..	0.06	0.07	0.08	0.08	0.07	0.04	0.10	0.04	0.07
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(a) Includes Norfolk Island, Papua, and the Territory of New Guinea.

(vii) *Length of Residence of Immigrants.* At the Census of 1921 the population of Australia included 839,579 persons who were definitely shown to be immigrants, and the following table shows the number of years during which these people have resided in Australia. The number of persons whose length of residence is shown as less than one year is necessarily large, as it includes many persons, such as the crews of oversea ships, travellers, and others, who did not intend to remain in the country. The variations in the numbers with different periods of residence show the fluctuations in the volume of immigration. Thus the figures for length of residence groups 5-9 years and 10-14 years include those persons who arrived in Australia during the years 1911-1913 when immigration was large, those for the groups 30-44 years represent the arrivals during the boom period of the eighties of last century, while those for the groups 65-69 represent the survivors of the gold rush of the fifties.

POPULATION.—IMMIGRANT, LENGTH OF RESIDENCE IN AUSTRALIA, CENSUS, 4th APRIL, 1921.

Number of Completed Years of Residence.	Males.	Females.	Persons.	Number of Completed Years of Residence.			
				Males.	Females.	Persons.	
0 ..	28,386	19,827	48,213	60-64 ..	10,372	11,671	22,043
1 ..	8,375	16,998	25,373	65-69 ..	11,378	18,594	24,972
2 ..	2,026	2,490	4,516	70-74 ..	2,875	3,669	6,544
3 ..	1,715	1,404	3,119	75-79 ..	716	935	1,651
4 ..	2,779	2,623	5,402	80-84 ..	519	693	1,212
5-9 ..	111,895	87,723	199,618	85-89 ..	78	124	202
10-14 ..	58,919	31,883	90,802	90-94 ..	16	15	31
15-19 ..	15,077	7,818	22,895	95 and upwards ..	1	—	1
20-24 ..	18,875	8,990	27,865	Not stated ..	13,903	12,050	25,953
25-29 ..	16,873	10,721	27,594	Total ..	480,618	358,961	839,579
30-34 ..	47,206	32,273	79,479	Born in Australia ..	2,273,999	2,307,664	4,581,663
35-39 ..	56,144	38,272	94,416	Birthplace not stated ..	8,253	6,239	14,492
40-44 ..	31,843	20,851	52,694	Total Population ..	2,762,370	2,672,864	5,435,734
45-49 ..	16,616	11,776	28,392				
50-54 ..	10,954	9,649	20,603				
55-59 ..	13,077	12,912	25,989				

Further details are available from the Bulletins and Parts published in connexion with the Census of 1921.

4. Education.—(i) *General.* The information concerning educational attainments which can be satisfactorily collected at a Census is necessarily meagre. In Australia the particulars ascertained have never amounted to more than a statement as to whether or not a person could read and write. The results, therefore, merely divide the population into three main groups, viz. :—(a) Those who cannot read; (b) those who can read but cannot write; and (c) those able to read and write. Of the 5,435,734 persons who

comprised the population of Australia on the 4th April, 1921, there were 805,798 who were definitely shown to be unable to read, and there were 86,641 persons whose ability in this direction was not stated. Thus, approximately 15 per cent. of the population were unable to read. Of the 805,799 persons returned as unable to read 600,206, or 74.5 per cent., were under five years of age, and many of the remaining 25.5 per cent. were also children. Allowing for those persons whose ability to read and write was unspecified, it may be said that over 95 per cent. of the population over five years of age can read and write, and of those over ten years of age more than 98 per cent. can read and write. The number of persons returned at the Census of 1921 as able to read but unable to write was 14,493, of whom 943 could read a foreign language only. With the exception of New Zealand, there is probably no country in the world so strikingly unilingual as Australia.

POPULATION.—EDUCATION, CENSUS OF 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

States and Territories.	English Language.		Foreign Language only.		Cannot Read.		Un-specified	Australia.
	Read and Write.	Read only.	Read and Write.	Read only.	Under age 5 years.	Age 5 years and over.		
MALES.								
STATES—								
New South Wales ..	875,514	2,076	3,595	218	121,529	51,302	16,667	1,071,501
Victoria ..	640,769	1,229	2,134	124	79,210	21,467	9,791	754,724
Queensland ..	325,382	1,289	3,512	162	46,174	16,310	5,640	398,969
South Australia ..	204,478	648	810	38	27,597	9,956	4,740	248,267
Western Australia ..	144,572	433	2,181	38	17,804	7,516	4,734	177,278
Tasmania ..	85,059	292	108	4	12,872	6,962	2,446	107,743
TERRITORIES—								
Northern ..	1,774	6	289	2	169	473	108	2,821
Federal Capital ..	1,292	5	7	..	167	89	7	1,567
Total ..	2,278,840	6,578	12,636	586	305,522	114,675	44,133	2,762,870
FEMALES.								
STATES—								
New South Wales ..	849,812	2,615	595	78	117,811	41,556	16,403	1,028,870
Victoria ..	668,565	1,609	424	106	76,426	18,504	10,922	776,556
Queensland ..	294,065	1,332	990	126	43,974	12,087	4,429	357,003
South Australia ..	206,778	828	220	26	26,305	8,090	4,646	246,893
Western Australia ..	128,507	310	304	19	17,173	5,708	3,433	155,454
Tasmania ..	85,684	274	12	1	12,674	4,834	2,558	106,037
TERRITORIES—								
Northern ..	557	1	36	1	162	184	105	1,046
Federal Capital ..	777	3	..	..	159	54	12	1,005
Total ..	2,234,745	6,972	2,581	357	294,684	91,017	42,508	2,672,864
PERSONS.								
STATES—								
New South Wales ..	1,725,326	5,291	4,190	296	239,340	92,858	33,070	2,100,371
Victoria ..	1,309,334	2,838	2,558	230	155,636	39,971	20,713	1,531,280
Queensland ..	619,447	2,621	4,502	288	90,148	28,897	10,069	755,972
South Australia ..	411,256	1,476	1,030	64	53,902	18,046	9,386	495,160
Western Australia ..	273,079	743	2,485	57	34,977	13,224	8,167	332,732
Tasmania ..	170,743	566	120	5	25,546	11,796	5,004	213,780
TERRITORIES—								
Northern ..	2,331	7	325	3	331	657	213	3,867
Federal Capital ..	2,069	8	7	..	326	143	19	2,572
Total ..	4,513,585	13,550	15,217	943	600,206	205,592	86,641	5,435,734

(ii) *Place of Education.* At the Census of 1921 the place of instruction was given for 1,023,462 persons, and of these 74.92 per cent. were attending State schools, 18.93 per cent. were at private schools, 2.44 per cent. at technical schools, 3 per cent. were

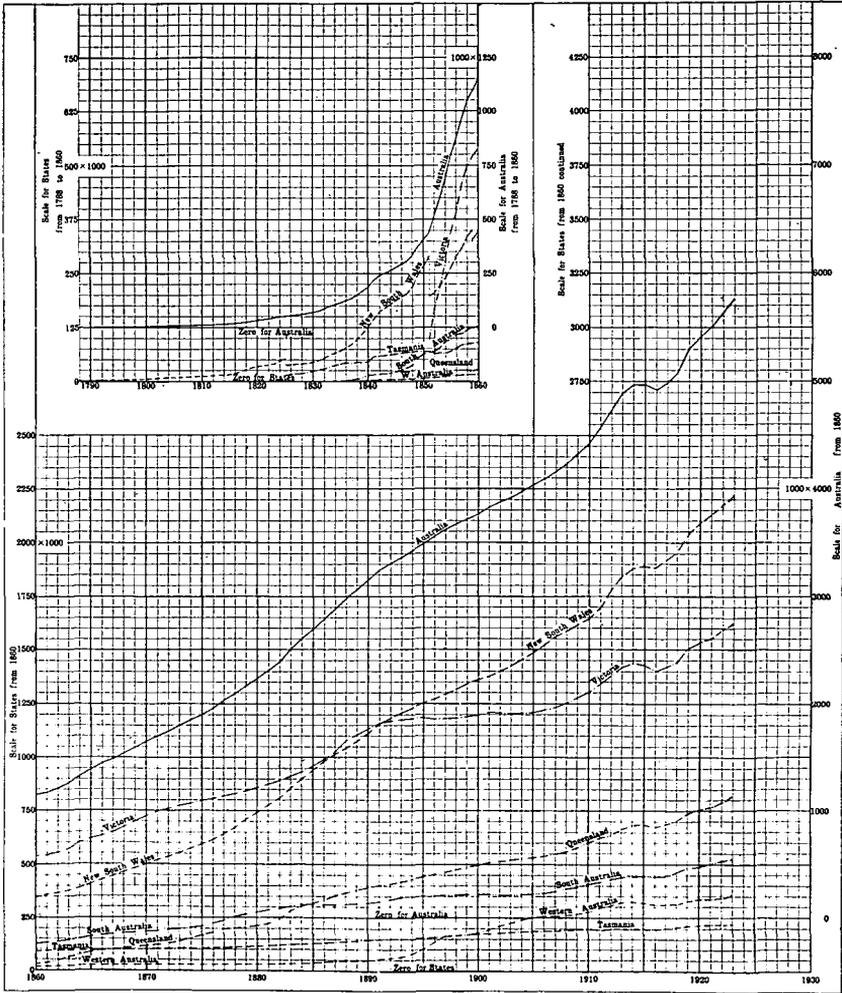
receiving instruction at home, and 7 per thousand were attending universities. Of the males receiving instruction, 75.84 per cent. were at State schools, and 17.04 per cent. were at private schools; of the females 73.96 per cent. were at State schools and 20.90 per cent. at private schools.

POPULATION.—PLACE OF EDUCATION, CENSUS, 4th APRIL, 1921.
(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

States and Territories.	Number being educated at—					Total.
	State School.	Private School.	Technical School.	University.	At Home.	
MALES.						
STATES—						
New South Wales	150,561	35,199	6,512	2,122	6,081	200,475
Victoria	104,053	28,544	6,533	1,935	2,567	143,632
Queensland	60,168	10,260	1,517	187	2,953	75,094
South Australia	37,407	6,603	1,086	635	942	46,673
Western Australia	26,077	5,397	1,506	158	863	34,001
Tasmania	16,684	2,751	441	92	691	20,659
TERRITORIES—						
Northern	118	19	..	..	23	160
Federal Capital	200	18	172	..	21	411
Total	395,268	88,800	17,767	5,129	14,141	521,105
FEMALES.						
STATES—						
New South Wales	140,804	42,354	2,394	812	7,100	193,464
Victoria	99,572	31,244	1,564	728	3,205	136,313
Queensland	55,882	13,188	1,495	74	3,210	73,849
South Australia	34,990	7,779	513	355	1,100	44,737
Western Australia	24,279	6,902	1,079	109	1,069	33,438
Tasmania	15,775	3,453	71	45	849	20,193
TERRITORIES—						
Northern	121	39	..	..	27	187
Federal Capital	150	15	..	..	11	176
Total	371,573	104,974	7,116	2,123	16,571	502,357
PERSONS.						
STATES—						
New South Wales	291,365	77,553	8,906	2,934	13,181	393,939
Victoria	203,625	59,788	8,097	2,663	5,772	279,945
Queensland	116,050	23,457	3,012	261	6,163	148,943
South Australia	72,397	14,382	1,599	690	2,042	91,410
Western Australia	60,356	12,299	2,585	267	1,932	87,439
Tasmania	32,459	6,204	512	137	1,540	40,852
TERRITORIES—						
Northern	239	58	..	..	50	347
Federal Capital	350	33	172	..	32	587
Total	766,841	193,774	24,883	7,252	30,712	1,023,462

5. Religions.—At the Census of the 4th April, 1921, of a total population of 5,435,734, the number who objected to state their religion was 46,268; a further number of 45,990 failed to specify their religion in any degree; 20,544 stated that they had no religion; and 19,886 classed themselves in indefinite groups, such as "Freethinker," "Agnostic," "No Denomination," etc. Of those remaining (5,303,046), 5,267,641, or 99.33 per cent., were definitely stated to be Christians, and 35,405 were stated to be Non-Christians. The number who were definitely stated to be Christians represented nearly 97 per cent. of the total population. Of the total Christians, 2,372,995, or 45.04 per cent., belonged to the Church of England; 1,134,002, or 21.53 per cent., to the Roman Catholic Church; 636,974, or 12.09 per cent., to the Presbyterian Church; and 632,629, or 12.01 per cent., were Methodists. Thus the four denominations named embraced over 90 per cent. of the

TOTAL POPULATION, 1788 TO 1923.



EXPLANATION. YEARS 1788 TO 1860.—The base of each small square represents two years' interval for the States and Australia, and the vertical height for the States 25,000 persons, and for Australia 50,000 persons.

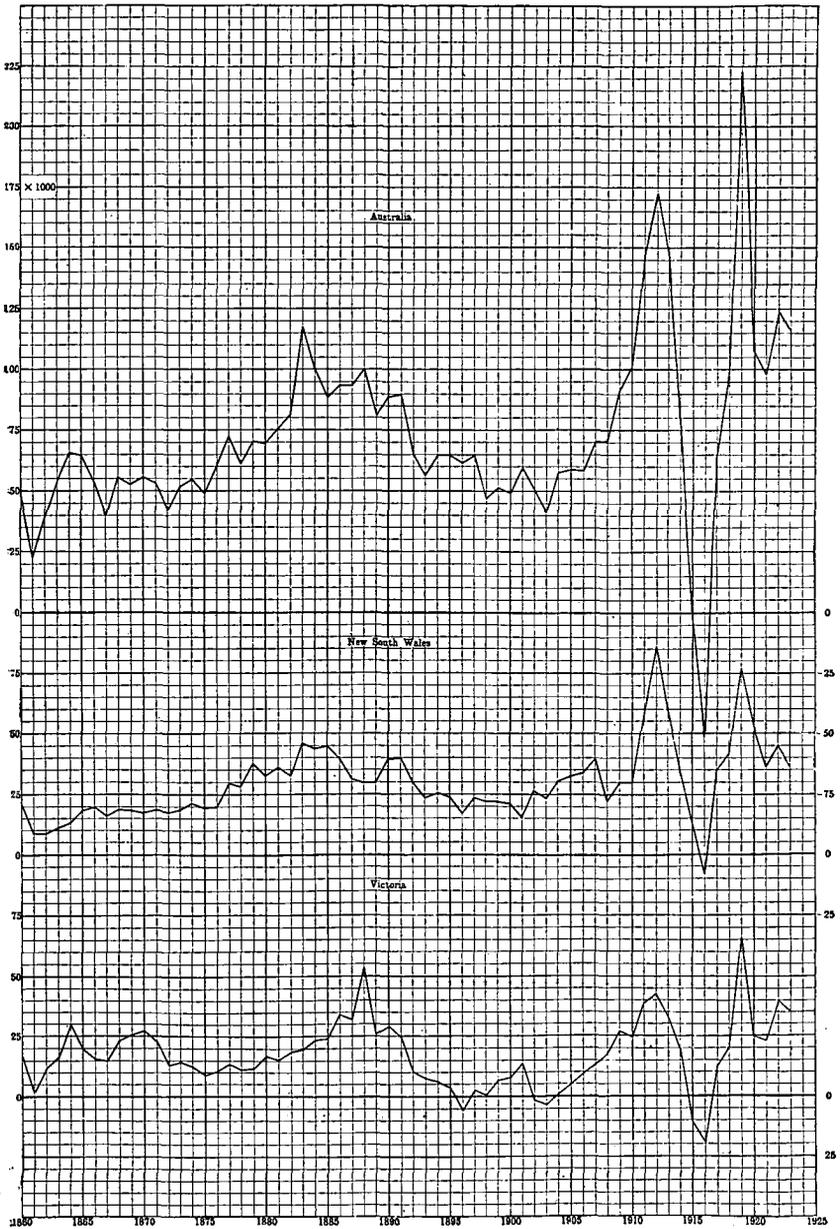
1860 ONWARD.—The base of each small square represents one year's interval for the States and Australia, and the vertical height for the States 50,000 persons, and for Australia 100,000 persons.

In both graphs the zero line for the States is the bottom line ; for Australia it is the line marked " Zero for Australia."

Where the population falls suddenly, the fall denotes the creation of a new colony, e.g., New South Wales in 1825 lost the whole population of Tasmania.

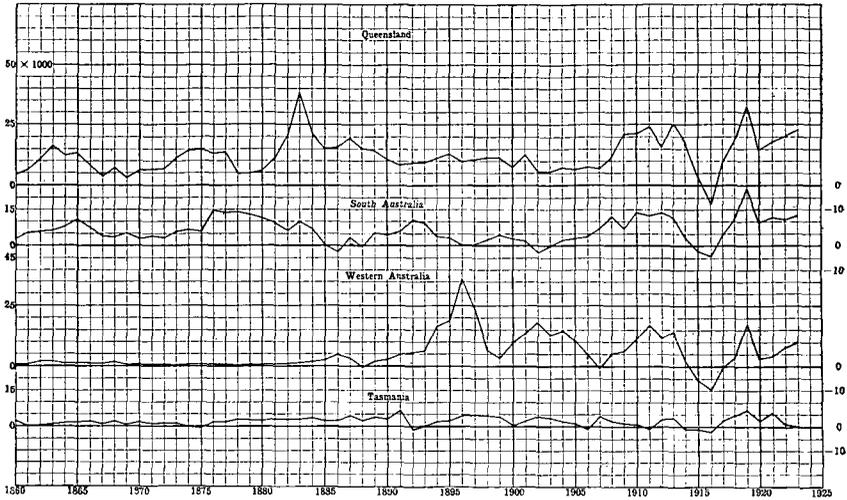
The curves are as follows :—Australia, an unbroken line ; New South Wales, — — — ; Victoria, - - - - ; Queensland, - . - . - ; South Australia, ; Western Australia, - - - - - ; Tasmania, - - - - - .

TOTAL INCREASE OF POPULATION—AUSTRALIA, AND NEW SOUTH WALES AND VICTORIA,
1860 TO 1923.



(For explanation see next page.)

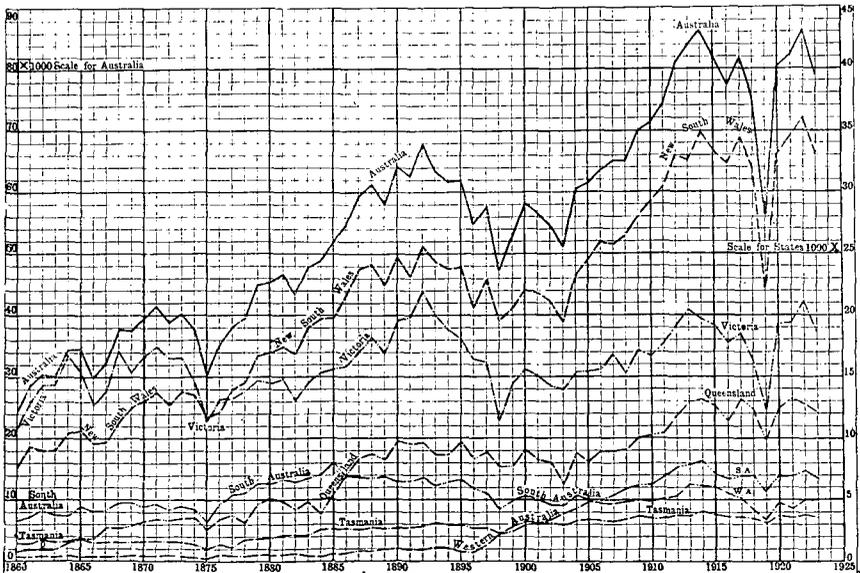
TOTAL INCREASE OF POPULATION.—QUEENSLAND, SOUTH AUSTRALIA, WESTERN AUSTRALIA AND TASMANIA, 1860 TO 1923.



EXPLANATION.—The base of each small square represents an interval of a year for both States and Australia; the vertical height represents 5,000 persons. In the first graph (on page 926) three zero lines are taken (i) for Australia, (ii) for New South Wales, and (iii) for Victoria. In the second graph four zero lines are taken (i) for Queensland, (ii) for South Australia, (iii) for Western Australia, and (iv) for Tasmania.

DECREASES in population are shown by carrying the curve in such cases below the zero line, the distance below the zero line indicating the extent of the decrease. The scales in these instances are on the right hand side of the graph.

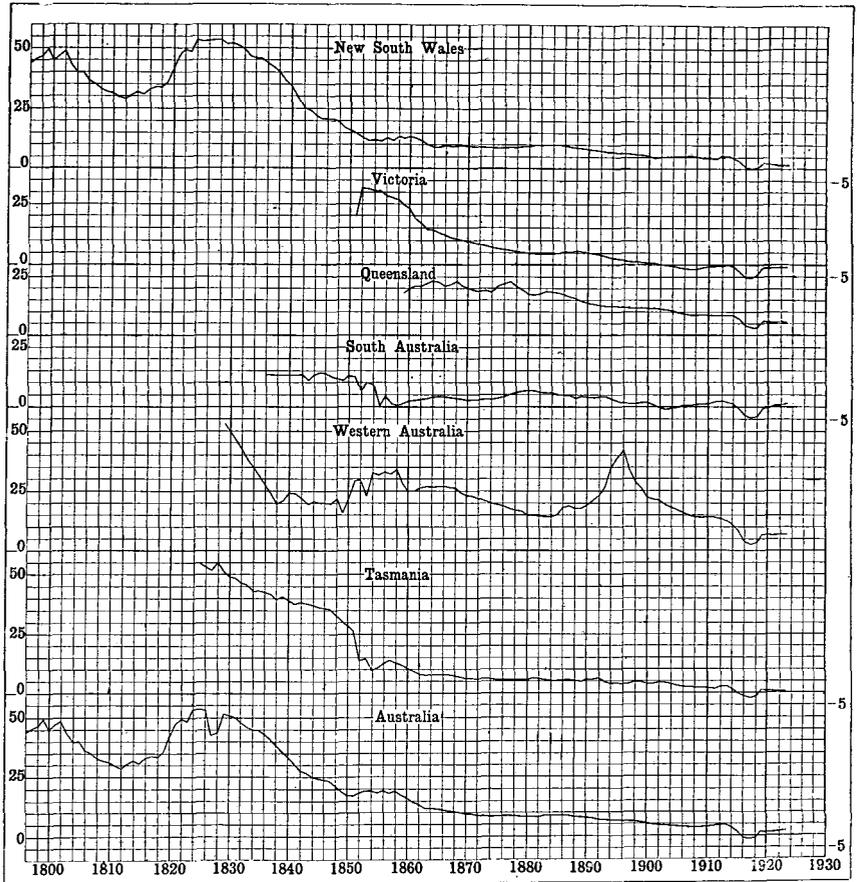
NATURAL INCREASE OF POPULATION, 1860 TO 1923.



EXPLANATION.—The base of each small square represents one year for both States and Australia, and the vertical height 1,000 persons for the States and 2,000 persons for Australia.

The distances upward from the zero line, marked 0 for both Australia and States, denote the excess of births over deaths. The scale on the left relates to Australia, and that on the right to the States. The character of the lines used is as follows:—Australia, ————; New South Wales, ————; Victoria, ————; Queensland, ————; South Australia, ————; Western Australia, ————; Tasmania, ————.

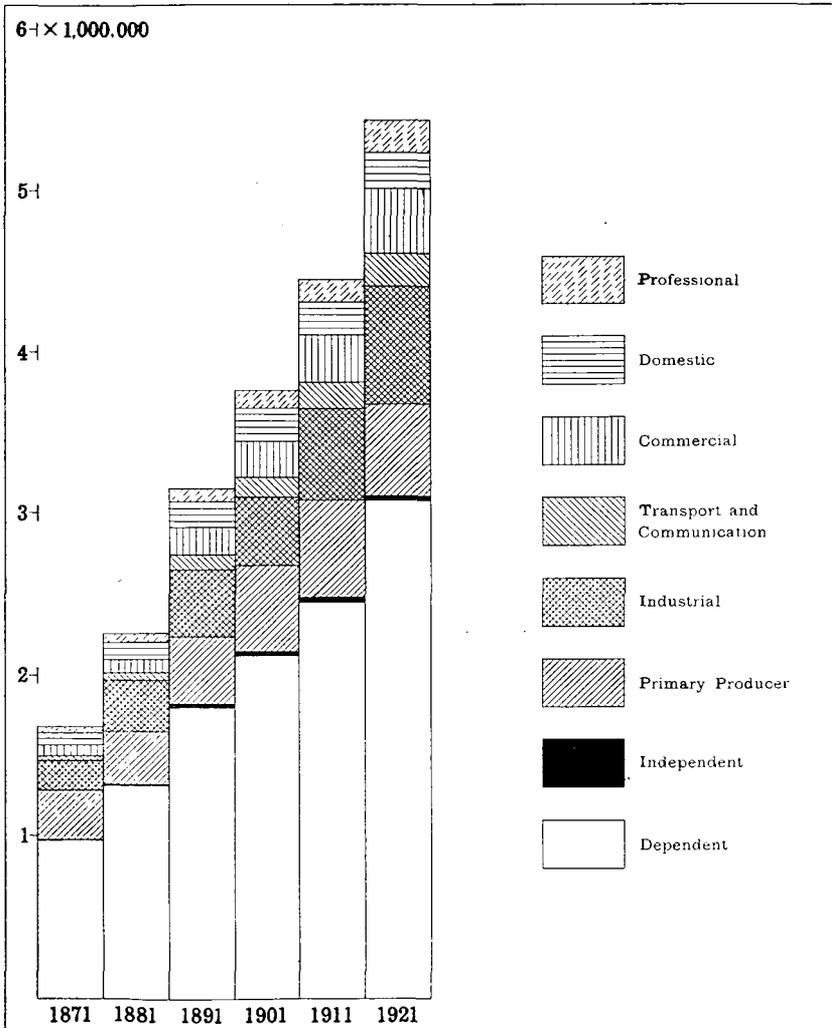
MASCULINITY OF POPULATION--1796 TO 1923.



EXPLANATION.—The base of each small square represents an interval of two years, and the vertical height an excess of five males per 100 of the population. The basic lines (shown thickened) for Australia and all the States are at zero, equivalent to a numerical equality of the sexes.

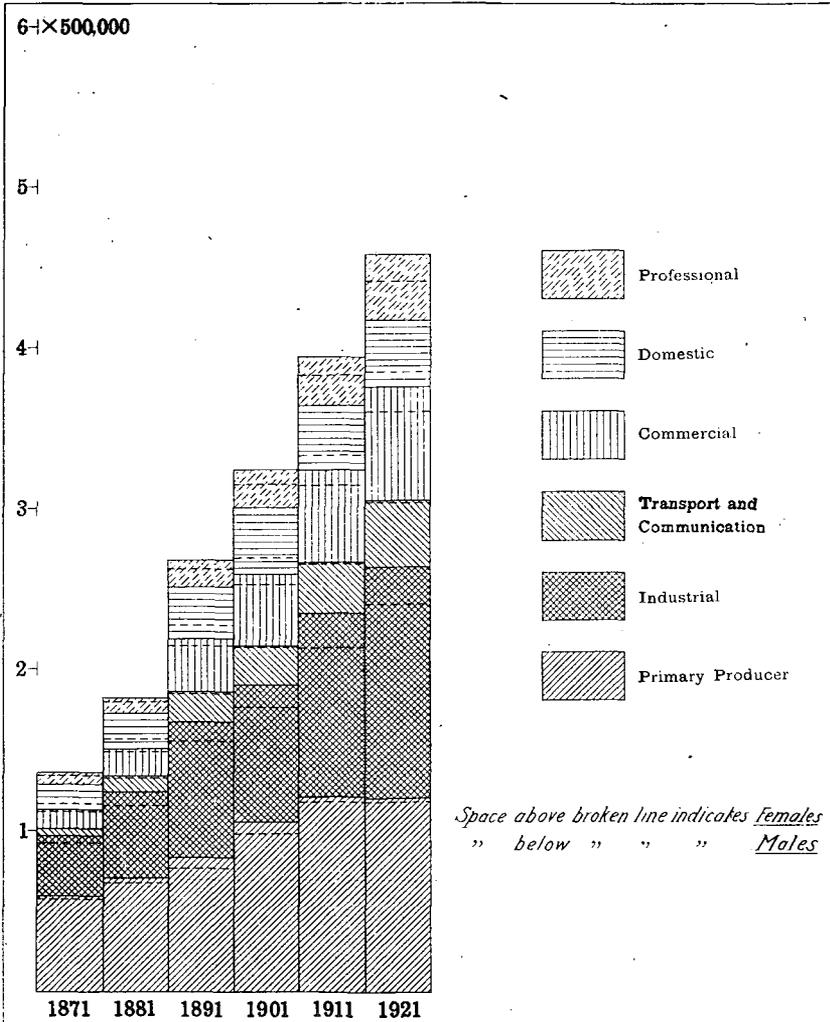
It will be noticed that in the case of Australia in the years 1916, 1917, and 1918, Victoria in the years 1903 to 1923, South Australia in the years 1902 to 1904 and 1915 to 1920, and Tasmania for the years 1915 to 1918, the curves are below the zero line, thus showing an excess of females over males.

POPULATION IN OCCUPATION CLASSES—AUSTRALIA, 1871 TO 1921.

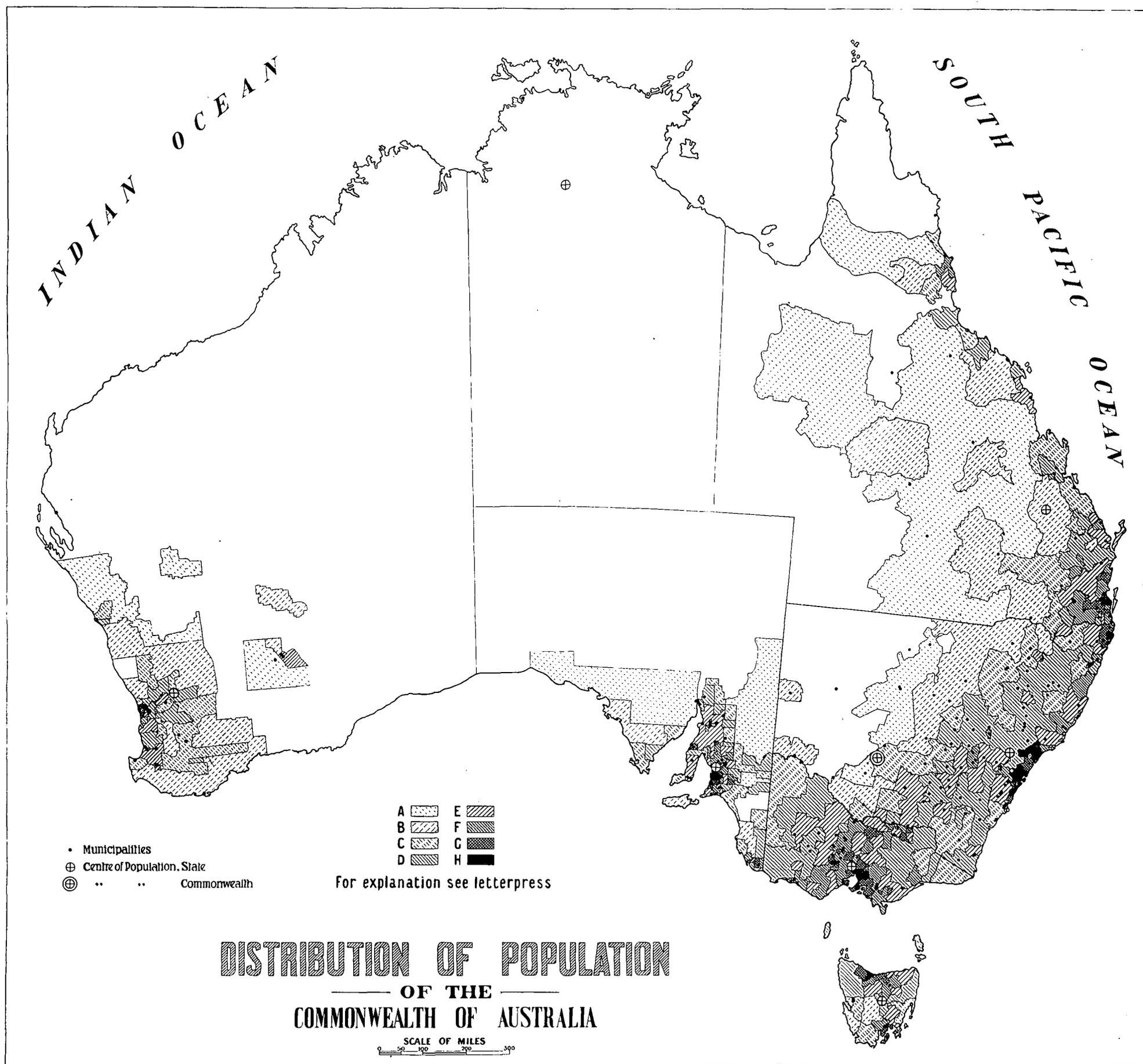


EXPLANATION.—The scale on the left-hand side indicates the population of Australia in millions. The figures at the bottom are the years in which each census was taken, since 1871. Prior to that year uniform particulars regarding occupations are not available.

BREADWINNERS IN OCCUPATION CLASSES, SHOWING SEXES—AUSTRALIA, 1871 TO 1921.



EXPLANATION.—The scale on the left-hand side indicates the population of Australia in half-millions. The figures at the bottom are the years in which each census was taken, since 1871. Prior to that year uniform particulars regarding occupations are not available.



The above map furnishes a graphic representation of the distribution of the population of Australia at the date of the Census of 1921. For this purpose the density of the population has been computed for the Local Government areas in each State, and the areas represented have been shaded in accordance with the following scale of density:—

[NOTE.—In the portions left blank the population is less than 1 per 8 sq. miles.]

A	From 1 inhabitant in 8 sq. miles to less than 1 in 4 sq. miles
B	" 1 " " 4 " " 1 in 1 sq. mile
C	" 1 " " 1 sq. mile " 2 in 1 "
D	" 2 inhabitants in 1 " " 4 in 1 "
E	" 4 " " 1 " " 8 in 1 "
F	" 8 " " 1 " " 16 in 1 "
G	" 16 " " 1 " " 32 in 1 "
H	32 inhabitants and upwards in 1 sq. mile

The cross within the concentric circles, the centre of which is practically on the longitude of Melbourne and the latitude of Sydney, represents the "centre of gravity" of the population of Australia, and the cross within the single circle in each State represents the "centre of gravity" of the population of such State.

declared Christians. It is possible that the number given above for Roman Catholics may be somewhat understated, as some of those shown in the table as "Catholics undefined" were doubtless Roman Catholics.

Similar particulars for each State of the Commonwealth may be found in the bulletins published in connexion with the Census of 1921.

**POPULATION OF AUSTRALIA, CENSUSES OF 1901, 1911, AND 1921,
ACCORDING TO RELIGION AND SEX.**

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

RELIGION.	MALES.			FEMALES.			PERSONS.		
	Census of 31st March, 1901.	Census of 3rd April, 1911.	Census of 4th April, 1921.	Census of 31st March, 1901.	Census of 3rd April, 1911.	Census of 4th April, 1921.	Census of 31st March, 1901.	Census of 3rd April, 1911.	Census of 4th April, 1921.
I. CHRISTIAN—									
Baptist ..	42,662	45,661	49,194	46,676	51,413	56,509	89,338	97,074	105,703
Catholic, Roman ..	433,504	465,803	565,029	417,116	455,622	568,973	850,620	921,425	1,134,002
Catholic, Greek ..	1,075	2,172	3,938	239	474	1,434	1,314	2,646	5,372
Catholic, Undefined ..	2,748	38,772	20,082	2,431	36,607	18,577	5,179	75,379	38,659
Church of Christ ..	11,265	17,382	24,680	12,927	21,366	29,894	24,192	38,748	54,574
Church of England ..	783,413	884,634	1,212,772	714,163	825,809	1,160,223	1,497,576	1,710,443	2,372,995
Congregational Independent	35,603	35,367	34,931	37,958	38,679	39,582	73,561	74,046	74,513
Lutheran ..	43,329	40,993	31,627	31,692	31,402	25,892	75,021	72,395	57,519
Methodist ..	251,611	269,641	306,785	252,490	278,165	325,844	504,101	547,806	632,629
Presbyterian ..	221,601	289,591	322,072	204,504	268,745	314,902	426,105	558,336	636,974
Protestant, Undefined	11,485	63,079	37,309	9,073	46,782	29,803	20,558	109,861	67,112
Salvation Army ..	14,802	12,322	14,584	16,298	14,343	17,005	31,100	26,665	31,539
Seventh Day Adventist	1,411	2,536	4,640	1,921	3,559	6,665	3,332	6,095	11,305
Unitarian ..	1,620	1,307	1,012	1,009	868	702	2,629	2,175	1,714
Others ..	10,944	15,796	20,989	10,879	15,524	21,992	21,823	31,320	42,981
Total, Christian	1,867,073	2,185,056	2,649,644	1,759,376	2,089,358	2,617,997	3,626,449	4,274,414	5,267,641
II. NON-CHRISTIAN—									
Hebrew ..	8,137	9,165	11,392	7,102	8,122	10,223	15,239	17,287	21,615
Buddhist ..		3,110	1,945		159	120		3,269	2,065
Chinese ..		3,243	3,512		40	79		3,283	3,591
Confucian ..		5,036	2,536		158	156		5,194	2,692
Mohammedan ..		3,706	2,647		202	221		3,908	2,868
Pagan ..		1,422	426		25	31		1,447	457
Others, Non-Christian	1,784	1,952	1,470	682	445	647	2,466	2,397	2,117
Total, Non-Christian	44,633	27,634	23,928	8,738	9,151	11,477	53,371	36,785	35,405
III. INDEFINITE—									
Freethinker ..	7,863	2,753	2,942	1,319	501	687	9,132	3,254	3,629
Agnostic ..	834	2,546	2,583	137	538	651	971	3,084	3,234
No Denomination ..	13,620	1,568	1,784	6,137	1,120	1,592	19,757	2,688	3,376
Others ..	638	3,531	5,787	463	2,116	3,860	1,101	5,647	9,647
Total ..	22,955	10,398	13,096	8,056	4,275	6,790	31,011	14,673	19,886
IV. NO RELIGION—									
Atheist ..	245	516	1,014	29	63	166	274	579	1,200
Others ..	5,168	7,723	15,008	1,337	1,714	4,336	6,505	9,437	19,344
Total ..	5,413	8,239	16,022	1,366	1,777	4,522	6,779	10,016	20,544
V. OBJECT TO STATE ..	28,443	55,766	29,952	13,688	27,237	16,316	42,131	83,003	46,268
VI. UNSPECIFIED ..	9,411	25,942	30,228	4,649	10,172	15,762	14,060	36,114	45,990
GRAND TOTAL ..	1,977,928	2,313,035	2,762,870	1,795,873	2,141,970	2,672,864	3,773,801	4,455,005	5,435,734

6. **Conjugal Condition.**—The number of persons whose conjugal condition was definitely stated at the Census of 4th April, 1921, was 5,421,191, of whom 2,753,740 were males and 2,667,451 were females. Of the 5,421,191 persons referred to, 1,998,662, or 36.86 per cent., were married, as compared with 33 per cent. in 1911; 237,821, or 4.39 per cent., were widowed; 8,528, or 0.15 per cent., were divorced; and 3,176,180, or 58.60 per cent., had never married. Of those who had never married, 1,725,004, or 54.31 per cent., were under 15 years of age. The proportion of married persons per cent. to the total population of the several States varied in the following order:—South Australia, 38.14; New South Wales, 37.40; Western Australia, 36.85; Victoria, 36.63; Tasmania, 35.88; Queensland, 35.32. On the basis of the adult population, the percentage of married persons in Australia was about 63.36, and in each State was approximately as follows:—Tasmania, 65.66; South Australia, 65.31; New South Wales, 64.78; Western Australia, 64.16; Queensland, 62.65; Victoria, 60.99.

POPULATION.—CONJUGAL CONDITION, CENSUS, 4th APRIL, 1921.
(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Conjugal Condition.	States.						Territories.		Australia
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North- ern.	Fed. Cap.	
MALES.									
Never married—									
Under age 15 ..	343,979	231,086	128,043	79,544	54,446	37,142	400	458	875,098
Age 15 and over	302,574	222,177	124,639	66,880	54,346	29,085	1,545	551	801,797
Total never married	646,553	453,263	252,682	146,424	108,792	66,227	1,945	1,009	1,676,895
Married ..	391,844	277,183	134,649	94,263	61,899	38,203	704	529	999,274
Widowed ..	27,851	21,279	10,001	6,657	4,528	2,009	83	28	73,341
Divorced ..	2,214	1,092	301	220	316	81	5	1	4,230
Unspecified ..	3,039	1,907	1,336	703	1,743	323	79	..	9,130
Total ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870
FEMALES.									
Never married—									
Under age 15 ..	334,385	224,850	123,543	77,092	52,948	36,302	404	382	849,906
Age 15 and over	237,693	211,833	81,993	59,421	32,895	23,212	164	168	649,379
Total never married	572,078	436,683	205,536	136,513	85,843	61,514	568	550	1,499,285
Married ..	391,886	282,494	131,658	94,535	59,736	38,279	372	428	999,388
Widowed ..	60,701	54,923	19,039	15,262	8,526	5,965	33	26	164,480
Divorced ..	2,395	1,221	187	164	294	37	..	..	4,298
Unspecified ..	1,810	1,230	583	419	1,055	242	73	1	5,413
Total ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864
PERSONS.									
Never married—									
Under age 15 ..	678,364	455,936	251,586	156,636	107,394	73,444	804	840	1,725,004
Age 15 and over	540,267	434,010	206,632	126,301	87,241	54,297	1,709	719	1,451,176
Total never married	1,218,631	889,946	458,218	282,937	194,635	127,741	2,513	1,559	3,176,180
Married ..	783,730	559,677	266,307	188,798	121,635	76,482	1,076	957	1,998,662
Widowed ..	88,552	76,207	29,040	21,919	13,054	8,874	121	54	237,821
Divorced ..	4,609	2,313	488	384	610	118	5	1	8,528
Unspecified ..	4,849	3,137	1,919	1,122	2,798	565	152	1	14,543
Total ..	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734

7. Occupations.—(i) *General*. The following table shows, for each State and Territory and for Australia as a whole, the population—males and females separately—grouped according to the various classes of occupations. The bulletins which have been published in connexion with the Census of 1921 give, in greater detail than is possible here, the occupations of the people of each State and Australia, and also give comparisons of the results of the Censuses of 1911 and 1921.

(ii) *Breadwinners*. Assuming that all of those persons whose occupations were not specified were breadwinners, there were at the Census of 1921, 2,341,083 bread-winners, representing 43.1 per cent. of the total population. At the Census of 1911, the bread-winners represented 44.5 per cent. of the population. Of the total male population, 67.8 per cent. were bread-winners in 1921, as compared with 68.9 per cent. in 1911. Of the female population the percentage of bread-winners was 17.5 in 1921, and 18.5 in 1911. The proportion of females to the total of bread-winners was almost identical at both periods, being slightly over 20 per cent.

(iii) *Industrial*. The decade 1911–1921 marks an interesting phase in the industrial development of Australia, inasmuch as, during that period, the persons engaged in manufacturing and other secondary processes became more numerous than those engaged in primary production. In 1911, the Industrial Class already had first place in New South Wales, Victoria, and South Australia, but in the other States the predominance of the Primary Class was such that, for Australia as a whole, the Primary Class was the greater. In 1921, the preponderance of the Industrial Class in New South Wales, Victoria, and South Australia had increased to such an extent, and at the same time the excess in favour of the primary industries, though still existent in Queensland, South Australia, and Tasmania, had so diminished, that the number of persons engaged in industrial occupations throughout Australia exceeded those in the primary industries by 125,865, or by nearly 21 per cent. In 1911 the primary industries employed 39,711 persons, or 7.0 per cent., more than were employed in the industrial group. Of the total of 2,316,539 breadwinners recorded in 1921, 723,526, or 31.2 per cent., belonged to the Industrial Class, as compared with 562,337, or 28.7 per cent., of all bread-winners in 1911. The principal group within the Industrial Class is composed of the manufacturing industries. During the intercensal period, the number of persons engaged in manufacturing industries increased from 363,805, or 18.5 per cent., of all bread-winners in 1911 to 441,277, or 19 per cent., of bread-winners in 1921, an increase of 77,472, or 21.3 per cent.

(iv) *Primary Producers*. As mentioned in the preceding paragraph, the primary producers have ceased to be the most numerous of the occupational classes. In 1911 the primary producers recorded at the Census numbered 586,148, or 29.9 per cent., of all bread-winners, and although the number increased to 598,604, this greater number represented only 25.8 per cent. of the bread-winners in 1921. The number of persons engaged in Agriculture increased by 18.5 per cent., which was sufficient to increase slightly the proportion which the agricultural workers bore to the total bread-winners in 1911. The number engaged in the Pastoral Industries declined from 151,861 to 142,080, or by 6.4 per cent. The number engaged in Mining was less in 1921 by 39,043, or 36.9 per cent., having fallen to 66,761 from 105,804 in 1911.

Those engaged in Forestry and in connexion with Water Supply, though still relatively few, increased substantially—the former by 24 per cent., and the latter by 53.5 per cent.

(v) *Commercial*. The number of persons recorded as engaged in commercial pursuits in Australia as a whole increased by 23.8 per cent. during the intercensal decade, the increases in the various States ranging from about 18 per cent. in Victoria and Tasmania to 30.5 per cent. in New South Wales. This class represented 15.3 per cent. of all bread-winners in Australia in 1921, as against 14.6 per cent. in 1911. The similar proportions in the various States in 1921 were:—New South Wales, 15.7 per cent.; Victoria, 16.1 per cent.; Queensland, 13.3 per cent.; South Australia, 16 per cent.; Western Australia, 14.9 per cent.; and Tasmania, 12.2 per cent.

(vi) *Domestic*. Notwithstanding an increase in the number in the Domestic Class from 201,366 in 1911 to 209,971 in 1921, the class relatively to the total bread-winners has fallen from 10.3 per cent. in 1911 to 9.1 per cent. in 1921. For Australia as a whole

the number in the Domestic Class increased by 8,605, of whom 6,868 were females. The number in this class was actually less in 1921 in Victoria by 6.4 per cent., and in Tasmania by 7.2 per cent. than in 1911, while in the other States the increases vary from 3.1 per cent. in Western Australia to 12.5 per cent. in South Australia.

(vii) *Transport and Communication.* The number of persons employed in connexion with transport and communication increased from 157,391, or 8 per cent., of all breadwinners in 1911, to 207,737, or 9 per cent. in 1921.

(viii) *Professional.* The Professional Class embraces all persons, not otherwise classed, who are mainly engaged in government and defence, and in ministering to the moral, intellectual, and social wants of the community. The number of persons in this class increased from 144,611 in 1911 to 201,319 in 1921, or by 39.2 per cent. The Professional Class represented 8.7 per cent. of all breadwinners in 1921; as compared with 7.4 per cent. in 1911.

POPULATION.—OCCUPATIONS, CENSUS OF 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

(Subject to revision.)

Occupation.	States.					Territories.		Australia	
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.		Fed. Cap.
MALRS.									
Class									
I. Professional ..	48,543	36,087	15,034	9,108	8,076	3,990	118	527	121,483
II. Domestic ..	20,786	13,640	6,297	3,853	3,870	1,411	106	9	49,972
III. Commercial ..	107,474	83,760	33,617	25,671	16,811	7,782	180	30	275,325
IV. Transport and Communication ..	81,826	51,266	28,620	18,896	13,898	5,715	261	41	200,523
V. Industrial ..	243,862	181,302	74,841	55,539	28,287	20,174	436	202	604,643
VI. Primary Pro- ducers ..	205,557	144,080	107,529	51,547	48,522	29,415	1,255	314	588,219
VII. Independent ..	5,121	4,239	1,364	827	537	575	1	..	12,664
Total Bread-winners	713,169	514,374	267,302	165,441	120,001	69,062	2,357	1,123	1,852,829
VIII. Dependents ..	349,789	235,298	129,123	80,647	55,480	37,620	378	440	888,775
Unspecified ..	8,543	5,052	2,544	2,179	1,797	1,061	86	4	21,266
Total ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870

FEMALES.

Class									
I. Professional ..	29,233	24,498	11,006	6,756	5,328	2,953	33	29	70,836
II. Domestic ..	60,904	44,585	22,487	15,797	10,169	5,889	106	62	159,999
III. Commercial ..	31,270	24,251	9,475	7,240	4,973	2,465	4	6	79,684
IV. Transport and Communication ..	2,693	2,066	1,170	597	324	361	2	1	7,214
V. Industrial ..	40,806	52,943	10,532	7,975	4,239	2,376	9	3	118,883
VI. Primary Pro- ducers ..	3,153	3,358	2,020	946	457	448	2	1	10,385
VII. Independent ..	2,876	3,378	639	376	269	221	..	..	7,769
Total Bread-winners	170,935	155,079	57,329	39,687	25,759	14,713	156	102	463,760
VIII. Dependents ..	856,463	621,081	299,338	207,101	128,910	91,227	853	903	2,205,876
Unspecified ..	1,472	396	386	105	785	97	37	..	3,223
Total ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864

POPULATION.—OCCUPATIONS, CENSUS OF 4TH APRIL, 1921—*continued.*

Occupations.	States.						Territories.		Australia
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
PERSONS.									
Class									
I. Professional	77,776	60,585	26,040	15,864	13,404	6,943	151	556	201,310
II. Domestic . . .	81,690	58,225	28,784	19,650	14,039	7,300	212	71	209,971
III. Commercial . . .	138,744	103,011	43,092	32,911	21,784	10,247	184	36	355,009
IV. Transport and Communication . . .	84,519	53,332	29,790	19,493	14,222	6,076	263	42	207,737
V. Industrial . . .	284,668	234,245	85,373	63,514	32,526	22,550	445	205	723,526
VI. Primary Pro- ducers . . .	208,710	147,438	109,549	52,493	48,979	29,863	1,257	315	598,604
VII. Independent	7,997	7,617	2,003	1,203	806	796	1	..	20,423
Total Breadwinners	884,104	669,453	324,631	205,128	145,760	83,775	2,513	1,225	2,316,589
VIII. Dependents . . .	1,206,252	856,379	428,461	287,748	184,390	128,847	1,231	1,343	3,094,651
Unspecified . . .	10,015	5,448	2,880	2,284	2,582	1,158	123	4	24,494
Total . . .	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5 435,734

(ix) *Changes in Occupation, 1871 to 1921.* The following table and the accompanying graphs show the changes which have taken place in the occupations of the people in the 50 years from 1871 to 1921.

The graph herein and table of percentages given therewith show clearly the relative decline in the number of bread-winners engaged in the primary industries and the corresponding expansion of the other industrial groups.

The arrest of progress from the financial crisis of the nineties is also brought into striking relief. From the Census of 1871 the proportion engaged in the primary group declined, and that in the industrial group rose until at the Census of 1891 the two groups were practically equal. The Census of 1901, i.e., after the financial collapse, shows a reversion to the primary from the secondary industries. A feature of the movement of that time was the transfer of workers from the industries of the eastern States to the gold-fields of Western Australia. The same cause was no doubt responsible for the increased proportion represented in 1901 by the domestic class, which, with this exception, has declined since 1881.

The curve of the development of the industrial group during the twenty years 1901-1921 is somewhat similar to that during the period 1871 to 1891, but, whereas in 1891 the proportions represented by the industrial and primary groups were equal, in 1921 the industrial group represented 31.2 per cent. of all bread-winners, and the primary group 25.8 per cent. only.

The increased proportions represented by the professional, commercial, and transport classes indicate the higher standard of life and the increasing complexity of the social structure.

**OCCUPATIONS OF THE POPULATION OF AUSTRALIA AT THE CENSUSES
1871-1921.**

Class.	1871.			1881.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
I. Professional ..	25,707	9,827	35,534	35,505	14,990	50,495
II. Domestic ..	19,532	60,152	79,684	31,591	79,573	111,164
III. Commercial ..	51,231	4,900	56,131	74,014	9,904	83,918
IV. Transport and Communication	26,024	149	26,173	40,952	493	41,445
V. Industrial ..	158,923	23,692	182,615	225,183	43,957	269,140
VI. Primary Producers	291,045	11,999	303,044	333,853	15,491	349,344
VII. Independent ..	3,848	2,105	5,953	5,248	3,530	8,778
Total Bread- winners ..	576,310	112,824	689,134	746,346	167,938	914,284
VIII. Dependents ..	337,064	642,388	979,452	469,965	868,368	1,338,333
Total ..	913,374	755,212	1,668,586	1,216,311	1,036,306	2,252,617
Class.	1891.			1901.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
I. Professional ..	57,579	27,308	84,887	70,702	41,654	112,356
II. Domestic ..	44,677	113,974	158,651	50,541	151,675	202,216
III. Commercial ..	149,891	17,762	167,653	189,285	34,743	224,028
IV. Transport and Communication	89,903	2,729	92,632	119,254	3,448	122,702
V. Industrial ..	359,726	59,719	419,445	352,860	76,152	429,012
VI. Primary Producers	385,214	34,285	419,499	496,654	39,112	535,766
VII. Independent ..	10,766	12,360	23,126	12,294	10,136	22,430
Total Bread- winners ..	1,097,756	268,137	1,365,893	1,291,590	356,920	1,648,510
VIII. Dependents ..	606,283	1,202,216	1,808,499	686,338	1,438,953	2,125,291
Total ..	1,704,039	1,470,353	3,174,392	1,977,928	1,795,873	3,773,801
Class.	1911.			1921.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
I. Professional ..	93,324	53,284	146,608	122,881	80,392	203,273
II. Domestic ..	48,871	154,054	202,925	50,546	161,113	211,659
III. Commercial ..	240,612	50,754	291,366	278,485	80,239	358,724
IV. Transport and Communication	154,009	4,845	158,854	202,824	7,264	210,088
V. Industrial ..	459,871	109,261	569,132	611,581	119,710	731,291
VI. Primary Producers	591,505	17,338	608,843	594,969	10,457	605,426
VII. Independent ..	17,286	9,116	26,402	12,809	7,813	20,622
Total Bread- winners ..	1,605,478	398,652	2,004,130	1,874,095	466,988	2,341,083
VIII. Dependents ..	707,557	1,743,318	2,450,875	888,775	2,205,876	3,094,651
Total ..	2,313,035	2,141,970	4,455,005	2,762,870	2,672,864	5,435,734

NOTE.—In this table those cases for which no occupation was stated have been distributed proportionately over the various classes of bread-winners.

8. **Grade of Employment.**—(i) *General.* The term “grade of employment” indicates the capacity in which persons are employed in the various branches of industry. The grades recorded are five in number, viz. :—(a) Employer, (b) Working on own account, (c) Assisting but not receiving wages or salary, (d) Receiving wages or salary, (e) Unemployed. In addition to these categories provision is made for (f) Grade not applicable—which consists mainly of dependents and persons of independent means not engaged in gainful occupations, and (g) Grade not stated.

Preliminary results similar to those given in the following table have already been published in the Census bulletins, where they were shown in comparison with the results from the Census of 1911.

(ii) *Employers and Workers on Own Account.*—A marked feature of the comparison was the decline in the number of employers, and the increase in the number of those working on their own account. These changes were common to all the States. For Australia as a whole the number of employers fell from 212,583 in 1911 to 139,623 in 1921, or by 34.3 per cent., while the number working on their own account increased by nearly 93 per cent. from 177,114 in 1911 to 342,321 in 1921. From these results it would appear that many of the small employers of 1911 had dispensed with paid assistance in 1921. It is probable, also, that the establishment of returned soldiers in small businesses and other ventures increased the number of workers on their own account.

(iii) *Assisting but not Receiving Wages.*—The number of those assisting but not receiving wages or salary—mainly sons, daughters, or other relatives of the principal—fell by 54.4 per cent., from 76,370 in 1911 to 34,792 in 1921.

(iv) *Wage Earners.*—In considering the extent of the wage and salary-earning portion of the community, account must be taken of the persons returned as unemployed at the date of the Census, since, ordinarily, these persons are wage or salary earners. Combining the two grades, therefore, it appears that of the total population of Australia on the 4th April, 1921, the wage and salary earners represented 31 per cent. Excluding those persons to whom grade of employment is not applicable and those whose grade was not stated, it may be said that 74 per cent. of male bread-winners and 86 per cent. of the female bread-winners were wage or salary earners.

(v) *Unemployed.*—The number returned as unemployed in 1921 was nearly three times as great as in 1911, and these results are substantially confirmed by figures collected periodically by the Labour and Industrial Branch of this Bureau.

POPULATION.—GRADE OF EMPLOYMENT, AUSTRALIA, CENSUS OF 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Grade.	States.						Territories.		Australia
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
MALES.									
Employer ..	44,700	40,636	18,150	12,625	8,539	4,358	99	35	129,142
Working on own account ..	104,483	82,436	48,423	27,206	19,984	13,049	572	138	296,291
Assisting but not receiving wages or salary ..	9,710	10,741	5,158	2,721	1,413	1,862	10	5	31,620
Receiving wages or salary ..	455,959	315,390	151,301	104,858	76,533	42,077	1,281	733	1,148,132
Unemployed ..	54,028	32,432	30,392	9,232	7,671	3,554	342	24	137,675
Grade not applicable ..	391,753	266,665	142,786	89,606	61,113	41,605	433	629	994,590
Grade not stated ..	10,868	6,424	2,759	2,019	2,025	1,238	84	3	25,420
Total ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870

POPULATION.—GRADE OF EMPLOYMENT, AUSTRALIA, CENSUS OF
4th APRIL, 1921—*continued.*

Grade.	States.						Territories.		Australia
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North- ern.	Fed. Cap.	
FEMALES.									
Employer ..	3,192	4,069	1,420	790	661	347	..	2	10,481
Working on own account ..	17,280	14,607	5,318	4,288	2,934	1,588	13	2	46,030
Assisting but not re- ceiving wages or salary ..	1,256	992	571	201	85	67	..	..	3,172
Receiving wages or salary ..	130,294	118,035	44,305	31,312	19,146	11,440	133	96	351,761
Unemployed ..	7,612	7,576	2,956	1,348	1,400	509	3	1	21,405
Grade not applicable	866,379	629,065	301,818	208,432	130,272	91,837	896	904	2,229,653
Grade not stated ..	2,857	2,212	615	522	956	199	1	..	7,362
Total ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864

PERSONS.									
Employer ..	47,892	44,705	19,570	13,415	9,200	4,705	99	37	139,623
Working on own account ..	121,763	97,043	53,741	31,494	22,918	14,637	585	140	342,321
Assisting but not re- ceiving wages or salary ..	10,566	11,733	5,729	2,922	1,498	1,929	10	5	31,792
Receiving wages or salary ..	586,253	433,425	195,606	136,170	95,679	53,517	1,414	829	1,502,893
Unemployed ..	61,640	40,008	33,348	10,580	9,071	4,063	345	25	159,080
Grade not applicable	1,258,132	895,730	444,604	298,038	191,385	133,492	1,329	1,533	3,224,243
Grade not stated ..	13,725	8,636	3,374	2,541	2,981	1,437	85	3	32,782
Total ..	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734

9. Unemployment.—(i) *Causes.* In the preceding table it was shown that at the Census of the 4th April, 1921, there were in Australia 1,661,973 wage or salary earners, of whom 159,080 were unemployed. The following table gives the causes of unemployment so far as they were ascertained. Of the 159,080 returned as unemployed, 7,416, or 4.7 per cent., failed to state the cause. For the remainder, approximately 50 per cent. of the unemployment was due to scarcity of work, 29 per cent. to illness or accident, 3 per cent. to industrial disputes, 1.5 per cent. to old age, and 17 per cent. to other causes.

POPULATION.—CAUSES OF UNEMPLOYMENT, AUSTRALIA, CENSUS OF
4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Particulars.	Scarcity of Em- ployment.	Illness.	Accident.	Industrial Dispute.	Old Age.	Other Cause.	Cause not Stated.	Total.
Males ..	68,751	29,799	4,556	4,249	2,068	22,001	6,251	137,675
Females ..	6,092	9,551	246	290	71	3,990	1,165	21,405
Persons ..	74,843	39,350	4,802	4,539	2,139	25,991	7,416	159,080

(ii) *Duration.* At the Census of 1921 persons who were unemployed on Saturday, 2nd April, 1921, were asked to state the number of working days during which they had been out of work, but 24,148, or 15.2 per cent., of those concerned failed to comply with the request. The results of the inquiry are summarized in the following table. Of the 134,932 cases for which the duration was stated, approximately 46 per cent. were unemployed under five weeks, 17.2 per cent. from five to ten weeks, 10.6 per cent. from ten to fifteen weeks, and 26.2 per cent. above fifteen weeks :—

POPULATION.—DURATION OF UNEMPLOYMENT, AUSTRALIA, CENSUS OF 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS.)

Duration of Unemployment in Working Days.	4th April, 1921.			Duration of Unemployment in Working Days.	4th April, 1921.		
	Males.	Females.	Persons.		Males.	Females.	Persons.
Under 10 ..	22,029	3,419	25,448	70-79 ..	4,181	673	4,854
10-19 ..	18,910	2,870	21,780	80-89 ..	2,405	341	2,746
20-29 ..	12,787	1,983	14,770	90 and over	30,901	4,513	35,414
30-39 ..	10,173	1,591	11,764	Not stated ..	20,671	3,477	24,148
40-49 ..	6,103	997	7,100				
50-59 ..	3,759	624	4,383				
60-69 ..	5,756	917	6,673	Total ..	137,675	21,405	159,080

(iii) *Unemployment in States.* Particulars regarding unemployment in the separate States at the time of the Census may be found in the bulletins relating to the Census of 1921.

§ 9. Dwellings.

[NOTE.—Information concerning dwellings will be found in detail in Census Bulletins, Nos. 19 to 25.]

1. *General.*—The following table presents a summary for the States and Territories and for the whole of Australia of the results relating to dwellings which were obtained from the Census of 1921. With those in course of construction on the 4th April, 1921, there were in Australia 1,210,790 dwellings—including hotels, boarding-houses, hospitals, gaols and any structure for the purpose of shelter as a dwelling, but excluding wagons used as camps, and dwellings occupied solely by full-blood aboriginals. The number of dwellings per square mile varies from one dwelling to every 433 square miles in the Northern Territory to 1.87 dwellings per square mile (approximately one dwelling to every half a square mile) in Tasmania, the average throughout Australia being 0.41 dwellings to the square mile. Of the total dwellings referred to above, 51,166 were unoccupied. This, however, does not necessarily imply that all dwellings so described were “to let” but, merely, that they had no inmates on the night of the Census. The average number of rooms per occupied dwelling ranged among the States from 5.33 in Victoria to 4.59 in Western Australia, the average for Australia being 4.96 as compared with 5.18 in 1911. The number of persons per occupied dwelling varied from 4.85 in New South Wales to 4.52 in Western Australia, the average for Australia being 4.71, as compared with 4.82 in 1911. From the foregoing it may be deduced that throughout Australia there were 0.95 persons per room in 1921, as against 0.93 persons in 1911.

2. *Occupied Private Dwellings.*—It is considered that a better index to the housing conditions of the people is obtained by excluding all other than occupied *private* dwellings. The following table shows that of the 1,153,235 occupied dwellings in Australia, 1,107,010 were private dwellings. These private dwellings contained an average of 4.94 rooms in

1921, as compared with 4.93 in 1911, and had an average of 4.40 inmates, as against 4.53 in 1911. It would appear, therefore, that approximately the number of inmates per room in occupied private dwellings throughout Australia has fallen from 0.92 in 1911 to 0.89 in 1921.

3. *Private Dwellings occupied by Tenants.*—The proportion of private dwellings which were occupied by tenants throughout Australia has fallen from 47.78 per cent. in 1911 to 43.67 in 1921. This fact is due mainly to the increase in the number of dwellings occupied by rent purchasers, which has been brought about by the policies of the State Governments of advancing moneys for the building of homes, and by the activities of the War Service Homes Commissioners.

DWELLINGS.—AUSTRALIA, CENSUS, 4th APRIL, 1921.

(EXCLUSIVE OF DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

(Subject to revision.)

Particulars of Dwellings.	States.						Territories.		Australia
	New South Wales.	Victoria.	Q'land.	South Aust.	West. Aust.	Tasmania.	North-ern.	Federal Cap.	
All Dwellings									
Occupied (a) ..	432,976	331,290	160,139	107,914	73,548	45,818	1,074	526	1,153,285
Unoccupied ..	18,619	14,994	6,747	4,431	3,274	2,934	138	29	51,166
Being Built ..	2,724	2,009	347	674	289	295	1	..	6,339
Total Dwellings ..	454,319	348,293	167,233	113,019	77,111	49,047	1,213	555	1,210,790
Number of Dwellings per square mile ..	1.47	3.96	0.25	0.30	0.08	1.87	.002	0.59	0.41
Rooms per Occupied Dwelling ..	5.23	5.33	5.31	5.09	4.59	4.70	2.80	5.29	4.96
Population per Occupied Dwelling ..	4.85	4.62	4.72	4.59	4.52	4.67	3.60	4.89	4.71
Occupied <i>Private</i> Dwellings									
..	414,468	318,936	153,313	104,295	70,185	44,432	1,005	376	1,107,010
Rooms per Dwelling ..	4.97	5.11	4.94	4.90	4.22	4.80	2.70	4.85	4.94
Inmates per Dwelling ..	4.52	4.34	4.40	4.34	4.11	4.44	2.83	4.39	4.40
Inmates per Room ..	0.92	0.85	0.89	0.89	0.97	0.93	1.05	0.91	0.89
Percentage occupied by Tenants ..	49.72	42.46	33.59	40.67	36.95	47.30	25.31	65.18	43.67
Weekly Rental Value(b)	18s. 2d.	16s. 11d.	17s. 3d.	14s. 7d.	14s. 2d.	12s. 0d.	14s. 4d.	9s. 2d.	16s. 7d.

(a) Excluding Wagons and Camps.

(b) Average weekly rental value of private dwellings occupied by tenants.

4. *Private Dwellings in Urban and Rural Divisions.*—(i) *General.* The following table gives a comparison of the particulars relating to *occupied private dwellings* in the Urban and Rural Divisions of Australia. The table shows that, while the average number of rooms and the average number of inmates per occupied private dwelling are greater in the Metropolitan Area than in the Urban Provincial or Rural Districts, the average number of inmates per room is least in the Metropolitan Districts.

(ii) *Tenants.* The proportion of occupied private dwellings occupied by tenants is greatest in the Metropolitan Areas, where it represents 53.17 per cent. of all dwellings for which the mode of occupancy was stated, as against 46.05 per cent. in the Urban Provincial Districts, and 31.02 per cent. in the Rural Districts. There is, however, in most cases, an essential difference between the economic status of the dwelling in urban districts and in rural districts, inasmuch as in urban districts the dwelling is most frequently a purely residential entity, whereas in rural districts the productive property of the land—to which the dwelling is an appurtenance—is most often the incentive to ownership.

(iii) *Rental Value.* The fact relating to private dwellings which shows the greatest divergence between the Metropolitan and other divisions of the country is the weekly rental value, which varies from an average of 10s. 1d. in the Rural Districts to 20s. 8d. in the Metropolitan Areas.

OCCUPIED PRIVATE DWELLINGS.—URBAN AND RURAL, AUSTRALIA, CENSUS, 4th APRIL, 1921.

(Subject to revision.)

Particulars.	Urban.		Rural.	Total.
	Metropolitan.	Provincial.		
Occupied Private Dwellings	467,913	207,807	431,290	1,107,010
Rooms per dwelling	5.15	5.07	4.66	4.94
Inmates per dwelling	4.42	4.40	4.39	4.40
Inmates per room	0.86	0.87	0.94	0.89
Percentage occupied by tenants	53.17	46.05	31.02	43.67
Weekly rental value (a)	20s. 8d.	14s. 0d.	10s. 1d.	16s. 7d.

(a) Average weekly rental value of private dwellings occupied by tenants.

5. *Private Dwellings in Metropolitan Areas.*—(i) *General.* The following table gives a comparison of the results, ascertained by the Census of 1921, relating to private dwellings in the Metropolitan Areas of the various States. The number of rooms per dwelling varied from a minimum of 4.67 in Perth to a maximum of 5.47 in Brisbane—a difference of 17 per cent. ; whereas the number of inmates per dwelling varied from 4.31 in Adelaide to 4.52 in Sydney—a difference of only 5 per cent. The average number of inmates per room was highest in Perth, with 95 persons to every hundred rooms, and lowest in Brisbane, where there were 81 persons to every hundred rooms.

(ii) *Tenants.* The proportion of private dwellings occupied by tenants in the various Metropolitan Areas ranged from 39.18 per cent. in Brisbane to 59.22 per cent. in Sydney, the average for the six capitals being 53.17 per cent., as against 63.48 per cent. in 1911. As already mentioned, the decline during the decade 1911–1921 in the proportion of tenants was due largely to the action of the State Governments and of the War Service Homes Commissioners in facilitating the acquirement of houses under the system of purchase by instalment.

(iii) *Rental Value.* The weekly rent of private dwellings occupied by tenants ranged from 17s. 3d. per week in Brisbane and Hobart to 23s. per week in Sydney.

OCCUPIED PRIVATE DWELLINGS IN METROPOLITAN AREAS.—CENSUS, 4th APRIL, 1921.

(Subject to revision.)

Particulars of Dwellings.	Sydney and Suburbs.	Melbourne and Suburbs.	Brisbane and Suburbs.	Adelaide and Suburbs.	Perth and Suburbs.	Hobart and Suburbs.	Total.
Occupied Private Dwellings	173,322	158,001	42,378	53,741	29,741	10,730	467,913
Rooms per Dwelling	5.14	5.19	5.47	5.06	4.67	5.10	5.15
Inmates per Dwelling	4.52	4.34	4.44	4.31	4.43	4.34	4.42
Inmates per room	0.88	0.84	0.81	0.85	0.95	0.85	0.86
Percentage occupied by Tenants	59.22	54.14	39.18	46.64	43.57	55.02	53.17
Weekly Rental Value (a)	23s. 0d.	20s. 0d.	17s. 3d.	17s. 7d.	17s. 9d.	17s. 3d.	20s. 8d.
Weekly Rental Value per Room	4s. 6d.	3s. 10d.	3s. 2d.	3s. 6d.	3s. 10d.	3s. 5d.	4s. 0d.

(a) Average weekly rental value of private dwellings occupied by tenants.

§ 10. Immigration.

(A) The Encouragement of Immigration into Australia.

1. **General.**—Various measures have from time to time been adopted by the Commonwealth and State Governments, as well as by private societies and individuals, to promote the immigration of suitable settlers into Australia. The activities of the Commonwealth Government (which is vested with constitutional powers in regard to immigration under section 51, xxvii., of the Constitution Act 1900) with respect to the encouragement of immigration, were formerly confined to advertising the resources and attractions of Australia by means of exhibitions, and in handbooks, newspapers, and periodicals. During the war, immigration operations were almost entirely suspended.

2. **Joint Commonwealth and States' Immigration Scheme.**—In 1920 an arrangement was arrived at between the Commonwealth and State Governments under which the Commonwealth is responsible for the recruiting of immigrants abroad and for their transport to Australia; whilst the State Governments advise the Commonwealth as to the numbers and classes of immigrants which they are prepared to receive. Briefly stated, the Commonwealth selects the immigrant according to the requirements of the State concerned and brings him to Australia; and on his arrival the State Government assumes the responsibility for placing him in employment or upon the land. Incidentally, the Commonwealth undertakes all publicity and propaganda in connexion with the encouragement of immigration.

3. **Assisted and Nominated Passages.**—During the period 1st February, 1924, to 31st March, 1925, the British and Commonwealth Governments will jointly donate the following contributions towards the passages of approved settlers for Australia from the United Kingdom:—Persons 16 years of age and under 50 years, £11 each; children 12 years and under 16 years, £16 10s. each; children under 12 years, £16 10s. Allowing for this financial assistance, children 12 years and under 16 years, who are ordinarily charged for by the shipping companies as adult passengers, will merely require to pay half fare, whilst children under 12 years will travel free. Persons who have previously resided in the Commonwealth are not eligible for assistance. In addition to the contributions set out herein, loans of the balance of passage money are granted by the Governments concerned in special cases. Persons entitled to assisted passages are divided into two classes—"Selected" and "Nominated." "Selected" immigrants are those who are originally recruited abroad by the Commonwealth Government. "Nominated" immigrants are those nominated by persons resident in Australia, and the nominators, who must submit their applications through the officers in charge of the State Immigration Offices in the various capital cities, are held responsible for their nominees upon arrival, so that they shall not become a burden upon the State.

4. **Oversea Settlement Committee's Free Passage Scheme.**—Free passages under this scheme are no longer granted except to the wives and certain dependent children of British ex-service men. Such ex-service men, who have already come to Australia under the free passage scheme, may nominate their wives and children through the State Immigration Offices for free passages any time within two years of the departure of the nominators from the United Kingdom.

Intending settlers or immigrants may, on application, obtain full information from the Director of Migration and Settlement, Australia House, The Strand, London, W.C.2.; or from the Deputy Director, Commonwealth Immigration Office, 65 Elizabeth-street, Melbourne.

5. **Results of Assisted Immigration.**—In the earlier days of settlement in Australia, State-assisted immigration played an important part. Such assistance ceased for the time being in Victoria in 1873, in South Australia in 1886, and in Tasmania in 1891. In New South Wales, general State-aided immigration was discontinued in the year 1887, but those who arrived under that system and were still residing in New South Wales, might, under special regulations, send for their wives and families. A certain amount of passage money, graduated according to the age of the immigrant, had to be paid in each case. Under the provisions of these regulations, immigrants to the number of 1,994

received State assistance during the years 1888 to 1899 inclusive. From 1900 to 1905 no assistance of any kind was given, but from 1906 onwards assistance has again been granted. In Queensland and Western Australia, such assistance, although varying considerably in volume from year to year, has been accorded for many years past. Assistance to immigrants, which in the case of Victoria had practically ceased in 1873, has recently been again afforded. In South Australia the principle of State assistance was again introduced in 1911, and in Tasmania in 1912.

The number of assisted immigrants for the years 1914 to 1923, and the total from the earliest times up to the end of 1923 are given in the following table :—

ASSISTED IMMIGRATION.—1914 TO 1923, AND UP TO THE END OF 1923.

State	N.S.W.	Victoria.	Qld.	S. Aust.	W.A.	Tas.	Total.
No. Assisted during 1914	6,655	7,496	4,096	644	1,729	185	20,805
" " " 1915	1,695	1,724	1,599	79	635	64	5,796
" " " 1916	649	327	300	..	103	18	1,397
" " " 1917	239	146	91	..	26	2	504
" " " 1918	199	101	100	..	26	..	426
" " " 1919	67	139	39	..	..	..	245
" " " 1920	3,211	2,763	1,272	..	1,499	314	9,059
" " " 1921	4,980	3,987	1,147	572	3,381	615	14,682
" " " 1922	7,087	9,145	1,711	1,531	4,373	411	24,258
" " " 1923	5,005	9,504	2,377	1,711	7,654	394	26,645
Total to end of 1923 ..	292,284	212,293	220,693	106,521	58,728	23,917	914,436

(B) The Regulation of Immigration into Australia.

1. *Pre-Federal Restrictions.*—(i) *Alien Races.* For many years prior to federation the States had imposed certain restrictions upon the admission of persons desirous of becoming permanent residents. The influx of Chinese, for example, was limited by stringent statutes, and later, general Acts were passed in some of the States which restricted the immigration of other—principally Asiatic—races.

(ii) *Undesirable Immigrants.* Further restrictions were placed upon the admission of persons who were undesirable as inhabitants, either for medical or moral reasons, or who were likely to become an economic burden upon the community.

2. *Powers and Legislation of the Commonwealth.*—(i) *Constitutional.* Under Part V., Sec. 51, xxvii. and xxviii. of the Commonwealth Constitution Act the Parliament of the Commonwealth is empowered to make laws with respect to immigration and emigration and the influx of criminals. (See page 27 hereinbefore.)

(ii) *Legislation.* The powers above specified have been exercised by the Commonwealth Government, and the laws passed in pursuance thereof supersede the previously existing State laws. The present Commonwealth Acts dealing with Immigration are the Immigration Act 1901–1920 and the Contract Immigrants Act 1905. A summary of the provisions of these Acts (excepting the provisions of the Amending Immigration Act 1920, which are given below), containing particulars regarding the admission of immigrants, prohibited immigrants, the liabilities of shipmasters and others, and kindred matters will be found in preceding Year Books (see Year Book, No. 12, pp. 1166 to 1168).

3. *Amending Immigration Act 1920.*—The principal provisions of this Act, which came into operation as from the 2nd December, 1920, are those prohibiting the entry of (a) any person who advocates the overthrow by force or violence of the established Government of the Commonwealth or of any State or of any other civilized country, or of all forms of law, etc. ; (b) for a period of five years, any person of German, Austro-German, Bulgarian, or Hungarian parentage and nationality, or Turk of Ottoman race ; (c) any person over 16 years of age who, on demand by an officer, fails to prove that he is the holder of a valid passport ; (d) any person who has been deported under any Act.

Section 9 of the War Precautions Act Repeal Act also provides for prohibiting the entry of any British subject who upon being required to make and subscribe an oath or affirmation of loyalty fails to do so.

4. **Compilation of Statistics.**—The statistics relative to immigration, which are presented in this Chapter, have been compiled by the Department of Home and Territories in accordance with the provisions of the Immigration Act 1901–20. The number of persons admitted without test includes Australian citizens who have been abroad, and other persons landing in Australia irrespective of the length of time which they propose to stay. Certain persons who are permitted to land (under security for their subsequent departure) pending transhipment to another country are not included. The majority of the persons of Asiatic or other non-European nationality shown in the table are former residents of Australia who have returned from visits abroad, or are persons who have been admitted temporarily under exemption certificates, for business, educational, or other purposes. The Immigration Act 1901–20 does not require any statistical record of the departures from Australia.

It may be mentioned, however, in this connexion, that the Bureau of Census and Statistics, for the purpose of estimating the population of Australia, compiles—from data collected by the Department of Trade and Customs—statistics of both arrivals into and departures from Australia. For this compilation, all persons leaving an oversea ship, and all persons joining an oversea ship, in any Australian port, are counted. Consequently the number of arrivals as recorded respectively under the Immigration Act and by this Bureau are not in complete agreement. During the last five years the number of persons who desired but were not permitted to land was 27 in 1919; 26 in 1920; 29 in 1921; 18 in 1922; and 49 in 1923.

5. **Persons Admitted Without Dictation Test.**—The following table shows the number and nationality of persons admitted during the years 1919 to 1923 without passing the dictation test:—

**PERSONS ADMITTED WITHOUT DICTATION TEST.—NATIONALITIES,
AUSTRALIA, 1919 TO 1923.**

Nationality.	1919.	1920.	1921.	1922.	1923.
EUROPEANS—					
Austrians	(a)22	3	(e)5	(e)8	(e)2
Belgians	31	90	73	72	84
British	(b)217,037	(c)95,879	76,518	84,263	85,440
Danes	124	189	201	179	172
Dutch	526	699	321	233	219
French	815	785	529	525	378
Germans	(a)54	(d)115	(e)76	(e)86	(e)130
Greeks	93	131	258	472	922
Italians	116	631	1,278	3,367	1,739
Maltese	47	88	132	373	323
Poles	2	27	51	45	58
Portuguese	9	9	8	2	4
Rumanians	6	10	9	14	14
Russians	142	121	100	116	256
Scandinavians	448	437	487	361	491
Spaniards	37	37	83	51	85
Swiss	30	90	149	169	160
Turks	(a)1	..	..	4	2
Other Europeans	106	197	344	(f)339	(g)587
AMERICANS—					
North Americans	1,102	1,698	1,577	1,372	1,470
South Americans	8	16	35	14	13
American Indians .. ..	..	6	..	..	..
Negroes	5	5	6	5	13
West Indians	5	..	7	3	6

(a) Principally prisoners of war and their families. (b) Including 163,756 troops and nurses.
(c) Including 11,540 returned troops and nurses. (d) Landed for transhipment or under special authority.
(e) Landed on exemption certificates or under special authority. (f) Including 110 Finns and 125 Jugo-Slavs. (g) Including 154 Finns and 240 Jugo-Slavs.

PERSONS ADMITTED WITHOUT DICTATION TEST.—NATIONALITIES,
AUSTRALIA, 1919 TO 1923—*continued.*

Nationality.	1919.	1920.	1921.	1922.	1923.
ASIATICS—					
Arabs .. .. .	..	2	4	5	3
Chinese	1,495	1,753	1,333	1,964	1,974
Cingalese	7	12	19	12	12
Filipinos	18	10	13	10	25
Hindoos	203	241	163	213	129
Japanese	521	345	282	390	222
Javanese	27	12	6	8	4
Malays	320	207	44	39	29
Syrians	6	56	39	79	147
Timorese .. .. .	..	282	34	371	243
OTHER RACES—					
Maoris .. .. .	..	1	..	..	..
Mauritians .. .. .	..	5	..	..	..
Pacific Islanders	24	47	46	47	43
Papuans	135	30	170	368	282
Unspecified	(a)214	85	44	39	44
Total	223,736	104,351	84,944	95,618	95,725

(a) Mainly Timorese.

6. Departures of Persons of Non-European Races.—The following table shows the number of persons of non-European races who left Australia during the years 1919 to 1923 :—

DEPARTURES OF PERSONS OF NON-EUROPEAN RACES—AUSTRALIA,
1919 TO 1923.

Nationality.	1919.	1920.	1921.	1922.	1923.
American Negroes	1	11	7	4	4
West Indians	3	10	2	2	7
Afghans .. .. .	..	..	..	..	1
Arabs	5	5	4	6	3
Chinese	1,968	2,115	2,912	2,189	2,310
Cingalese	10	11	20	5	10
Filipinos	98	53	19	25	23
Hindoos	208	227	338	194	157
Japanese	526	554	626	359	436
Javanese	22	24	8	4	2
Malays	129	144	209	79	92
Pacific Islanders	23	51	43	46	38
Papuans	66	178	82	146	359
Others	105	128	330	154	214
Total	3,164	3,511	4,600	3,213	3,656

7. Immigration—States, etc.—The following table shows the immigration into each of the Australian States from 1919 to 1923 :—

IMMIGRATION.—STATES, ETC., 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Australia.
1919	96,331	84,751	6,007	16,897	18,507	1,163	80	223,736
1920	69,135	19,302	4,151	4,877	6,803	1	82	104,351
1921	54,578	15,883	4,269	3,143	7,029	6	36	84,944
1922	54,205	22,340	5,948	4,043	9,062	..	20	95,618
1923	51,096	22,867	5,950	4,257	11,538	..	17	95,725

(C) Passports.

Provision is made in the Immigration Act 1920 for the production of passports by all persons over 16 years of age who desire to enter Australia. Similarly, the Passports Act 1920 provides that no person over the age of 16 years shall leave Australia unless—

- (a) he is the holder of a passport or other document authorizing his departure ; and
- (b) his passport has been viséd or indorsed in the prescribed manner for that journey, and the visé or indorsement has not been cancelled.

Among the exceptions to this requirement are natural-born British subjects leaving for New Zealand, Papua, or Norfolk Island ; members of the crew of any vessel who sign on in Australia for an oversea voyage and who satisfy an authorized officer that they are by occupation seafaring men ; aboriginal natives of Asia, or of any island in the East Indies, or in the Indian or Pacific Oceans. The charge for a Commonwealth passport is 10s., and for a visé 2s.

With regard to (b), the Commonwealth Government has agreed to the inclusion of Australia in reciprocal arrangements for the abolition of visé requirements made by the British Government with the respective Governments of the following countries, viz. :—France, Switzerland, Italy, Belgium, Denmark, Sweden, and Norway.

§ 11. Naturalization.

1. Commonwealth Legislation.—A brief summary of the Commonwealth legislation regarding naturalization is given in Year Book No. 15 (p. 1090).

The "Nationality Act 1920" was amended by the "Nationality Act 1922," which extends the operation of the principal Act to the Territories of Papua and Norfolk Island, and to any other territories under the authority of the Commonwealth to which the Governor-General by proclamation declares it to extend.

The grant of a certificate of naturalization entitles the recipient to all the rights and privileges, and renders him subject to all the obligations of a natural-born British subject, with the exception that where, by any Commonwealth or State Constitution or Act, a distinction is made between natural-born British subjects and naturalized persons, such distinction shall hold good in the case of all persons naturalized under the Commonwealth Act.

The "Nationality Act 1920" provides that applications for certificates of naturalization must be made to the Governor-General, the qualifications required in an applicant being :—(i) Residence in Australia or a Territory continuously for not less than one year immediately preceding his application for naturalization, and previous residence, either in Australia or in some other part of His Majesty's dominions, for a period of four years within the last eight years before the application ; (ii) Good character and an adequate knowledge of the English language ; (iii) Intention to settle in the British Empire.

The applicant is required to furnish the following particulars in support of his application :—His own statutory declaration stating—(a) Name ; (b) Age ; (c) Birth-place ; (d) Occupation ; (e) Residence ; (f) Length of residence in the British Empire ; (g) Intention to settle in the British Empire ; (h) Such other particulars as are prescribed. He must also furnish—(a) Newspapers containing copies of an advertisement, as prescribed, of his intention to seek naturalization ; (b) Certificates of character from three natural-born British subjects, two of whom must be householders, and the third a Justice of the Peace, Postmaster, State School Teacher, or Police Officer ; (c) Satisfactory evidence that he has an adequate knowledge of the English language.

The Governor-General in Council may, in his absolute discretion, and with or without assigning any reason, grant or withhold a certificate of naturalization as he thinks most conducive to the public good ; but the issue of a certificate of naturalization will not be effected until the applicant furnishes a certificate signed by a Justice of the High Court of Australia, a State Judge, or a Magistrate, certifying that he has renounced allegiance

to the country of which he was a subject at the time of his application for naturalization, and that he has taken an oath or affirmation of allegiance to the Crown in accordance with the Constitution. The grant of a certificate is made free of charge.

In addition to naturalization by grant of certificate, the Act makes provision for— (a) Naturalization by marriage; (b) Naturalization by inclusion in certificate granted to parent.

The former relates to the case of a woman who is not herself a British subject, but is married to a British subject; the latter to that of a person who is not a natural-born British subject, but who being under 21 years of age has, at the request of the parent, been included in the certificate granted to him by the Commonwealth. In each instance the person concerned is deemed to be naturalized under the Commonwealth Act.

The Governor-General may revoke a certificate of naturalization on any one of a number of grounds set out in Section 12 of the Nationality Act 1920-22, and the grantee thereupon ceases to be a British subject and is regarded as a subject of the State to which he belonged at the date of issue of the certificate of naturalization.

Where a wife and any minor children have acquired British nationality under the certificate issued to the husband and father, and such certificate is subsequently revoked, the wife and children remain British subjects unless the Governor-General otherwise declares, or unless they themselves elect to make a declaration of alienage.

In accordance with the Act, a list of persons naturalized, with their addresses, is published in the *Commonwealth Gazette* from time to time.

The administration of the Act is carried out by the Home and Territories Department, and the Governor-General is authorized to make such regulations as are necessary or convenient for giving effect to the Act.

2. **Certificates Granted.**—(i) *Australia.* Particulars regarding the nationalities of the recipients of certificates of naturalization issued under the Act during each of the five years 1919 to 1923, and the countries from which such recipients had come, are given in the following table:—

NATURALIZATION.—COMMONWEALTH CERTIFICATES GRANTED,
1919 TO 1923.

Nationalities of Recipients.	No. of Certificates Granted.					Countries from which Recipients of Commonwealth Certificates had come.	No. of Certificates Granted.				
	1919.	1920.	1921.	1922.	1923.		1919.	1920.	1921.	1922.	1923.
Italian ..	34	139	182	200	138	Great Britain ..	66	100	245	201	128
Swedish ..	32	37	48	47	27	Italy ..	29	128	179	188	176
Danish ..	50	55	57	53	42	Germany ..	13	59	342	298	155
Russian ..	20	18	126	139	82	America (North) ..	23	52	87	88	55
German ..	11	67	459	376	196	Sweden ..	8	20	22	15	7
Norwegian ..	17	24	33	38	31	Denmark ..	18	27	26	22	9
Greek ..	49	80	140	138	141	Norway ..	10	15	14	20	16
American (North) ..	11	22	29	23	17	Greece ..	35	43	82	106	85
Dutch ..	10	27	14	18	15	France ..	8	18	40	24	16
Swiss ..	14	29	16	22	13	Egypt ..	10	24	66	41	47
French ..	8	22	41	28	19	America (South) ..	..	..	..	..	16
Spanish ..	6	20	17	16	26	Holland ..	..	..	..	11	6
Belgian ..	4	5	5	4	3	Russia ..	..	..	56	73	43
Rumanian ..	1	2	7	7	4	South Africa ..	9	15	25	13	9
Portuguese ..	1	3	1	2	2	Belgium ..	6	16	31	32	17
American (South) ..	..	..	1	..	1	New Zealand ..	6	15	23	16	17
Austrian ..	2	2	29	20	14	Switzerland ..	6	11	10	9	7
Mexican ..	1	..	..	..	..	Spain ..	..	10	8	14	19
Chinese ..	1	..	2	..	..	New Caledonia ..	..	..	..	..	..
Serbian ..	1	2	2	3	2	Argentina ..	6	..	..	..	..
Syrian ..	1	..	96	64	33	Canada ..	..	..	..	..	6
Polish ..	6	17	52	45	19	Finland ..	..	..	..	4	2
Finnish ..	16	37	34	21	18	Other Countries ..	37	76	255	183	124
Others ..	..	21	115	89	77						
Total ...	295	629	1,511	1,353	920	Total ..	295	629	1,511	1,353	920

(ii) *States.* The following table furnishes particulars concerning the States in which the recipients of Commonwealth certificates of naturalization during the years 1919 to 1923 were resident :—

NATURALIZATION.—COMMONWEALTH CERTIFICATES GRANTED IN EACH STATE, ETC., 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Australia.
1919 ..	103	70	67	21	29	5	..	295
1920 ..	208	136	167	50	61	5	2	629
1921 ..	461	309	427	165	135	12	2	1,511
1922 ..	409	199	381	116	228	17	3	1,353
1923 ..	272	145	290	63	145	3	2	920

3. *Census Particulars.*—On the Personal Card used at the Census of 4th April, 1921, an inquiry as to naturalization was made, all persons who were British subjects by naturalization being required to indicate the fact by inserting the letter N in the place provided for the purpose on the card. In addition, in checking the cards in the Census Bureau, instructions were given that cases of women naturalized by marriage to British subjects, and of children naturalized by residence with parents who have become British subjects, should be duly taken into account by the insertion of the letter N if originally omitted. The results of the tabulation will be found in the following table :—

NATURALIZATION.—NATURALIZED BRITISH SUBJECTS, CENSUS OF 4th APRIL, 1921.

Particulars.	States.						Territories.		Australia.
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North-ern.	Fed. Cap.	
Males ..	9,300	6,357	9,654	3,098	2,751	568	57	14	31,799
Females ..	3,249	2,434	5,764	1,411	856	223	6	3	13,946
Persons ..	12,549	8,791	15,418	4,509	3,607	791	63	17	45,745

§ 12. Population of Territories.

At the Census of the 4th April, 1921, special arrangements were made to obtain complete and uniform information concerning each of the five Territories of the Commonwealth, viz. :—(1) Northern Territory; (2) Federal Capital Territory; (3) Norfolk Island; (4) Papua; (5) Territory of New Guinea.

The work of Census enumeration in each Territory was carried out under the direction of the Commonwealth Supervisor of Census, the local organization in each Territory being under the control of a Deputy Supervisor of Census stationed in each Territory. On the conclusion of the collection the whole of the material was forwarded to the Census Office, Melbourne, for tabulation in conjunction with the data for Australia. A summary of the population and number of dwellings in each Territory is shown in the following table :—

POPULATION AND DWELLINGS.—TERRITORIES, 4th APRIL, 1921.

(EXCLUSIVE OF FULL-BLOOD ABORIGINALS IN THE NORTHERN AND FEDERAL CAPITAL TERRITORIES AND OF THE INDIGENOUS POPULATION OF PAPUA AND NEW GUINEA).

Territory.	Population.			Dwellings.			Total.
	Males.	Females.	Persons.	Occu- pied.	Unoccu- pied.	Being Built.	
Northern Territory ..	2,821	1,046	3,867	1,074	138	1	1,213
Federal Capital Territory ..	1,567	1,005	2,572	526	29	..	555
Norfolk Island ..	339	378	717	168	22	3	193
Papua	1,408	670	2,078	(a) 672	43	4	719
Territory of New Guinea ..	2,502	671	3,173	1,056	18	..	1,074

(a) In addition, there were 15 cases in which Census night was passed in camps without ordinary dwellings.

§ 13. The Aboriginal Population.

1. *Origin.*—On account of their primitive state the Australian aborigines have for a long time been the subject of much interest and curiosity, and a considerable amount of literature has been written concerning them. Their customs in minute detail have been placed on record by students such as Brough Smith, A. W. Howitt, Baldwin Spencer, and others. Sufficient attention has been devoted to their languages to ascertain that they all belong to one group, although they show such extraordinary variety that the members of one tribe frequently experience difficulty in understanding their nearest neighbours. The different theories from time to time advanced regarding the origin of the aborigines have ceased to arouse controversy, it being now generally accepted that a negro race entered Australia in the late Pliocene or the early Pleistocene age, when Australia was apparently connected with Asia by a land-bridge, of which the Malay Archipelago and New Guinea formed part, and that gradually this race spread over the whole continent which then included Tasmania. Later, a dark-skinned race, akin to the Dravidians of India and the Veddahs of Ceylon, invaded the continent by the same land-bridge, and, by fusion with the earlier inhabitants, produced the present-day aborigines of Australia. The fact that the now extinct Tasmanian tribes were unadulterated negroes was due to Tasmania having been separated from the continent by Bass Strait before the second invasion took place.

2. *Estimates of Number.*—From time to time attempts have been made to ascertain the number of aborigines in the various divisions of Australia, but the results have not been satisfactory, and the efforts in this direction of the Commonwealth Bureau of Census and Statistics, at the taking of the Census in 1911 and again in 1921, proved disappointing. On each occasion, considerable numbers of aborigines were enumerated, but in the case of those living in a wild or semi-wild state estimates only could be obtained. Nevertheless, all these attempts, of which detailed accounts are given hereinafter, are valuable—both from the point of view of ethnology and social economy, as well as from that of general history. They have made it possible to determine with a reasonable measure of certainty (a) the number of aborigines in Australia, at the advent of the Europeans in 1788, viz., about 150,000; (b) the rate of decline; and (c) their present number.

3. *Aborigines in New South Wales.*—(i) *Phillip's Estimate.* The earliest records in regard to the numbers of Australian aborigines date back to the time of Captain Phillip at the end of the eighteenth century. In a report to Lord Sydney four months after his arrival, Phillip wrote that it was impossible, with any accuracy, to give the number of the natives, but he was of the opinion that around Botany Bay and Port Jackson and on the intermediate coast, they could not be less than 1,500.

(ii) *Numbers in 1826.* In 1826, a return of the native population in the then settled districts of New South Wales gave the number as 3,019. Apparently the aboriginals in the vicinity of the young settlement had greatly diminished, for in the Parramatta district there were only 49 left. The opinion was held that many had migrated into country less accessible to the white man.

(iii) *Estimates by Sadleir in 1826-7.* In 1826, and the following year, Lieutenant Sadleir, of the Royal Navy, made an estimate of the numbers of the aboriginal tribes. Of 27 tribes mentioned in this list, he visited 24, and he gives the total number of natives in these tribes as 2,710. The Metigan tribe, he states, had been reduced to 10, and the Bathurst tribe to 30.

(iv) *Census of 1871.* Thenceforward no attempt was made to enumerate the natives until the Census of 1871. On that occasion, 983 aboriginals were included in the total population of the colony. These represented civilized aboriginals and those residing in districts settled by Europeans. The number of those belonging to wild and wandering tribes was estimated at 12,000.

(v) *Census of 1881.* At the Census of 1881, the civilized aboriginals, or aboriginals living in communication with Europeans, numbered 1,643, while the number of wild and wandering aboriginals was estimated at 10,000.

(vi) *Census of 1891.* In 1891 the first complete enumeration was made of aboriginals residing within the present boundaries of New South Wales. The total number of full-blood aboriginals was 5,097—2,896 being males and 2,201 females.

(vii) *Census of 1901.* In 1901 the number of full-blood aboriginals was 3,778—2,192 males and 1,586 females.

(viii) *Census of 1911.* In 1911 the full-bloods in New South Wales numbered 2,012—1,152 males and 860 females.

(ix) *Census of 1921.* In 1921 the number was 1,597—923 males, 674 females.

(x) *Summary 1871 to 1921.* A summary of the preceding figures—estimated and enumerated—is given hereunder:—

ABORIGINALS IN NEW SOUTH WALES, 1871 TO 1921.

Year	1871.	1881.	1891.	1901.	1911.	1921.
No.	12,983	11,643	5,097	3,778	2,012	1,597

These figures suggest that the numbers of those designated "wild and wandering tribes" were overestimated in 1871 and 1881, and also that the natives of New South Wales did not at any time exceed 20,000. Further in the decade 1891-1901 they decreased by 25.88 per cent., in the decade 1901-1911 there was a decline of 46.74 per cent., and in the decade 1911-1921 of 20.6 per cent.

4. *Aboriginals in Victoria.*—(i) *Early Estimates of Number.* There are at least five different estimates of the number of aboriginals in Victoria when the first white settlers crossed Bass Strait and settled at Port Phillip. Sir Thomas Mitchell, judging by the small number he encountered on his exploration trips, put the figure as low as a thousand; Mr. Robinson, the first Protector, gave it as about 5,000; Brough-Smith author of "The Aboriginals of Victoria," made an estimate of 3,000; E. S. Parker, of 7,500; and W. Thomson, of 6,000. The mean of these estimates is about 5,400.

As the number of white settlers increased, the number of natives declined. Thus, the tribe around Geelong numbered 173 when the first settler built his hut on the Barwon River, twenty years later there were only 34. Of 292 aboriginals around Melbourne in 1838, only 20 had survived at the beginning of the seventies. Brough-Smith says that in Gippsland there were originally more than 1,000, but 40 years later only 200 remained.

(ii) *Census of 1861.* The first official report compiled by the "Board for the Protection of Aborigines" in 1861 gives the total number as 2,341. Of these 1,694 were enumerated at the Census of the same year.

(iii) *Census of 1871.* At the Census of 1871, 1,330 were counted—784 males and 546 females.

(iv.) *Census of 1881.* In 1881 the number is given as 780—460 males and 320 females.

(v) *Census of 1891.* Prior to the Census of 1891 no distinction was made between full-bloods and half-castes. In that year there were in Victoria 317 full-blood aboriginals, 192 being males and 125 females.

(vi) *Census of 1901.* At the Census of 1901, full-bloods and half-castes were again grouped together, the number being 652, of whom 367 were males and 285 females.

(vii) *Census of 1911.* In 1911 the number of full-blood aboriginals was 196, of whom 103 were males and 93 females.

(viii) *Census of 1921.* In 1921 there were 144—80 males and 64 females.

(ix) *Summary 1861 to 1921.* The following figures summarize the results at the respective Censuses :—

ABORIGINALS IN VICTORIA, 1861 TO 1921.

Year	Full-blood and Half-castes.			Full-blood.			
	1861.	1871.	1881.	1891.	1901.	1911.	1921.
No.	2,384	1,330	780	317	250 (about)	196	144

5. *Aboriginals in Queensland.*—(i) *Estimate in 1881.* In 1881 the number of aboriginals in Queensland was estimated by officers of the Police Department at 20,585.

(ii) *Census of 1901.* The following statement has been extracted from the Queensland Census Report of 1901 :—

“ In 1901 it was considered desirable to record the number of those aboriginals and half-castes who were living in conformity with the usages of civilization, and who had abandoned their nomadic habit of life ; in other words, those who had become integral parts of the industrial population, or who, by attending school at some mission station, had actually entered upon civilized life. In this way, 5,137 full-blood aboriginals and 1,533 half-castes were included with the general population of Queensland. All those, whether full-blooded or half-caste, living in camps and leading the lives usual to aboriginals were excluded. It was estimated that about 20,000 persons were thus omitted.”

(iii) *Census of 1911.* At the Census of 1911, 8,687 full-blood aboriginals were enumerated, of whom 5,145 were males and 3,542 females. No estimate was, on that occasion, given for those not enumerated.

(iv) *Census of 1921.* At the Census of 1921 the number of full-bloods in Queensland was estimated at 12,614. This total would probably exclude about 1,400 wild and wandering natives in the northern and western fringes of the State. Census slips were furnished for 7,527 natives, of whom 4,501 were males and 3,026 were females.

6. *Aboriginals in South Australia.*—(i) *Early Estimates of Numbers.* The first attempt to estimate the aboriginal population in parts of South Australia was made in 1843, when Moorhouse concluded that there were about 1,600 distributed in the Adelaide district, Encounter Bay, Moorundi, Port Lincoln, and Hutt River in regular and irregular contact with Europeans. He estimated that there were about 3,000 scattered over a tract extending 160 miles north and 200 miles east of Adelaide. Eyre thought there must be about twice as many. J. D. Woods, on the basis of Eyre's estimate, gave 12,000 as the probable number throughout South Australia.

(ii) *Decrease up to 1877.* As in the other southern States, the aboriginals in South Australia soon commenced to decrease. In the districts where Moorhouse in 1843 estimated 1,600, there were only 24 at the beginning of the present century. The Port Lincoln tribe had been reduced to half a dozen. The Narrinyeri tribe, which in 1840 is

believed to have numbered about 3,000, had by 1877 dwindled to 613, and it is doubtful if there is now a single survivor. Several of the other southern tribes have entirely disappeared.

(iii) *Census of 1881.* Those living in the northern parts of the State naturally came less in contact with the whites, and at the Census of 1881 there were still 6,346 aboriginals in South Australia, 3,478 being males and 2,868 females.

(iv) *Number in 1908.* In 1908, 3,386 were recorded, which was 316 less than in 1901.

(v) *Census of 1921.* The estimated number in 1921 was 1,609, of which 958 were enumerated, comprising 539 males and 419 females.

(vi) *Summary, 1881 to 1921.* A summary of the above particulars gives the following totals :—

ABORIGINALS IN SOUTH AUSTRALIA, 1881 TO 1921.

Year	..	..	..	1881.	1908.	1921.
No.	..	..	..	6,346	3,386	1,609

7. *Aboriginals in Western Australia.*—(i) *Early Estimates of Numbers.* Attempts made from time to time to estimate the native population in Western Australia have, until recently, proved unsatisfactory, and, as late as 1881, the figures were not even published. Prior to the Census of 1891 no distinction was made between full-blood and half-caste aboriginals—"the latter were mostly brought up by and lived with the full-blooded."

(ii) *Census of 1891.* The number of full-blood aboriginals enumerated in 1891 totalled 5,670—3,223 males and 2,447 females. These figures included only those living in contact with Europeans.

(iii) *Census of 1901.* At the Census of 1901 the number enumerated was 5,261, 2,933 being males and 2,328 females. On both occasions the half-castes were included with the white population. The Census report of 1901 contains the following remarks :—

"Taking into account the fact that at the Census of 1901 the area of settled country was very much greater than at that of 1891, it would appear that, if the two enumerations are equally reliable, the full-blood aboriginal population is gradually dying out before advancing civilization, while the half-caste population is increasing, consequent on and in proportion to that advance."

(iv) *Census of 1911.* In 1911, 6,369 full-blood aboriginals were enumerated, of whom 3,433 were males and 2,936 were females.

(v) *Census of 1921.* At the Census of 1921 the number of full-blood aboriginals more or less in touch with Europeans was estimated at 15,587.

8. *Aboriginals in Tasmania.*—It is estimated that on the arrival of the Europeans the blacks in Tasmania numbered approximately 2,000. In the year 1835, when the natives were transferred to Flinders Island, their number had dwindled to 203. In 1847, the survivors, to the number of 44, were moved to Oyster Cove, on the mainland. There the last man of the race died in 1869, and the last woman in 1876.

9. *Aboriginals in the Northern Territory.*—(i) *Conflicting Estimates of Numbers.*—The number of aboriginals in the Northern Territory was, for a long time, estimated at 20,000 to 22,000. Professor Baldwin Spencer, who believed that these figures were too low, said :—"Judging by what I have seen and heard, I think it probable that a Census would show more nearly 50,000 than 20,000." Staniforth-Smith, who in 1920 acted as Administrator of the Territory, took a middle course, and placed the number at 35,000.

(ii) *Census of 1921.* The result of the last Census has shown that the old estimate was very close to the mark. The sum total of the estimates furnished by officers of the Police Department, who at the Census of 1921 acted as Census Collectors, and are in

close contact with the aborigines, gives the number as 17,349. Of these, 2,007 were enumerated—1,181 males and 826 females—and represented those in close contact with Europeans. There are, however, areas in the north-west, where, owing to the savage state of the natives, it is difficult to make a satisfactory estimate, and it is quite possible that with fuller knowledge the estimate of 1921 will need adjustment.

10. *Movement of the Decline in Numbers.*—The foregoing extracts from statistical records show that the decline in the number of the Australian aborigines, which commenced on the south-eastern fringe of the continent some 130 years ago, has been moving steadily towards the Indian Ocean ever since, and that the number of full-blood aborigines to-day is more likely to be under than over 60,000.

11. *Protection of the Aborigines.*—(i) *Early Difficulties.* The meeting of the white man with the blacks when Captain Phillip and his party arrived at Botany Bay on the 18th January, 1788, was of a friendly character, and quite in harmony with the instructions which the Commander had received from His Majesty the King. These instructions read:—

“You are to endeavour by every possible means to open an intercourse with the natives, and to conciliate their affections, enjoining all our subjects to live in amity and kindness with them; and if any of our subjects should wantonly destroy them or give them any unnecessary interruption in the exercise of their several occupations, it is our will and pleasure that you do cause such offenders to be brought to punishment according to the degree of offence.”

The instructions involved equal right of protection, and, considering the harsh spirit of the age, were singularly humane. They could not, however, be carried out in their entirety if Australia, or any part of it, was to be settled by the white race. The Australian aborigines were nomadic hunters, and got nothing from the land, except such animals as they were able to hunt down and a few roots and herbs. They required the whole of the habitable country for their sustenance, as the continent could not sustain more than one inhabitant to every 20 square miles under their primitive mode of living.

(ii) *Conflicts with the Natives.* The friendly relations between the whites and the blacks came to an end when the former commenced to move inland with their flocks of sheep and herds of cattle. The first white man was killed in 1788, and a punitive expedition was arranged, in the course of which a number of natives were slain. As years went by, provocations and retaliations were not wanting on either side. The chief complaint of the settlers was that the natives killed their sheep and cattle, and that of the natives that the settlers encroached on their hunting grounds and interfered with their womenfolk. In 1797 there was a conflict between the soldiery and a strong party of natives, five of the latter being killed. This feud between the two races went on for years, the zone of friction moving inland with the advance of the settlers. The Government occasionally took sides with the latter, but in most cases left it to the settlers and the aborigines to fight matters out between themselves.

(iii) *Awakening of the Public Conscience.* The utter destruction of the Tasmanian blacks stirred the conscience of those in responsible positions in England, as well as in Australia, and steps were taken to ameliorate the lot of the aborigines. Simultaneously a feeling that the natives had been wronged took possession of the public mind, and philanthropists assisted in transforming the new spirit into practical measures for protection. The Australian aborigines are very responsive to kind treatment, and although occasional conflicts have occurred down to the present day, the relations between the two peoples have greatly improved. Young natives serve on sheep and cattle stations as stockmen, boundary riders, and general station hands, and young girls as domestic servants. Protectors were appointed to watch native interests, reserves were in the course of time set apart for those who preferred their old life, and different religious bodies instituted missionary and educational work amongst the tribes.

(iv) *State Protection of Aborigines.* (a) *General.* After the Federation of the various colonies, the different States remained in control of their respective aboriginal affairs, and, although some of the Governments were slow in realizing that the protection of the original possessors of the land was a duty resting on the community as a whole, they have

all passed special Acts making the welfare of the aboriginals a public concern. The measures taken, of which brief summaries are contained in the following paragraphs have mainly in view (1) to prevent the supply of alcoholic drinks and opium to aboriginals; (2) to regulate their employment by Europeans and others; (3) to provide native reserves; (4) to educate and train the young and to care for those who are unable to care for themselves.

(b) *New South Wales.* Aboriginal Acts were passed by the Legislative Council in 1840 and 1841; but were disallowed by the British Government. In 1868 an Act to prevent the supply of liquors to aboriginals was put on the statute book. In 1882 an Aborigines Protection Board was appointed to replace the Aborigines Protection Association, which was a semi-official body distributing relief derived from private funds and from Government subsidy. The new Board, which took over the care of the aboriginals throughout the State, was given an annual subsidy by Parliament, and was responsible to the Minister. In 1909 the first "Aborigines Protection Act" was passed, giving the Board a legal status. This Act, with subsequent amendments (in 1915 and 1918), gives the Board complete control over aboriginal reserves and the residents thereon, and entrusts to its care the oversight of aboriginal children up to 18 years of age, with power to remove them to a home, to apprentice them, and to control their earnings. Homes have been established where boys and girls taken from the aboriginal reserves are trained and drafted out to employment under strict supervision.

About twenty reserves have been organized as regular stations under the control of resident teacher-managers, whose wives act as matrons. On the larger stations, cultivation and stock-raising are carried on. On many of the reserves schools have been established where the children receive regular tuition. The religious work amongst the aboriginals is attended to by mission societies, whose representatives are allowed access to the reserves, and, with the sanction of the Board, in many cases reside there. The services of Government medical officers are available at practically every centre of aboriginal population. Assistance given to aboriginals comprises, in addition to housing, the issue of rations, clothing, blankets, &c. The amount expended annually on full-blood and half-caste aboriginals in New South Wales averages £30,000.

(c) *Victoria.* The first Protector of Aboriginals in Australia was appointed in the Port Phillip District, Mr. Robinson, known in connexion with the Tasmanian blacks as the "Conciliator," being selected for the position. An Aboriginal Board and Local Committees also were formed; but it was not until the year 1860 that the powers and functions of these bodies were clearly defined. In that year what may be considered the first Aborigines Act appeared. It was amended in 1869, and again in 1886. In 1890 an Act was passed which consolidated all previous legislation in regard to the natives. This Act was amended in 1910, and in 1915 the Consolidated Act at present in force was assented to. All these amendments and modifications were necessitated mainly by the gradual decline in number of the aboriginals and the steady increase of half-castes.

The aboriginal question in Victoria having gradually lost its importance, the Act of 1915 is brief, containing only thirteen clauses. The Board for the protection of the natives is retained, the Governor in Council is given power to make regulations, and provision is made for the protection and support of such aboriginals and half-castes as come under the Act.

Reserves for aboriginals were set aside from time to time. At present these are—Lake Tyers (4,000 acres), Coranderrk (2,450), Framlingham (548), Lake Condah (2,043), Colac (20), Lake Moodemere (22). At these reserves, aboriginal stations under the management of Europeans were established. Provision is made for the material and spiritual needs of the aboriginals, and for the education of the children. At Lake Tyers and Condah there are special schools for aboriginals, the children from the other stations attending the nearest State schools. The present policy aims at a concentration of all the aboriginals and half-castes, who are under the Government's care, at Lake Tyers, and in pursuance of this policy the stations at Condah and Framlingham have lately been closed. A number of the aboriginals, however, have been allowed to remain on the reserves, and are supplied with clothing and food under the supervision of the police.

In Victoria, every person who is an aboriginal or half-caste under the Act is entitled to support by the Government. The number provided for by the State during the year ended 30th June, 1922, was 84 full-bloods and 241 half-castes. The amount spent annually on aboriginal affairs for the last ten years has ranged between about £4,000 and £5,000.

(d) *Queensland.* The first step towards protecting the aboriginals was taken in 1892, when it was made illegal to supply them with opium. Four years later it was also made punishable to supply them with liquor, and, in 1897, a special Act was passed "The Aboriginals Protection and Restriction of the Sale of Opium Act." This, together with an Amending Act passed in 1901, is now in operation. The legislation provides for the appointment of protectors, and of superintendents for aboriginal reserves. Under the Act, regulations have been proclaimed in regard to employment, rates of wages, hours of work, supervision of payment, and trading transactions, quality of food and clothing supplied, nature of accommodation, and sanitation, management of native reserves, and administration of estates of missing natives.

There are thirteen Native Reserves on the mainland, and ten in the islands. On most of these there are aboriginal settlements, managed either by the Government or by various religious bodies. The Government controlled settlements are:—Barambah, Taroom, Palm Island. Those controlled by the religious bodies, and which are generally known as Aboriginal Mission Stations, are:—Mapoon, Weipa, Aurukun, Mornington, and Purga, all under the Presbyterian Church; Trubanaman (or Mitchell River Mission) and Yarrabah, under the Anglican Church; Cape Bedford, under the Lutheran Church; and Monamona, under the supervision of the Seventh Day Adventists. The Salvation Army also interests itself in mission work amongst the aboriginals. All the mission stations are subsidized by the Government, but they are conducted by missionaries, mostly laymen, with practical knowledge of industrial, agricultural, and social work. Trained mission chaplains are in charge of the religious and educational work. Itinerant missionary work is carried out amongst camp aboriginals by members of the Aborigines Inland Mission. The missions are subject to Government inspection, and the superintendents, though chosen by the mission authorities, are appointed subject to approval of the Government. The Government has made regulations to aid in maintaining order and discipline on reserves, and inmates can only be hired out to employment subject to the provisions of the Aboriginal Protection Acts. Monthly and annual reports of relief issued, progress made, &c., are submitted by each mission to the Chief Protector of Aborigines, to whom also deaths, marriages, and corporal punishment of children must be reported.

The following extract from a description of the Yarrabah Mission Station, by the Rev. Herbert Pitts, indicates the character of the work done by the missionaries:—

"At the instigation of the Rev. E. R. Gribble the Government in 1892 set apart a reserve of 52,000 acres in the Cairns district. The Australian Board of Mission undertook responsibility for the mission work. To-day the Yarrabah mission, as it is called, consists of a number of aboriginal settlements. . . . At each of these settlements a qualified native holds daily service, and superintends the life and work of the little community. Each family has its own little house and plot of ground on which fruit and vegetables are cultivated. In the school are several aboriginal teachers, who have qualified for the work to the satisfaction of the Queensland Educational Authorities. The children are taught exactly the same subjects as in the white schools, receive visits from Government inspectors, and earn the usual Government grants. Under the charge of intelligent aboriginals there is a steam saw-mill, at which a great deal of work is done. In order to get the natives to take an interest in their own welfare twelve of the senior men have been formed into a governing board."

The three aboriginal settlements managed by the Government are mostly in the nature of penitentiaries, from which the able-bodied are allowed to take employment as farm and station hands.

The expenditure by the Queensland Government in connexion with the aborigines for the year 1922 amounted to £41,318.

(e) *South Australia.* In 1844 an Ordinance was issued to provide for the protection, maintenance, and upbringing of orphans and other destitute children of the aborigines. This was superseded by "The Aborigines Act 1911," under which regulations have been proclaimed from time to time. In December, 1912, a Royal Commission was appointed to inquire into and report upon the control, organization, and management of the institutions in South Australia set aside for the benefit of the natives, and to review generally the whole question of South Australian aborigines. In 1923 an Act entitled "The Aboriginal Children's Training Act" was passed. At the time when the Royal Commission was sitting there were four mission stations in the State, viz. :—

Point McLeay, comprising aboriginal reserves of a total area of 5,513 acres, under the management of the "Aborigines' Friends Association," which was established in 1858, and incorporated in 1879; Point Pearce, with an area of 17,298 acres, and controlled by the Yorke's Peninsula Aboriginal Mission; Koonibba, situated close to Denial Bay and started by the South Australian District of the Evangelical Synod in Australia—the Synod held 12,700 acres at Koonibba and 4,660 acres at Davenport Creek; Killalpaninna, situated 100 miles north of Hergott, on Cooper's Creek, established in connexion with the Evangelical Lutheran Immanuel Synod of Australia by the Kopperamanna Mission Society in 1864. The Synod held 1,690 square miles, of which 900 square miles constituted an aboriginal reserve.

The control of the Point Pearce and Point McLeay stations is now undertaken by the Government. Lately the mission station at Killalpaninna has been closed, and a reserve containing 21,900 square miles for aborigines has been set aside in the north-west corner of the State. The Commonwealth and Western Australian Governments also have each proclaimed aboriginal reserves of the same size adjoining the South Australian reserve.

While in Victoria and New South Wales any aboriginal or half-caste aboriginal may claim to be supported by the State, in South Australia only those who are unable to support themselves, through old age, infirmity, &c., have a right to draw rations. Able-bodied aborigines, while afforded protection, are encouraged to be independent.

The expenditure on aboriginal affairs in South Australia in the financial year 1923–23 was £8,255.

(f) *Western Australia.* An Act to provide for the better protection and management of the aborigines of Western Australia was passed in 1886, and a previous law relating to certain contracts with aborigines was superseded. The Act of 1886 provided for the establishment of an Aboriginal Protection Board, for the appointment of protectors, and regulated contracts in connexion with aboriginal labour, the employment of aboriginal prisoners, apprenticeship, &c. The duties of the Board comprised the apportionment of moneys granted by the Legislative Council for the benefit of the aborigines; the suggestion of means relating to the care, custody, and education of aboriginal children; the controlling of reserves; the distribution of blankets, medicine, &c.; and the exercise of general supervision over all matters affecting the interests and welfare of the natives. The Act was amended from time to time, and in 1905 previous Acts dealing with aboriginal matters were repealed, and a new Aboriginal Act passed to provide for more effective control. By the Aborigines Act of 1905 an Aboriginal Department was created and a Chief Protector appointed.

The Government has set aside considerable areas for native reserves; has established aboriginal stations, and feeding and clothing dépôts in different parts of the State; and is giving financial support to various mission stations conducted by the churches for the benefit of the aborigines.

The most important of the Government stations is at Moola Bulla, East Kimberley. This has gradually developed into a profitable cattle run of some magnitude, and on the 1st July, 1919, the cattle thereon numbered 15,656. During the year, 903 bullocks were despatched to Wyndham meat works; 213 bullocks, 169 breeders, and 7 bulls were transferred to the Violet Valley Aboriginal Station; and 339 head were killed for the use of the natives. In addition there were 396 horses and 24 mules. There is a tannery

at Moola Bulla where a good quality of leather is made. The aboriginal stations and settlements at Violet Valley and on the Corrolup and Moore rivers are being developed on similar lines. At the latter place, the natives are taught to spin the station's own wool for blanket-making. In addition to stations and feeding *dépôts*, the Government has established a hospital for natives at Port Hedland.

The mission stations have their own management, but are subject to Government inspection. There are ten of these stations, viz. :—Beagle Bay, Drysdale River, New Norcia, and Lombadina (Roman Catholic); Forrest River, Sunday Island, and Swan Natives and Half-castes (Anglican); Port George IV., Hanover Bay (Presbyterian); Dulhi Gunyah (non-denominational); Girls' Home, Kalgoorlie (Salvation Army). In addition to the Government subsidy, most of the mission stations have received considerable concessions of land. Thus, the Beagle Bay Mission has 10,000 acres freehold, 80,000 acres leasehold, 40 acres town lots, and the use of an aboriginal reserve of 700,000 acres; the Drysdale River Mission has 50,000 acres for 49 years, and 50,000 acres pastoral lease; New Norcia has 5,000 acres freehold, 13,000 acres perpetual pastoral lease, and certain grazing leases; the Forrest River Mission has 100,000 acres reserved within the aboriginal reserve of 4,000,000 acres; the Sunday Island Mission has 25,000 acres; and the Port George IV. Mission 90,000 acres.

The total expenditure on the aboriginals by the Western Australian Government in 1922–23 amounted to £27,765.

(g) *Northern Territory.* An Act for the Protection of the Aboriginals in the Northern Territory was passed by the South Australian Government in 1910. This Act remained in force after the Commonwealth had taken over the Territory as from the 1st January, 1911; but it was amended by an Ordinance proclaimed in the same year. In 1918 a new Ordinance relating to aboriginal affairs was issued, whereby the South Australian Act of 1910 lapsed and the amendment of 1911 was repealed. By the Ordinance of 1918 the position of Chief Protector was retained, also those of ordinary protectors. Provisions were enacted in regard to Superintendents on native reserves, and the distribution of food, clothing, blankets, and medicine to destitute and sick natives. The usual precautions were taken to prevent the supply of opium and liquors to the natives, and to guard against their unfair exploitation by employers. To check the intercourse of aboriginals with Asiatics, which in the past has proved so demoralizing to the former, certain locations were declared prohibited areas, and aboriginals are not allowed to enter them.

Aboriginal reserves covering an area of 1,578 square miles had already been set aside when the Territory passed over to the Commonwealth. These reserves have since been considerably increased, and at the end of the year 1921–22 numbered twelve, viz. :—

Name of Reserve.	Situation or District.	Area in Square Miles.
Woolner	North Coast	366
Monassie .. ..	.. ..	115
Larakeah	Adelaide River	20
Wangites	North of Daly River mine	388
Woolwonga	Mary River	160
Marramunga	Tennant's Creek	150
Mudburra	Victoria River	379
Wongoak	Bathurst Island	770
Oenpelli	East Alligator River	2,000
Groote Island	Gulf of Carpentaria	708
.. ..	Lake Amadeous	21,875
Daly River	Daly River	3,300
	Total	30,231

In addition, considerable areas had been handed over to various mission societies though leases for some of this land had not then been issued.

Mission or Church.	Situation of Lands.	Area in Square Miles.
Lutheran	Macdonnell Ranges, 75 miles westerly from Alice Springs	901
Anglican	Roper River	211
"	Groote Island	200
Roman Catholic	Part Bathurst Island	16
Methodist	Goulburn Islands and 28 square miles of mainland	72
"	Crocodile Islands and 43 square miles of mainland	100
"	Elcho Island	200
	Total	1,700

Besides the free use of the above land, the mission societies receive small annual grants from the Commonwealth Government.

The amounts spent on aboriginal affairs in the Northern Territory during the financial year 1922-23 totalled £8,374. This sum included £2,135 paid in salaries.

12. **Aboriginal Problems.**—Until a comparatively recent period, the problem of preserving the aboriginal race from extinction was considered to be almost impossible of solution. As soon as the aboriginals came in contact with the white man's civilization, their numbers commenced to decline, and continued to decrease notwithstanding the measures taken for their protection. Dr. Ramsay Smith, in an article supplied to the Commonwealth Official Year Book for 1909, expressed the opinion that the race could be preserved if there really was a desire to preserve it, but past experience apparently points to the contrary. The results obtained in Queensland and to a less degree in Western Australia during later years by the united efforts of missionaries and Governments show that success in civilizing the natives can be achieved if they are controlled from childhood. Also, the aboriginal births now exceed the deaths at many places.

13. **Half-castes.**—The problem of the half-caste aboriginal has for some time been a matter of grave concern. While the number of full-bloods is declining, taking Australia as a whole, the number of half-castes is steadily increasing. The Administrator for the Northern Territory in his annual report for the year ending 30th June, 1922, says:—"In regard to half-castes, the discreditable fact cannot be ignored that their number in the Territory is increasing, and, as far as can be seen, must inevitably for many years yet continue to increase."

The position is rendered difficult by the fact that in tropical Australia, and in the belt of country where whites and blacks principally meet, white women are relatively few. The increase in the number of half-castes is indicated by the following table:—

ABORIGINAL HALF-CASTES, 1911 AND 1921.

Year.	New South Wales.			Victoria.			Queensland.			South Australia.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1911	2,335	2,177	4,512	237	210	447	1,361	1,147	2,508	346	346	692
1921	2,318	2,152	4,470	185	244	429	1,551	1,289	2,840	596	536	1,132

Year.	Western Australia.			Northern Territory.			Grand Total.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1911	760	715	1,475	117	127	244	5,156	4,722	9,878
1921	1,199	885	2,084	284	340	624	6,133	5,446	11,579

The numbers of quadroons and octoroons are not readily obtainable, since statistically and socially they are generally classified with Europeans. The following figures from the Annual Report issued by the Board for the Protection of Aborigines in New South Wales for the year ending 30th June, 1922, read in conjunction with the list of half-castes will in some measure indicate the extent to which the aboriginal race is being absorbed by the white race. The numbers of half-castes, quadroons, and octoroons in that State on the 4th April, 1923, were :—

Half-castes	Receiving aid	1,182
„	Not receiving aid	3,601
Total						4,783
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Quadroons	Receiving aid	90
„	Not receiving aid	931
Total						1,021
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Octoroons	Receiving aid	10
„	Not receiving aid	294
Total						304
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The position at the two aboriginal stations in South Australia controlled by the Government also testifies to a gradual merging of the two races. The Chief Protector of that State writes :—“The most difficult problem in the care and control of the aborigines is the increasing number of half-castes, quadroons, and octoroons on the stations. For years the half-castes have been living and increasing on the Point Pearce and Point McLeay stations, and year by year a whiter race is springing up.”

CHAPTER XXV.

VITAL STATISTICS.

§ 1. Births.

1. Births, 1919 to 1923.—The number of male and female births and the total births registered in Australia during the years 1919 to 1923 are shown in the tables hereunder. The numerical relation which these births bear to the population, and various other associated features, are given in later tables.

MALE BIRTHS, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Ter.	Fed. Cap. Ter.	Australia.	
1919	24,924	16,225	9,746	5,776	3,477	2,718	55	10	62,931	
1920	27,691	18,647	10,537	6,178	4,256	2,908	31	8	70,256	
1921	28,005	18,238	10,638	6,122	3,988	2,944	39	15	70,039	
1922	28,218	18,738	10,263	6,150	4,163	2,995	38	17	70,582	
1923 {	Single births	27,182	18,150	9,955	5,863	3,930	2,831	40	6	67,957
	Twins ..	531	408	208	113	84	54	1,398
	Triplets	7	3	10
	Total births	27,713	18,565	10,163	5,976	4,014	2,888	40	6	69,365

FEMALE BIRTHS, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Ter.	Fed. Cap. Ter.	Australia.	
1919	23,608	15,394	8,953	5,284	3,460	2,592	51	17	59,359	
1920	26,251	17,566	9,719	5,850	3,893	2,832	32	7	66,150	
1921	26,631	17,303	9,691	5,852	3,819	2,811	40	12	66,159	
1922	26,952	17,550	9,724	5,851	3,968	2,822	32	15	66,914	
1923 {	Single births	25,838	16,890	9,629	5,591	3,762	2,720	32	13	64,475
	Twins ..	515	417	190	125	78	49	1,374
	Triplets ..	3	5	8
	Total births	26,356	17,312	9,819	5,716	3,840	2,769	32	13	65,857

TOTAL BIRTHS, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Ter.	Fed. Cap. Ter.	Australia.	
1919	48,532	31,619	18,699	11,060	6,937	5,310	106	27	122,290	
1920	53,942	36,213	20,256	12,028	8,149	5,740	63	15	136,406	
1921	54,636	35,591	20,329	11,974	7,807	5,755	79	27	136,198	
1922	55,170	36,288	19,987	12,001	8,131	5,817	70	32	137,496	
1923 {	Single births	53,020	35,040	19,584	11,454	7,692	5,551	72	19	132,432
	Twins ..	(c)1,046	(a)825	398	238	(d)162	(b)103	2,772
	Triplets ..	3	12	3	18
	Total births	54,069	35,877	19,982	11,692	7,854	5,657	72	19	135,222

(a) One stillborn not included.
(c) Four stillborn not included.

(b) Three stillborn not included.
(d) Eight stillborn not included.

2. *Birth Rates.*—The next table gives the crude birth rates in each of the States and Territories and in Australia as a whole for the years 1919 to 1923.

CRUDE BIRTH RATE(a), 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	North Ter.	Federal Capital Territory.	Australia.
1919	24.28	21.46	25.80	23.61	21.71	25.90	22.77	11.68	23.53
1920	26.10	23.95	27.10	24.71	24.73	27.28	14.95	6.90	25.45
1921	25.93	23.16	26.64	24.08	23.39	26.98	20.22	10.87	24.95
1922	25.67	23.10	25.58	23.71	23.92	27.08	19.16	11.37	24.69
1923	24.68	22.31	24.89	22.60	22.55	26.27	19.94	5.73	23.77

(a) Number of births per 1,000 of the mean annual population.

Notwithstanding some undulating movements at different times, the crude birth rate of Australia has shown a constant decline for many years, and if the figures for 1919 are discarded as the result of abnormal conditions arising from the war, the rate of 23.77 per 1,000 persons is the lowest yet recorded. If the war years are disregarded the fall of nearly one per thousand, from 24.69 per 1,000 in 1922 to 23.77 per thousand in 1923 is the most marked in any year since 1903, when the rate per 1,000 of the population fell to 25.29 from 26.71 in 1902. These remarks apply in a general way to all the States; the numbers in the Territories are too small to furnish satisfactory data for comparison.

The most effective factor in determining the crude birth rate is the proportion of *married* women of child-bearing age in the community, but as the fecundity of women varies with age, the birth rate per 1,000 married women will vary according to the age composition of the group, and, other things being equal, the rate generally should be highest where the average age of married women is lowest. For the purposes of the following table the child-bearing age has been taken as from 15-44 years inclusive, and all births of which the mothers were stated to be over 45 years have been counted in the group 40-44.

To compare the relative increases to the populations of different countries accruing from births, it is of course necessary to take account of the ex-nuptial births, which vary very largely in relation to nuptial births between different countries and between different localities in the same country.

The following table gives for each of the States and for Australia some of the more important factors which affect the birth rates, and also the birth rates computed on various bases as follows:—Births per 1,000 of the population (crude); births per 1,000 women of child-bearing age; nuptial births per 1,000 married women of child-bearing age; births per 1,000 married women of child-bearing age corrected for inequalities in the age composition by taking the female population of Australia as a whole for a standard; and ex-nuptial births per 1,000 unmarried women aged 15-44 inclusive. The results are obtained from the births during the years 1920, 1921, and 1922 in relation to the age and conjugal condition of the population at the time of the Census of the 4th April, 1921.

The rates obtained from these computations place Tasmania first, and Queensland second, notwithstanding that the proportions of married women of child-bearing age in their populations were lower than the average for Australia. Some compensation to this disadvantage in its effect on the crude birth rate was provided by the relatively low average age of the married women in these States, and by the large proportion of ex-nuptial births. The relatively low proportion of married women of child-bearing age in Queensland was due to the large number of adult males engaged in localities unsuited to women, a circumstance which accounts for the high masculinity of the population.

In Tasmania the small proportion of married women in the total population arises from conditions directly opposite to those in Queensland. In Tasmania the numbers of the sexes were almost equal. Large numbers of the young adults emigrate to the mainland, leaving a population with abnormally large proportions of very young and very old. Although the proportion of married women of child-bearing age was lower in Tasmania than in Queensland, and the average age was the same in both States, Tasmania had the greater weight in the more productive age-groups—from 15 to 24 years.

Western Australia, though fifth in order of the crude birth rates, takes third place when the rates are computed in relation to women only. This change in position is due to the high masculinity. Notwithstanding that the average age of married women of reproductive ages was higher than in any other State, the uncorrected birthrate for nuptial births per 1,000 married women was higher than in New South Wales, Victoria, or South Australia. The adjustment for age improves the status of Western Australia very considerably, though not sufficiently to alter the sequence of its position.

The crude birth rate placed New South Wales third, but on the adjusted rate per 1,000 married women that State takes fifth place. The high position of New South Wales as determined by the crude birth rates was attained by the large proportion in the population of married women of child-bearing age rather than by their productiveness.

Victoria was the only State with an excess of females in its population, and the proportion to the total population of women aged 15-44 was the largest among the States, but as the proportion of these who were married was the lowest, the primary factor in the crude birth rate, viz., the proportion to the total population of married women of reproductive ages was the smallest.

The difference between the adjusted birth rates per 100 married women of child-bearing ages for New South Wales and Victoria was very small, and the proportions of ex-nuptial to all births in these States were almost identical.

Notwithstanding that 12.53 per cent. of the total population consisted of married women of child-bearing age—against an average of 12.20 for Australia—South Australia took fourth place in the order of crude birth rates. The advantage from this high proportion of potentially productive women was to some extent counteracted by their average age being somewhat above the average for Australia. The position was also affected by the very small proportion of ex-nuptial births. The number of nuptial births per 100 women of child-bearing age in South Australia, represented 18.71 as against 19.65 for Australia, although the difference is somewhat reduced by the adjusting process which makes the rate for South Australia 18.99 as against the Australian rate of 19.65.

BIRTHS RATES AND FACTORS AFFECTING THEM.—AVERAGE OF YEARS 1920, 1921, 1922.

Subject.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.
Birth rate per 1,000 persons	25.99	23.54	26.72	24.23	24.14	26.99	25.15
Birth rate per 100 women 15-44 incl.	11.04	9.79	11.83	10.25	11.05	11.91	10.74
Birth rate per 100 married women 15-44 incl. (a)	19.39	19.29	21.26	18.71	19.62	21.83	19.65
Birth rate per 100 married women 15-44 incl. (corrected for age variation)	19.14	19.44	20.77	18.99	20.44	21.24	19.65
Ex-nuptial births—per cent. on all births	4.82	4.84	5.00	3.28	4.02	5.11	4.69
Ex-nuptial births per 100 unmarried women 15-44 incl.	1.16	0.92	1.26	0.72	0.92	1.26	1.05
Women 15-44 incl.—per cent. all persons	23.54	24.02	22.57	23.65	21.83	22.67	23.41
Average age of all women 15-44 incl.	28.67	28.61	28.09	28.73	28.45	28.10	28.54
Married women 15-44 incl.—per cent. to all persons	12.75	11.61	11.93	12.53	11.81	11.73	12.20
Average age of married women 15-44 incl.	32.34	32.74	32.16	32.67	33.02	32.16	32.48

(a) Nuptial births only.

The following figures gives a comparison for Australia, at Census periods from 1880 of the total births per 1,000 women (married and unmarried) and of the nuptial births per 1,000 married women of ages 15 to 44 inclusive :—

Particulars.	1880-82.	1890-92.	1900-2.	1910-12.	1920-22.
Births per 1,000 women aged 15-44	169.7	158.8	117.3	117.2	107.4
Nuptial births per 1,000 married women 15-44	321.0	332.0	235.8	236.0	196.5

3. Birth Rates of Various Countries.—(i) *Crude Rates.* A comparison with other countries shows that the Australian States occupy a rather low position, which is however, counterbalanced by a still lower position in regard to their death rates, as evidenced in the table hereinafter in the section dealing with "Deaths."

CRUDE BIRTH RATES (a).—VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Russia, European ..	1909	44.0	Finland	1922	24.3
Rumania	1920	40.2	Norway	1922	24.2
Ceylon	1922	39.4	Australia	1923	23.8
Chile	1921	39.2	Czecho-Slovakia ..	1922	23.4
Canada (Quebec) ..	1921	37.6	Northern Ireland ..	1922	23.0
Jamaica	1922	37.3	Austria	1922	22.8
Japan	1922	34.2	Scotland	1923	22.8
Bulgaria	1919	32.8	South Australia ..	1923	22.6
Spain	1922	30.5	Western Australia ..	1923	22.6
Italy	1921	30.4	United States (b) ..	1922	22.5
Hungary	1922	29.4	Denmark	1922	22.3
Union of South Africa			Victoria	1923	22.3
(whites)	1923	26.6	New Zealand	1923	21.9
Tasmania	1923	26.3	Belgium	1922	20.4
Germany	1921	26.1	Great Britain	1923	19.9
Netherlands	1922	25.9	England and Wales..	1923	19.7
Prussia	1921	24.9	Switzerland	1922	19.6
Queensland	1923	24.9	France	1922	19.4
Canada (excluding Que-			Irish Free State ..	1923	19.4
bec)	1922	24.8	Sweden	1923	18.8
New South Wales ..	1923	24.7			

(a) Number of births per 1,000 of the mean population. (b) Figures for "provisional birth-registration area," which includes about 65 per cent. of the population.

(ii) *Nuptial Birth Rates at Child-bearing Ages.* The wide discrepancies between the crude birth rates of the various countries are, to some extent, due to differences in sex and age constitution and in conjugal condition. If the birth rates be calculated per 1,000 women of child-bearing ages, the comparison gives more reliable results. The following table of the nuptial births per 1,000 married women of ages 15 to 45 in a number of countries has been taken from the *Annuaire International de Statistique*, and shows that nuptial births per 1,000 married women, aged 15 to 45 years, varied from 280 in Bulgaria to a minimum of 114 in France, Australia with a rate of 198 being midway between maximum and minimum.

NUPTIAL BIRTH RATES PER 1,000 MARRIED WOMEN AGED 15 TO 45 YEARS.—VARIOUS COUNTRIES.

Country.	Period.	Rate.	Country.	Period.	Rate.
Bulgaria	1910-11	280	Australia	1906-15	198
Ireland	1909-12	250	Hungary	1906-15	198
Netherlands ..	1905-14	233	Germany	1907-14	196
Finland	1906-15	230	Sweden	1908-13	196
Italy	1907-14	226	Denmark	1906-15	191
Norway	1907-14	224	New Zealand	1906-15	188
Austria	1908-13	219	Switzerland	1906-15	184
Spain	1906-15	218	England and Wales..	1906-15	171
Prussia	1907-14	204	Belgium	1908-13	161
Scotland	1906-15	202	France	1910-11	114

4. **Masculinity of Births.**—(i) *General.* The masculinity of births, i.e., the excess of males over females per 100 births registered, during the last five years varied from 0.25 in Western Australia in 1919 to 4.66 in Queensland in 1921. On account of the smallness of the numbers, the returns from the Northern Territory and the Federal Capital Territory have not been taken into consideration. The following table, which gives the values for the States and Australia for 1919 to 1923, shows that for Australia the masculinity of births has fallen each year since 1920.

MASCULINITY (a) OF BIRTHS REGISTERED, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
1919 ..	2.71	2.63	4.24	4.45	0.25	2.37	3.77	-25.93	2.92
1920 ..	2.67	2.99	4.04	2.73	4.45	1.32	-1.59	6.67	3.01
1921 ..	2.51	2.77	4.66	2.25	2.16	2.31	-1.27	11.11	2.85
1922 ..	2.29	3.27	2.70	2.49	2.40	2.97	8.77	6.25	2.67
1923 ..	2.51	3.49	1.72	2.22	2.22	2.10	11.11	-36.84	2.59

(a) Excess of males over females per 100 total births.

NOTE.—The minus sign — denotes an excess of females over males per 100 total births.

(ii) *Masculinity of Ex-nuptial Births.* The masculinity of ex-nuptial births was as follows:—

MASCULINITY (a) OF EX-NUPTIAL BIRTHS, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
1919 ..	4.93	0.22	8.91	4.84	-2.74	7.98	0.00	-100.00	4.03
1920 ..	3.87	8.20	11.52	-2.22	5.36	-3.63	-6.67	..	5.60
1921 ..	3.94	2.72	-0.94	6.10	6.03	1.26	15.38	..	2.96
1922 ..	3.11	1.75	6.44	9.55	3.26	-2.64	-5.88	..	3.37
1923 ..	2.54	2.07	2.13	0.00	-5.96	-3.98	10.34	-100.00	1.72

(a) Excess of males over females per 100 total births.

NOTE.—The minus sign — denotes an excess of females over males per 100 total births.

Although the general tendency of the change in the sex composition of the ex-nuptial births has been the same as in the total births, the results in the smaller States do not show the same consistency in the former as in the latter. This is due, no doubt, to the relatively small numbers involved.

(iii) *Masculinity of Nuptial and Ex-nuptial Births, Various Countries.*—There is ordinarily a very small difference between the masculinity of nuptial and ex-nuptial births. Thus, according to the following table, for the period about 1906 to 1913, the masculinity in various countries ranged from 4.63 to 1.91, and from 5.90 to 0.06 for nuptial and ex-nuptial births respectively.

MASCULINITY OF BIRTHS.—VARIOUS COUNTRIES.

Country.	Period.	Masculinity of Births.(a)		Country.	Period.	Masculinity of Births.(a)	
		Nuptial Live Births.	Ex-nuptial Live Births.			Nuptial Live Births.	Ex-nuptial Live Births.
Spain ..	1906-13	4.63	5.90	Ireland ..	1906-12	2.61	1.63
Portugal ..	1906-10	3.93	0.06	New Zealand	1906-13	2.59	2.57
Finland ..	1906-13	3.03	2.09	Australia ..	1906-13	2.52	2.27
Sweden ..	1906-13	2.95	3.27	Netherlands	1906-13	2.49	1.53
Hungary ..	1906-13	2.86	2.02	Denmark ..	1906-13	2.43	2.22
Norway ..	1906-13	2.79	2.98	Switzerland	1906-13	2.38	1.21
Prussia ..	1906-13	2.79	2.12	Japan ..	1906-13	2.32	0.87
Russia, Euro- pean ..	1906-09	2.77	2.00	France ..	1906-11	2.21	1.59
Austria ..	1906-13	2.76	2.73	Chile ..	1906-13	2.20	2.81
Germany ..	1906-13	2.71	2.29	Belgium ..	1906-13	2.08	1.31
Italy ..	1906-13	2.64	2.29	Scotland ..	1906-13	2.05	2.14
Serbia ..	1906-10	2.62	2.86	England and Wales ..	1906-13	1.91	2.07

(a) Excess of males over females per 100 total births.

5. Ex-nuptial Births.—(i) *General*. The number of ex-nuptial births reached its maximum, 7,438, in 1913, but it has since fallen considerably. On the average of the five years 1909-13 the number of ex-nuptial births in Australia was 7,090, while for the period 1919-23 it was only 6,332, a decline of 10.7 per cent., whereas the annual average total births for the same periods fell by 7.5 per cent. only.

It is, of course, possible that the number of ex-nuptial births is somewhat understated, owing to diffidence in proclaiming the fact of ex-nuptiality, and it is not unlikely that the majority of unregistered births are ex-nuptial.

EX-NUPTIAL BIRTHS, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
1919 ..	2,495	1,826	1,078	433	292	326	26	1	6,477
1920 ..	2,582	1,902	1,033	450	317	303	15	..	6,602
1921 ..	2,640	1,725	1,062	377	315	318	26	..	6,463
1922 ..	2,667	1,602	932	356	337	265	17	..	6,176
1923 ..	2,676	1,595	1,079	360	285	251	29	1	6,276

(ii) *Rate of Ex-nuptiality, 1919 to 1923*. The rate of ex-nuptiality, i.e., the percentage of ex-nuptial on total births fell steadily from 5.30 in 1919 to 4.49 in 1922, but rose slightly to 4.64 in 1923. On the basis of the figures given in the preceding sub-section the ex-nuptial rate fell from 4.91 per cent. of all births during the years 1909-13 to 4.74 per cent. for the years 1919-23.

PERCENTAGE OF EX-NUPTIAL ON TOTAL BIRTHS, 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
	%	%	%	%	%	%	%	%	%
1919 ..	5.14	5.77	5.76	3.92	4.21	6.14	24.53	3.70	5.30
1920 ..	4.79	5.25	5.10	3.74	3.89	5.28	23.81	..	4.84
1921 ..	4.83	4.85	5.22	3.15	4.03	5.53	32.91	..	4.75
1922 ..	4.83	4.41	4.66	2.97	4.14	4.56	24.29	..	4.49
1923 ..	4.95	4.45	5.40	3.08	3.63	4.44	40.28	5.26	4.64

A comparison of greater significance is obtained by calculating the number of ex-nuptial births per thousand of the single and widowed female population between the ages of 15 and 45. The calculation has been made for Australia for the last five Census periods for which the information is available, and covers in each case the Census year, together with the year immediately preceding and the year immediately following. The number of ex-nuptial births per 1,000 unmarried women of ages 15 to 45 has been found to be as follows:—Years 1880–82, 14.49; years 1890–92, 15.93; years 1900–02, 13.30; years 1910–12, 12.53; years 1920–22, 10.50. Corresponding figures for those countries for which the nuptial birth rates were shown in a preceding paragraph are given in the next table.

**EX-NUPTIAL BIRTHS PER 1,000 UNMARRIED WOMEN AGED 15 TO 45 YEARS.—
VARIOUS COUNTRIES.**

Country.	Period.	Rate.	Country.	Period.	Rate.
Hungary	1906–15	38	Norway	1907–14	13
Austria	1908–13	30	Scotland	1906–15	13
Sweden	1908–13	26	Australia	1906–15	12
Denmark	1906–15	24	Belgium	1908–13	12
Germany	1907–14	23	New Zealand	1906–15	9
Prussia	1907–14	21	Switzerland	1906–15	8
Finland	1906–15	17	England and Wales	1906–15	7
France	1901–11	16	Netherlands	1905–14	5
Italy	1907–14	14	Ireland	1909–12	4
Spain	1906–15	14	Bulgaria	1910–11	4

(iii) *Comparison of Rates.* The following table has been prepared to show the relative movements of the ex-nuptial and the nuptial births in relation to the total population:—

**CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES (a).—AUSTRALIA,
1919 TO 1923.**

Rates.	1919.	1920.	1921.	1922.	1923.
Ex-nuptial	1.26	1.24	1.18	1.11	1.10
Nuptial	22.52	24.50	23.77	23.58	22.67
Total	23.78	25.74	24.95	24.69	23.77

(a) Number of births per 1,000 of mean population.

6. *Multiple Births.*—Among the total number of 135,222 births registered in Australia in 1923 there were 132,432 single births, 2,772 twins, and 18 triplets. The number of cases of twins was 1,394, there being 16 stillbirths, and there were 6 cases of triplets. The total number of mothers was, therefore, 133,832, the proportion of mothers of twins being one in every 96, and of mothers of triplets one in every 22,305 of total mothers. The proportion of multiple births is fairly constant.

MULTIPLE BIRTHS.—AUSTRALIA, 1919 TO 1923.

Year.	Cases of Twins.	Cases of Triplets.	Cases of Quadruplets.	Percentage of Cases of Multiple Births on total Mothers.	Number of Mothers to each Multiple Birth.
1919	1,327	15	1	1.10	90
1920	1,521	16	..	1.13	88
1921	1,453	12	..	1.09	92
1922	1,432	12	..	1.06	94
1923	1,394	6	..	1.04	96

7. Ages of Parents.—(i) *Single Births.* The relative ages of the parents of children registered in 1923 have been tabulated separately for male and female births, twins and triplets being distinguished from single births, and are shown for single ages and for every State in "Australian Demography," No. 41, published by this Bureau. In the present work the exigencies of space allow only the insertion of corresponding tables showing the relative ages of parents in groups of five years. The largest number of fathers in the case of single births is found at ages 30 to 34, and of mothers at ages 25 to 29. When, however, the ages of both parents are considered together, the largest number of single births occurred where both father and mother were between 25 and 29.

AGES OF PARENTS IN CASES OF SINGLE BIRTHS.—AUSTRALIA, 1923.

Ages of Fathers and Sexes of Children.		Total Children.	Ages of Mothers.								Un-specified.	
			Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and upwards.		
Under 20	Males ..	319	..	235	74	8	2	..	..	..	..	..
	Females ..	249	..	176	70	3	..	..	..	..	..	..
	Total ..	568	..	411	144	11	2	..	..	..	..	..
20 to 24	Males ..	6,796	..	1,370	4,414	906	89	14	2	..	1	1
	Females ..	6,541	..	1,236	4,258	923	109	12	1	1	1	1
	Total ..	13,337	..	2,606	8,672	1,829	198	26	3	3	2	2
25 to 29	Males ..	16,040	..	605	6,263	7,579	1,404	163	19	5	2	2
	Females ..	15,052	..	594	5,950	7,003	1,323	166	15	..	1	1
	Total ..	31,092	..	1,199	12,213	14,582	2,727	329	34	5	3	3
30 to 34	Males ..	17,052	..	151	2,612	6,789	6,286	1,109	102	3	..	..
	Females ..	16,394	..	179	2,480	6,634	6,001	1,020	77	2	1	1
	Total ..	33,446	..	330	5,092	13,423	12,287	2,129	179	5	1	1
35 to 39	Males ..	12,592	..	59	772	2,710	4,774	3,848	420	9	..	..
	Females ..	11,868	..	54	722	2,538	4,559	3,558	423	13	1	1
	Total ..	24,460	..	113	1,494	5,248	9,333	7,406	843	22	1	1
40 to 44	Males ..	6,982	1	21	226	776	1,891	2,748	1,288	31	..	..
	Females ..	6,597	..	16	193	748	1,802	2,584	1,223	31	..	..
	Total ..	13,579	1	37	419	1,524	3,693	5,332	2,511	62	..	..
45 to 49	Males ..	3,188	..	4	68	278	595	1,172	946	125	..	..
	Females ..	3,008	..	5	68	263	558	1,107	875	131	1	1
	Total ..	6,196	..	9	136	541	1,153	2,279	1,821	256	1	1
50 to 54	Males ..	1,238	..	3	25	87	207	423	403	89	1	1
	Females ..	1,181	..	1	24	74	190	357	454	80	1	1
	Total ..	2,419	..	4	49	161	397	780	857	169	2	2
55 to 59	Males ..	395	..	2	5	22	67	134	131	34	..	..
	Females ..	372	..	1	7	25	59	121	134	25	..	..
	Total ..	767	..	3	12	47	126	255	265	59	..	..
60 to 64	Males ..	156	..	..	3	13	27	41	59	13	..	..
	Females ..	122	..	..	2	10	26	35	38	11	..	..
	Total ..	278	..	..	5	23	53	76	97	24	..	..
65 and upwards	Males ..	45	..	..	..	4	7	13	19	2	..	..
	Females ..	49	..	2	..	2	14	17	10	2	..	..
	Total ..	94	..	2	..	6	21	30	29	4	..	..
Not stated	Males ..	10	..	..	3	2	3	1	1	..	..	..
	Females ..	4	..	..	..	3	..	1	1	..	..	..
	Total ..	14	..	..	3	5	3	1	2	..	..	..
Nuptial children	Males ..	64,813	1	2,450	14,465	19,174	15,352	9,666	3,390	311	4	6
	Females ..	61,437	..	2,264	13,776	18,326	14,641	8,977	3,251	296	..	6
	Total ..	126,250	1	4,714	28,241	37,400	29,993	18,643	6,641	607	10	10
Ex-nuptial children	Males ..	3,144	19	871	1,041	557	339	223	77	12	5	5
	Females ..	3,038	14	804	1,020	553	351	207	75	10	4	4
	Total ..	6,182	33	1,675	2,061	1,110	690	430	152	22	9	9
Total children	Males ..	67,957	20	3,321	15,506	19,731	15,691	9,889	3,467	323	9	9
	Females ..	64,475	14	3,068	14,786	18,779	14,992	9,184	3,326	306	10	10
	Total ..	132,432	34	6,389	30,302	38,510	30,683	19,073	6,793	629	19	19

(ii) *Twins.* The ages of parents of twins in 1923 are given hereunder:—

AGES OF PARENTS OF TWINS.—AUSTRALIA, 1923.

Ages of Fathers and Sexes of Children.		Total Children.	Ages of Mothers.						
			Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and upwards.
Under 20	Males	3	1	2	..	..	..	..	..
	Females	1	1	..	..	..	..	..	..
	Total	4	2	2	..	..	..	..	..
20 to 24	Males	108	13	69	26	..	..	..	..
	Females	70	9	41	18	2	..	..	..
	Total	178	22	110	44	2	..	..	..
25 to 29	Males	244	10	81	125	21	6	1	..
	Females	280	8	114	113	40	4	1	..
	Total	524	18	195	238	61	10	2	..
30 to 34	Males	345	2	37	134	151	21	..	..
	Females	359	4	47	123	165	18	2	..
	Total	704	6	84	257	316	39	2	..
35 to 39	Males	335	2	4	67	150	101	11	..
	Females	313	2	6	48	140	98	19	..
	Total	648	4	10	115	290	199	30	..
40 to 44	Males	176	..	4	13	56	77	26	..
	Females	161	..	..	17	43	83	18	..
	Total	337	..	4	30	99	160	44	..
45 to 49	Males	93	..	2	6	19	45	20	1
	Females	99	..	..	4	14	47	31	3
	Total	192	..	2	10	33	92	51	4
50 to 54	Males	37	..	..	..	5	16	16	..
	Females	35	..	..	..	5	12	14	4
	Total	72	..	..	..	10	28	30	4
55 to 59	Males	7	..	..	1	..	2	4	..
	Females	10	..	..	1	..	5	4	..
	Total	17	..	..	2	..	7	8	..
60 and over	Males	2	..	..	..	..	..	..	2
	Females	..	..	..	..	..	..	..	..
	Total	2	..	..	..	..	..	..	2
Nuptial children	Males	1,350	28	199	372	402	268	78	3
	Females	1,328	24	208	324	409	267	89	7
	Total	2,678	52	407	696	811	535	167	10
Ex-nuptial children	Males	48	9	16	6	12	3	2	..
	Females	46	9	14	6	6	9	2	..
	Total	94	18	30	12	18	12	4	..
Total children	Males	1,398	37	215	378	414	271	80	3
	Females	1,374	33	222	330	415	276	91	7
	Total	2,772	70	437	708	829	547	171	10

(iii) *Triplets.* Particulars regarding the ages of parents in cases of triplets are given in the next table:—

AGES OF PARENTS OF TRIPLETS.—AUSTRALIA, 1923.

Ages of Fathers and Sexes of Children.				Total Children.	Ages of Mothers.		
					25 to 29.	30 to 34.	35 to 39.
25 to 29	{	Males	.. .. .	1	1	..	..
		Females	.. .. .	2	2	..	..
		Total	.. .. .	3	3	..	..
30 to 34	{	Males	.. .. .	6	3	3	..
		Females	.. .. .	..	..	..	..
		Total	.. .. .	6	3	3	..
35 to 39	{	Males	.. .. .	3	..	3	..
		Females	.. .. .	6	3	..	3
		Total	.. .. .	9	3	3	3
Total children	{	Males	.. .. .	10	4	6	..
		Females	.. .. .	8	5	..	3
		Total	.. .. .	18	9	6	3

(iv) *Influence on Masculinity.* Valid deductions cannot, of course, be drawn from one year's figures as to variations in the masculinity of the births at different ages of the parents, but so far as the figures go the following conclusions are indicated:—In cases where the father is older than the mother the masculinity has a tendency to be above the average, while in cases where both parents belong to the same age group, or where the father is younger than the mother, the masculinity is rather below the average. It is also below the average in cases where the father, or both father and mother are under 25; and it is above the average where the mother alone is under 25.

8. *Birthplaces of Parents.*—The relative birthplaces of the parents of children whose births were registered during the year 1923 will be found tabulated in the Bulletin of "Australian Demography," published by this Bureau. A summary of the results of the tabulation is given hereunder.

BIRTHPLACES OF PARENTS.—AUSTRALIA, 1923.

Birthplaces.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.	
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.
AUSTRALASIA—								
New South Wales ..	41,109	396	1	42,789	432	1	2,349	16
Victoria ..	33,206	396	4	32,486	364	4	1,494	17
Queensland ..	13,543	132	..	15,262	147	..	934	6
South Australia ..	11,248	116	..	10,907	121	..	349	3
Western Australia ..	2,357	26	..	3,172	32	..	201	..
Tasmania ..	5,810	56	1	5,856	63	1	336	2
Northern Territory ..	25	9	..	29	1	..	29	..
Federal Capital Territory ..	2	..	..	4	..	..	..	..
Papua ..	3	..	..	3	..	..	1	..
Territory of New Guinea ..	2	..	..	..	..	..	1	..
New Zealand ..	1,000	..	..	759	7	..	36	1

BIRTHPLACES OF PARENTS.—AUSTRALIA, 1923—*continued.*

Birthplaces.	Fathers.			Mothers of Nuptial Children.			Mothers of Ex-nuptial Children.	
	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.	Trip-lets.	Single Births.	Twins.
EUROPE—								
England	10,792	120	..	9,936	112	..	285	1
Wales	317	8	..	261	4	..	13	..
Scotland	2,629	45	..	2,385	35	..	68	1
Ireland	1,320	17	..	889	10	..	26	..
Other British Possessions in Europe	108	3	..	64	1	..	2	..
Belgium	14	..	..	25	1	..	..	..
Denmark	134	..	..	28	1	..	2	..
France	42	..	..	66	..	..	2	..
Germany	358	2	..	137	3	..	3	..
Greece	217	2	..	122	2	..	1	..
Italy	381	4	..	253	3	..	2	..
Netherlands	40	2	..	17	..	..	1	..
Norway	75	1	..	16	..	..	2	..
Poland	34	..	..	13	..	..	..	..
Russia	164	..	..	88	1	..	5	..
Spain	34	..	..	19	..	..	1	..
Sweden	125	..	..	14	..	..	..	..
Switzerland	33	..	..	18	1	..	1	..
Other European Countries	151	2	..	61	..	..	..	..
ASIA—								
British India and Ceylon	128	..	..	84	1	..	3	..
Other British Possessions in Asia	19	1	..	8	..	..	..	..
China	101	1	..	21	..	..	1	..
Japan	24	..	..	12	..	..	..	..
Syria	79	..	..	51	..	..	..	..
Other Countries in Asia	13	1	..	6	..	..	..	..
AFRICA—								
Union of S. Africa ..	108	2	..	124	2	..	7	..
Other African Countries	30	..	..	28	..	..	..	..
AMERICA—								
Canada	106	..	..	31	2	..	1	..
Other British Possessions in America	4	..	..	5	..	..	1	..
United States of America	184	3	..	88	1	..	5	..
Other American Countries	44	1	..	29	..	..	2	..
POLYNESIA—								
Fiji	29	..	..	16	..	..	2	..
Other British Posses- sions in Polynesia ..	2	..	..	2	..	..	..	..
New Caledonia	18	..	..	22	..	..	1	..
New Hebrides	8	..	..	2	..	..	..	..
Other Polynesian Islands	17	..	..	2	..	..	1	..
At Sea	53	1	..	28	..	..	2	..
Unspecified	10	..	..	12	..	..	12	..
Total	126,250	1,347	6	126,250	1,347	6	6,182	47

9. Occupations of Fathers.—(i) Year 1923. A summary of the occupations of the fathers of all nuptial children whose births were registered in 1923 is given in the following table:—

OCCUPATIONS OF FATHERS OF NUPTIAL CHILDREN.—AUSTRALIA, 1923.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
CLASS I.—PROFESSIONAL.		CLASS III.—COMMERCIAL—cont.	
General Government	779	Carriages and Vehicles ..	40
Local Government	77	Harness, Saddlery & Leatherware ..	1
Defence	333	Ships and Boats	5
Law and Order	1,119	Building Materials	32
Religion	353	Furniture	38
Charities	1	Chemicals and By-products ..	7
Health	1,100	Paper and Stationery	56
Literature	136	Textile Fabrics	428
Science	57	Dress	185
Civil Engineering, Architecture, and Surveying	443	Fibrous Materials	8
Education	826	Animal Food	2,425
Fine Arts	111	Vegetable Food	789
Music	135	Groceries, Drinks, Narcotics, and Stimulants	1,205
Amusements	510	Living Animals	114
Total Professional	6,010	Leather, Raw Materials	39
		Wool and Tallow	62
		Hay, Corn, etc.	146
		Other Vegetable Matter n.e.i. ..	47
		Wood and Coal	150
CLASS II.—DOMESTIC.		Stone, Clay and Glass	30
Hotelkeepers and Assistants ..	973	Gold, Silver and Precious Stones ..	1
Others engaged in providing board and lodging	166	Ironmongery	140
House Servants	2	Merchants, Importers	543
Coachmen and Grooms	67	Shopkeepers and Assistants ..	1,334
Hairdressers	622	Dealers and Hawkers	301
Laundrymen	50	Agents and Brokers	537
Others engaged in domestic occu- pations	362	Clerks, Bookkeepers, etc. ..	4,469
Total Domestic	2,242	Commercial Travellers, Salesmen ..	1,921
		Others engaged in Commercial Pursuits	1,393
		Speculators on Chance Events ..	53
		Storage	1
		Total Commercial	18,210
CLASS III.—COMMERCIAL.		CLASS IV.—TRANSPORT AND COMMUNICATION.	
Banking and Finance	674	Railway Traffic	4,943
Insurance and Valuation	573	Tramway Traffic	1,294
Landed and House Property ..	216	Road Traffic	5,995
Property Rights n.e.i.	2	Sea and River Traffic	1,486
Books, Publications, Advertising ..	206	Postal Service	699
Musical Instruments	14	Telegraph and Telephone Service ..	798
Prints, Pictures and Art Materials ..	1	Messengers, etc.	15
Ornaments and Small Wares	2	Aviation	14
Sports and Games	2	Total Transport & Communication ..	15,244
Watches, Clocks, Jewellery	3		
Arms and Ammunition	1		
Machinery	16		

OCCUPATIONS OF FATHERS OF NUPTIAL CHILDREN.—AUSTRALIA, 1923

—continued.

Occupations.	Number of Fathers.	Occupations.	Number of Fathers.
CLASS V.—INDUSTRIAL.		CLASS V.—INDUSTRIAL—cont.	
Books and Publications ..	813	Roads, Railways, Earthworks ..	261
Musical Instruments	59	Disposal of the Dead	35
Prints, Pictures and Art Materials	63	Disposal of Refuse	118
Ornaments and Small Wares ..	167	Other Industrial Workers—	
Equipment for Sports and Games	9	Manufacturers, etc.	769
Medals, Type, and Dies	34	Engineers, Firemen	3,043
Watches, Clocks, and Scientific		Contractors	1,255
Instruments	117	Labourers, undefined	24,010
Surgical Instruments	17	Others	318
Arms and Ammunition	10		
Engines, Machines, Tools, and		Total Industrial ..	53,737
Implements	1,701		
Carriages and Vehicles	1,446	CLASS VI.—AGRICULTURAL,	
Harness, Saddlery & Leatherware	421	PASTORAL, MINING, ETC.	
Ships, Boats, etc.	134	Agricultural	22,567
Furniture	801	Pastoral	3,620
Building Materials	1,104	Dairy Farming	1,130
Chemicals and By-products ..	55	Bees, Fisheries, and Wild Animals	383
Textile Fabrics	262	Forestry	758
Dress	1,897	Water Conservation and Supply	106
Fibrous Materials	33	Mines and Quarries	3,410
Animal Food	327		
Vegetable Food	1,467	Total Primary Producers	31,974
Groceries, Drinks, Narcotics, and			
Stimulants	337	CLASS VII.—INDEFINITE.	
Animal Matter n.e.i.	305	Independent Means, having no	
Workers in Wood n.e.i.	208	specific occupation	151
Vegetable Produce for Fodder ..	9	Occupation not stated	35
Paper	20		
Stone, Clay, Glass, etc.	574	Total Indefinite ..	186
Jewellery and Precious Stones ..	209		
Metals, other than Gold & Silver	2,890	Total all Occupations ..	127,603
Gas, Electric Lighting, etc. ..	1,110		
Building—			
Builders	712		
Stonemasons	181		
Bricklayers	634		
Carpenters	3,159		
Slaters	71		
Plasterers	448		
Painters	1,221		
Plumbers	816		
Signwriters	63		
Others	24		

(ii) *Summary, 1919 to 1923.* The next table gives a summary in classes of the occupations of fathers of nuptial children in each of the last five years, with the percentage of each class on the total number of fathers. In 1923, 42.11 per cent. of fathers were of the industrial class, and 25.06 per cent. were of the agricultural, pastoral, mining, etc., class. In the five years under review, the greatest variations in the percentages of the various classes were an increase in the industrial class from 40.72 to 42.11 per cent., and a decline in the agricultural class from 25.83 to 25.06, and in the professional class from 5.29 to 4.71 per cent.

OCCUPATIONS OF FATHERS OF NUPTIAL CHILDREN.—AUSTRALIA, 1919 TO 1923.

Class.		1919.	1920.	1921.	1922.	1923.
I. Professional	No.	6,063	6,638	6,204	6,369	6,010
	%	5.29	5.17	4.83	4.90	4.71
II. Domestic	No.	1,885	2,165	2,319	2,045	2,242
	%	1.65	1.69	1.81	1.57	1.76
III. Commercial	No.	16,501	18,208	18,298	18,731	18,210
	%	14.41	14.19	14.26	14.41	14.27
IV. Transport and Communication	No.	13,735	15,285	15,351	15,809	15,244
	%	11.99	11.91	11.96	12.17	11.95
V. Industrial	No.	46,636	54,086	53,567	54,104	53,737
	%	40.72	42.15	41.75	41.64	42.11
VI. Agricultural, pastoral, mining, etc.	No.	29,591	31,744	32,405	32,665	31,974
	%	25.83	24.74	25.25	25.14	25.06
VII. Indefinite	No.	102	147	169	204	186
	%	0.09	0.11	0.13	0.16	0.14
VIII. Dependents	No.	22	55	13	7	..
	%	0.02	0.04	0.01	0.01	..
Total	No.	114,535	128,328	128,326	129,934	127,603
	%	100.00	100.00	100.00	100.00	100.00

10. *Mother's Age, Duration of Marriage, and Issue.*—(i) *General.* A tabulation has been made showing, in age-groups, the duration of marriage and issue of mothers. The total number of nuptial confinements in 1923 was 127,603, but in 43 cases the necessary information was lacking, and the following series of tables refers, therefore, to 127,560 nuptial confinements, viz., 126,207 single births, 1,347 cases of twins, and 6 cases of triplets. Ex-nuptial children—previous issue by the same father—are included as previous issue, but children by former marriages, and stillborn children are excluded. The tables cannot be given *in extenso*, but the following are their most salient features. The complete tabulations are shown in "Australian Demography," No. 41.

(ii) *Duration of Marriage and Issue of Mothers.* The following table shows that the duration of marriage of mothers of nuptial children ranged from less than one year up to between 33 and 34 years, and that the average family increased fairly regularly with the duration of marriage. The average number of children of all marriages was 3.08, the corresponding figures for 1922 being 3.10; for 1921, 3.08; for 1920, 3.11; and for 1919, 3.33.

DURATION OF MARRIAGE AND ISSUE OF MOTHERS.—AUSTRALIA, 1923.

Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.	Duration of Marriage.	Total Mothers.	Total Issue.	Average Number of Children.
Years.				Years.			
0-1	19,460	19,845	1.02	18-19	1,452	10,765	7.41
1-2	10,883	12,315	1.13	19-20	1,119	8,700	7.77
2-3	11,898	20,480	1.72	20-21	839	6,759	8.06
3-4	12,966	26,461	2.04	21-22	680	5,825	8.57
4-5	10,167	24,577	2.42	22-23	543	4,875	8.98
5-6	7,314	20,160	2.76	23-24	463	4,286	9.26
6-7	6,363	19,566	3.07	24-25	263	2,487	9.45
7-8	6,100	20,634	3.35	25-26	174	1,787	10.27
8-9	6,222	22,995	3.69	26-27	100	1,068	10.68
9-10	5,405	22,223	4.11	27-28	61	652	10.69
10-11	4,745	21,168	4.45	28-29	31	319	10.29
11-12	4,441	21,323	4.80	29-30	16	171	10.68
12-13	3,739	19,281	5.16	30-31	8	95	11.87
13-14	3,328	18,342	5.51	31-32	1	14	14.00
14-15	2,643	15,694	5.94	32-33	1	14	14.00
15-16	2,298	14,380	6.26	33-34	1	14	14.00
16-17	2,090	13,890	6.64				
17-18	1,746	12,208	6.99				
				Total	127,560	393,373	3.08

(iii) *Ages of Mothers and Issue.* The ages of mothers, issue, and average family are given in the attached table, which shows that the average family increased fairly regularly to a maximum of 7.78 children in the age-group 45 years and over, and that the greatest number of mothers occurs in the group 25 to 29 years.

AGES AND ISSUE OF MOTHERS.—AUSTRALIA, 1923.

Ages of Mothers.	Total Mothers.	Total Issue.	Average Number of Children.	Ages of Mothers.	Total Mothers.	Total Issue.	Average Number of Children.
Under 20 years	4,738	5,640	1.19	40-44 years ..	6,721	42,554	6.33
20-24 years ..	28,437	48,721	1.71	45 yrs. and over	612	4,761	7.78
25-29 " ..	37,736	92,862	2.46				
30-34 " ..	30,403	106,946	3.52				
35-39 " ..	18,913	91,889	4.86	All ages ..	127,560	393,373	3.08

(iv) *Previous Issue of Mothers, Various Ages.* The previous issue, according to the age of the mother, is given in the following table. Two mothers aged 40-44 each had 20 children prior to their present confinement.

PREVIOUS ISSUE OF MOTHERS OF VARIOUS AGES.—AUSTRALIA, 1923.

Previous Issue.	Mothers' Ages.							
	Under 20 Years.	20-24 Years.	25-29 Years.	30-34 Years.	35-39 Years.	40-44 Years.	45 Years and Over.	Total.
0	3,922	14,517	11,433	5,002	1,793	393	30	37,090
1	759	9,245	11,187	6,366	2,267	456	17	30,297
2	54	3,492	7,302	5,696	2,586	576	36	19,742
3	3	950	4,197	4,609	2,685	646	40	13,130
4	..	183	2,283	3,654	2,507	777	49	9,453
5	..	36	906	2,422	2,117	750	46	6,277
6	..	8	304	1,450	1,697	710	61	4,230
7	..	5	94	741	1,373	702	61	2,976
8	..	1	23	309	944	587	73	1,937
9	..	..	7	103	490	456	57	1,113
10	..	..	..	33	257	308	50	648
11	..	..	..	10	128	188	32	358
12	..	..	..	5	47	88	32	172
13	..	..	..	3	11	44	15	73
14	..	..	..	..	7	25	8	40
15	..	..	..	..	..	6	4	10
16	..	..	..	..	4	4	1	9
17	..	..	..	..	..	2	..	2
18	..	..	..	..	..	1	..	1
20	..	..	..	..	..	2	..	2
Total Mothers	4,738	28,437	37,736	30,403	18,913	6,721	612	127,560

(v) *Previous Issue of Mothers of Twins and Triplets.* Figures regarding the previous issue of mothers of twins and triplets show that 332 mothers had twins at their first confinement; 254 at their second; 225 at their third; 158 at their fourth; 120 at their

fifth; 77 at their sixth; 55 at their seventh; 52 at their eighth; 34 at their ninth; 22 at their tenth; 8 at their eleventh; 8 at their twelfth; and 2 at their thirteenth.

First, second, fourth, fifth, seventh, and eighth confinements each produced one of the 6 cases of triplets which occurred during 1923.

11. *Interval between Marriage and First Birth.—(i) Interval and Sex of Children.* The following table shows the interval between marriage and first birth, distinguishing the sexes of the children. Twins and triplets are included, the eldest born only being enumerated :—

INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH.—AUSTRALIA, 1923.

Interval.	Number of First Children.			Interval.	Number of First Children.		
	Males.	Females.	Total.		Males.	Females.	Total.
Under 1 month	212	172	384	2 years ..	1,936	1,855	3,791
1 month ..	239	196	435	3 " ..	949	928	1,877
2 months ..	345	316	661	4 " ..	476	424	900
3 " ..	475	456	931	5 " ..	234	224	458
4 " ..	614	563	1,177	6 " ..	154	160	314
5 " ..	802	740	1,542	7 " ..	149	119	268
6 " ..	1,125	978	2,103	8 " ..	76	88	164
7 " ..	1,084	1,040	2,124	9 " ..	56	46	102
8 " ..	803	787	1,590	10 " ..	54	34	88
9 " ..	1,705	1,593	3,298	11 " ..	33	28	61
10 " ..	1,483	1,507	2,990	12 " ..	24	20	44
11 " ..	1,014	1,050	2,064	13 " ..	12	18	30
12 " ..	982	942	1,924	14 " ..	14	19	33
13 " ..	613	640	1,253	15 " ..	15	7	22
14 " ..	584	526	1,110	16 " ..	11	9	20
15 " ..	508	453	961	17 " ..	9	4	13
16 " ..	443	456	899	18 " ..	3	4	7
17 " ..	400	354	754	19 " ..	3	2	5
18 " ..	358	315	673	20 " ..	1	4	5
19 " ..	242	241	483	21 " ..	..	2	2
20 " ..	236	227	463	22 " ..	..	1	1
21 " ..	229	206	435	23 " ..	..	1	1
22 " ..	195	182	377				
23 " ..	134	119	253	Total ..	19,034	18,056	37,090

The masculinity of first births was 2.64 as compared with 2.59 for total births.

(ii) *Ages of Mothers and Interval.* The previous issue of mothers of ex-nuptial children is not recorded, but for the purposes of the following table all ex-nuptial births have been assumed to be first births. The table shows the ages of mothers in the cases of ex-nuptial first births, of nuptial first births occurring less than nine months after marriage, and of nuptial first births occurring nine months or more after marriage. A comparison of the combined total of the first two columns with the total of nuptial children born nine months or more after marriage shows that for all ages the ratio was about 2 to 3. At all ages up to and including 21, however, there was a great preponderance of ex-nuptial births and of births following on ante-nuptial conception. It must, of course, be understood that a certain number of premature births is necessarily included among the births which occurred less than nine months after marriage, but information in connexion therewith is not available.

AGES OF MOTHERS AND INTERVAL BETWEEN MARRIAGE AND FIRST BIRTH, ETC.—AUSTRALIA, 1923.

Age of Mother at Birth of Child.	Ex-nuptial Births.	Nuptial Births less than nine months after Marriage.	Total of two preceding columns.	Nuptial Births nine months after Marriage and later.	Total Nuptial First Births.	Nuptial First Births and Ex-nuptial Births.
12 years ..	1	..	1	..	..	1
13 " ..	6	..	6	..	..	6
14 " ..	26	..	26	..	..	26
15 " ..	53	29	82	1	30	83
16 " ..	166	146	312	24	170	336
17 " ..	354	452	806	107	559	913
18 " ..	518	964	1,482	327	1,291	1,809
19 " ..	593	1,233	1,826	639	1,872	2,465
20 " ..	468	1,264	1,732	1,052	2,316	2,784
21 " ..	451	1,364	1,815	1,516	2,880	3,331
22 " ..	445	1,140	1,585	2,029	3,169	3,614
23 " ..	411	942	1,353	2,354	3,296	3,707
24 " ..	301	675	976	2,181	2,856	3,157
25 " ..	239	564	803	2,259	2,823	3,062
26 " ..	253	452	705	2,075	2,527	2,780
27 " ..	204	379	583	1,974	2,353	2,557
28 " ..	217	292	509	1,719	2,011	2,228
29 " ..	203	216	419	1,503	1,719	1,922
30 " ..	180	202	382	1,296	1,498	1,678
31 " ..	111	115	226	1,001	1,116	1,227
32 " ..	154	117	271	840	957	1,111
33 " ..	123	85	208	693	778	901
34 " ..	131	62	193	591	653	784
35 " ..	107	64	171	476	540	647
36 " ..	98	46	144	405	451	549
37 " ..	79	37	116	290	327	406
38 " ..	84	37	121	227	264	348
39 " ..	68	21	89	190	211	279
40 " ..	53	9	62	135	144	197
41 " ..	29	15	44	94	109	138
42 " ..	26	7	33	59	66	92
43 " ..	34	7	41	35	42	76
44 " ..	12	5	17	27	32	44
45 " ..	11	3	14	13	16	27
46 " ..	5	1	6	6	7	12
47 " ..	1	1	2	3	4	5
48 " ..	3	..	3	1	1	4
49 " ..	..	1	1	..	1	1
50 " ..	2	..	2	..	..	2
52 " ..	..	..	..	1	1	1
Unspecified ..	9	..	9	..	..	9
Total ..	6,229	10,947	17,176	26,143	37,090	43,319

12. Interval between Birth and Registration of Birth.—Information was obtained for the years 1911 to 1921 regarding the period which elapsed between birth and registration. A detailed table giving the results for 1921 is contained in Demography Bulletin No. 39, issued by this Bureau. The law relating to maternity allowances has tended to accelerate the registration of births; and during the year under review it was found that approximately 35 per cent. were registered in the first week.

Since the granting of the maternity allowance the weighted average interval between the dates of birth and registration has been found to be about 13 days both for nuptial and ex-nuptial children.

§ 2. Marriages.

1. **Marriages, 1919 to 1923.**—The number of marriages registered in Australia during 1923 was 44,541, giving a rate of 7.83 per 1,000 of the mean population for the year, the lowest rate since 1919. The number of marriages in each State for the years 1919 to 1923 is given hereunder:—

MARRIAGES, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Australia.
1919 ..	15,809	11,706	5,429	3,855	2,194	1,513	25	9	40,540
1920 ..	20,154	14,898	6,667	4,881	2,932	1,999	17	4	51,552
1921 ..	18,506	13,676	5,963	4,383	2,656	1,668	15	2	46,869
1922 ..	17,580	12,996	5,878	4,144	2,446	1,674	13	..	44,731
1923 ..	17,523	13,126	5,814	4,099	2,376	1,592	7	4	44,541

2. **Marriage Rates, 1919 to 1923.**—The number of marriages registered per thousand of mean population is given in the following table for the same period:—

CRUDE MARRIAGE RATES(a), 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Australia.
1919 ..	7.91	7.95	7.49	8.23	6.87	7.38	5.37	3.89	7.80
1920 ..	9.75	9.85	8.92	10.03	8.90	9.50	4.04	1.84	9.62
1921 ..	8.78	8.90	7.81	8.82	7.96	7.82	3.84	0.81	8.59
1922 ..	8.18	8.27	7.52	8.19	7.20	7.79	3.56	..	8.03
1923 ..	8.00	8.16	7.24	7.29	6.82	7.39	1.94	1.21	7.83

(a) Number of marriages (not persons married) per 1,000 of mean annual population.

As in some international tabulations the marriage rates are calculated per 1,000 of the unmarried population of 15 years and over, the corresponding rates have been worked out for Australia for the last four Census periods for which the particulars are available. The figures comprise in each case the Census year with the year immediately preceding and the year immediately following, and are as follows:—Years 1880–82, 48.98; years 1890–92, 45.74; years 1900–02, 42.14; years 1910–12, 50.44; years 1920–22, 56.02. These rates refer, of course, to persons married and not to marriages, as is the case in the preceding table.

3. **Marriage Rates in Various Countries.**—The following table shows the marriage rate for Australia in comparison with various other countries. The countries having the highest rates are those European countries which were engaged in the war, and the rates, which are not all available for the same year, are lowest in the latest years. The high rates were possibly due to marriages deferred on account of the war.

CRUDE MARRIAGE RATES.—VARIOUS COUNTRIES.

Country.	Year.	Crude Marriage Rate.	Country.	Year.	Crude Marriage Rate.
Bulgaria	1919	16.2	Canada (excluding Quebec) ..		7.8
Austria	1921	12.7	South African Union ..	1922	7.8
Prussia	1921	12.1	Switzerland	1922	7.7
Germany	1921	11.9	England and Wales ..	1922	7.6
Belgium	1921	11.8	Great Britain	1923	7.6
Italy	1921	11.7	Spain	1923	7.6
Czecho-Slovakia ..	1922	10.7	Tasmania	1922	7.4
Hungary	1922	10.5	Queensland	1923	7.2
Rumania	1919	10.2	Scotland	1923	7.2
France	1922	9.8	Finland	1923	7.0
Japan	1922	9.0	Western Australia ..	1921	6.8
Netherlands	1922	8.7	Chile	1923	6.5
Victoria	1923	8.2	Norway	1921	6.4
New South Wales ..	1923	8.0	Sweden	1922	6.3
Denmark	1922	7.9	Northern Ireland ..	1923	6.3
South Australia ..	1923	7.9	Ceylon	1922	5.7
Quebec (Canada) ..	1921	7.9	Irish Free State ..	1922	4.8
Russia (European) ..	1909	7.9	Jamaica	1922	3.5
New Zealand	1923	7.9		1921	
Australia	1923	7.8			

4. Age and Conjugal Condition at Marriage.—(i) *General.* The ages at marriage of bridegrooms and brides will be found in "Australian Demography," Bulletin No. 41. A summary in age groups is given in the table hereunder, which also shows the previous conjugal condition of the contracting parties. There were 1,943 males who were less than twenty-one years of age married during 1923, while the corresponding number of females was 8,780. At the other extreme there were 27 men of sixty-five years and upwards, who described themselves as bachelors, and 12 spinsters of corresponding age.

AGES AND CONJUGAL CONDITION OF PERSONS MARRIED.—AUSTRALIA, 1923.

Age at Marriage.	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
Under 20 ..	933	..	..	933	6,058	7	1	6,066
20-24 years	13,386	19	9	13,414	18,333	80	42	18,455
25-29 "	14,195	191	76	14,462	10,534	283	160	10,977
30-34 "	7,162	382	156	7,700	3,952	462	200	4,614
35-39 "	3,006	499	167	3,672	1,589	451	130	2,170
40-44 "	1,239	447	118	1,804	586	369	73	1,028
45-49 "	573	356	73	1,002	269	295	38	602
50-54 "	285	314	40	639	112	194	13	319
55-59 "	145	237	25	407	38	106	4	148
60-64 "	59	195	7	261	17	69	3	89
65 years and over ..	27	213	5	245	12	58	..	70
Unspecified	2	..	..	2	3	..	..	3
Total	41,012	2,853	676	44,541	41,503	2,374	664	44,541

(ii) *Relative Ages, Bridegrooms and Brides.* The relative ages of bridegrooms and brides are shown for single years in "Australian Demography," Bulletin No. 41; a condensation into age-groups of five years is given below:—

RELATIVE AGES OF PERSONS MARRIED.—AUSTRALIA, 1923.

Ages.	Total Bride- grooms.	Ages of Brides.								
		Under 15.	15 to 19.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 and upwards.	Not stated.
<i>Ages of Bridegrooms.</i>										
Under 20 ..	933	1	673	243	15	1	..	..	..	..
20 to 24 ..	13,414	7	3,527	8,058	1,570	198	37	11	6	..
25 to 29 ..	14,462	3	1,288	6,953	5,016	975	184	32	11	..
30 to 34 ..	7,700	..	413	2,281	2,782	1,646	453	106	19	..
35 to 39 ..	3,672	..	107	626	1,078	985	630	179	67	..
40 to 44 ..	1,804	..	26	183	315	466	431	260	123	..
45 to 49 ..	1,002	..	12	64	123	195	212	184	212	..
50 to 54 ..	639	..	6	26	48	86	132	119	221	1
55 to 59 ..	407	..	2	11	15	39	50	69	221	..
60 to 64 ..	261	..	1	5	8	11	26	49	161	..
65 and upwards ..	245	..	..	5	7	12	15	19	187	..
Not stated ..	2	..	..	..	..	..	..	..	..	2
Total Brides	44,541	11	6,055	18,455	10,977	4,614	2,170	1,028	1,228	3

(iii) *Average Ages, Bridegrooms and Brides.* The age at marriage of brides has remained fairly stationary during recent years at an average of about 26 years. The figures for the five years are:—1919, 25.77 years; 1920, 26.11 years; 1921, 26.16 years; 1922, 26.14 years; and 1923, 25.61 years. For the five years 1907–11 the average age was 25.70 years, compared with 25.92 years for the five years 1912–16, 26.07 years for the five years 1917–21, and 25.96 years for the five years 1919–1923. The average age of bridegrooms in 1919 was 29.10 years; in 1920, 29.55 years; in 1921, 29.74 years; in 1922, 29.65 years; and in 1923, 29.12 years. It follows, therefore, that brides are generally speaking rather less than three and one-half years younger than bridegrooms.

5. *Previous Conjugal Condition.*—The number of bachelors and spinsters, widowed and divorced persons, who were married during the year 1923 has already been given. The following table shows the conjugal condition of the contracting parties:—

PREVIOUS CONJUGAL CONDITION OF PERSONS MARRIED.—AUSTRALIA, 1923.

Conjugal Condition.	Total Bridegrooms.	Brides.		
		Spinsters.	Widows.	Divorced.
Bridegrooms { Bachelors ..	41,012	39,082	1,434	496
{ Widowers ..	2,853	1,911	828	114
{ Divorced ..	676	510	112	54
Total Brides ..	44,541	41,503	2,374	664

6. *Birthplaces of Persons Married.*—Information regarding the birthplaces of persons who were married in 1923 was not obtained in Western Australia; the totals in the following table, therefore, are exclusive of that State. As might be expected,

there were more brides than bridegrooms who were natives of Australia. In "Australian Demography," Bulletin No. 41, the relative birthplaces of bridegrooms and brides will be found tabulated in full detail.

BIRTHPLACES OF PERSONS MARRIED.—AUSTRALIA (a), 1923.

Birthplaces.	Bridegrooms.	Brides.	Birthplaces.	Bridegrooms.	Brides.
AUSTRALASIA—			ASIA—		
New South Wales ..	14,064	14,899	British India and Ceylon	43	19
Victoria	11,867	12,155	Other British Possessions in Asia ..	6	2
Queensland ..	4,522	5,070	China	25	5
South Australia ..	3,809	3,794	Syria	15	8
Western Australia ..	227	292	Other Asiatic Countries ..	12	5
Tasmania ..	1,833	1,888			
Northern Territory ..	4	8			
Fed. Cap. Territory ..	2	1			
New Zealand ..	358	282			
Papua and Territory of New Guinea ..	2	3			
			AFRICA—		
			Union of South Africa	63	73
			Other British Possessions in Africa	2	..
			Other African Countries	8	4
EUROPE—			AMERICA—		
England	3,201	2,331	Canada	36	18
Wales	96	55	Other British Possessions in America	4	2
Scotland	839	664	United States ..	94	30
Ireland	371	241	Other American Countries ..	12	10
Other British Possessions in Europe ..	32	11			
Belgium	11	6			
Denmark	43	4			
Finland	21	3			
France	23	20			
Germany	93	47			
Greece	79	50			
Italy	94	51			
Netherlands ..	21	5			
Norway	35	4			
Poland	16	2			
Russia	33	17			
Spain	6	10			
Sweden	46	4			
Switzerland ..	15	7			
Other European Countries ..	34	17			
			POLYNESIA—		
			Fiji	12	8
			Polynesian British Possessions ..	2	2
			Other Polynesian Islands	15	10
			At sea	10	10
			Unspecified	9	18
			Total	42,165	42,165

(a) Exclusive of Western Australia.

7. Occupations and Ages of Bridegrooms.—A tabulation has been made of the occupations and ages of all males married in Australia, and the results for 1923 are published in detail in "Australian Demography," Bulletin No. 41. An abridgment of this tabulation is given below. The average ages of the persons falling under the twenty-eight subdivisions were determined, and it appears that, apart from the Indefinite class, which consists chiefly of persons who have retired from business and who are living on income from investments, and who may be expected to have reached a comparatively high age before attaining a position of financial independence, the average age ranges from 27.62 years for those engaged on roads and tramways to 32.08 years in the class engaged in pastoral pursuits.

OCCUPATIONS AND AGES OF BRIDEGROOMS.—AUSTRALIA, 1923.

Ages at Marriage.	Professional.		Domestic.		Commercial.						Transport and Communication.				
	Government, Defence, and Law.	Others.	Board and Lodging.	Others.	Property and Finance.	Art, Mechanic, and Textile Products.	Food and Drinks.	Animal and Vegetable Substances.	Fuel, Light, and Metals.	Merchants and Dealers.	Others.	Railways.	Roads and Trams.	Seas and Rivers.	Others.
15 years
16 "
17 "
18 "
19 "
20 "
21 "
22 "
23 "
24 "
25 "
26 "
27 "
28 "
29 "
30 "
31 "
32 "
33 "
34 "
35 to 39
40 ,, 44
45 ,, 49
50 and over
Not stated
Total ..	1,073	1,737	480	333	616	383	1,547	167	116	1,137	4,192	1,234	2,269	752	569
Average age—															
year 1923	30.36	30.44	31.88	28.98	30.49	30.12	28.25	31.00	30.29	31.26	28.66	28.74	27.62	30.72	28.13

Ages at Marriage.	Manufacturing.							Primary Producers.						
	Art and Mechanic Productions.	Textiles and Fibrous Materials.	Food and Drinks.	Animal and Vegetable Substances.	Metals and Minerals.	Fuel, Light, and Energy.	Building and Construction.	Others.	Agri-cultural.	Pastoral.	Mining and Quarrying.	Others.	Indefinite.	
15 years	
16 "	
17 "	
18 "	
19 "	
20 "	
21 "	
22 "	
23 "	
24 "	
25 "	
26 "	
27 "	
28 "	
29 "	
30 "	
31 "	
32 "	
33 "	
34 "	
35 to 39	
40 ,, 44	
45 ,, 49	
50 and over	
Not stated	
Total ..	3,078	895	767	185	1,344	540	2,800	9,176	6,515	1,347	896	288	105	
Average age—														
year 1923	27.93	27.96	27.63	28.01	27.77	28.03	29.18	28.70	30.44	32.08	29.60	28.24	44.51	

8. **Fertility of Marriages.**—The quotient obtained by division of the nuptial births registered, *e.g.*, during the five years 1919 to 1923, by the number of marriages registered during the five years 1914 to 1918, *i.e.*, the period antecedent by five years to the period of the births, has been called the "fertility of marriages." This works out at 3.25—in other words, the number of children to be expected from every marriage in Australia is about three. This method, while not absolutely accurate, generally furnishes results which agree fairly well with those found by more elaborate and careful investigation. For the year 1919 the result was 2.86; for 1920, 3.05; for 1922, 3.22; and for 1923, 3.25.

9. **Registration of Marriages.**—(i) *Marriages in each Denomination.* In all the States marriages may be celebrated either by ministers of religion whose names are registered for that purpose with the Registrar-General, or by certain civil officers—in most cases district registrars. Most of the marriages are celebrated by ministers of religion. The proportions so celebrated in 1923 were:—New South Wales, 94.75 per cent.; Victoria, 96.13 per cent.; Queensland, 96.35 per cent.; South Australia, 96.19 per cent.; Western Australia, 82.70 per cent.; and Tasmania, 96.61 per cent., the percentage for Australia being 94.92. The registered ministers in 1923 belonged to more than forty different denominations, some of which, however, can hardly be regarded as having any valid existence. A number of these have been omitted from the tabulation, and are bracketed under the heading "Other Christians." The figures for 1923 are shown in the following table:—

MARRIAGES IN EACH DENOMINATION.—AUSTRALIA, 1923.

Denomination.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N. Ter.	Fed. Cap. Ter.	Aus-tralia.
Church of England ..	7,667	3,763	1,752	1,097	874	626	2	2	15,783
Roman Catholic ..	3,403	2,401	1,350	502	378	204	..	2	8,240
Methodist ..	2,192	1,853	919	1,341	353	305	2	..	6,965
Presbyterian Church ..	2,346	2,530	866	174	178	174	..	..	6,268
Congregational ..	381	847	126	210	74	56	..	..	1,694
Baptist ..	239	640	159	186	38	80	..	..	1,342
Church of Christ ..	127	271	32	194	33	63	..	..	720
Lutheran ..	26	47	131	183	3	..	..	..	390
Greek Orthodox ..	18	18	5	..	5	..	1	..	47
Unitarian ..	8	2	..	7	..	..	..	..	17
Salvation Army ..	71	57	39	36	13	9	..	..	225
Seventh-Day Adventists ..	30	6	10	5	8	1	..	..	60
Other Christians ..	48	137	213	7	1	18	..	..	424
Hebrew ..	46	46	..	1	7	..	..	..	100
Registrar's Office ..	920	508	212	156	411	54	2	..	2,263
Unspecified ..	1	..	..	..	..	2	..	..	3
Total ..	17,523	13,126	5,814	4,099	2,376	1,592	7	4	44,541

(ii) *Number and Percentage in each Denomination, 1919 to 1923.*—The number of marriages according to denomination, and the percentages on total marriages, are shown in the next table:—

MARRIAGES IN EACH DENOMINATION.—AUSTRALIA, 1919 TO 1923.

Denomination.		1919.	1920.	1921.	1922.	1923.
Church of England ..	Total	14,264	18,859	16,499	15,877	15,783
	%	35.19	36.58	35.20	35.49	35.43
Roman Catholic ..	Total	7,390	9,141	8,458	8,304	8,240
	%	18.23	17.73	18.05	18.57	18.50
Methodist ..	Total	6,321	7,796	7,320	6,904	6,965
	%	15.59	15.12	15.62	15.43	15.64
Presbyterian ..	Total	5,570	7,097	6,808	6,345	6,268
	%	13.74	13.76	14.52	14.18	14.07
Congregational ..	Total	1,698	2,308	2,001	1,773	1,694
	%	4.19	4.48	4.27	3.96	3.80
Baptist ..	Total	1,342	1,744	1,461	1,356	1,342
	%	3.31	3.38	3.12	3.03	3.01
Church of Christ ..	Total	703	839	870	768	720
	%	1.73	1.63	1.86	1.72	1.62
Lutheran ..	Total	356	386	401	422	390
	%	0.88	0.75	0.86	0.94	0.88
Greek Orthodox ..	Total	24	30	23	34	47
	%	0.06	0.06	0.05	0.08	0.11
Unitarian ..	Total	15	21	21	18	17
	%	0.04	0.04	0.04	0.04	0.04
Salvation Army ..	Total	234	302	227	214	225
	%	0.58	0.59	0.48	0.48	0.51
Seventh-Day Adventists	Total	58	60	57	56	60
	%	0.14	0.12	0.12	0.13	0.13
Other Christians ..	Total	533	628	527	483	424
	%	1.31	1.22	1.12	1.08	0.95
Hebrew ..	Total	104	111	113	90	100
	%	0.26	0.22	0.24	0.20	0.22
Registrar's Office ..	Total	1,887	2,198	2,074	2,075	2,263
	%	4.65	4.26	4.43	4.64	5.08
Unspecified ..	Total	41	32	9	12	3
	%	0.10	0.06	0.02	0.03	0.01
		40,540	51,552	46,869	44,731	44,541

§ 3. Deaths.

1. Male and Female Deaths, 1919 to 1923.—The total numbers of deaths registered in each year from 1919 to 1923 inclusive are given in the two following tables. The annual average of male deaths during the period was 32,241, and of female deaths 24,528, the details being as follow:—

MALE DEATHS, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Fed Cap. Terr.	Australia.
1919 ..	15,256	10,508	5,337	2,927	2,340	1,175	82	7	37,632
1920 ..	12,088	9,059	4,824	2,814	2,161	1,055	48	4	32,053
1921 ..	11,490	8,662	4,397	2,655	2,209	1,166	70	3	30,652
1922 ..	11,014	8,187	4,372	2,537	1,994	1,084	52	5	29,245
1923 ..	11,969	9,135	4,699	2,727	1,907	1,140	35	10	31,622
Rate (a), 1923	10.72	11.46	11.08	10.48	10.24	10.57	13.58	4.81	10.91

(a) Number of deaths per 1,000 of mean population.

FEMALE DEATHS, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Aus- tralia.
1919 ..	11,088	8,862	3,519	2,548	1,250	1,017	3	11	28,298
1920 ..	8,846	7,773	3,123	2,269	1,227	981	15	2	24,236
1921 ..	8,536	7,503	2,745	2,327	1,271	1,031	10	1	23,424
1922 ..	8,152	6,968	2,780	2,071	1,173	913	8	1	22,066
1923 ..	9,079	8,084	3,194	2,234	1,023	997	3	..	24,614
Rate (a), 1923	8.46	9.98	8.43	8.69	6.31	9.28	2.90	..	8.82

(a) Number of deaths per 1,000 of mean population.

2. **Male and Female Death Rates, 1923.**—The crude male and female death rates for 1923 only are given in the last line of the preceding tables. Victoria had the highest rate for both males and females, and Western Australia the lowest rate for each sex. The rates for the two Territories are based on very small numbers, and comparisons with the States would be misleading.

Owing to differences in age constitution in the six States, the crude rates are not, however, strictly comparable. A more satisfactory rate is furnished by the "Index of Mortality" (see sub-para. 13). The death rates for males and females in each State in five-year age groups for the three years 1920 to 1922, that is, for the Census year and for the year immediately preceding and following, are shown on page 992.

The high death rate in 1919 was due to the outbreak of influenza. The rates for the four years 1920-1923 averaged about 11.0 per 1,000 for males, and 8.7 per 1,000 for females.

MALE AND FEMALE DEATH RATES (a).—AUSTRALIA, 1919 TO 1923.

Year.	1919.	1920.	1921.	1922.	1923.
Male rate	14.40	11.75	11.05	10.33	10.91
Female rate	10.95	9.20	8.72	8.08	8.82
Crude total rate	12.69	10.50	9.91	9.21	9.89

(a) Number of deaths per 1,000 of mean population.

3. **Total Deaths, 1919 to 1923.**—The total number of deaths during each of the five years 1919 to 1923 is given below:—

TOTAL DEATHS, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Australia.
1919 ..	26,344	19,370	8,856	5,475	3,590	2,192	85	18	65,930
1920 ..	20,934	16,832	7,947	5,083	3,388	2,036	63	6	56,289
1921 ..	20,026	16,165	7,142	4,982	3,480	2,197	80	4	54,076
1922 ..	19,166	15,155	7,152	4,608	3,167	1,997	60	6	51,311
1923 ..	21,048	17,219	7,893	4,961	2,930	2,137	38	10	56,236

4. **Crude Death Rates, 1919 to 1923.**—The crude death rates for the five years 1919 to 1923 are given in the next table. The comparatively high rate in 1919 was due to the heavy mortality from influenza.

CRUDE DEATH RATES (a), 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	North Terr.	Fed. Cap. Terr.	Australia.
1919 ..	13.18	13.15	12.22	11.69	11.24	10.69	18.26	7.79	12.69
1920 ..	10.13	11.13	10.63	10.44	10.28	9.67	14.95	2.76	10.50
1921 ..	9.50	10.52	9.36	10.02	10.43	10.30	20.47	1.61	9.91
1922 ..	8.92	9.65	9.15	9.11	9.32	9.30	16.42	2.13	9.21
1923 ..	9.61	10.71	9.83	9.59	8.41	9.92	10.53	3.02	9.89

(a) Number of deaths per 1,000 of mean population for year.

5. **Death Rates of Various Countries.**—A comparison with foreign countries based on crude death rates is, owing to the different age constitution of the population, apt to favour Australia, but even if an allowance were made for the comparative youth of its population, Australia would still occupy a good position. The following table gives particulars of the crude death rates of various countries for the latest available years:—

DEATH RATES (a).—VARIOUS COUNTRIES.

Country.	Year.	Crude Death Rate.	Country.	Year.	Crude Death Rate.
Western Australia ..	1923	8.4	Switzerland ..	1922	12.9
New Zealand ..	1923	9.0	Irish Free State ..	1923	13.3
New South Wales ..	1923	9.6	Belgium ..	1922	13.9
South Australia ..	1923	9.6	Finland ..	1921	14.0
Union of South Africa (Whites) ..	1923	9.7	Canada (Quebec) ..	1921	14.2
Queensland ..	1923	9.8	Germany ..	1921	14.8
Australia ..	1923	9.9	Prussia ..	1921	14.8
Tasmania ..	1923	9.9	Northern Ireland ..	1922	15.4
Canada (excluding Quebec) ..	1922	10.4	Austria ..	1921	17.1
Victoria ..	1923	10.7	Italy ..	1921	17.5
Netherlands ..	1922	11.4	France ..	1922	17.6
Sweden ..	1923	11.4	Czecho-Slovakia ..	1922	17.8
England and Wales ..	1923	11.6	Bulgaria ..	1919	19.9
Great Britain ..	1923	11.7	Spain ..	1922	20.5
United States (Registration Area) ..	1922	11.8	Hungary ..	1922	20.8
Norway ..	1922	11.9	Japan ..	1922	22.3
Denmark ..	1922	11.9	Jamaica ..	1922	22.9
Scotland ..	1923	12.9	Ceylon ..	1922	27.8
			Russia, European ..	1909	28.9
			Chile ..	1921	33.4
			Rumania ..	1919	36.1

(a) Number of deaths per 1,000 of mean population.

6. **Infantile Deaths and Death Rate.**—(i) *Australia, 1919 to 1923.* In the following table, which shows both the total number of deaths of children under one year and the rate per thousand births since 1919, males and females are distinguished. The universal

experience that during the first few years of life the higher death rate of male infants tends to counteract the excess of male births is confirmed by the fact that out of 343,173 male infants born from 1919 to 1923, 24,195 (70.50 per 1,000) died during their first year of life, while of 324,439 female infants only 18,087 (55.75 per 1,000) died during the first year.

INFANTILE DEATHS AND DEATH RATES.—AUSTRALIA, 1919 TO 1923.

Year.	Registered deaths under one year.			Rate of Infantile Mortality.(a).		
	Males.	Females.	Total.	Males.	Females.	Australia.
1919	4,802	3,662	8,464	76.31	61.69	69.21
1920	5,386	4,045	9,431	76.66	61.15	69.14
1921	5,111	3,841	8,952	72.97	58.06	65.73
1922	4,279	2,972	7,251	60.62	44.42	52.74
1923	4,617	3,567	8,184	66.56	54.16	60.52

(a) Number of deaths under 1 year per 1,000 births registered.

(ii) *States, 1919 to 1923.* For the States and Territories the rates of infantile mortality during the last five years were as follows:—

INFANTILE MORTALITY RATES (a), 1919 TO 1923.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	North. Terr.	Fed. Cap. Terr.	Australia.
1919 ..	71.83	67.90	71.88	64.01	61.12	64.97	66.04	111.11	69.21
1920 ..	69.41	73.70	63.24	67.34	66.02	65.51	190.48	66.67	69.14
1921 ..	62.56	72.55	54.16	65.48	78.26	78.02	63.29	74.07	65.73
1922 ..	53.60	53.35	50.38	47.50	55.59	55.70	57.14	31.25	52.74
1923 ..	60.68	65.70	53.95	60.30	56.02	57.45	13.89	..	60.52

(a) Number of deaths under 1 year per 1,000 births registered.

The infantile mortality rate for Australia in 1922 was the lowest yet recorded, and was exceptionally low in all the States, South Australia occupying the premier position with a mortality of 47.50 per 1,000 births. Moreover, the death rate from almost every cause was low, though the greatest effect was from the comparatively low mortality from diarrhoea and enteritis and from pneumonia and whooping cough. Although the rate for 1923 was not so satisfactory as for 1922, it was much below the average for the years 1919–1921. In 1923 Queensland had the lowest and Victoria the highest rate among the States.

(iii) *Districts.* The total number of births, of deaths of children under one year of age, and the average rate of infantile mortality for the five years 1919 to 1923 are shown in the following table for each of the fifty-nine districts for which the vital statistics have been tabulated. To afford a better indication of the geographical position of the districts, the name of a town situated in a fairly central part of each district has been added. The figures for the Federal Capital Territory and for Lord Howe Island are included for the sake of completeness, but are too small to be used in comparison with others. Remarkable

variations are shown in the mortality rate for the various districts. The lowest rate was experienced in the western district of South Australia (36.16 per 1,000 births), and the highest in the Trans-Darling Plains (Broken Hill) of New South Wales (115.49 per 1,000 births).

INFANTILE MORTALITY.—STATE DISTRICTS, 1919 TO 1923.

States and Territories.	Districts.	Towns.	Total Births, 1919-23.	Total Deaths of Children under one year, 1919-23.	Average Infantile Mortality per 1,000 Births, 1919-23.
New South Wales ..	Metropolitan	Sydney	109,948	7,362	66.96
" ..	North Coast	Grafton	22,295	1,036	46.47
" ..	Lower Hunter	Newcastle	28,927	2,003	70.78
" ..	Cumberland	Parramatta	14,954	773	51.69
" ..	South Coast	Nowra	10,032	571	56.92
" ..	Northern Tableland	Armidale	12,912	698	54.06
" ..	Central Tableland	Bathurst	16,350	1,188	72.66
" ..	Southern Tableland	Goulburn	13,663	880	64.41
" ..	North-Western Slope	Morice	5,394	319	59.14
" ..	Central-Western Slope	Dubbo	9,382	569	60.65
" ..	South-Western Slope	Temora	10,607	520	49.02
" ..	Riverina	Hay	6,163	366	59.39
" ..	Plains East of Darling	Cobar	1,534	113	73.66
" ..	Trans-Darling Plains	Broken Hill	4,182	483	115.49
" ..	Lord Howe Island	—	6	1	166.67
Victoria	Metropolitan	Melbourne	92,125	6,721	72.96
" ..	Central	Geelong	16,840	1,115	66.21
" ..	North-Central	Kyneton	6,210	358	57.65
" ..	Western	Hamilton	17,641	1,023	57.99
" ..	Wimmera	Horsham	7,236	448	61.91
" ..	Mallee	Ultima	6,466	434	67.12
" ..	Northern	Rochester	16,081	978	60.82
" ..	North-Eastern	Beechworth	4,675	234	50.05
" ..	Gippsland	Sale	8,314	379	45.59
Queensland	Metropolitan	Brisbane	30,214	2,041	67.55
" ..	Moreton	Ipswich	11,374	541	47.56
" ..	Wide Bay	Maryborough	11,817	581	49.17
" ..	Port Curtis	Rockhampton	7,530	475	63.08
" ..	Edgecumbe	Townsville	9,717	545	56.09
" ..	Rockingham	Cairns	5,679	264	46.49
" ..	York Peninsula	Cooktown	1,033	77	74.54
" ..	Carpentaria	Croydon	1,749	122	69.75
" ..	Central-Western	Winton	552	43	77.90
" ..	South-Western	Charleville	1,361	100	73.48
" ..	Central	Blackall	3,173	201	63.35
" ..	Maranoa	Roma	1,818	116	63.81
" ..	Downs	Toowoomba	13,236	705	53.26
South Australia	Metropolitan	Adelaide	29,357	1,996	67.99
" ..	Central	Gawler	11,926	575	48.21
" ..	Lower North	Redruth	9,295	629	67.67
" ..	Upper North	Port Augusta	2,835	164	57.85
" ..	South-Eastern	Mount Gambier	2,934	126	42.94
" ..	Western	Port Lincoln	2,408	87	36.13
Western Australia	Metropolitan	Perth	20,023	1,370	68.42
" ..	Northern Agricultural	Geraldton	5,362	315	58.75
" ..	South-Western	Katanning	9,301	464	49.89
" ..	Eastern Goldfields	Kalgoorlie	3,239	251	77.49
" ..	Northern Goldfields	Pilbara	556	43	77.34
" ..	North-Western	Roebourne	204	8	39.22
" ..	Northern	Broome	198	16	82.90
Tasmania	Hobart	Hobart	7,796	557	71.45
" ..	Launceston	Launceston	4,390	334	76.08
" ..	North-Eastern	Scottsdale	2,702	161	59.59
" ..	North-Western	Stanley	7,261	438	60.32
" ..	Midland	Zeehan	2,720	126	46.32
" ..	South-Eastern	Sorell	2,778	158	56.88
" ..	South-Western	Franklin	632	45	71.20
Northern Territory	Capital	Darwin	390	29	74.36
Federal Territory	Capital	Canberra	120	7	58.33

(iv) *Various Countries and Cities.* Compared with other countries, the States of Australia occupy a very favourable position, being surpassed by New Zealand only. There are, however, several continental cities which show better results than any Australian city shows. It may be pointed out also in connexion with the rates hereunder, that a high birth rate is often, though not invariably, accompanied by a high infantile death rate. The figures in the subjoined tables relate to the latest years for which returns are available:—

INFANTILE MORTALITY RATES (a).—VARIOUS COUNTRIES.

Country.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)	Country.	Year.	Rate of Infantile Mortality. (a)	Crude Birth Rate. (b)
New Zealand ..	1923	44	21.9	Canada (excluding Quebec) ..	1922	87	24.8
Queensland ..	1923	54	24.9	Finland ..	1921	95	24.3
Western Australia ..	1923	56	22.6	Bulgaria ..	1919	109	40.2
Tasmania ..	1923	57	26.3	Belgium ..	1921	115	21.8
South Australia ..	1923	60	22.6	France ..	1922	124	19.3
Australia ..	1923	61	23.8	Canada (Quebec) ..	1921	128	37.6
New South Wales ..	1923	61	24.7	Germany ..	1921	134	24.9
Norway ..	1921	63	24.5	Prussia ..	1921	134	24.9
Sweden ..	1921	65	21.4	Spain ..	1922	142	30.5
Irish Free State ..	1923	66	19.4	Austria ..	1920	157	22.4
Victoria ..	1923	66	22.3	Italy ..	1917	158	19.5
Netherlands ..	1922	67	25.9	Japan ..	1922	166	34.2
Switzerland ..	1922	68	19.6	Jamaica ..	1922	177	37.3
England and Wales ..	1923	69	19.7	Ceylon ..	1922	188	39.4
Great Britain ..	1923	70	19.9	Hungary ..	1921	197	23.5
United States (Registration Area) ..	1921	76	24.3	Rumania ..	1920	231	42.5
Denmark ..	1921	77	25.4	Russia, European ..	1909	248	44.0
Northern Ireland ..	1922	77	23.0	Chile ..	1914	286	37.0
Scotland ..	1923	79	22.8				
Union of South Africa (Whites) ..	1923	82	26.6				

(a) Number of deaths under 1 year per 1,000 births registered. (b) Number of births per 1,000 of mean population.

INFANTILE MORTALITY RATES (a).—VARIOUS CITIES.

City.	Year.	Rate of Infantile Mortality. (a)	City.	Year.	Rate of Infantile Mortality. (a)
Amsterdam ..	1923	39	Liverpool ..	1923	98
Auckland ..	1923	44	Belfast ..	1923	101
Christiania ..	1923	46	Aberdeen ..	1923	104
Wellington ..	1923	47	Hamburg ..	1923	104
Stockholm ..	1923	50	Dresden ..	1923	105
Zürich ..	1916	55	Monte Video ..	1916	111
Rome ..	1915	56	Dublin ..	1923	111
Brisbane ..	1923	58	Genoa ..	1916	126
London ..	1923	60	Prague ..	1922	131
Perth ..	1923	61	Leipzig ..	1923	134
Sydney ..	1923	63	Munich ..	1923	143
Christchurch ..	1923	66	Berlin ..	1923	144
Hobart ..	1923	66	Chicago ..	1916	145
Adelaide ..	1923	67	Cologne ..	1923	147
Newcastle, N.S.W. ..	1923	68	Warsaw ..	1923	147
Copenhagen ..	1923	68	Vienna ..	1922	149
Birmingham ..	1923	71	Lodz ..	1922	156
Melbourne ..	1923	71	Marseilles ..	1916	157
Geneva ..	1916	73	Breslau ..	1923	171
New York ..	1922	74	Rio de Janeiro ..	1912	174
Edinburgh ..	1923	82	Madrid ..	1915	177
Antwerp ..	1923	83	Buda Pest ..	1920	184
Manchester ..	1923	85	Florence ..	1916	192
Washington ..	1919	85	Montreal ..	1911	242
Glasgow ..	1923	90	Petrograd ..	1912	249
Paris ..	1923	90	Madras ..	1923	253
Toronto ..	1917	92	Bombay ..	1922	402
Buenos Aires ..	1916	94			

(a) Number of deaths under 1 year per 1,000 births registered.

Information relative to the causes of death of children under one year of age will be found in sub-section 18.

7. Deaths in Age-Groups, 1919 to 1923.—A distribution into age-groups has been made of the 283,842 deaths which occurred in Australia from 1919 to 1923, and the results have been tabulated for each State. It is, however, sufficient to show here the results for Australia as a whole, which are as follows :—

DEATHS IN AGE GROUPS.—AUSTRALIA, 1919 TO 1923.

Age-Group.	Males.	Females.	Total.	Percentage on Total Males.	Percentage on Total Females.	Percentage on Total.
Under 1 year ..	24,195	18,087	42,282	15.01	14.75	14.90
1 year and under 5 ..	8,453	7,038	15,491	5.24	5.74	5.46
5 years and under 20 ..	8,176	6,757	14,933	5.07	5.51	5.26
20 years and under 40 ..	21,709	19,543	41,252	13.47	15.94	14.53
40 years and under 60 ..	35,673	22,994	58,667	22.13	18.75	20.67
60 years and under 65 ..	13,284	7,978	21,262	8.24	6.50	7.49
65 years and over ..	49,366	40,177	89,543	30.62	32.76	31.55
Age unspecified ..	348	64	412	0.22	0.05	0.14
Total ..	161,204	122,638	283,842	100.00	100.00	100.00

8. Deaths at Single Ages and in Age-Groups, 1923.—(i) *General.* The 56,236 deaths registered in Australia in the year 1923 will be found tabulated under single years, and in groups of five years for each State and Territory, in Bulletin No. 41, "Australian Demography, 1923." The deaths during the first two years of life have been tabulated in shorter periods. A summary for Australia is given in the following table :—

DEATHS AT SINGLE AGES AND IN AGE-GROUPS.—AUSTRALIA, 1923.

Ages.	Males.	Females.	Total.	Ages.	Males.	Females.	Total.
Total under 1 month ..	2,349	1,798	4,147	Total 20-24 years ..	691	663	1,354
" 1 month and under 3 ..	887	611	1,498	" 25-29 " ..	774	829	1,603
" 3 months and under 6 ..	627	514	1,141	" 30-34 " ..	894	904	1,798
" 6 months and under 12 ..	754	644	1,398	" 35-39 " ..	1,100	1,046	2,146
Total under 1 year ..	4,617	3,567	8,184	" 40-44 " ..	1,303	910	2,213
1 year and under 2 ..	819	632	1,451	" 45-49 " ..	1,438	1,018	2,456
2 years ..	324	268	592	" 50-54 " ..	1,814	1,213	3,027
3 " ..	205	152	357	" 55-59 " ..	2,308	1,425	3,733
4 " ..	151	125	276	" 60-64 " ..	2,821	1,752	4,573
Total under 5 years ..	6,116	4,744	10,860	" 65-69 " ..	2,924	1,866	4,790
Total 5-9 years ..	528	425	953	" 70-74 " ..	2,429	1,717	4,146
" 10-14 " ..	414	364	778	" 75-79 " ..	2,216	2,008	4,224
" 15-19 " ..	574	469	1,043	" 80-84 " ..	1,759	1,620	3,379
				" 85-89 " ..	1,000	1,099	2,099
				" 90-94 " ..	343	399	742
				" 95-99 " ..	87	119	206
				" 100 and over ..	13	12	25
				Age Unspecified ..	76	12	88
				Total All Ages ..	31,622	24,614	56,236

(ii) *Rates.* The following tables give the death rate per 1,000 living at each age for the three years 1920, 1921, and 1922, viz., the Census year 1921, and the years immediately preceding and following. The Northern Territory is included with South Australia, and the Federal Capital Territory with New South Wales :—

CHAPTER XXV.—VITAL STATISTICS.

AVERAGE ANNUAL DEATH RATES.—AGE-GROUPS, 1920 TO 1922.

Age-Group.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
MALES.							
0 to 4 years	21.49	22.61	20.73	20.01	23.88	20.72	21.64
5 " 9 "	1.85	2.15	1.96	2.25	2.24	2.04	2.02
10 " 14 "	1.59	1.61	1.58	1.56	1.42	1.83	1.59
15 " 19 "	2.16	2.07	2.90	2.42	2.37	2.66	2.30
20 " 24 "	2.74	3.06	3.54	3.33	3.96	3.23	3.10
25 " 29 "	3.36	3.60	4.37	3.64	4.08	5.05	3.70
30 " 34 "	4.13	3.70	4.58	4.00	5.40	4.59	4.16
35 " 39 "	5.36	5.32	5.95	5.18	6.42	4.79	5.48
40 " 44 "	7.85	6.60	7.86	6.20	7.90	5.98	6.89
45 " 49 "	9.61	9.80	10.60	8.81	12.09	8.71	9.91
50 " 54 "	12.38	12.24	14.23	11.76	17.18	11.51	12.90
55 " 59 "	18.72	18.24	20.34	19.70	23.76	13.44	19.04
60 " 64 "	28.35	28.48	30.36	25.63	34.19	23.95	28.71
65 " 69 "	43.00	44.38	44.93	42.31	49.51	38.53	43.74
70 " 74 "	65.81	65.16	64.56	62.01	72.15	53.65	64.88
75 " 79 "	105.54	107.84	103.32	106.23	115.56	109.46	106.53
80 " 84 "	159.12	163.74	159.06	161.73	184.49	132.47	160.73
85 " 89 "	271.79	266.12	227.79	226.87	283.46	232.39	259.17
90 and over	368.58	387.01	314.96	387.09	566.67	350.00	376.08
FEMALES.							
0 to 4 years	16.92	17.91	16.05	16.25	18.80	16.74	17.09
5 " 9 "	1.66	1.95	1.89	2.27	1.28	2.09	1.82
10 " 14 "	1.21	1.20	1.43	1.34	1.23	1.63	1.27
15 " 19 "	1.63	2.00	1.99	2.72	1.34	2.58	1.90
20 " 24 "	2.43	2.92	2.81	2.85	3.07	3.74	2.75
25 " 29 "	3.47	3.55	3.61	3.85	3.99	3.87	3.59
30 " 34 "	3.85	4.13	4.11	4.21	4.60	4.41	4.06
35 " 39 "	4.64	4.98	5.80	5.18	4.90	5.98	5.00
40 " 44 "	5.15	5.74	6.03	4.98	6.39	5.48	5.51
45 " 49 "	6.71	6.91	6.76	6.40	8.12	7.31	6.87
50 " 54 "	9.35	9.11	9.11	9.10	10.62	8.61	9.27
55 " 59 "	13.17	12.87	13.60	10.85	12.81	14.23	12.92
60 " 64 "	19.08	19.06	19.71	18.27	17.78	20.13	19.05
65 " 69 "	31.59	31.69	30.81	32.89	30.49	34.72	31.76
70 " 74 "	50.24	51.83	50.61	45.65	54.20	49.42	50.43
75 " 79 "	88.19	88.52	88.10	83.98	96.43	80.32	87.81
80 " 84 "	140.29	143.71	126.40	132.25	137.07	126.00	138.32
85 " 89 "	225.11	231.45	210.65	193.54	219.51	208.79	221.44
90 and over	380.95	321.79	288.89	337.50	478.26	352.94	341.68
PERSONS.							
0 to 4 years	19.24	20.30	18.45	18.17	21.39	18.75	19.40
5 " 9 "	1.76	2.05	1.93	2.26	1.76	2.07	1.92
10 " 14 "	1.40	1.40	1.51	1.45	1.33	1.73	1.43
15 " 19 "	1.90	2.03	2.45	2.57	1.86	2.62	2.10
20 " 24 "	2.58	2.99	3.17	3.09	3.52	3.49	2.92
25 " 29 "	3.42	3.57	4.00	3.75	4.03	4.43	3.64
30 " 34 "	3.99	3.92	4.37	4.10	5.03	4.50	4.11
35 " 39 "	5.03	5.14	5.88	5.18	5.72	5.39	5.24
40 " 44 "	5.99	6.16	7.04	5.60	7.23	5.73	6.22
45 " 49 "	8.21	8.30	8.89	7.62	10.41	8.04	8.44
50 " 54 "	10.97	10.67	12.04	10.46	14.58	10.16	11.20
55 " 59 "	16.19	15.60	17.57	15.32	19.61	13.80	16.22
60 " 64 "	24.11	23.93	25.99	22.13	27.90	22.13	24.22
65 " 69 "	37.81	37.90	39.23	37.80	41.71	36.73	38.17
70 " 74 "	58.34	58.09	58.64	53.85	64.31	51.54	57.82
75 " 79 "	97.02	97.07	96.41	94.82	106.68	93.60	96.98
80 " 84 "	149.75	152.49	144.74	145.42	162.58	128.81	149.09
85 " 89 "	248.05	246.87	219.48	206.49	252.00	219.14	238.91
90 and over	374.81	349.09	304.15	355.73	528.30	351.64	357.36

The tables show a high death rate for children under five years of age, but it rapidly diminishes until, at ages 10 to 14, the rate is 1.43 per 1,000, which is the lowest at any age. The rate thereafter gradually rises with increasing age until, at the ages 90 and over, more than one-third die every year.

9. Deaths of Centenarians, 1923.—Particulars concerning the twenty-five persons who died in 1923 aged 100 years and upwards, are given in the following table. It must, of course, be understood that while the Registrars-General of the various States take the greatest care to have statements as to abnormally high ages verified as far as possible, absolute reliance cannot be placed on the accuracy of the ages shown, owing to the well-known tendency of very old people to overstate their ages. No attempt has been made by the Commonwealth Bureau of Census and Statistics to verify the truth of the statements made. The fact must not be disregarded in connexion with this question that while parish registers in the United Kingdom often date very far back, compulsory registration of births dates practically only from 1874, the Act passed in 1836 having left many loop-holes open for those unwilling to register the births of their children.

DEATHS OF CENTENARIANS.—AUSTRALIA, 1923.

Age.	Locality where Death occurred.	State.	Cause of Death.	Occupation.	Birthplace.	Length of Residence in Australia.	Conjugal Condition.
MALES.							
109	Ballarat ..	Victoria ..	Senility ..	Cloth finisher	England ..	Unspecified	Unspecified
103	Paterson ..	N.S.W. ..	.. ..	Farmer ..	.. ..	88 years ..	Married
103	Carcoar ..	" ..	Aortic Regurgitation	Labourer..	N.S.W. ..	Native ..	Unspecified
102	Liverpool ..	.. ..	Senility ..	Unspecified	Ireland ..	68 years ..	Single
102	Tarnagulla ..	Victoria ..	Burns ..	Farmer ..	England ..	70 " ..	Married
102	Creswick ..	.. ..	Senility ..	.. ..	Ireland ..	61 " ..	"
102	Pt. Adelaide	S. Australia	Sarcoma of neck	Labourer..	England ..	74 " ..	"
101	Brisbane ..	Queensland	Senility ..	Miner ..	Ireland ..	60 " ..	Single
100	Brewarrina	N.S.W. ..	Asthma	Labourer..	China ..	Unspecified	"
100	Marrickville	" ..	Acute Bronchitis	Unspecified	Greece ..	68 " ..	Married
100	Tenterfield	.. ..	Senility ..	Miner ..	Canary Is.	80 " ..	Unspecified
100	Cheltenham	Victoria ..	.. ..	Bricklayer	England ..	38 " ..	Married
100	Kew ..	" ..	Ulceration of Bowel	Gentleman	" ..	73 " ..	"
FEMALES.							
105	Cheltenham	Victoria ..	Senility ..	.. ..	England ..	66 years ..	Married
104	Merriwa ..	N.S.W. ..	" ..	.. ..	" ..	66 " ..	"
103	Hobart ..	Tasmania	Accidental Fall	.. ..	Ireland ..	Unspecified	"
102	Waverley ..	N.S.W. ..	Senility ..	.. ..	Scotland ..	40 years ..	"
102	Ballarat ..	Victoria ..	Broncho-pneumonia	.. ..	England ..	79 " ..	"
101	Corowa ..	N.S.W. ..	Senility ..	.. ..	Ireland ..	72 " ..	"
101	Dalby ..	Queensland	" ..	.. ..	" ..	67 " ..	"
101	Hobart ..	Tasmania	" ..	.. ..	England ..	63 " ..	"
101	Launceston	" ..	Hypostatic Pneumonia	.. ..	Ireland ..	45 " ..	"
100	Ballarat ..	Victoria ..	Senility ..	.. ..	" ..	76 " ..	"
100	Richmond ..	" ..	" ..	.. ..	" ..	52 " ..	"
100	Adelaide ..	S. Australia	" ..	.. ..	Germany..	84 " ..	"

10. Length of Residence in Australia of Persons who Died in 1923.—The length of residence in Australia of all persons whose deaths were registered in the year 1923 has been tabulated for all the States, and a summary of the results is shown below :—

LENGTH OF RESIDENCE IN AUSTRALIA OF PERSONS WHO DIED IN 1923.

Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.	Length of Residence.	Male Deaths.	Female Deaths.	Total Deaths.
Born in Australia ..	19,775	16,762	36,537	Resident 25 to 29 years	395	151	546
Resident under 1 year ..	122	52	174	" 30 to 34 ..	673	317	995
" 1 year ..	71	39	110	" 35 to 39 ..	950	612	1,562
" 2 years ..	66	56	122	" 40 to 44 ..	1,405	653	2,058
" 3 ..	53	56	109	" 45 to 49 ..	753	474	1,227
" 4 ..	32	34	66	" 50 to 54 ..	794	536	1,330
" 5 ..	19	12	31	" 55 to 59 ..	603	552	1,155
" 6 ..	19	11	30	" 60 to 64 ..	947	908	1,855
" 7 ..	29	19	48	" 65 yrs. and over	1,719	1,985	3,704
" 8 ..	42	32	74	Length of residence			
" 9 ..	83	71	154	not stated ..	1,806	589	2,395
" 10 to 14 years	711	436	1,147				
" 15 to 19 ..	231	123	354				
" 20 to 24 ..	319	134	453	Total ..	31,622	24,614	56,236

11. Birthplaces of Persons who Died in 1923.—The following table gives the birthplaces of persons whose deaths were registered in 1923. Full particulars will be found in "Australian Demography," Bulletin No. 41.

BIRTHPLACES OF PERSONS WHO DIED IN 1923.—AUSTRALIA.

Birthplace.	Males.	Females.	Persons.	Birthplace.	Males.	Females.	Persons.
AUSTRALASIA—				ASIA—			
New South Wales	7,483	6,365	13,848	British India and			
Victoria ..	6,413	5,375	11,788	Ceylon ..	105	25	130
Queensland ..	2,088	1,747	3,835	Other Brit. Posses-			
South Australia	2,018	1,744	3,762	sions in Asia ..	12	1	13
Western Australia	579	459	1,038	China ..	258	2	260
Tasmania ..	1,191	1,069	2,260	Japan ..	32	1	33
Northern Territory	3	3	6	Other Asiatic			
Papua and Terri-				Countries ..	39	9	48
tory of New							
Guinea ..	6	..	6	AFRICA—			
New Zealand ..	218	117	335	Union of Sth. Africa	20	9	29
				Other Brit. Posses-			
				sions in Africa	14	8	22
				Other African			
				Countries ..	2	..	2
EUROPE—				AMERICA—			
England ..	5,195	3,622	8,817	Canada ..	37	21	58
Wales ..	194	119	313	Other Brit. Posses-			
Scotland ..	1,395	991	2,386	sions in America	14	6	20
Ireland ..	2,179	2,176	4,355	United States of			
Other Brit. Posses-				America ..	93	32	125
sions in Europe	38	21	59	Other American			
Austria ..	26	2	28	Countries ..	15	12	27
Denmark ..	117	23	140				
France ..	44	11	55	POLYNESIA—			
Germany ..	510	286	796	British Posses-			
Greece ..	33	2	35	sions in Polynesia	8	3	11
Italy ..	96	25	121	Other Polynesian			
Netherlands ..	14	2	16	Islands ..	51	6	57
Norway ..	66	15	81				
Russia ..	41	13	54	At Sea ..	73	56	129
Sweden ..	121	8	129				
Switzerland ..	38	13	51	Unspecified ..	633	185	818
Other European							
Countries ..	110	30	140	Total Deaths ..	31,622	24,614	56,236

12. Occupations of Males who Died in 1923.—(i) *Australia, 1923.* Information as to the occupations of the 31,622 males who died in Australia in 1923 is contained in the following statement:—

OCCUPATIONS OF MALES WHO DIED IN 1923.—AUSTRALIA.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
CLASS I.—PROFESSIONAL.		CLASS III.—COMMERCIAL—cont.	
General Government	180	Hay, corn, etc.	24
Local Government	15	Other vegetable matter	12
Defence	115	Wood and coal	30
Law and order	238	Stone, clay, glass	2
Religion	117	Gold, silver and precious stones..	1
Health	201	Ironmongery	26
Literature	57	Merchants	129
Science	9	Shopkeepers and assistants	232
Civil and mechanical engineering, architecture and surveying	91	Dealers and hawkers	126
Education	128	Agents and brokers	135
Fine arts	32	Clerks, bookkeepers, etc.	669
Music	52	Commercial travellers and salesmen	240
Amusements	104	Others engaged in commercial pursuits	211
Total Professional	1,339	Speculators on chance events	11
CLASS II.—DOMESTIC.		Total Commercial	2,914
Hotelkeepers and assistants	394	CLASS IV.—TRANSPORT AND COMMUNICATION.	
Others engaged in providing board and lodging	77	Railway traffic	554
House servants	6	Tramway traffic	70
Coachmen and grooms	46	Road traffic	633
Hairdressers	66	Sea and river traffic	533
Laundrymen	8	Postal service	89
Others engaged in domestic occu- pations	206	Telegraph and telephone service	40
Total Domestic	803	Messengers, etc.	12
CLASS III.—COMMERCIAL.		Aviation .. .. .	..
Banking and finance	103	Total Transport and Commu- nication	1,931
Insurance and valuation	97	CLASS V.—INDUSTRIAL.	
Land and household property	62	Books and publications	142
Property rights, n.e.i.	2	Musical instruments	13
Books, publications and advertising	48	Prints, pictures and art materials	16
Prints, pictures, and art materials	1	Ornaments and small wares	21
Ornaments and small wares	1	Sports and games	2
Watches, clocks, jewellery	1	Designs, medals, type and dies	5
Arms and ammunition	1	Watches and clocks	33
Carriages and vehicles	4	Arms and ammunition	8
Harness and saddlery	1	Engines, machines, tools, etc.	164
Ships and boats	7	Carriages and vehicles	153
Building materials	16	Harness, saddlery and leatherware	117
Furniture	8	Ships, boats and equipment	60
Paper and stationery	12	Furniture	101
Textile fabrics	100	Building materials	92
Dress	15	Chemicals and by-products	5
Fibrous materials	2	Textile fabrics	38
Animal food	295	Dress	427
Vegetable food	85	Fibrous materials	6
Groceries and stimulants	145	Animal food	28
Living animals	43	Vegetable food	235
Leather, raw materials	7	Groceries and stimulants	67
Wool and tallow	10	Animal matter	54

OCCUPATIONS OF MALES WHO DIED IN 1923.—AUSTRALIA—*continued.*

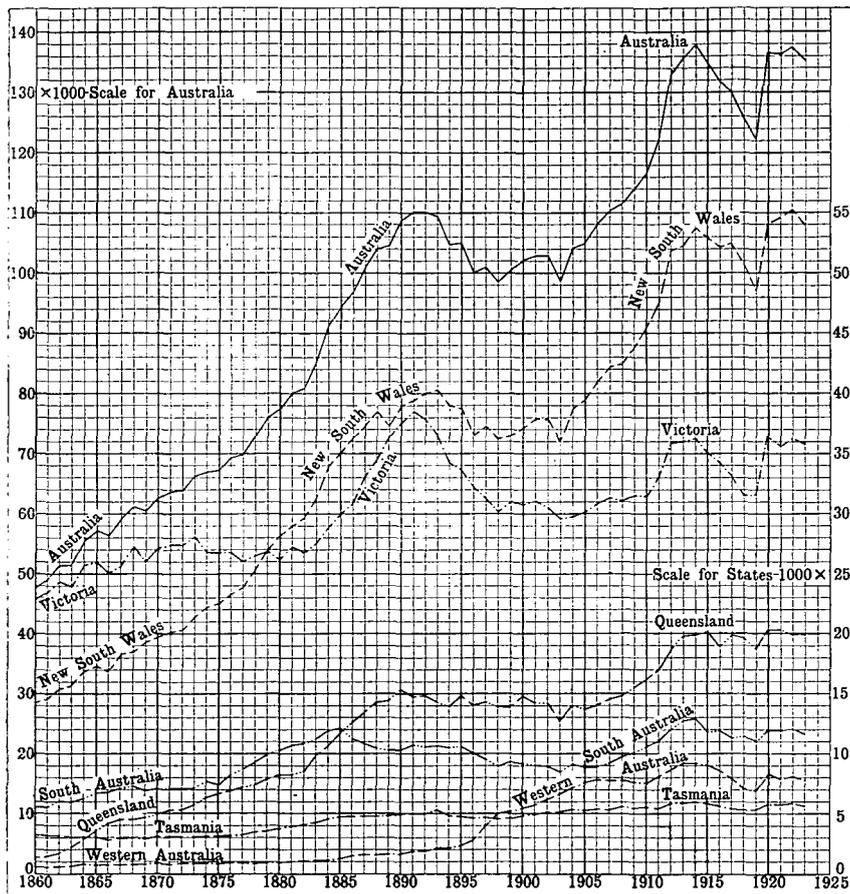
Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
CLASS V.—INDUSTRIAL—<i>cont.</i>		CLASS VI.—AGRICULTURAL, PASTORAL, MINING PURSUITS, ETC.	
Workers in wood not elsewhere classed	20	Agricultural	3,408
Vegetable produce for fodder	1	Pastoral	856
Paper	1	Dairy farming	64
Stone, clay, glass	92	Bees, fisheries and wild animals	105
Jewellery and precious stones	45	Forestry	93
Metals, other than gold and silver	433	Water conservation and supply	17
Gas, electric lighting, etc.	76	Mines and quarries	1,359
Building—		Total Primary Producers	5,902
Builders	133		
Stonemasons	76	CLASS VII.—INDEFINITE.	
Bricklayers	108	Independent means, having no specific occupation	594
Slaters	9	Occupation unspecified	1,272
Carpenters	562	Total Indefinite	1,866
Plasterers	50		
Painters and glaziers	254	CLASS VIII.—DEPENDENTS.	
Plumbers	103	Dependent relatives (including persons under 20 years of age with no specified occupation)	7,244
Signwriters	6	Supported by voluntary and State contributions	114
Others	3	Total Dependents	7,358
Roads, railways and earthworks	49	Total Male Deaths	31,622
Disposal of the dead	12		
Disposal of refuse	36		
Other industrial workers—			
Manufacturers	73		
Engineers, firemen	471		
Contractors	244		
Labourers, undefined	4,814		
Others	44		
Total Industrial	9,509		

(ii) *Australia, 1919 to 1923.* The male deaths in Australia grouped according to the main classes of occupations, and the percentage of each class on the total male deaths for the five years 1919 to 1923, are shown in the table hereunder:—

OCCUPATIONS OF MALES WHO DIED IN AUSTRALIA, 1919 TO 1923.

Occupation.	1919.	1920.	1921.	1922.	1923.
Class					
I. Professional	Total 1,944	1,391	1,307	1,317	1,339
	Per cent. 5.17	4.34	4.26	4.50	4.23
II. Domestic	Total 1,059	739	830	745	803
	Per cent. 2.81	2.30	2.71	2.55	2.54
III. Commercial	Total 3,694	2,814	2,739	2,871	2,914
	Per cent. 9.82	8.78	8.94	9.82	9.22
IV. Transport and communication	Total 2,706	1,910	1,841	1,842	1,931
	Per cent. 7.19	5.96	6.01	6.30	6.11
V. Industrial	Total 11,397	8,849	8,613	8,592	9,509
	Per cent. 30.29	27.61	28.10	29.38	30.07
VI. Agricultural, Pastoral Mining, etc.	Total 6,966	5,786	5,711	5,664	5,902
	Per cent. 18.51	18.05	18.63	19.37	18.66
VII. Indefinite	Total 1,529	1,595	1,436	1,378	1,866
	Per cent. 4.06	4.98	4.68	4.71	5.90
VIII. Dependents	Total 8,337	8,969	8,175	6,836	7,358
	Per cent. 22.15	27.98	26.67	23.37	23.27
Total	37,632	32,053	30,652	29,245	31,622

BIRTHS—1860 TO 1923.

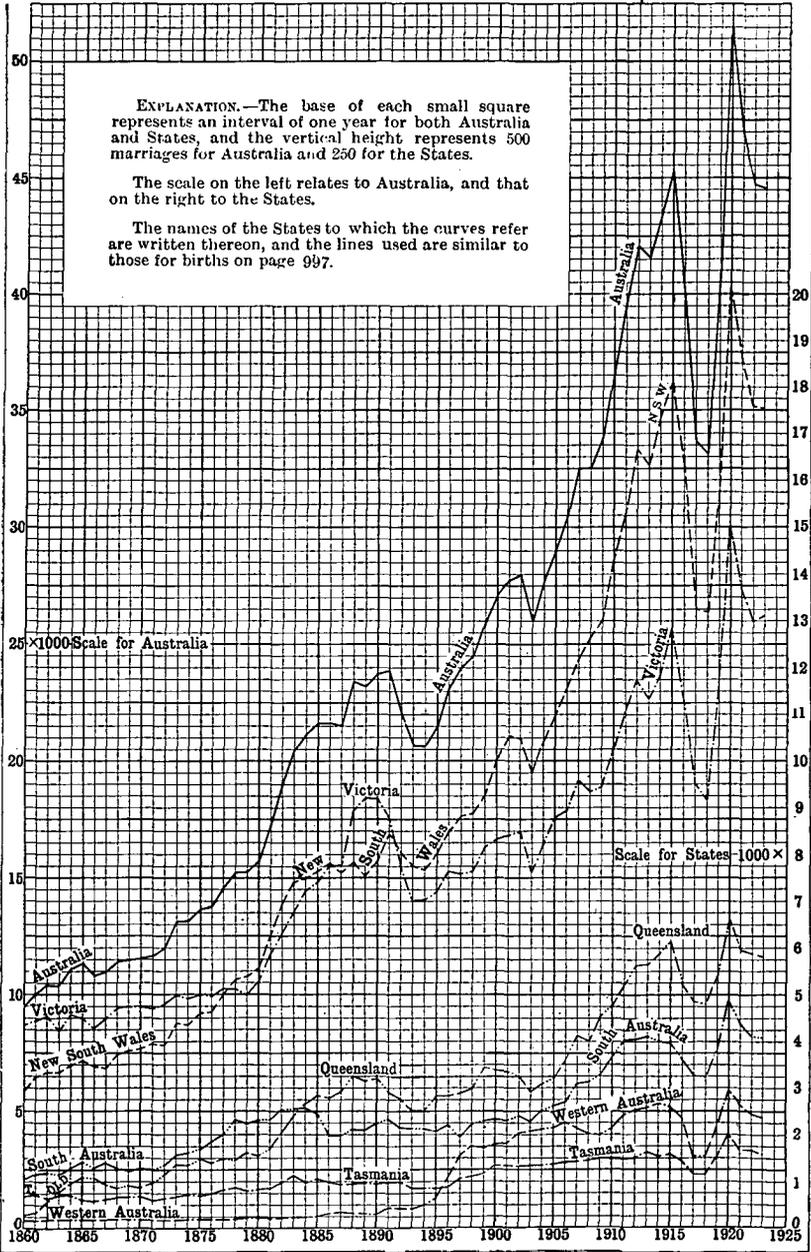


EXPLANATION.—The base of each small square represents an interval of one year for both Australia and States, and the vertical height represents 2,000 persons for Australia and 1,000 for the States.

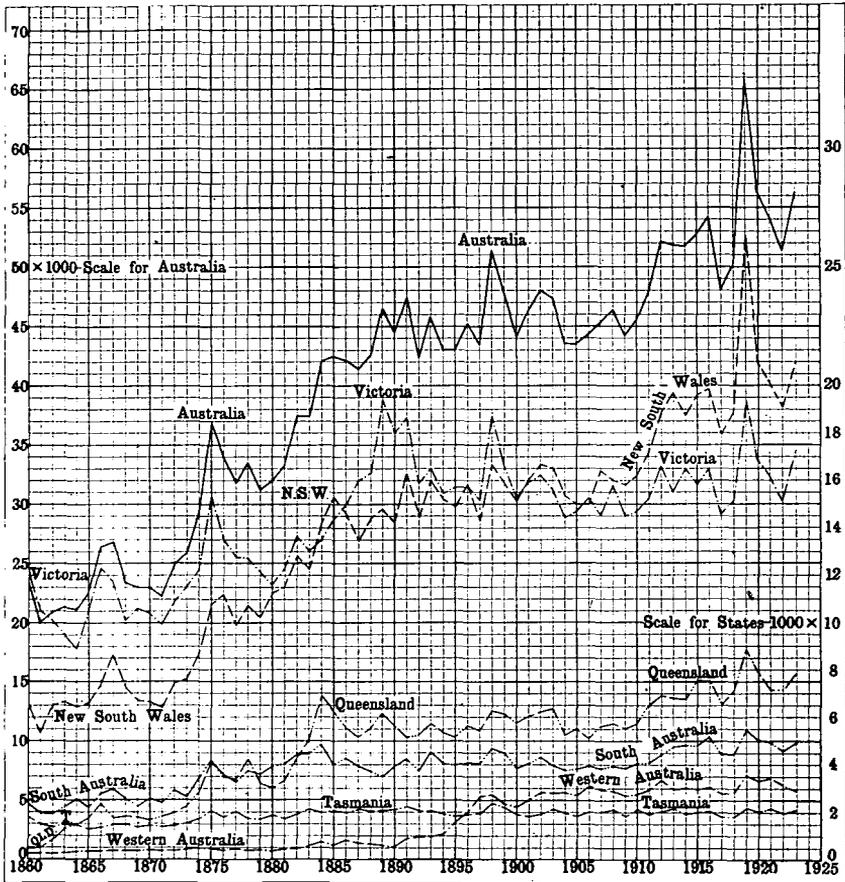
The scale on the left relates to Australia and that on the right to the States.

The names of the States to which the curves refer are written thereon, and the characters of the lines used are as follows:—Australia, —————; New South Wales, - - - - -; Victoria,; Queensland, -; South Australia, - - - - -; Western Australia, - - - - -; Tasmania, -

MARRIAGES, 1860 TO 1923.



DEATHS—1860 TO 1923.

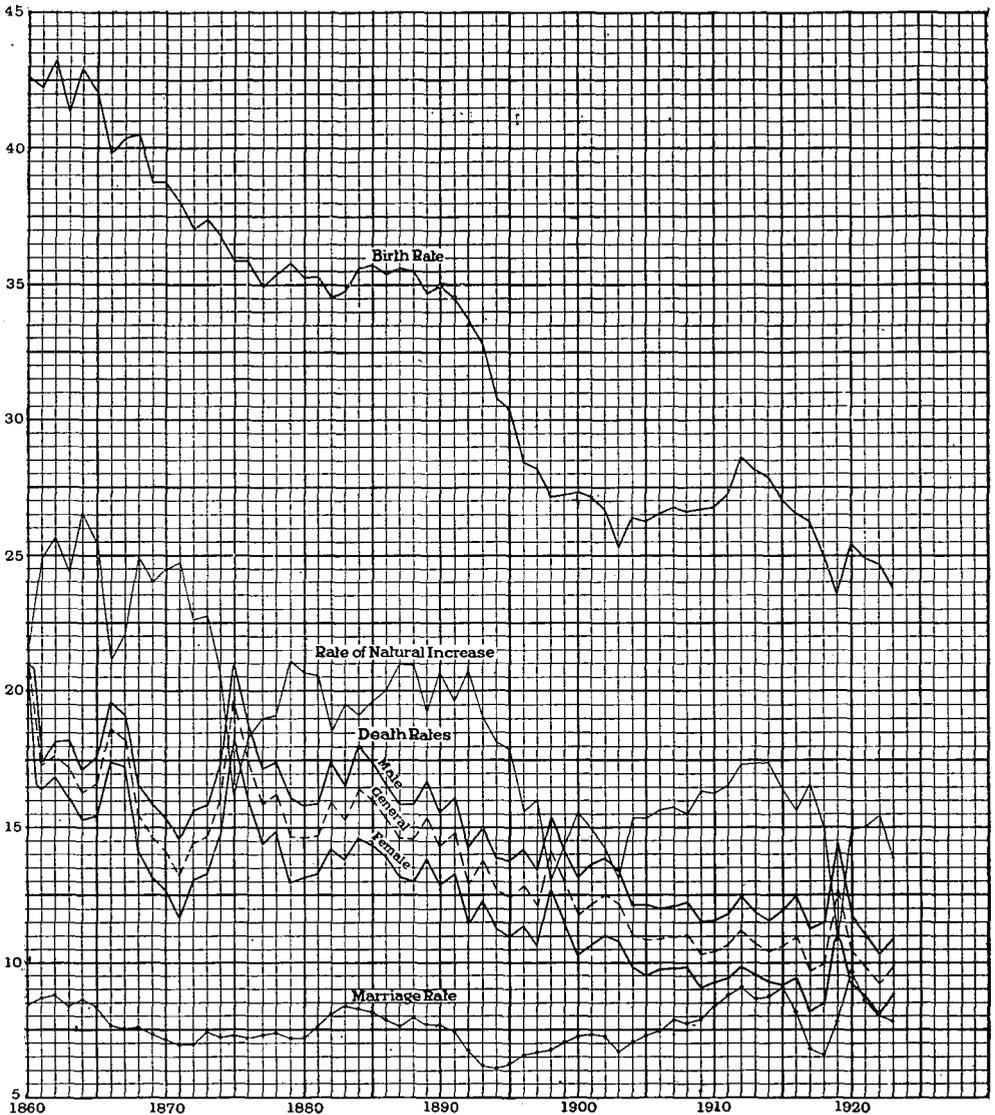


EXPLANATION.—The base of each small square represents an interval of one year for both Australia and States, and the vertical height represents 1,000 persons for Australia and 500 for the States.

The scale on the left relates to Australia, and that on the right to the States.

The names of the States to which the curves refer are written thereon, and the lines used are similar to those for births on page 997.

GENERAL BIRTH, NATURAL INCREASE, DEATH (MALE, GENERAL AND FEMALE) AND MARRIAGE RATES—AUSTRALIA, 1860 TO 1923.



EXPLANATION.—The base of each small square represents one year's interval, and the vertical height one half per thousand of the population—the basic line being five per thousand of the population.

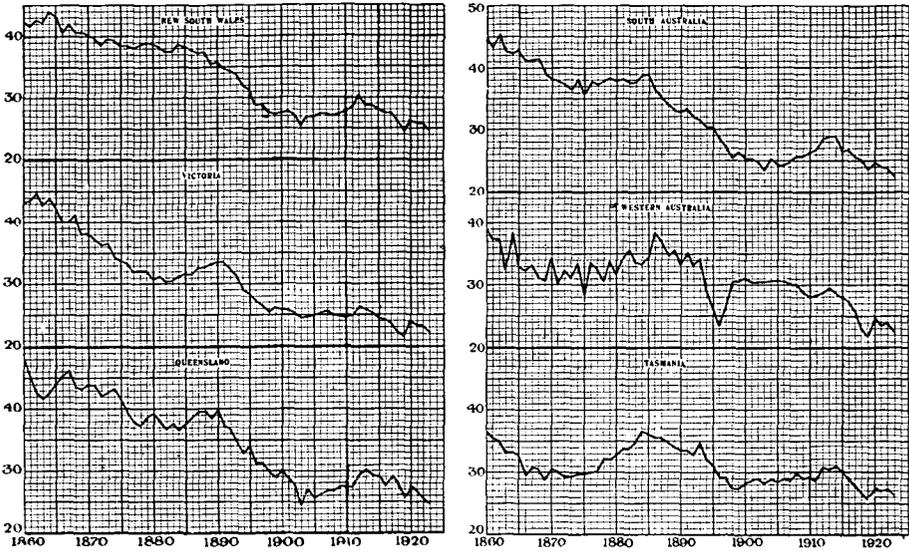
STATE BIRTH-RATE GRAPHS. (See next page.)

EXPLANATION.—The base of each small square represents one year's interval, and the vertical height one birth per thousand of the population—the basic line for each State being twenty per thousand of the population.

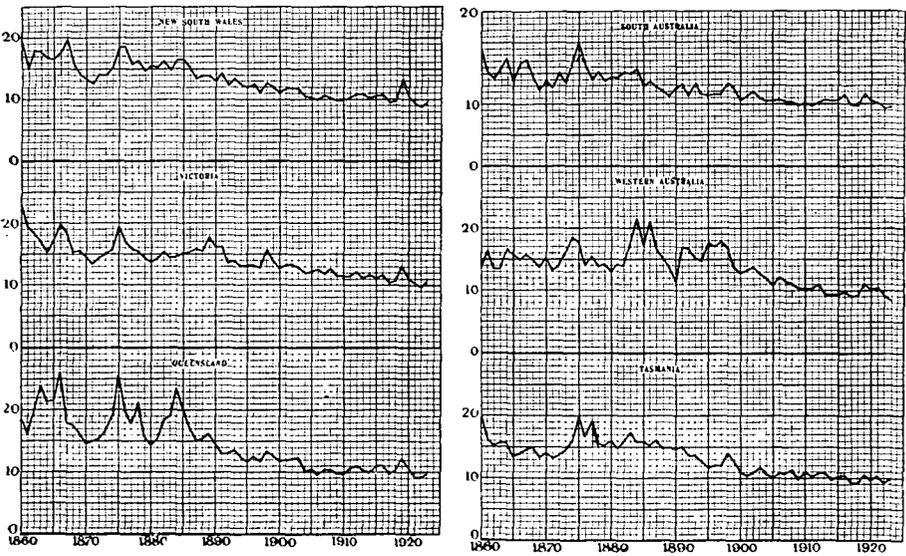
STATE DEATH-RATE GRAPHS. (See next page.)

EXPLANATION.—The base of each small square represents one year's interval, and the vertical height one death per thousand of the population. The zero for each State is shown by a thickened line.

BIRTH RATES—STATES, 1860 TO 1923.



DEATH RATES—STATES, 1860-1923.



For explanation of above graphs see page 1000.

13. Index of Mortality.—(i) For Year 1923. The death rates—those for age-groups on page 992 excepted—so far quoted are crude rates, *i.e.*, they simply show the number of deaths per thousand of mean population, without taking the age constitution into consideration. Other conditions being equal, however, the death rate of a country will be lower if it contains a large percentage of young people (not infants). In order to obtain a comparison of the mortality of various countries on a uniform basis so far as age constitution is concerned, the International Statistical Institute in its 1895 session recommended the universal adoption of the population of Sweden in five age-groups, as ascertained at the Census of 1890, as the standard population by which the "Index of Mortality," as distinguished from the crude death rate, should be ascertained. The calculation for 1923 is shown below for each of the States and Territories and for Australia, the distribution of the mean population of 1923 into age-groups being in accordance with the Census of 1921:—

INDEX OF MORTALITY, 1923.

Age-Group.	Mean Population, 1923, distributed according to Results of Census of 1921.	Number of Deaths, 1923.	No. of Deaths per 1,000 of Mean Population, 1923, in each Age-Group.	Age Distribution per 1,000 of Standard Population.	Index of Mortality.
NEW SOUTH WALES.					
Under 1 year	55,574	3,277	58.97	25.5	1.50
1 year and under 20	836,622	2,170	2.59	398.0	1.03
20 years " 40	717,691	2,580	3.59	269.6	0.97
40 " " 60	421,505	4,142	9.83	192.3	1.89
60 " and upwards	159,018	8,879	55.84	114.6	6.40
Total	2,190,410	21,048	9.61	1,000.0	11.79
VICTORIA.					
Under 1 year	36,627	2,356	64.32	25.5	1.64
1 year and under 20	580,292	1,479	2.55	398.0	1.01
20 years " 40	514,597	1,652	3.79	269.6	1.02
40 " " 60	342,948	3,561	10.38	192.3	2.00
60 " and upwards	133,309	7,871	59.04	114.6	6.77
Total	1,607,773	17,219	10.71	1,000.0	12.44
QUEENSLAND.					
Under 1 year	21,562	1,078	50.00	25.5	1.28
1 year and under 20	316,134	890	2.82	398.0	1.12
20 years " 40	262,664	1,153	4.39	269.6	1.18
40 " " 60	147,993	1,581	10.68	192.3	2.05
60 " and upwards	54,395	3,191	58.66	114.6	6.72
Total	802,748	7,893	9.83	1,000.0	12.35
SOUTH AUSTRALIA.					
Under 1 year	12,272	705	57.45	25.5	1.46
1 year and under 20	194,960	436	2.24	398.0	0.89
20 years " 40	168,156	578	3.44	269.6	0.93
40 " " 60	99,038	941	9.50	192.3	1.83
60 " and upwards	43,019	2,301	53.49	114.6	6.13
Total	517,445	4,961	9.59	1,000.0	11.24

INDEX OF MORTALITY, 1923—*continued.*

Age-Group.	Mean Population, 1923, distributed according to Results of Census of 1921.	Number of Deaths, 1923.	No. of Deaths per 1,000 of Mean Population, 1923, in each Age-Group.	Age Distribution per 1,000 of Standard Population.	Index of Mortality.
WESTERN AUSTRALIA.					
Under 1 year	8,160	442	54.17	25.5	1.38
1 year and under 20	136,370	275	2.02	398.0	.80
20 years " 40	102,723	385	3.75	269.6	1.01
40 " " 60	80,319	319	10.20	192.3	1.96
60 " " and upwards	20,703	1,009	48.74	114.6	5.59
Total	348,275	2,930	8.41	1,000.0	10.74
TASMANIA.					
Under 1 year	5,681	325	57.21	25.5	1.46
1 year and under 20	83,545	206	2.33	398.0	.92
20 years " 40	64,408	262	4.07	269.6	1.10
40 " " 60	39,628	387	9.77	192.3	1.83
60 " " and upwards	17,065	957	56.08	114.6	6.43
Total	215,327	2,137	9.92	1,000.0	11.80
NORTHERN TERRITORY.					
Under 1 year	76	1	13.16	25.5	.34
1 year and under 20	893	3	3.36	398.0	1.34
20 years " 40	1,179	2	1.70	269.6	.46
40 " " 60	1,048	14	13.36	192.3	2.57
60 " " and upwards	414	18	43.48	114.6	4.98
Total	3,610	38	10.53	1,000.0	9.69
FEDERAL CAPITAL TERRITORY.					
Under 1 year	80	..	..	25.5	..
1 year and under 20	1,354	..	..	398.0	..
20 years " 40	1,150	2	1.74	269.6	.47
40 " " 60	558	7	12.54	192.3	2.41
60 " " and upwards	173	1	5.78	114.6	.66
Total	3,315	10	3.02	1,000.0	3.54
AUSTRALIA.					
Under 1 year	140,032	8,184	58.44	25.5	1.49
1 year and under 20	2,155,170	5,459	2.53	398.0	1.01
20 years " 40	1,832,568	6,914	3.77	269.6	1.02
40 " " 60	1,133,037	11,452	10.11	192.3	1.94
60 " " and upwards	428,096	24,227	56.59	114.6	6.49
Total	5,688,903	56,236	9.89	1,000.0	11.95

NOTE.—The small number of persons whose ages were not ascertained at the 1921 Census has been proportionately distributed among the various age-groups, and the same plan has been followed in regard to the 38 persons who died in 1923, and those whose ages were not stated in the certificate of death.

Under the adjusted index the only change in the positions of the States is that Tasmania takes fourth place from Queensland, though the range of difference throughout as compared with the crude rates is somewhat reduced. On the basis of the crude rates there is a range of 2.30 per 1,000 persons between the lowest rate in Western Australia (8.41) and the highest rate in Victoria (10.71), whereas the adjusted rates reduce the range to 1.70 per 1,000, i.e. between 10.74 in Western Australia and 12.44 in Victoria.

(ii) *Years 1919 to 1923.* For purposes of comparison with previous years the index of mortality is shown in the following table for each of the five years 1919 to 1923 :—

INDEX OF MORTALITY, 1919 TO 1923.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Northern Territory.	Federal Capital Territory.	Australia.
1919 ..	16.48	15.51	15.97	14.59	15.50	13.29	17.42	8.76	15.75
1920 ..	13.32	13.72	14.36	13.49	15.63	12.28	18.27	3.20	13.65
1921 ..	12.27	12.85	12.30	12.47	15.60	13.16	22.38	2.15	12.66
1922 ..	10.91	11.20	11.38	10.62	11.80	10.88	13.93	2.91	11.10
1923 ..	11.79	12.44	12.35	11.24	10.74	11.80	9.69	3.54	11.95

14. *Causes of Death.*—(i) *General.* The classification adopted by the Commonwealth Bureau of Census and Statistics is that of the International Institute of Statistics, as amended by the Committees of Revision which met in 1909 and 1920. The detailed classification groups causes of death under 205 different headings in fifteen categories, as follows :—

- | | |
|---|--|
| <ul style="list-style-type: none"> i. Epidemic, Endemic, and Infectious Diseases. ii. General Diseases not included in (i). iii. Diseases of the Nervous System and Organs of Sense. iv. Diseases of the Circulatory System. v. Diseases of the Respiratory System. vi. Diseases of the Digestive System. vii. Diseases of the Genito-urinary System and Adnexa. | <ul style="list-style-type: none"> viii. Puerperal Condition. ix. Diseases of the Skin and Cellular Tissue. x. Diseases of the Organs of Locomotion. xi. Malformations. xii. Early Infancy. xiii. Old Age. xiv. External Causes. xv. Ill-defined Diseases. |
|---|--|

(ii) *Compilation of Vital Statistics for 1907 and Subsequent Years in Commonwealth Bureau.* The vital statistics of Australia from the year 1907 onward have been tabulated according to this classification in the Commonwealth Bureau, and the system is being employed in all the State offices in the preparation of their monthly and quarterly bulletins of vital statistics.

(iii) *Classification of Causes of Death, 1919 to 1923, according to Abridged International Classification.* An abridged classification which enumerates thirty-eight diseases and groups of diseases according to the revised classification, is in use in many European and American States, while the Australian statistics have been compiled on the detailed classification. A table has been prepared showing the causes of death according to the abridged classification, so that the results may be compared with those of countries which use the abridged index.

The compilations for the years 1919 to 1923 will be found in full in *Bulletins Nos. 37 to 41 of "Australian Demography"*; here it will suffice to give the abridged classification under thirty-eight headings for the year 1923.

CAUSES OF DEATH.—MALES, 1923.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Aus-tralia.
1 Typhoid Fever ..	52	28	33	5	10	8	..	..	136
2 Typhus ..	..	..	..	1	..	..	..	..	1
3 Malaria ..	3	2	11	1	1	..	1	..	19
4 Small-pox ..	..	..	..	..	..	..	..	..	..
5 Measles ..	69	49	5	..	1	3	..	..	127
6 Scarletina ..	5	14	2	4	..	1	..	..	26
7 Whooping Cough ..	37	7	5	5	4	..	..	..	58
8 Diphtheria and Croup	106	46	20	23	10	17	..	..	222
9 Influenza ..	78	49	71	13	8	5	..	..	224
9A Pneumonic Influenza ..	133	132	106	11	9	10	..	1	402
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	..	2	..	..	..	1	..	..	3
12 Other Epidemic Diseases	49	45	33	15	6	4	..	..	152
13 Tuberculosis of the Respiratory System	651	574	237	189	150	60	5	..	1,866
14 Tuberculosis of the Men- inges ..	29	35	4	8	2	6	..	..	84
15 Other forms of Tuber- culosis ..	39	38	5	12	6	7	..	..	107
16 Cancer and other Malig- nant Tumours ..	962	764	398	254	161	88	2	..	2,629
17 Meningitis ..	118	91	34	15	18	11	..	..	287
18 Hæmorrhage, Embolism, and Softening of Brain	557	398	179	151	84	59	..	..	1,428
19 Organic Diseases of the Heart ..	959	828	374	242	170	132	..	1	2,706
20 Acute Bronchitis ..	85	41	25	18	7	9	..	..	185
21 Chronic Bronchitis ..	164	163	71	55	21	10	1	..	485
22 Pneumonia ..	649	472	199	128	86	66	1	1	1,602
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	565	633	244	119	110	52	1	2	1,726
24 Diseases of the Stomach (Cancer excepted) ..	102	84	39	28	20	11	..	..	284
25 Diarrhœa and Enteritis (children under 2 years only) ..	581	323	183	120	74	18	..	..	1,299
26 Appendicitis & Typhlitis	115	59	36	11	13	11	..	..	245
27 Hernia, Intestinal Ob- struction ..	107	76	39	25	25	13	1	..	286
28 Cirrhosis of the Liver..	53	55	37	17	11	5	..	..	178
29 Nephritis and Bright's Disease ..	537	460	204	130	69	31	..	..	1,431
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	..	..	..	..	..	..	..	..	..
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	..	..	..	..	..	..	..	..	..
32 Other Puerperal Acci- dents of Pregnancy and Confinement ..	..	..	..	..	..	..	..	..	..
33 Congenital Debility and Malformations ..	912	676	307	189	119	100	..	..	2,303
34 Senile Debility ..	1,017	618	382	229	124	88	10	..	2,468
35 Violence ..	770	544	388	155	148	71	3	1	2,080
36 Suicide ..	180	106	88	50	51	14	3	..	492
37 Other Diseases ..	2,114	1,607	900	443	347	214	2	4	5,631
38 Unspecified or Ill-defined Diseases ..	171	116	40	61	42	15	5	..	450
Total—Males ..	11,969	9,135	4,699	2,727	1,907	1,140	35	10	31,622

CAUSES OF DEATH.—FEMALES, 1923.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Aus-tralia.
1 Typhoid Fever ..	46	26	13	8	8	5	..	..	106
2 Typhus ..	..	..	..	..	..	..	..	..	..
3 Malaria ..	..	..	1	..	1	..	..	..	2
4 Small-pox ..	..	..	..	..	..	..	..	..	..
5 Measles ..	51	32	8	1	..	3	..	..	95
6 Scarletina ..	7	6	..	4	..	2	..	..	19
7 Whooping Cough ..	35	13	7	4	..	2	..	..	61
8 Diphtheria and Croup	64	41	19	24	10	15	..	..	173
9 Influenza ..	72	56	65	10	4	10	..	..	217
9A Pneumonic Influenza	125	122	82	17	10	11	..	..	367
10 Asiatic Cholera ..	..	..	..	..	..	..	..	..	..
11 Cholera Nostras ..	..	..	..	..	..	..	..	..	..
12 Other Epidemic Diseases	53	37	24	17	5	3	..	..	139
13 Tuberculosis of the Respiratory System	452	463	116	134	65	75	..	..	1,305
14 Tuberculosis of the Men- inges ..	23	33	3	6	4	6	..	..	75
15 Other forms of Tuber- culosis ..	31	47	3	17	2	7	..	..	107
16 Cancer and other Malignant Tumours ..	888	871	266	237	104	78	..	..	2,444
17 Meningitis ..	75	55	26	19	15	10	1	..	201
18 Hæmorrhage, Embolism, and Softening of Brain	534	562	167	170	58	70	..	..	1,561
19 Organic Diseases of the Heart ..	756	769	264	215	81	102	..	..	2,187
20 Acute Bronchitis ..	61	39	33	24	4	5	..	..	166
21 Chronic Bronchitis ..	141	152	39	51	10	14	..	..	407
22 Pneumonia ..	458	360	136	69	46	55	..	..	1,124
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	439	435	124	83	53	41	..	..	1,175
24 Diseases of the Stomach (Cancer excepted) ..	54	46	27	12	13	8	..	..	160
25 Diarrhoea and Enteritis (children under 2 years only) ..	433	274	151	97	65	19	..	..	1,039
26 Appendicitis & Typhlitis	77	55	22	24	7	6	..	..	191
27 Hernia, Intestinal Ob- struction ..	78	71	33	20	11	9	..	..	222
28 Cirrhosis of the Liver ..	30	39	15	3	5	3	..	..	95
29 Nephritis and Bright's Disease ..	356	383	178	60	31	21	..	..	1,029
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	66	45	25	21	12	5	..	..	174
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	103	54	34	22	12	8	..	..	233
32 Other Puerperal Acci- dents of Pregnancy and Confinement ..	203	93	93	35	20	14	..	..	458
33 Congenital Debility and Malformations ..	642	542	217	149	97	74	1	..	1,722
34 Senile Debility ..	801	756	253	219	73	115	..	..	2,217
35 Violence ..	221	154	101	61	31	26	..	..	594
36 Suicide ..	42	37	10	12	2	4	..	..	107
37 Other Diseases ..	1,581	1,327	623	366	148	155	1	..	4,201
38 Unspecified or Ill-defined Diseases ..	81	89	16	23	16	16	..	..	241
Total—Females ..	9,079	8,084	3,194	2,234	1,023	997	3	..	24,614

CAUSES OF DEATH.—PERSONS, 1923.

Cause.	N.S.W.	Vic.	Q'land.	S. Aus.	W. Aus.	Tas.	Nor. Ter.	Fed. Cap. Ter.	Australia.
1 Typhoid Fever	98	54	46	13	18	13	..	..	242
2 Typhus .. .. .	..	..	..	1	..	..	..	..	1
3 Malaria	3	2	12	1	2	..	1	..	21
4 Small-pox .. .. .	..	..	..	..	..	..	..	..	..
5 Measles	120	81	13	1	1	6	..	..	222
6 Scarletina	12	20	2	8	..	3	..	..	45
7 Whooping Cough	72	20	12	9	4	2	..	..	119
8 Diphtheria and Croup	170	87	39	47	20	32	..	..	395
9 Influenza	150	105	136	23	12	15	..	..	441
9A Pneumonic Influenza	258	254	188	28	19	21	..	1	769
10 Asiatic Cholera .. .. .	..	..	..	..	..	..	..	..	..
11 Cholera Nostras .. .. .	..	2	..	..	..	1	..	..	3
12 Other Epidemic Diseases	102	82	57	32	11	7	..	..	291
13 Tuberculosis of the Respiratory System	1,103	1,037	353	323	215	135	5	..	3,171
14 Tuberculosis of the Meninges	52	68	7	14	6	12	..	..	159
15 Other forms of Tuberculosis	70	85	8	29	8	14	..	..	214
16 Cancer and other Malignant Tumours	1,850	1,635	664	491	265	166	2	..	5,073
17 Meningitis	193	146	60	34	33	21	1	..	488
18 Hæmorrhage, Embolism, and Softening of Brain	1,091	960	346	321	142	129	..	..	2,989
19 Organic Diseases of the Heart	1,715	1,597	638	457	251	234	..	1	4,893
20 Acute Bronchitis	146	80	58	42	11	14	..	..	351
21 Chronic Bronchitis	305	315	110	106	31	24	1	..	892
22 Pneumonia	1,107	832	335	197	132	121	1	1	2,726
23 Other Diseases of the Respiratory System (Tuberculosis exceptd.)	1,004	1,068	368	202	163	93	1	2	2,901
24 Diseases of the Stomach (Cancer excepted)	156	130	66	40	33	19	..	..	444
25 Diarrhœa and Enteritis (children under 2 years only)	1,014	597	334	217	139	37	..	..	2,338
26 Appendicitis & Typhlitis	192	114	58	35	20	17	..	..	436
27 Hernia, Intestinal Obstruction	185	147	72	45	36	22	1	..	508
28 Cirrhosis of the Liver	83	94	52	20	16	8	..	..	273
29 Nephritis and Bright's Disease	893	843	382	190	100	52	..	..	2,460
30 Non-cancerous Tumours and other Diseases of Female Genital Organs	66	45	25	21	12	5	..	..	174
31 Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis)	103	54	34	22	12	8	..	..	233
32 Other Puerperal Accidents of Pregnancy and Confinement	203	93	93	35	20	14	..	..	458
33 Congenital Debility and Malformation	1,554	1,218	524	338	216	174	1	..	4,025
34 Senile Debility	1,818	1,374	635	448	197	203	10	..	4,685
35 Violence	991	698	489	216	179	97	3	1	2,674
36 Suicide	222	143	98	62	53	18	3	..	599
37 Other Diseases	3,695	2,934	1,523	809	495	369	3	4	9,832
38 Unspecified or Ill-defined Diseases	252	205	56	84	58	31	5	..	691
Total—Persons	21,048	17,219	7,893	4,961	2,930	2,137	38	10	56,236

The classification for the years 1919 to 1923 is shown for Australia in the following table, and for purposes of comparison the figures for the year 1923 have been repeated from the preceding table. Male and female deaths for 1919 are shown on pages 188 and 189 of the thirteenth issue, for 1920 on pages 129 and 130 of the fourteenth issue, for 1921 on pages 122 and 123 of the fifteenth issue, and for 1922 on pages 1001 and 1002 of the sixteenth issue of this book.

CAUSES OF DEATH.—AUSTRALIA, 1919 TO 1923.

PERSONS.

Cause.	1919.	1920.	1921.	1922.	1923.
1 Typhoid Fever	272	312	352	227	242
2 Typhus .. .. .	..	..	..	..	1
3 Malaria	34	19	43	21	21
4 Small-pox .. .. .	..	..	2	2	..
5 Measles	51	482	83	28	222
6 Scarletina	69	90	42	38	45
7 Whooping Cough	211	561	428	182	119
8 Diphtheria and Croup	581	829	917	543	395
9 Influenza	1,289	230	308	162	441
9A Pneumonic Influenza	10,263	218	346	193	769
10 Asiatic Cholera .. .. .	..	..	..	..	..
11 Cholera Nostras	1	1	2	1	3
12 Other Epidemic Diseases	157	124	232	244	291
13 Tuberculosis of the Respiratory System (a)	3,479	3,098	3,205	2,957	3,171
14 Tuberculosis of the Meninges	188	214	218	176	159
15 Other forms of Tuberculosis	281	295	264	264	214
16 Cancer and other Malignant Tumours	4,421	4,511	4,768	5,052	5,073
17 Meningitis	481	596	558	518	488
18 Hæmorrhage Embolism, and Softening of the Brain	2,467	2,495	2,472	2,833	2,980
19 Organic Diseases of the Heart	5,864	5,370	5,166	5,158	4,893
20 Acute Bronchitis	420	398	386	283	351
21 Chronic Bronchitis	1,047	962	816	796	892
22 Pneumonia	2,656	2,099	2,066	2,151	2,726
23 Other Diseases of the Respiratory System (Tuberculosis excepted)	2,413	2,527	2,304	2,208	2,901
24 Diseases of the Stomach (Cancer excepted)	478	443	439	467	444
25 Diarrhoea and Enteritis (Children under two years only)	2,520	3,067	2,589	1,743	2,338
26 Appendicitis and Typhilitis	352	882	351	402	436
27 Hernia, Intestinal Obstruction	580	541	480	545	508
28 Cirrhosis of the Liver	315	340	323	323	273
29 Nephritis and Bright's Disease	2,221	2,286	2,139	2,833	2,460
30 Non-cancerous Tumours and other Diseases of the Female Genital Organs	132	154	166	169	174
31 Puerperal Septicæmia (Puerperal Fever, Peritonitis, Phlebitis)	166	250	208	196	233
32 Other Puerperal Accidents of Pregnancy and Confinement	404	433	435	425	458
33 Congenital Debility, etc.	3,885	4,046	3,758	3,521	4,025
34 Senile Debility	4,840	4,636	3,981	4,044	4,685
35 Violence	2,799	2,791	2,892	2,590	2,674
36 Suicide	546	636	621	533	599
37 Other Diseases	9,390	10,048	9,995	9,318	9,832
38 Unspecified or Ill-defined Diseases	707	805	721	665	691
Total	65,930	56,289	54,076	51,311	56,236

(a) Includes acute disseminated tuberculosis.

15. Deaths from Special Causes.—The above table furnishes comparisons for the last five years only, and comparisons will, therefore, generally be restricted to that period.

(i) *Typhoid Fever*. The number of deaths from typhoid fever in 1923 was 242, which was equivalent to 4 per hundred thousand living. This rate, though lower than the average for the five years, was higher than in 1922, when it varied from 8 per hundred thousand persons living in Western Australia to 2 in Victoria.

(ii) *Typhus*. One death from typhus, which occurred in South Australia, was registered for the year 1923.

(iii) *Malaria*. Deaths from malarial diseases are mainly confined to the tropical districts of Northern Queensland and Western Australia, and to the Northern Territory; 12 out of the 21 deaths registered in 1923 occurred in Queensland, 3 in New South Wales, 2 in Victoria, 2 in Western Australia, and 1 each in South Australia and the Northern Territory.

(iv) *Small-pox*. The number of deaths from small-pox in Australia is very small, four deaths only resulting in the five years under review.

(v) *Measles*. Of the deaths from measles the greatest number occurred during 1920, when 482 were registered, while the minimum was in 1922 with a total of 28 deaths. During 1923 there were 222 deaths from measles, of which 127 were males and 95 females; of these, 120 were registered in New South Wales, 81 in Victoria, 13 in Queensland, 6 in Tasmania, and 1 each in South and Western Australia.

(vi) *Scarlatina*. The mortality from this source is very light, the average of deaths from 1919 to 1923 being 57 per annum.

(vii) *Whooping Cough*. In 1920 the number of deaths was 561, the highest number registered in the period 1919 to 1923. In 1923 there were 119 deaths, equal to a death rate of 2 per 100,000 persons. Seventy-two deaths occurred in New South Wales, 20 in Victoria, 12 in Queensland, 9 in South Australia, 4 in Western Australia, and 2 in Tasmania.

(viii) *Diphtheria and Croup*. The number of deaths due to diphtheria and croup has varied from a minimum of 395 in 1923 to a maximum of 917 in 1921. Of the 395 registered in 1923, 382 were attributed to diphtheria, which gives a death rate of 7 per 100,000 of population. The corresponding rates for the separate States were—Victoria, Queensland, and Western Australia, 5; New South Wales, 8; South Australia, 9; and Tasmania, 14.

(ix) *Influenza*. The deaths from influenza during 1923 were more numerous than in any year since the extraordinary epidemic of 1919. In 1923, there were 1,210 deaths from this disease, representing a rate of 21 per 100,000. Of these deaths, 441 were ascribed to ordinary influenza, and 769 to pneumonic influenza.

(x) *Asiatic Cholera*. No deaths from Asiatic cholera have been recorded in Australia.

(xi) *Cholera Nostras*. For the five years under review only eight deaths have been due to this cause.

(xii) *Other Epidemic Diseases*. The deaths registered under this heading numbered 291 in 1923. The list in 1923 includes the following diseases:—Dysentery 114, erysipelas 75, lethargic encephalitis 57, acute poliomyelitis 30, leprosy 8, plague 1, and other epidemic diseases 6. There were no deaths from plague in the years 1919 and 1920. Outbreaks occurred in 1921 and 1922, causing 61 deaths in Queensland and 10 in New South Wales.

(xiii) *Tuberculosis of the Respiratory System*. Of the various forms of tuberculosis prevalent in Australia, phthisis, or tuberculosis of the lungs, has attracted the most attention. The intimate relation, however, between tuberculosis of the lungs and of other parts of the respiratory system renders it desirable that all forms of tuberculosis of the respiratory system should be brought under one head for investigations concerning the age incidence and duration of this disease.

Including a small number of deaths from acute disseminated tuberculosis, there were 3,171 deaths from tuberculosis of the respiratory system in 1923, which compares favourably with the average of 3,185 for the preceding four years. The 3,171 deaths in 1923 represented a rate of about 56 per 100,000 persons. Of these deaths, 1,866 were males and 1,305 females.

(xiv) *Tuberculosis of the Meninges*. The number of deaths ascribed to this cause has varied very slightly during the last five years. The greatest number, viz., 218, occurred in 1921, and the least number, viz., 159, in 1923.

(xv) *Other Forms of Tuberculosis.* The deaths in 1923 include the following:—Tuberculosis of the intestines and peritoneum, 77; tuberculosis of the spinal column, 43; tuberculosis of the joints, 29; tuberculosis of other organs, 30; and chronic disseminated tuberculosis, 40.

(xva) *All Forms of Tuberculosis.*—(a) *General.* A complete tabulation of all the different tubercular diseases from which deaths occurred in 1923 will be found in Bulletin No. 41 of "Australian Demography." The total number of deaths due to tubercular diseases was 3,544, viz., 2,057 males and 1,487 females.

(b) *Ages at Death.* The following table shows the ages of these 3,544 persons:—

TUBERCULAR DISEASES.—DEATHS IN AGE-GROUPS, AUSTRALIA, 1923.

Ages.	Male.	Female.	Total.	Ages.	Male.	Female.	Total.
Under 5 years ..	74	60	134	55 years and under 60	147	64	211
5 years and under 10	23	24	47	60 " " 65	137	38	175
10 " " 15	15	15	50	65 " " 70	79	28	107
15 " " 20	20	68	125	70 " " 75	38	19	57
20 " " 25	150	209	359	75 " " 80	11	9	20
25 " " 30	211	235	446	80 " " over ..	6	4	10
30 " " 35	212	194	406	Unspecified ..	7	..	7
35 " " 40	223	172	395	Total ..	2,057	1,487	3,544
40 " " 45	254	100	354				
45 " " 50	206	103	309				
50 " " 55	196	68	264				

(c) *Occupations at Death, Males.* A tabulation has been made of the occupations of males dying from tubercular diseases during 1923. A summary is given hereunder:—

OCCUPATIONS OF MALES WHO DIED FROM TUBERCULAR DISEASES.—AUSTRALIA, 1923.

Occupation.	No. of Deaths.	Occupation.	No. of Deaths.
PROFESSIONAL CLASS—		INDUSTRIAL CLASS—	
Government, Defence, Law ..	63	Art and Mechanic Productions	98
Others	51	Textiles and Fibrous Materials	50
DOMESTIC CLASS—		Food and Drinks	29
Board and Lodging	38	Animal and Vegetable Sub-	
Others	26	stances	5
COMMERCIAL CLASS—		Metals and Minerals	53
Property and Finance	20	Fuel, Light and Energy	11
Art, Mechanic and Textile Pro-		Building and Construction	99
ducts	30	Others	409
Food and Drinks	42	AGRICULTURAL, PASTORAL,	
Animal and Vegetable Sub-		MINING, ETC., CLASS—	
stances	9	Agricultural	142
Fuel, Light and Metals	12	Pastoral	43
Merchants and Dealers	45	Mining and Quarrying	189
Others	151	Others	8
TRANSPORT AND COMMUNICATION		INDEPENDENT MEANS	16
CLASS—		DEPENDENTS	158
Railway Traffic	44	OCCUPATION NOT STATED	74
Road and Tramway Traffic	79	TOTAL MALE DEATHS	2,057
Sea and River Traffic	43		
Others	20		

(d) *Length of Residence in Australia.* The length of residence in Australia of persons who died from tubercular diseases in 1923 is given in the next table :—

LENGTH OF RESIDENCE IN AUSTRALIA OF PERSONS WHO DIED FROM TUBERCULAR DISEASES, 1923.

Length of Residence in Australia.	Male.	Fem.	Total.	Length of Residence in Australia.			
				Male.	Fem.	Total.	
Born in Australia ..	1,519	1,264	2,783	Resident 10 years & under 15	108	46	154
Resident under 1 year ..	10	7	17	" 15 " " over 20	26	12	38
" 1 year ..	9	4	13	" 20 " " over ..	245	84	329
" 2 years ..	10	7	17	Length of residence not stated	91	24	115
" 3 " ..	5	5	10				
" 4 " ..	5	7	12				
" 5 " and under 10	29	24	53	Total Deaths ..	2,057	1,487	3,544

(e) *Death Rates.* The preceding table and the table on page 994 show that, among persons who had lived less than five years in Australia, 581 deaths occurred, and of these 72, or 12.4 per cent., were due to tubercular diseases.

In order to show the prevalence of tuberculosis in the several States, the death rates from tubercular diseases are given in the following table, together with the proportion which deaths from tuberculosis bear to 10,000 deaths from all causes :—

TUBERCULOSIS (ALL FORMS).—DEATH RATES (a) AND PROPORTION OF TOTAL DEATHS, 1923.

State.	Death Rates (a) from Tuberculosis.			Proportion per 10,000 Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales ..	64	47	56	601	557	582
Victoria ..	81	67	74	709	672	691
Queensland ..	58	32	46	524	382	466
South Australia ..	80	61	71	767	703	738
Western Australia ..	85	44	66	829	694	782
Tasmania ..	68	82	75	640	883	753
Northern Territory ..	194	..	139	1,429	..	1,316
Australia ..	71	53	62	651	604	630

(a) Number of deaths from tuberculosis per 100,000 of mean population.

(f) *Death Rates, Various Countries.* The following table, which gives for a number of countries the death rates from tuberculosis of the respiratory system per 100,000 persons living, shows that Australia occupies a very favourable position in comparison with other countries :—

**TUBERCULOSIS OF THE RESPIRATORY SYSTEM.—DEATHS PER 100,000
PERSONS LIVING, VARIOUS COUNTRIES.**

Country.	Year.	Death Rate.	Country.	Year.	Death Rate.
Rumania	1914	40	Irish Free State ..	1922	117
Union of South Africa (Whites)	1921	46	Denmark	1921	120
New Zealand	1923	49	Northern Ireland ..	1922	126
Australia	1923	56	Prussia	1922	135
Canada (exclusive of Quebec)	1921	61	Italy	1917	146
Ontario (Canada) ..	1922	66	Jamaica	1915	147
Ceylon	1922	68	Japan	1922	148
Scotland	1922	83	Germany	1920	152
Belgium	1921	86	Spain	1921	158
Netherlands	1922	86	Sweden	1918	176
England and Wales ..	1922	90	Switzerland	1920	180
Great Britain	1922	90	Norway	1918	194
United States (Regis- tration Area) (a) ..	1922	97	France	1917	215
Quebec (Canada) ..	1921	102	Austria	1921	227
			Finland	1918	258
			Chile	1914	255
			Hungary	1915	354

(a) All forms of tuberculosis.

(xvi) *Cancer and other Malignant Tumours.*—(a) *General.* The number of deaths from cancer has increased continuously to 5,073 in 1923. Of the deaths registered in 1923, 2,629 were of males, viz., 962 in New South Wales, 764 in Victoria, 398 in Queensland, 254 in South Australia, 161 in Western Australia, 88 in Tasmania, and 2 in the Northern Territory; while 2,444 were of females, viz., 888 in New South Wales, 871 in Victoria, 266 in Queensland, 237 in South Australia, 104 in Western Australia, and 78 in Tasmania. Bulletin No. 41 of "Australian Demography" contains a complete tabulation of the various types of cancer and of the seat of the disease.

(b) *Type and Seat of Disease.* Tables showing the type and seat of disease, in conjunction with age, and also with conjugal condition, of the persons dying from cancer in 1923 will be found in Bulletin No. 41 of "Australian Demography." A summary showing type and seat of disease for the year 1923 is given hereunder:—

DEATHS FROM CANCER.—TYPE AND SEAT OF DISEASE, AUSTRALIA, 1923.

Type of Disease.	Males.	Females	Persons	Seat of Disease.	Males.	Females	Persons
Carcinoma	1,432	1,429	2,861	Stomach and liver ..	1,134	697	1,831
Cancer	525	476	1,001	Other organs	709	357	1,066
Malignant disease ..	267	302	569	Peritoneum, intes- tines and rectum	356	391	747
Sarcoma	170	106	276	Female genital organs .. ..	..	468	468
Epithelioma	159	61	220	Breast .. ..	..	426	426
Rodent ulcer	46	16	62	Buccal cavity	298	44	342
Malignant tumour ..	22	26	48	Skin	132	61	193
Neoplasm	3	13	16				
Scirrhus	1	13	14				
Hypernephroma ..	4	2	6				
Total Deaths ..	2,629	2,444	5,073	Total Deaths ..	2,629	2,444	5,073

(c) *Ages at Death.* The ages of the 5,073 persons who died from cancer in 1923 are given in the following table, which shows that while the ages below 35 are not by any means immune from the disease, the great majority of deaths occurred at ages from 35 upwards, the maximum being found in the age-group 60 to 65 :—

DEATHS FROM CANCER.—AGES, AUSTRALIA, 1923.

Ages.	Male.	Female.	Total.	Ages.	Male.	Female.	Total.
Under 15 years ..	21	12	33	60 years and under 65	447	372	819
15 years and under 20	7	4	11	65 " " 70	505	312	817
20 " " 25	9	5	14	70 " " 75	335	254	589
25 " " 30	15	12	27	75 " " 80	232	209	441
30 " " 35	27	33	60	80 " " 85	129	107	236
35 " " 40	41	87	128	85 years and over	63	60	123
40 " " 45	80	155	235	Unspecified ..	7	2	9
45 " " 50	131	230	361				
50 " " 55	220	281	501				
55 " " 60	360	309	669	Total Deaths ..	2,629	2,444	5,073

(d) *Occupations.* A summarized tabulation of the occupation of males who died from cancer is given hereunder :—

DEATHS FROM CANCER.—OCCUPATIONS (MALES), AUSTRALIA, 1923.

Class of Occupation.	No. of Male Deaths.	Class of Occupation.	No. of Male Deaths.
Professional	147	Agricultural, Pastoral, Mining, etc.	625
Domestic	91	Independent Means	57
Commercial	310	Dependents	31
Transport and Communication	172	Occupation not specified	125
Industrial	1,071		
		Total Male Deaths	2,629

(e) *Death Rates.* The following table shows that with the exception of Victoria the death rate for males is higher than that for females in every State :—

DEATHS FROM CANCER.—RATES (a) AND PROPORTIONS, 1923.

State.	Death Rates (a) from Cancer.			Proportion of 10,000 Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	86	83	84	804	978	879
Victoria	96	107	102	836	1,078	959
Queensland	94	70	83	847	833	841
South Australia	98	92	95	931	1,061	990
Western Australia	86	64	76	844	1,017	905
Tasmania	81	73	77	772	782	777
Northern Territory	78	..	55	571	..	526
Australia	91	88	89	832	993	903

(a) Number of deaths from cancer per 100,000 of mean population.

(f) *Comparison with Tuberculosis.* In recent years the death rate from tuberculosis has shown a tendency to decrease, while that for cancer has displayed an almost continuous increase. The table hereunder shows that for each of the years under review, the death rate for cancer has been greater than that for tuberculosis, the excess varying from 9 per 100,000 persons in 1919 to 30 in 1922. Taking the sexes separately, however, the rate for males for tuberculosis exceeded that for cancer in 1919. During the whole period the mortality of females from cancer was always greater than that from tuberculosis.

TUBERCULOSIS AND CANCER.—DEATH RATES (a), AUSTRALIA, 1919 TO 1923.

Year.	Death Rate (a) from Tuberculosis.			Death Rate (a) from Cancer.		
	Males.	Females.	Total.	Males.	Females.	Total.
1919	90	62	76	88	82	85
1920	79	55	67	86	82	84
1921	78	56	68	88	87	87
1922	71	51	61	93	88	91
1923	71	53	62	91	88	89

(a) Number of deaths per 100,000 of mean population.

(g) *Deaths, Various Countries.* The following table shows the Australian death rate from cancer in comparison with that for other countries :—

CANCER.—DEATHS PER 100,000 PERSONS LIVING, VARIOUS COUNTRIES.

Country.	Year.	Rate.	Country.	Year.	Rate.
Ceylon	1922	10	United States (Regis- tration Area) ..	1922	87
Rumania	1914	13	New Zealand	1923	88
Serbia	1911	14	Ontario, Canada ..	1922	88
Jamaica	1915	17	Prussia	1921	89
Chile	1914	36	Australia	1923	89
Hungary	1915	48	Germany	1920	95
Quebec (Canada) ..	1921	56	Northern Ireland ..	1922	99
Union of South Africa (Whites)	1921	60	Sweden	1918	104
Spain	1921	60	Netherlands	1922	112
Italy	1917	68	Great Britain	1922	123
Japan	1922	69	England and Wales ..	1922	123
Canada (exclusive of Quebec)	1921	75	Norway	1918	124
France	1917	75	Scotland	1922	125
Belgium	1921	79	Switzerland	1920	126
Irish Free State ..	1922	80	Austria	1921	128
			Denmark	1921	154

The fifth issue of this Year Book contains on pages 230, *et seq.*, a paper dealing, *inter alia*, with the incidence of cancer in Australia.

(xvii) *Meningitis.* The deaths during 1923 from cerebro-spinal meningitis numbered 50, and from all other forms of meningitis 438. Of the former, 21 occurred in New South Wales, 11 in Victoria, 12 in Queensland, 3 in South Australia, 1 in Western Australia, and 2 in Tasmania.

(xviii) *Cerebral Hæmorrhage, Embolism and Softening of the Brain.* The deaths under this heading have been remarkably uniform in number during the period under review. The figures for 1923 are made up as follows:—Cerebral hæmorrhage and apoplexy, 1,201 males and 1,276 females; cerebral embolism, 179 males, 249 females; softening of the brain, 48 males and 36 females.

(xix) *Organic Diseases of the Heart.* The number of deaths in 1923 was 4,893, viz., 2,706 males and 2,187 females. Of these deaths, New South Wales contributed 959 males and 756 females; Victoria, 828 males and 769 females; Queensland, 374 males and 264 females; South Australia, 242 males and 215 females; Western Australia, 170 males and 81 females; Tasmania, 132 males and 102 females; and Federal Capital Territory, 1 male. The death rates and proportions per 10,000 deaths in 1923 were as follows:—

DEATH RATES (a) FROM ORGANIC HEART DISEASE AND PROPORTION OF 10,000 TOTAL DEATHS, AUSTRALIA, 1923.

State.	Death Rates (a) from Organic Heart Disease.			Proportion of 10,000 Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	86	70	78	801	833	815
Victoria	104	95	99	907	951	928
Queensland	88	70	80	796	827	808
South Australia	93	84	88	890	963	921
Western Australia	91	50	72	892	792	857
Tasmania	122	95	109	1,158	1,023	1,095
Federal Capital Territory ..	48	..	30	1,000	..	1,000
Australia	93	78	86	856	889	870

(a) Number of deaths from Organic Heart Disease per 100,000 of mean population.

(xx) *Acute Bronchitis.* Deaths from bronchitis are classified under the following headings:—(a) Acute, (b) chronic, (c) unspecified, under five years of age, and (d) unspecified, five years and over. For the purpose of the abridged classification, (a) and (c) are treated as "acute," and (b) and (d) as "chronic" bronchitis. Acute bronchitis is credited with 420 deaths in 1919, 398 in 1920, 386 in 1921, 283 in 1922, and 351 in 1923, viz., 185 males and 166 females.

(xxi) *Chronic Bronchitis.* The deaths from this cause in 1923 numbered 892, viz., 485 males and 407 females.

(xxii) *Pneumonia.* The deaths from pneumonia during 1923 were 2,901, showing an increase of 658, or 29.3 per cent., over the average for the previous four years.

(xxiii) *Other Diseases of the Respiratory System.* This heading was established in 1910, the figures previously being included in "Other Diseases" (No. xxxvii). Deaths in 1919 numbered 2,413; in 1920, 2,527; in 1921, 2,304; in 1922, 2,208; and in 1923, 2,901. The total for 1923 is made up as follows, viz.:—Diseases of the nasal fossae, 4; diseases of the larynx, 50; broncho-pneumonia, 1,604; capillary bronchitis, 27; pleurisy,

229; pulmonary congestion and apoplexy, 320; gangrene of the lungs, 21; asthma, 244; pulmonary emphysema, 24; chronic interstitial pneumonia, 344; other diseases of the respiratory system (tuberculosis excepted), 34.

(xxiv) *Diseases of the Stomach (Cancer excepted)*. In 1923 this heading includes ulcer of the stomach, 103 males, 45 females; ulcer of the duodenum, 52 males, 20 females; and other diseases of the stomach (cancer excepted), 129 males, 95 females; a total of 444.

(xxv) *Diarrhœa and Enteritis (Children under two years only)*. The number of deaths due to these causes is always a large one, varying from 1,743 in 1922 to a maximum of 3,067 in 1920. The total for 1923 was 2,338. During 1923, 9,635 children died before reaching their second birthday, and of these, 2,338, or 24.3 per cent., died from diarrhœa and enteritis. The age distribution of children dying from these diseases during the first year of life will be found on page 1025.

The number of deaths, the death rates, and proportions of 10,000 deaths due to infantile diarrhœa and enteritis are given below:—

DEATHS, DEATH RATES (a), ETC., INFANTILE DIARRHŒA AND ENTERITIS.—
AUSTRALIA, 1923.

State.	Number of Deaths from Infantile Diarrhœa and Enteritis.			Death Rates (a) from Infantile Diarrhœa and Enteritis.			Proportions of Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	581	433	1,014	52	40	46	485	477	482
Victoria ..	323	274	597	40	34	37	354	339	347
Queensland ..	183	151	334	43	40	42	389	473	423
South Australia ..	120	97	217	46	38	42	440	434	437
Western Australia	74	65	139	40	40	40	388	635	474
Tasmania ..	18	19	37	17	18	17	158	191	173
Australia ..	1,299	1,039	2,338	45	37	41	411	422	466

(a) Number of deaths from these diseases per 100,000 of mean population.

(xxvi) *Appendicitis and Typhlitis*. Deaths under this heading numbered 352 in 1919, 382 in 1920, 351 in 1921, 402 in 1922, and 436 in 1923; the total for the last year included 245 males and 191 females.

(xxvii) *Hernia, Intestinal Obstruction*. The deaths under this heading have not varied greatly from year to year, the number registered in 1923 being 508, viz., hernia 140, and intestinal obstruction, 368.

(xxviii) *Cirrhosis of the Liver*. The deaths from this cause during 1923 numbered 273, showing a decrease of 52, or 15.6 per cent., on the average for the previous four years.

(xxix) *Nephritis and Bright's Disease*. The number of deaths attributable to these diseases from year to year is very large. In 1919 there were 2,221; in 1920, 2,286; in 1921, 2,139; in 1922, 2,333; and in 1923, 2,460; viz., 1,431 males and 1,029 females

Of the deaths registered in 1923, 219 were ascribed to acute nephritis, and 2,241 to Bright's disease. New South Wales was responsible for 893 deaths; Victoria for 843; Queensland for 382; South Australia for 190; Western Australia for 100; and Tasmania for 52.

(xxx) *Non-Cancerous Tumours and other Diseases of the Female Genital Organs.* Deaths in 1919 numbered 132; in 1920, 154; in 1921, 166; in 1922, 169; and in 1923, 174. Included in the 174 deaths in 1923 were the following:—Cysts, etc., of the ovary, 27; salpingitis and pelvic abscess, 44; benign tumours of the uterus, 57; uterine hæmorrhage (non-puerperal), 7; other diseases of the female genital organs, 39.

(xxxii) *Puerperal Septicæmia (Puerperal Fever, Puerperal Peritonitis, Puerperal Phlebitis).* The number of deaths varied from a maximum of 250 in 1920 to a minimum of 166 in 1919. In 1923 there were 233 deaths

(xxxiii) *Other Puerperal Accidents of Pregnancy and Confinement.* The deaths under this heading in 1919 numbered 404; in 1920, 433; in 1921, 435; in 1922, 425; and in 1923, 458. Included in the 458 deaths in 1923 were the following:—Accidents of pregnancy, 87; puerperal hæmorrhage, 72; other accidents of childbirth, 78; puerperal albuminuria and convulsions, 149; puerperal phlegmasia alba dolens, embolus, sudden death, 64; death following childbirth, 8.

(xxxiiii) *All Puerperal Causes.* The 691 deaths in 1923 under the two preceding headings correspond to a death rate of 25 per 100,000 females. It may be expressed in other terms by stating that 1 out of every 194 women confined in 1923 died from puerperal causes. The corresponding ratios for married women were 1 out of every 201 married women, and for single women 1 out of every 113. More detailed information will be found in a series of tables in Bulletin No. 41, "Australian Demography."

The ages of the mothers who died varied from 14 to 48 years as shown in the following table:—

DEATHS FROM PUERPERAL CAUSES.—AGES OF MOTHERS, AUSTRALIA, 1923.

Age at Death.	Married Women.	Single Women.	Total.	Age at Death.	Married Women.	Single Women.	Total.
14 years ..	..	2	2	32 years ..	30	1	31
15 " ..	..	1	1	33 " ..	38	..	38
16 " ..	..	4	4	34 " ..	31	..	31
17 " ..	2	2	4	35 " ..	36	..	36
18 " ..	4	5	9	36 " ..	31	1	32
19 " ..	4	4	8	37 " ..	18	..	18
20 " ..	13	3	16	38 " ..	33	..	33
21 " ..	20	3	23	39 " ..	34	..	34
22 " ..	16	1	17	40 " ..	26	..	26
23 " ..	23	4	27	41 " ..	12	..	12
24 " ..	24	5	29	42 " ..	9	..	9
25 " ..	20	5	25	43 " ..	8	..	8
26 " ..	37	4	41	44 " ..	2	..	2
27 " ..	27	1	28	45 " ..	4	..	4
28 " ..	35	2	37	46 " ..	1	..	1
29 " ..	35	3	38	48 " ..	1	..	1
30 " ..	26	2	28				
31 " ..	36	2	38	Total Deaths	636	55	691

The total number of children left by the married mothers was 1,666, an average of 2.6 children per mother.

Thirty-four of the mothers who died had been married less than one year, 105 between one and two years, and 64 between two and three years. The duration of marriage ranged up to 27 years, apart from 11 cases in which the date of marriage was not stated. A tabulation, distinguishing the ages at marriage, will be found in Bulletin No. 41, "Australian Demography," which also gives a table showing in combination the duration of marriage and previous issue.

(xxxiii) *Congenital Debility, Premature Birth, and Malformations.* The deaths under this heading in 1923 numbered 4,025, of which 3,962 were of children under one year of age. Over 48 per cent. of the deaths of children under one year of age are due to these causes. Returns for 1923 are given in the following table:—

DEATHS FROM CONGENITAL DEBILITY, ETC., AND MALFORMATIONS, 1923.

State.	Congenital Malformations.			Premature Birth, and Injury at Birth.			Congenital Debility, Icterus, Sclerema.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	132	86	218	583	400	983	197	156	353
Victoria ..	97	79	176	398	321	719	181	142	323
Queensland ..	48	36	84	177	134	311	82	47	129
South Australia	39	28	67	100	82	182	50	39	89
Western Australia	20	20	40	67	64	131	32	13	45
Tasmania ..	20	12	32	53	43	96	27	19	46
North'n Territory	..	..	..	..	..	..	..	1	1
Australia ..	356	261	617	1,378	1,044	2,422	569	417	986
Number of deaths under one year per 1,000 births	4.66	3.52	4.10	19.87	15.84	17.91	8.20	6.33	7.29

(xxxiv) *Senile Debility.* The deaths ascribed to "old age" form a large group, and are in excess of those due to infantile debility. In 1923, 4,685 deaths were attributed to this cause, as follows: 1,818 occurred in New South Wales, viz., 1,017 males and 801 females; 1,374 in Victoria, viz., 618 males and 756 females; 635 in Queensland, viz., 382 males and 253 females; 448 in South Australia, viz., 229 males and 219 females; 197 in Western Australia, viz., 124 males and 73 females; 203 in Tasmania, viz., 83 males and 115 females; and 10 males in the Northern Territory.

Of the males whose deaths were described as due to senility, ten were between 55 and 59 years of age, and seven were stated to be over 100. Of the females, two were between 55 and 60, and nine were 100 or over.

(xxxv) *Violence.* A very large number of deaths is due every year to external violence, and, as may be expected, male deaths largely predominate. The figures quoted are exclusive of suicides, which have been treated in a separate group. Deaths ascribed to violence numbered in 1919, 2,799, viz., 2,161 males and 638 females; in 1920, 2,791,

viz., 2,159 males and 632 females; in 1921, 2,892, viz., 2,301 males and 591 females; in 1922, 2,590, viz., 2,016 males and 574 females; and in 1923, 2,674, viz., 2,080 males and 594 females. Of the deaths in 1923, 770 males and 221 females died in New South Wales; 544 males and 154 females in Victoria; 388 males and 101 females in Queensland; 155 males and 61 females in South Australia; 148 males and 31 females in Western Australia; 71 males and 26 females in Tasmania; 3 males in the Northern Territory; and 1 male in the Federal Capital Territory.

The following table shows the various kinds of violent deaths which occurred in 1923, distinguishing males and females:—

DEATHS FROM EXTERNAL VIOLENCE.—AUSTRALIA, 1923.

Cause of Death.	Males.	Females.	Persons.
Poisoning by food	11	6	17
Venomous bites and stings	6	..	6
Other acute poisonings (gas excepted)	29	10	39
Conflagration	6	2	8
Burns (conflagration excepted)	122	173	295
Accidental mechanical suffocation	33	13	46
Absorption of irrespirable or poisonous gas	4	4	8
Accidental drowning	387	88	475
Traumatism by firearms	64	10	74
Traumatism by cutting or piercing instruments	4	2	6
Traumatism by fall	285	59	344
Traumatism in mines or quarries	66	..	66
Traumatism by machines	34	1	35
Traumatism by other crushing (vehicles, railways, etc.)	618	94	712
Injuries by animals (not poisoning)	29	9	38
Wounds of war	16	..	16
Starvation, thirst, fatigue	33	4	37
Excessive cold	2	1	3
Effects of heat	26	10	36
Lightning	8	1	9
Other accidental electric shocks	18	1	19
Homicide by firearms	10	6	16
Homicide by cutting or piercing instruments	3	2	5
Homicide by other means	30	26	56
Infanticide (murder of children under 1 year)	2	13	15
Fractures (cause not specified)	83	34	117
Other external violence (cause specified)	74	11	85
Other external violence (cause unspecified)	77	14	91
Total Deaths	2,080	594	2,674
Death Rate per 100,000 of mean population	72	21	47

In every kind of violent death, with the exception of burns and infanticide, there was, therefore, an excess of males.

(xxxvi) *Suicide.* (a) *General.* Deaths by suicide have remained fairly stationary during recent years, the number in 1919 being 546, viz., 440 males and 106 females; in 1920, 636, viz., 516 males and 120 females; in 1921, 621, viz., 510 males and 111 females; in 1922, 533, viz., 441 males and 92 females; and in 1923, 599, viz., 492 males and 107 females.

(b) *Modes Adopted.* The modes adopted by persons who committed suicide in the years 1919 to 1923 were as follows :—

SUICIDES, MODES ADOPTED.—AUSTRALIA, 1919 TO 1923.

Mode of Death.	Males.		Females.		Persons.	
	Total of 4 years. 1919-22.	1923.	Total of 4 years. 1919-22.	1923.	Total of 4 years. 1919-22.	1923.
Poisoning	365	115	200	43	565	158
Poisonous gas	15	6	4	8	19	14
Hanging or Strangulation	262	75	62	10	324	85
Drowning	152	51	74	24	226	75
Firearms	626	141	25	7	651	148
Cutting or piercing instruments	391	76	30	8	421	84
Jumping from a high place	20	10	16	3	36	13
Crushing	41	8	8	4	49	12
Other Modes	35	10	10	..	45	10
Total	1,907	492	429	107	2,336	599

(c) *Death Rates.* The death rates from suicide and the proportion per 10,000 of total deaths are given in the following table :—

SUICIDE—DEATHS, DEATH RATES (a), AND PROPORTION OF TOTAL DEATHS, 1923.

State.	Number of Deaths.			Death Rates (a) from Suicide.			Proportion of 10,000 Total Deaths.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	180	42	222	16	4	10	154	46	105
Victoria	106	37	143	13	5	9	116	46	83
Queensland	88	10	98	21	3	12	187	31	124
South Australia	50	12	62	19	5	12	183	54	125
Western Australia	51	2	53	27	1	15	267	20	181
Tasmania	14	4	18	13	4	8	123	40	84
Northern Terr.	3	..	3	116	..	83	857	..	790
Australia	492	107	599	17	4	10	156	44	107

(a) Number of deaths from suicide per 100,000 of mean population.

(d) *Ages.* From the following table, which shows the ages of the persons who committed suicide in 1923, it will be seen that both extreme youth and extreme old age are represented :—

AGES OF PERSONS WHO COMMITTED SUICIDE.—AUSTRALIA, 1923.

Ages.	M.	F.	Total.	Ages.	M.	F.	Total.
10 years and under	3	..	3	60 years and under	41	8	49
15	20	7	19	65	35	6	41
20	25	4	23	70	18	..	18
25	30	10	51	75	8	..	8
30	35	20	75	80	6	..	6
35	40	10	60	85	7	..	7
40	45	12	74	Not stated	..	..	..
45	50	7	53				
50	55	13	57				
55	45	10	55	Total Deaths ..	492	107	599

(e) *Occupations of Males.* The following table gives the occupations of the 492 males who committed suicide in 1923 :—

OCCUPATIONS OF MALES WHO COMMITTED SUICIDE.—AUSTRALIA, 1923.

Occupation.	Deaths.	Occupation.	Deaths.
PROFESSIONAL CLASS—		INDUSTRIAL CLASS—	
Government, Defence, Law ..	10	Art and Mechanic Productions	22
Others	15	Textiles and Fibrous Materials	13
DOMESTIC CLASS—		Food and Drink	5
Board and Lodging	10	Animal and Vegetable Sub-	
Others	2	stances	2
COMMERCIAL CLASS—		Metals and Minerals	9
Property and Finance	7	Building and Construction ..	22
Art, Mechanic and Textile		Others	119
Products	4	AGRICULTURAL, PASTORAL,	
Food and Drinks	18	MINING, ETC., PURSUITS—	
Animal and Vegetable Sub-		Agricultural	75
stances	4	Pastoral	15
Merchants and Dealers	17	Mining and Quarrying	17
Others	32	Others	4
TRANSPORT AND COMMUNICATION		INDEPENDENT MEANS	
CLASS—		DEPENDENTS	5
Railways	7	OCCUPATION NOT STATED	
Roads and Trams	19		25
Seas and Rivers	9		
Others	3		
		Total Male Deaths	492

(f) *Frequency.* It has been said that suicide has become more frequent during recent years, but an examination of the figures from the year 1871 onwards shows that the assertion needs qualification. The absolute figures have certainly increased, but proportionately to the population the figures for 1916–20, and 1921 to 1923 were less than those for 1886–90 and 1891–95. The figures for the five years 1911–15, showed, however, an increase, not only absolutely, but in proportion to the population. The rate of 131.17 suicides per million persons living was the highest of any quinquennium for which figures are obtainable. The five years 1916–1920 show lower figures and percentages than the average of the previous thirty years. No particulars are available for Western Australia prior to 1886, and from 1886 to 1895 the sexes are not distinguished. The figures for the first five periods are, therefore, exclusive of Western Australia :—

SUICIDES.—AUSTRALIA, 1871–75 TO 1923.

Period.	Number of Suicides.			Suicides per One Million of Persons Living. Average Annual Rate.			Suicides of Females to 100 Suicides of Males. Based on—	
	Males.	Females.	Persons.	Males.	Females.	Persons.	Absolute Figures.	Rates.
1871–75 ..	715	150	865	150.94	37.56	99.07	20.98	24.88
1876–80 ..	878	145	1,023	159.69	31.06	100.62	16.51	19.45
1881–85 ..	999	183	1,182	152.58	32.90	97.61	18.32	21.56
1886–90 ..	1,394	292	(a) 1,686	179.20	43.97	(c) 116.92	20.95	24.54
1891–95 ..	1,574	337	(b) 1,911	181.34	44.09	(d) 117.07	21.41	24.31
1896–1900	1,838	410	2,248	191.11	47.88	123.65	22.31	25.05
1901–05 ..	2,054	380	2,434	201.78	40.88	124.98	18.50	20.26
1906–10 ..	2,031	437	2,468	186.11	43.22	117.39	21.51	23.22
1911–15 ..	2,546	577	3,123	206.15	50.36	131.17	22.66	24.43
1916–20 ..	2,238	521	2,759	175.46	40.93	108.27	23.28	23.33
1921 ..	510	111	621	183.89	41.33	113.76	21.76	22.47
1922 ..	441	92	533	155.78	33.61	95.72	20.86	21.58
1923 ..	492	107	599	169.81	38.33	105.29	21.75	22.57

(a) 1705 inclusive of Western Australian figures. (b) 1984 inclusive of Western Australian figures. (c) 116.49 inclusive of Western Australian figures. (d) 119.11 inclusive of Western Australian figures.

(xxxvii) *Other Diseases.* The number of causes included under this heading is very large, amounting to no less than 85 of the items shown in the detailed classification, and deaths were recorded under every one of these with the exception of the following:—Glanders, rabies, soft chancre, gonococcus infection, other infectious diseases, pellagra, ankylostomiasis, and ringworm, diseases of the scalp, itch. The total number of deaths under "other diseases" in 1919, was 9,390, viz., 5,316 males and 4,074 females; in 1920, 10,048, viz., 5,740 males and 4,308 females; in 1921, 9,995, viz., 5,627 males and 4,368 females; in 1922, 9,318, viz., 5,276 males and 4,042 females; and in 1923, 9,832, viz., 5,631 males and 4,201 females. Some of the diseases included here account for very considerable numbers of deaths. Particulars of the deaths included in 1923 are shown in the following table:—

DEATHS FROM "OTHER DISEASES."—AUSTRALIA, 1923.

Causes.	M.	F.	Total.	Causes.	M.	F.	Total.
Anthrax	3	..	3	Embolism and Thrombosis (not cerebral) .. .	44	70	114
Tetanus	53	29	82	Diseases of the Veins .. .	10	20	30
Mycoses	3	2	5	Diseases of the Lymphatic System .. .	11	10	21
Syphilis	07	51	148	Hæmorrhage (without specified cause) .. .	8	11	19
Purulent Infection and Septicæmia .. .	76	60	136	Other Diseases of the Circulatory System .. .	62	70	132
Other Tumours (Tumours of the female genital organs excepted) .. .	9	24	33	Diseases of the Mouth and its Associated Organs .. .	9	9	18
Acute Rheumatic Fever .. .	124	96	220	Diseases of the Pharynx .. .	25	22	47
Chronic Rheumatism and Gout .. .	73	136	209	Diseases of the Oesophagus .. .	13	3	16
Scurvy	1	..	1	Diarrhoea and Enteritis of Children over two years of age and Adults .. .	311	313	624
Beri-beri	25	..	25	Intestinal Parasites .. .	5	5	10
Rickets	8	..	8	Other Diseases of the Intestines .. .	51	43	94
Diabetes	288	404	692	Acute Yellow Atrophy of the Liver .. .	7	12	19
Anæmia, Chlorosis .. .	244	246	490	Hydatid Tumours of the Liver .. .	21	19	40
Diseases of the Pituitary Gland .. .	2	1	3	Biliary Calculi	41	93	134
Exophthalmic Goitre .. .	8	75	83	Other Diseases of the Liver .. .	112	109	221
Diseases of the Thyroid Gland .. .	6	42	48	Diseases of the Pancreas .. .	23	36	59
Diseases of the Parathyroid Gland .. .	1	2	3	Peritonitis (without specified cause) .. .	62	61	123
Diseases of the Thymus Gland .. .	4	1	5	Other Diseases of the Digestive System .. .	3	..	3
Addison's Disease .. .	12	27	39	Chyluria	1	..	1
Diseases of the Spleen .. .	8	4	12	Other Diseases of the Kidneys and their Adnexa .. .	124	88	212
Leucæmia	46	31	77	Calculi of Urinary Passages .. .	35	16	51
Hodgkin's Disease .. .	40	16	56	Diseases of the Bladder .. .	133	23	156
Acute and Chronic Alcoholism .. .	126	27	153	Other Diseases of the Urethra, Urinary Abscesses, etc. .. .	31	3	34
Chronic Lead Poisoning .. .	18	4	22	Diseases of the Prostate .. .	319	..	319
Other Chronic Poisonings .. .	6	..	6	Non-venereal Diseases of the Male Genital Organs .. .	3	..	3
Other General Diseases .. .	35	30	65	Non-puerperal Diseases of the Breast (Cancer excepted) .. .	..	2	2
Encephalitis	81	67	148	Gangrene	55	42	97
Locomotor Ataxia .. .	79	11	90	Furuncle	17	6	23
Other Diseases of the Spinal Cord .. .	134	107	241	Phlegmon, Acute Abscess .. .	53	36	89
Paralysis without specified cause .. .	183	140	323	Other Diseases of the Skin and Adnexa .. .	15	27	42
General Paralysis of the Insane	150	19	169	Non-tuberculous Diseases of the Bones .. .	61	33	94
Other Forms of Mental Alienation .. .	46	62	108	Other Diseases of the Joints (Tuberculosis and Rheumatism excepted) .. .	17	12	29
Epilepsy	129	103	232	Other Diseases of the Organs of Locomotion .. .	1	1	2
Convulsions (non-puerperal) .. .	4	5	9	Other Diseases peculiar to Infancy .. .	210	182	392
Convulsions of Children under five years of age .. .	134	108	242	Lack of Care (Infants) .. .	9	3	12
Chorea	1	6	7				
Neuralgia and Neuritis .. .	20	11	31				
Other Diseases of the Nervous System .. .	136	145	281				
Diseases of the Eye .. .	2	1	3				
Diseases of the Ear .. .	37	21	58				
Pericarditis	47	27	74				
Endocarditis and Acute Myocarditis .. .	366	296	662				
Angina Pectoris .. .	195	74	269				
Diseases of the Arteries, Atheroma, Aneurism .. .	669	310	979				
				Total Deaths .. .	5,631	4,201	9,832

(xxxviii) *Unspecified or Ill-defined Diseases.* The number of cases included under this heading was 707 in 1919, 805 in 1920, 721 in 1921, 665 in 1922, and 691 in 1923, of which 450 were males and 241 females. The detailed classification places these ill-defined diseases under two headings—sudden death, including syncope; and unspecified or ill-defined causes, of which the following are specimens:—Asthenia, coma, dentition, exhaustion, heart failure, dropsy, ascites and general oedema, etc. In 1923, the number of deaths which came under the first of these categories was 56, and under the second, 635. It is inevitable that cases will occur regarding which the available information is insufficient to permit of a clear definition of the fatal disease in the certificate of death. In the majority of cases, however, there is little doubt that more satisfactory certificates might have been given.

16. *Causes of Deaths in Classes.*—The figures in the preceding sub-sections relate to specific causes of death, and are of greater value in medical statistics than a mere grouping under general headings. The classification under fifteen general headings adopted by the compilers of the International Nomenclature is, however, shown in the following table, together with the death rates and percentages on total deaths pertaining to those classes:—

DEATHS, DEATH RATES (a), ETC., IN CLASSES.—AUSTRALIA, 1923.

Class.	Total Deaths.			Death Rates. (a)			Proportion of 10,000 Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
1. Epidemic, Endemic, and Infectious Diseases	3,659	2,808	6,467	126	101	114	1,157	1,141	1,150
2. General diseases not included above	3,713	3,610	7,323	128	129	129	1,174	1,466	1,302
3. Diseases of the Nervous System and of the Organs of Sense	2,851	2,568	5,419	98	92	95	901	1,043	964
4. Diseases of the Circulatory System	4,118	3,075	7,193	142	110	127	1,302	1,249	1,279
5. Diseases of the Respiratory System	3,998	2,872	6,870	138	103	121	1,265	1,167	1,222
6. Diseases of the Digestive Organs	2,975	2,432	5,407	103	87	95	941	988	961
7. Diseases of the Genito-Urinary System and Adnexa	2,077	1,335	3,412	72	48	60	657	542	607
8. Puerperal Condition	..	691	691	..	25	12	..	281	123
9. Diseases of the Skin and of the Cellular Tissue	140	111	251	5	4	4	44	45	44
10. Diseases of the Bones and Organs of Locomotion	79	46	125	3	2	2	25	19	22
11. Malformations	356	261	617	12	9	11	113	106	109
12. Early Infancy	2,166	1,646	3,812	75	59	67	685	669	678
13. Old Age	2,468	2,217	4,685	85	79	82	731	901	834
14. External Causes	2,572	701	3,273	89	25	58	813	285	582
15. Ill-defined Diseases	450	241	691	15	9	12	142	98	123
Total	31,622	24,614	56,236	1,091	882	989	10,000	10,000	10,000

(a) Number of deaths per 100,000 of mean population.

17. *Causes of Deaths of Children under one Year.*—"Bulletin No. 41, Australian Demography," contains tables showing for twenty-six causes the ages at death of children dying during the first year of life. In the Bulletin mentioned, the particulars are given for males and females separately for Australia, but the totals for Australia only are shown hereunder for both sexes combined:—

CAUSES OF DEATHS OF CHILDREN UNDER ONE YEAR.—AUSTRALIA, 1923.

Age at Death.	Measles.	Whooping Cough.	Diphtheria.	Croup.	Erysipelas.	Pulmonary Tuberculosis.	Tubercular Meningitis.	Tuberculosis, other forms.	Syphilis.	Simple Meningitis.	Cerebro-Spinal Meningitis.	Convulsions.	Acute Bronchitis.
Under 1 week	1	1	..	..	..	..	..	..	1	5	..	62	8
1 week and under 2 weeks	1	1	..	..	1	..	..	..	5	3	1	17	9
2 weeks	3	..	..	..	..	..	..	..	3	2	..	10	10
3 " " 1 month	1	2	..	..	2	..	..	..	2	1	..	2	16
1 month " 2 months	3	6	2	..	10	1	..	..	7	11	..	16	33
2 months " 3 " "	3	9	1	..	6	..	..	..	7	9	1	6	24
3 " " 4 " "	3	7	3	..	3	..	..	12	7	15	1	5	13
4 " " 5 " "	5	3	1	1	..	..	..	3	3	13	2	7	6
5 " " 6 " "	4	4	..	..	1	..	..	1	1	13	1	9	4
6 " " 7 " "	2	6	6	..	..	..	..	2	2	15	..	6	5
7 " " 8 " "	3	3	4	..	..	1	..	1	1	10	..	10	4
8 " " 9 " "	6	6	5	..	..	1	1	1	1	12	1	7	6
9 " " 10 " "	4	4	3	1	2	..	..	2	1	11	..	3	6
10 " " 11 " "	7	4	6	..	1	2	3	..	2	6	..	8	5
11 " " 12 " "	..	..	..	..	..	..	..	..	..	..	..	..	..
Total under 1 year	39	63	31	2	28	6	19	9	50	136	8	180	155
Number of deaths from each cause per 1,000 births	.29	.46	.23	.01	.21	.04	.14	.07	.37	1.01	.06	1.33	1.75

Age at Death.	Broncho-Pneumonia.	Pneumonia.	Pleurisy.	Diseases of Stomach.	Diarrhea and Enteritis.	Hernia.	Intestinal Obstruction.	Malformations.	Congenital Debility, Leterus and Sclerema.	Premature Birth.	Injury at Birth.	Other Diseases peculiar to Early Infancy.	Lack of Care.	Other Causes.	Total.
Under 1 week	9	13	1	9	22	1	2	273	393	1,685	216	328	9	49	3,087
1 week and under 2 weeks	17	16	..	1	20	..	..	49	95	171	16	20	..	26	467
2 weeks	16	16	..	1	17	..	1	41	53	110	9	15	..	23	329
3 " " 1 mth.	24	20	..	3	21	..	..	23	44	77	5	3	..	18	264
1 month " 2 mths	74	28	1	10	119	1	1	40	100	77	3	11	..	29	583
2 months " 3 " "	45	22	1	7	141	..	..	26	94	18	1	4	3	27	453
3 " " 4 " "	43	13	..	11	207	..	1	24	61	12	..	2	..	30	462
4 " " 5 " "	29	21	1	7	215	1	5	16	46	7	..	2	..	18	420
5 " " 6 " "	19	21	..	3	198	1	8	14	26	3	..	1	..	19	357
6 " " 7 " "	27	22	..	3	194	..	4	8	20	4	..	2	..	35	364
7 " " 8 " "	31	16	..	3	148	..	7	13	12	3	..	1	..	23	300
8 " " 9 " "	24	17	..	3	151	..	2	10	12	2	..	..	..	23	281
9 " " 10 " "	14	17	..	3	161	..	3	6	15	..	..	1	..	23	292
10 " " 11 " "	25	17	..	3	130	..	4	8	10	1	1	1	..	29	271
11 " " 12 " "	29	25	..	7	116	..	3	4	5	..	..	1	..	20	254
Total under 1 year	426	284	4	76	1,860	4	41	555	986	2,170	251	392	12	397	8,184
Number of deaths from each cause per 1,000 births	3.15	2.10	.03	.56	13.75	.03	.30	4.10	7.29	16.05	1.86	2.90	.09	2.94	60.52

Pre-natal influences, as evidenced in malformations, congenital debility, and premature birth, together with injuries at birth, accounted for 3,962, or 48 per cent., of all deaths under one year; and of these 3,962 deaths, 2,567, or nearly 65 per cent., occurred within a week of birth. Among the survivors of the first week, diarrhoea and enteritis had the most fatal effects. These diseases were responsible for 1,860 deaths, representing nearly 23 per cent. of all deaths under one year, or 13.75 per 1,000 births. Excluding deaths from pre-natal causes already referred to, over 57 per cent. of the deaths between three months and one year of age were due to diarrhoea and enteritis.

18. Ages at Death of Married Males and Females, and Issue.—“Bulletin No. 41, Australian Demography,” contains a number of tables, showing the age at marriage,

age at death, duration of life after marriage, birthplaces, and occupations, in combination with the issue of married persons who died in Australia in 1923. A short summary of the tables mentioned is given hereunder. Deaths of married males in 1923 numbered 16,624, and of married females, 15,566. The tabulations which follow deal, however, with only 16,234 males and 15,274 females, the information in the remaining 682 cases being incomplete. The total number of children in the families of the 16,234 males was 79,664; and of the 15,274 females, 78,129. The average number of children is shown for various age-groups in the following table :—

**AGES AT DEATH OF MARRIED MALES AND FEMALES, AND AVERAGE ISSUE.—
AUSTRALIA, 1923.**

Age at Death.	Average Family of Males.	Average Family of Females.	Age at Death.	Average Family of Males.	Average Family of Females.
Under 20 years ..	1.00	0.61	70 to 74 years ..	5.76	6.32
20 to 24 years ..	0.88	1.12	75 „ 79 „ ..	6.41	6.49
25 „ 29 „ ..	1.43	1.75	80 „ 84 „ ..	6.78	6.51
30 „ 34 „ ..	1.88	2.54	85 „ 89 „ ..	7.06	6.52
35 „ 39 „ ..	2.58	3.30	90 „ 94 „ ..	7.35	6.77
40 „ 44 „ ..	3.02	3.51	95 „ 99 „ ..	7.21	6.54
45 „ 49 „ ..	3.61	3.79	100 years and up- wards ..	7.14	5.92
50 „ 54 „ ..	3.83	4.16	Age unspecified ..	3.90	4.25
55 „ 59 „ ..	4.20	4.58			
60 „ 64 „ ..	4.66	5.24	All ages ..	4.91	5.12
65 „ 69 „ ..	5.41	5.98			

The figures in the preceding table include the issue both living and dead, the proportion between them, taking the issue of deceased males and females together, being about 1,000 to 289. The totals are shown in the following table :—

ISSUE OF MARRIED MALES AND FEMALES.—AUSTRALIA, 1923.

Issue of Married Males.	Males.	Females.	Total.	Issue of Married Females.	Males.	Females.	Total.
Living ..	31,741	31,609	63,350	Living ..	29,369	29,712	59,081
Dead ..	9,163	7,151	16,314	Dead ..	10,613	8,435	19,048
Total ..	40,904	38,760	79,664	Total ..	39,982	38,147	78,129

These figures show a masculinity in the births of 2.52, which is in harmony with the experience of the birth statistics.

19. **Ages at Marriage of Deceased Males and Females, and Issue.**—While the table giving the average families of married males and females naturally shows an increase in the averages with advancing ages at death, the following table, which gives the average families of males and females according to the age at marriage of the deceased parents, shows a corresponding decrease in the averages as the age at marriage advances :—

AGES AT MARRIAGE OF DECEASED MALES AND FEMALES, AND AVERAGE ISSUE.—AUSTRALIA, 1923.

Age at Marriage.	Average Family of Males.	Average Family of Females.	Age at Marriage.	Average Family of Males.	Average Family of Females.
Under 20 years ..	6.74	7.15	50 to 54 years ..	1.81	..
20 to 24 „ ..	5.91	5.63	55 „ 59 „ ..	1.37	..
25 „ 29 „ ..	5.06	4.04	60 „ 64 „ ..	0.56	..
30 „ 34 „ ..	4.42	2.97	65 years and upwards	0.59	..
35 „ 39 „ ..	3.82	1.64	Age unspecified ..	5.07	5.08
40 „ 44 „ ..	2.80	0.43			
45 „ 49 „ ..	2.17	0.04	All ages ..	4.91	5.12

20. Duration of Life after Marriage of Males and Females.—The duration of life after marriage has been tabulated for males and females both in combination with the age at marriage, and with the total and average issue. The tables containing the result do not, however, lend themselves to condensation, and are, therefore, omitted here. They will be found in Bulletin No. 41 of "Australian Demography."

21. Birthplaces of Deceased Married Males and Females, and Issue.—The following table shows the birthplaces of married males and females who died in 1923, together with their average issue. No generalizations can, of course, be made in those cases in which the number of deaths was small, but where the figures are comparatively large, as in the case of natives of Australia, differences occur between the averages of the individual States which appear inexplicable on any other ground than that of different age-constitution of the locally-born population of the various States due to the different dates of the foundation of settlement. Thus, New South Wales and Tasmania, owing to their early settlement, contain a larger number of locally-born inhabitants of advanced ages than Victoria and Queensland, in which colonization was begun almost fifty years after the foundation of New South Wales. It will be noted that the differences occur both in the male and female averages. Although the figures apply to Australia as a whole, it must be borne in mind that the vast majority of deaths of natives of any one State are registered in that particular State.

BIRTHPLACES OF DECEASED MARRIED MALES AND FEMALES, AND AVERAGE ISSUE.—AUSTRALIA, 1923.

Birthplace.	Married Males.		Married Females.		Birthplace.	Married Males.		Married Females.	
	Deaths.	Average Family.	Deaths.	Average Family.		Deaths.	Average Family.	Deaths.	Average Family.
New South Wales ..	3,083	5.03	3,339	5.16	British India and Ceylon ..	43	3.93	23	4.39
Victoria ..	2,933	4.17	2,761	4.19	Other British Possessions in Asia ..	3	1.00	1	5.00
Queensland ..	582	4.05	632	3.80	China ..	57	2.75	1	8.00
South Australia ..	1,024	4.78	1,002	4.69	Other Asiatic Countries ..	18	3.50	8	4.00
Western Australia ..	107	4.84	119	4.15	British Possessions in Africa ..	17	5.24	13	3.70
Tasmania ..	614	4.78	669	5.35	Other African Countries ..	..	..	1	1.00
Northern Territory ..	1	..	..	..	Canada ..	25	4.28	17	6.24
New Zealand ..	139	3.37	94	3.87	Other British Possessions in America ..	10	2.70	2	5.50
England ..	3,961	5.23	3,242	5.53	United States ..	63	4.17	27	4.33
Wales ..	149	5.13	104	5.87	Other American Countries ..	7	4.57	6	4.33
Scotland ..	1,017	5.26	869	5.62	Other Polynesian Islands ..	14	2.93	5	2.20
Ireland ..	1,430	5.70	1,837	5.92	At Sea ..	53	5.38	48	6.48
Other British Possessions in Europe ..	20	4.75	18	4.94	Unspecified ..	46	4.85	39	4.82
Denmark ..	87	5.61	21	5.62					
France ..	24	2.88	10	4.40					
Germany ..	395	5.82	276	6.61					
Italy ..	53	5.02	22	4.95					
Norway ..	36	4.83	15	6.40					
Russia ..	25	3.00	11	5.50					
Sweden ..	*62	4.29	8	5.38					
Other European Countries ..	127	4.23	46	4.94					
					Total ..	16,234	4.91	15,274	5.12

22. Occupations of Deceased Married Males, and Issue.—A final tabulation shows the average issue in combination with the occupation of deceased males.

OCCUPATIONS OF DECEASED MARRIED MALES, AND AVERAGE ISSUE.—
AUSTRALIA, 1923.

Occupation.	Deaths of Married Males.	Average Family.	Occupation.	Deaths of Married Males.	Average Family.
PROFESSIONAL CLASS—			INDUSTRIAL CLASS—		
Government, Defence, and Law	430	4.47	Art and Mechanic Products	697	4.60
Others	554	4.14	Textiles and Fibrous Materials	345	4.44
DOMESTIC CLASS—			Food and Drinks	249	5.04
Board and Lodging	298	3.71	Animal and Vegetable Substances	58	5.07
Others	215	4.03	Metals and Minerals	422	4.88
COMMERCIAL CLASS—			Fuel, Light and Energy	53	3.42
Property and Finance	215	4.04	Building and Construction	1,061	4.75
Art, Mechanic and Textile Products	167	3.86	Others	2,957	4.85
Food and Drinks	393	4.50	AGRICULTURAL, PASTORAL, MINING, ETC., CLASS—		
Animal and Vegetable Substances	76	4.79	Agricultural	2,602	6.26
Fuel, Light and Metals	43	4.10	Pastoral	630	5.54
Merchants and Dealers	482	4.32	Mining and Quarrying	383	5.15
Others	790	3.58	Others	116	5.69
TRANSPORT AND COMMUNICATION CLASS—			INDEPENDENT MEANS		
Railways	454	4.82		432	5.33
Roads and Trams	519	4.48	DEPENDENTS		
Seas and Rivers	306	4.15		8	5.75
Others	106	4.29	OCCUPATION NOT STATED		
				668	4.85
			Total	16,234	4.91

§ 4. Graphical Representation of Vital Statistics.

1. **General.**—The progressive fluctuations of the numbers of births, marriages, and deaths are important indexes of the economic conditions and social ideals of a community. Graphs have accordingly been prepared which show these fluctuations. It should be remembered, however, that, normally, the increase of births and marriages should be proportional to the growth of population.

2. **Graphs of Annual Births, Marriages, and Deaths.**—The outstanding features of the graph representing births are:—An almost continuous rise in the numbers from 1860 to 1891; a decline till 1898, associated with the commercial crisis of 1891–3; a sharp fall in 1903 which accompanied a severe drought; an uninterrupted increase from 1903 to 1914, the total for 1914 being the highest recorded; a rapid decline until 1920, the result of war conditions. The figures for the last four years show a tendency to return to normal.

The graph for marriages up to 1914 discloses approximately the same features as that for births—financial crises and droughts having a similar effect. The numbers for 1914 and 1915 showed a considerable increase over previous years. From 1916 to 1918 there was a rapid fall, the numbers being much below those of pre-war years. During 1919 and 1920 the recovery was very rapid, the total for the latter year being the highest ever recorded. The totals for 1921, 1922, and 1923 were not so favourable.

The characteristic feature of the graph of deaths is its irregular nature. On the whole, however, there is an increase which is due to the growth of population.

3. *Graphs of Annual Birth, Marriage, and Death Rates, and Rate of Natural Increase.*—The graph of the birth rate indicates a well-marked decline throughout the whole period. This reduction of rate has been subject to fluctuations, there being two periods of arrested decline, viz., from 1877 to 1890, and from 1903 to 1912.

The variations in the marriage rates though less abrupt than those in the birth and death rates have ranged from a minimum of 6.08 per 1,000 which marked the culmination of a commercial depression to a maximum of 9.62 per 1,000 in 1920.

On the whole, the graph for the death rate furnishes clear evidence of a satisfactory decline during the period. The graph brings into prominence six years in which the rates were very high when compared with adjacent years, viz., 1860, 1866, 1875, 1884, 1898, and 1919. Epidemics of measles were largely responsible for the high rates in the first five years, while influenza caused the increase during 1919.

The graph of natural increase shows roughly the same variations as that for the birth rate, but the influence of the death rate is indicated by the very low rates of natural increase for 1875, 1898, and 1919, which resulted from the exceptionally high death rates of those years.

CHAPTER XXVI.

MISCELLANEOUS.

§ 1. Patents, Trade Marks, and Designs.

1. **Patents.**—(i) *General.* The granting of patents is regulated by the Commonwealth Patents Act 1903–21, which, in regard to principle and practice, has the same general foundation as the Imperial Statutes, modified to suit Australian conditions. The Act is administered by a Commissioner of Patents. Comparatively small fees, totalling £8, are now sufficient to obtain for an inventor protection throughout Australia, Papua and the Territory of New Guinea, and the only renewal fee (£5) is payable before the expiration of the seventh year of the patent, or within such extended time, not exceeding one year, and upon payment of further fees, as may be allowed.

(ii) *Summary.* The number of separate inventions in respect of which applications were filed during the years 1919 to 1923 is given in the following table, which also shows the number of patents sealed in respect of applications made in each year.

PATENTS, AUSTRALIA.—SUMMARY, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
No. of applications	4,166	5,481	5,072	5,431	5,306
No. of applications accompanied by provisional specifications	2,468	2,875	3,378	3,643	3,454
Letters patent sealed during each year	1,452	2,033	2,573	3,273	2,464

(iii) *Revenue.* The revenue of the Commonwealth Patents Office during the years 1919 to 1923 is shown hereunder :—

PATENTS, AUSTRALIA.—REVENUE, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Fees collected under—					
States Patents Acts	4	31	5	4	3
Patents Acts 1903–16	19,764	27,100	28,516	30,912	27,995
Receipts from publications	414	417	385	561	599
Total	20,182	27,548	28,906	31,477	28,597

2. **Trade Marks and Designs.**—(i) *Trade Marks.* Under the Trade Marks Act 1905, the Commissioner of Patents is also Registrar of Trade Marks. This Act has been amended from time to time, the last amendment having been made in 1922. Special provisions for the registration of a “Commonwealth Trade Mark” are contained in the Act of 1905 and are applicable to all goods included in or specified by a resolution passed by both Houses of Parliament that the conditions as to remuneration of labour in connexion with the manufacture of such goods are fair and reasonable.

(ii) *Designs.* The Designs Act 1906 as amended by the Patents, Designs and Trade Marks Act 1910, and the Designs Act 1912, is now cited as the Designs Act 1906–12. Under this Act a Commonwealth Designs Office has been established, and the Commissioner of Patents appointed “Registrar of Designs.”

(iii) *Summary.* The following table gives particulars of applications for trade marks and designs received and registered under the Commonwealth Acts from 1919 to 1923 :—

TRADE MARKS AND DESIGNS, AUSTRALIA.—SUMMARY, 1919 TO 1923.

Applications.	1919.	1920.	1921.	1922.	1923.
RECEIVED.					
Trade Marks	2,634	3,045	2,410	2,763	2,773
Designs	256	278	357	427	488
REGISTERED.					
Trade Marks	1,229	1,651	2,542	1,991	2,038
Designs	203	226	300	380	377

(iv) *Revenue.* The following table shows the revenue of the Trade Marks and Designs Office during the years 1919 to 1923 :—

TRADE MARKS AND DESIGNS, AUSTRALIA.—REVENUE, 1919 TO 1923.

Particulars.	1919.			1920.			1921.			1922.			1923.		
	Trade Marks.	Designs.	Publications.												
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Fees collected under State Acts	192	9	1	1
Fees collected under Commonwealth Acts	5,314	346	101	12,607	368	107	10,557	427	122	9,282	499	131	9,263	539	102
Total	5,506	346	101	12,616	368	107	10,558	427	122	9,283	499	131	9,263	539	102

§ 2. Copyright.

1. *Legislation.*—Copyright is regulated by the Commonwealth Copyright Act of 1912, details of which will be found in previous issues of the Official Year Book (see No. 8, p. 1066), while, subject to modifications relating to procedure and remedies, the British Copyright Act of 1911 has been adopted as law and declared to be in force within Australia.

Reciprocal protection was extended in 1918 to citizens of Australia and of the United States under which copyright may be preserved in the latter country by registration at the Library of Congress, Washington. The Commonwealth Government promulgated a further Order in Council which came into operation on the 1st February, 1923, and extended the provisions of the Copyright Act to the foreign countries of the Copyright Union, subject to the accomplishment of the conditions and facilities therein contained.

2. *Applications and Registrations.*—The following table gives particulars of applications for copyright received and registered, and the amount of revenue received for the years 1919 to 1923 :—

COPYRIGHT, AUSTRALIA.—SUMMARY, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
Applications received—					
Literary No.	923	922	953	1,027	1,133
Artistic No.	216	203	146	185	186
International No.	1	..	5	14	3
Applications registered—					
Literary No.	850	879	809	942	1,105
Artistic No.	197	185	138	160	190
International No.	..	..	4	..	13
Revenue £	284	287	292	312	339

§ 3. Local Option, and Reduction of Licences.

1. **General.**—Local option concerning the sale of fermented and spirituous liquors is in force in all the States, the States being divided into areas generally conterminous with electoral districts, and a poll of the electors taken from time to time in each district regarding the continuance of the existing number of licensed premises, the reduction in number, or the closing of all such premises. Provision is made for giving effect to the results of the poll in each district in which the vote is in favour of a change.

2. **New South Wales.**—(i) *Local Option.* The Liquor Act of 1912 made provision for taking a vote of the electors on the parliamentary rolls on the question of continuance of existing licences, the reduction of the same, or that no licence be granted of public houses, wine-shops, and clubs. This vote was to take place simultaneously with that for a general election. Three such polls were taken, but in 1919, by an Amending Act, further taking of polls was suspended pending a referendum on the question of prohibition, to be taken within eighteen months after the passing of this Act. This referendum was not held, and a later amendment of the Act in 1923 fixed the first Saturday in September, 1928, as the day on which the vote is to be taken.

(ii) *Licences Reduction Board.* The Liquor (Amendment) Act of 1919 provided for the establishment of the Licences Reduction Board with power to reduce the number of publicans' licences and to determine the amount of compensation payable in respect of any licensed premises deprived of a licence. The funds for compensation are obtained by a levy at the rate of 3 per cent. on the value of all liquor purchased during the preceding year, of which the licensees pay one-third and the owners two-thirds. Since the beginning of 1923 the Board has also been empowered to reduce the number of Australian wine licences, the holders of which are liable to pay fees into the compensation fund at the rate of 1 per cent. of their purchases.

The Board commenced operations in 1920, and up to 31st December, 1923, had terminated 190 publicans' licences and 9 wine licences, and had accepted the surrender of 46 publicans' licences and 1 wine licence. The compensation awarded was £306,190 in respect of 201 publicans' licences and £180 for 5 wine licences, while the amount had not been determined in respect of 35 hotel and 5 wine licences. The reductions made by the Board in the Sydney electoral district were 68 hotel licences, and the compensation awarded amounted to £150,360, and in the Newcastle electoral district the reductions were 23 hotel licences and the compensation awarded £29,470. The other reductions were in country districts. The fees payable into the compensation fund amounted to £807,334. During the four years 1920 to 1923, 54 hotel licences were terminated by other than the Board's action, and during 1923, 5 wine licences were similarly terminated.

The Liquor (Amendment) Act of 1923 provides for the reconstitution, as from 1st July, 1924, of the Licences Reduction Board and of the Licensing Courts which control the issue of licences. Three Licensing Magistrates will constitute the Licensing Court in each licensing district, as well as the Licences Reduction Board, so that one tribunal will control all matters relating to the issue and withdrawal of licences.

(iii) *Compensation Assessment Board.* This Board was established by the 1919 Act to assess the cost to the State for compensation if prohibition be carried.

3. *Victoria.* (i) *Local Option.* Under the Licensing Act of 1922, the previous system of local option was abolished, and provision was made for a vote of the electors for the Legislative Assembly to be taken once in every eighth year, the first of such votes to be taken in the year 1930. The resolution to be then submitted is:—"That licences shall be abolished." If that resolution is carried, the following resolution shall be submitted to the electors at each subsequent vote, until carried:—"That licences shall be restored." This provision makes the vote State-wide instead of being restricted to the individual licensing districts.

The Act also prescribes that each licensing district shall consist of an electoral district, instead of the subdivisions which under the previous Acts formed licensing districts. The Licensing Court is also empowered to reduce the number of licences (i.e., victuallers' licences, grocers' licences, Australian wine licences, spirit merchants' licences, and registered clubs) which in its opinion is greater than the number necessary for the convenience of the public or the requirements of the locality; such reduction, however, is not to exceed one-fourth of the number of licences of each description which the Court was empowered to renew in the licensing district at the commencement of the Act, nor shall it exceed the extent to which there are moneys available for compensation in the Licensing Fund.

(ii) *Licences Reduction Board.* This Board was established in 1906 with power to reduce the number of licensed victuallers' premises in districts in which there were more than the statutory number of licences. It has also the duty of fixing and awarding compensation to the owners and licensees of closed hotels. The compensation fund is derived from vendors of liquor who must all pay in proportion to the benefit they derive from their licences. The amount charged to the wholesale trade is 4 per cent. of the cost of all liquors sold to non-licensed persons, no charge being made on sales to other licensed vendors. The retail trade is charged 6 per cent. on liquor purchases, except the holders of Australian wine licences, who are charged 4 per cent. The expenses of operating the Licensing Act are a charge on the Compensation Fund, and, in addition, £23,000 is paid annually to the Police Superannuation Fund, and £68,000 to the municipalities which formerly granted licences. The balance is available for compensation purposes.

The maximum compensation, so far as victuallers' licences are concerned, is now governed by the trading results for the ten years ending on the 31st December, 1916, and that payable to any of the holders of other licences is based on the loss accruing on a lease for a period not exceeding 3 years. In fixing the amount, allowance must be made for the percentage fees paid in respect of the licence for the 3 years following the passing of the Licensing Act 1916.

Under the 1922 Act, the Court held deprivation sittings in three licensing districts and ordered that 20 victuallers' licences should not be renewed at the end of the current year. When the Board came into existence in 1906, the number of licensed premises was 3,521, of which 73 were roadside victuallers', and up to the 30th June, 1924, the number closed was 1,533. The following table gives the total number of hotels deprived of licences, or which have had their licences surrendered, and the amount of compensation awarded in each case to the owner and licensee:—

LICENCES REDUCTION BOARD.—VICTORIA, 30th JUNE, 1924.

Hotels Delicensed.	Hotels Surrendered.	Compensation Awarded.		
		Owner.	Licensee.	Total.
No.	No.	£	£	£
1,145 (a)	388 (b)	747,086	142,465	889,551

(a) Including 11 not yet compensated.

(b) Including 8 roadside licences and 1 not yet compensated.

In addition to the above closings, the following licences have been taken away under the local option vote:—1 Australian wine, 1 club, 4 grocers', and 5 spirit merchants', and under the 1922 Act, 2 spirit merchants' and 2 grocers' licences have been taken away, and 8 Australian wine licences surrendered.

(iii) *Mallee and Additional Licences.* Under the 1916 Act special provisions were made for the granting of victuallers' licences in the Mallee, and by the 1922 Act, these provisions, as amended by that Act, are extended to any area outside the Mallee country proclaimed for the purpose. Power is given to proclaim areas containing 500 resident electors, when petitions signed by a majority of the residents are lodged, and where the Licensing Court, after inquiry, recommends this course. On the proclamation of an area, a poll of the electors is to be taken, at which, if the poll is to be recognized, one-third of those enrolled must vote. A majority of those voting decides whether a licence is to issue or not. The annual value by which such licence adds to the annual value of the land and buildings is to be fixed by the Court, and the amount so fixed is to be paid by the licensee into the Licensing Fund. Under these provisions, 10 areas have been proclaimed, in 7 of which polls were taken and resulted in favour of licence. Licences have now been granted in 6 such areas.

4. *Queensland.* (i) *Local Option.* Local Option is regulated in Queensland by the Liquor Act of 1912, as amended by the Liquor Act Amendment Acts of 1920 and 1923. A vote on the question is to be taken on the request of one-tenth of the number of electors in an area, which is defined in the request, and such area may be (a) an electoral district, or (b) an electoral division of an electoral district, or (c) a group of two or more divisions of an electoral district, provided that the whole of such local option area is wholly comprised within one and the same electoral district. A separate request is necessary for each resolution on which a vote is to be taken. The resolutions on which a vote may be taken are:—(a) that the number of licences in the area be reduced by one-fourth of the existing number, (b) that the number of licences be further reduced by one-fourth of the number existing when resolution (a) was carried, (c) that the number of licences be still further reduced by one-fourth of the number existing when resolution (a) was carried, (d) that the sale of intoxicating liquors in the area shall be prohibited, and (e) that new licences may be granted in the area. Any resolution shall be carried if at least 35 per cent. of the electors of the area have voted and if, in the case of resolutions (a), (b), or (c) the majority of votes has been given in favour of the resolution, or, in the case of resolutions (d) or (e), at least three-fifths of the votes have been given in favour of the resolution.

Provision is made by the amending Act of 1920 under which every local option vote must be taken in the month of May in every third year on a day to be fixed by the Governor in Council, but no vote may be taken on the same day as the State General Election or a Commonwealth General or Senate Election, and every request must be made before the first of December in the year next preceding the year in which the local option vote is to be taken. In May, 1925, polls will be taken as requested in local option areas defined by the petitioners on the questions of prohibition and new licences.

Polls were taken in 1919, in which year there were 11 on the question of increase or new licences, and 1 on the question of reduction of licences. Increase was carried in 5 areas, but in 2 of these a sufficient number of electors did not vote. The poll in one area resulted in a majority against reduction.

For the polling on Saturday, 26th May, 1923, 13 requests were received by the Home Secretary, and the voting was on the question of increase or new licences. Increase was carried in 10 areas, but in only 3 cases a sufficient number of electors voted, and at least three-fifths of the votes given were in favour of new licences.

(ii) *State Management, Prohibition, or Continuance of the Present System.* The Liquor Act Amendment Act of 1920 provides that a poll shall be taken of the electors of every electoral district every three years on the following resolutions:—(a) State management of manufacture, importation, and sale of fermented and spirituous liquors; (b) prohibition of manufacture, importation, and retail of fermented and spirituous liquors, to take effect in July, 1925; (c) continuance of the present (or if (a) or (b) has been carried, return to the earlier) system of manufacture, importation, and retail of fermented and spirituous liquors. The Liquor Acts Amendment Act 1923 provides that after the poll in October, 1923, no further poll under the Act of 1920 shall be taken.

The first poll was taken in October, 1920. Voting was compulsory under a compulsory preferential system, and State management was everywhere defeated. In 14 areas majorities were recorded for (b), and in 58 areas continuance was carried, with a majority for the whole State of 38,092 votes. The second poll was held in October, 1923. In 4 areas majorities were recorded for (b), and in 68 areas continuance was carried with a majority for the whole State of 88,879 votes.

5. *South Australia.*—In this State the subject of local option is regulated by Part VIII. of the Licensing Act 1917. Under this Act, each electoral district for the House of Assembly is constituted a local option district, and each electoral district may, by proclamation of the Governor, be divided into local option districts. A quorum of 500 electors, or of one-tenth of the total number of electors—whichever is the smaller number—in any district may petition the Governor for a local option poll. The persons entitled to vote are those whose names appear on the electoral roll and who reside in the local option district. A local option poll is taken on the same date as a general election. A poll was taken in the Local Option District of Encounter Bay on the 5th April, 1924. The voting resulted as follows :—

(a) That the number of licences be reduced	499	votes
(b) That the number of licences be not increased or reduced..	951	„
(c) That the Licensing Court may in its discretion increase the number of licences	109	„

In order to settle any doubt as to the validity of the proclamation of 1917 relating to local option districts, an Act was passed in 1922 by which such proclamation was declared to be valid, and the local option resolutions in force in old districts at the time of the proclamation were declared to be still in force, notwithstanding any alterations in the boundaries of the districts.

6. *Western Australia.*—(i) *General.* By an Amending Act No. 39 of 1922, the Local Option provisions of the Licensing Act 1911 were repealed, and in lieu thereof a Licences Reduction Board was constituted, and charged with the duty of reducing the number of licences throughout the State over a period of 6 years from 1st January, 1923, to the extent of the money for the time being to the credit of a fund to enable compensation to be paid to the lessors and licensees of premises deprived of a licence. The fund is formed by a levy of 2 per cent. per annum on the amount of liquor purchased for licensed premises, excluding duties thereon. The Licensing Magistrates (three in number) having jurisdiction throughout the State constitute the Reduction Board. Owners and licensees must be summoned before the Board to show cause why their premises should not be deprived of a licence; and in determining which licences shall cease to be in force the Board must consider the convenience of the public and the requirements of the locality, and, subject thereto, the character and accommodation afforded by the licensed premises, the manner in which the business has been conducted, and the distance between the premises and other licensed premises nearest thereto. Subject to the foregoing considerations, regard must be paid to convictions of the licensee within the preceding three years for offences against the licensing laws. The determination of the Board to deprive any premises of a licence is final; and on payment or tender of compensation the licence becomes void at the expiration of the current period for which it is granted. Compensation to an owner for the diminution in the value of the premises is limited to the difference in the rental value for 3 years; and to the licensee to the amount of net profits for 2 years, based on the average of the three years next preceding notice of deprivation. Provision is made to enable the lessee of premises deprived of a licence to surrender the lease, or require the rent to be adjusted by arbitration. Provision is also made for an apportionment between lessor and licensee of the contribution to the compensation fund, if the Board thinks fit.

(ii) *Prohibition.* In addition to the above provisions, the Act of 1922 provides that in the year 1925 and in every fifth year thereafter on a day to be fixed by proclamation a poll shall be taken in each electoral district as to whether prohibition shall come into force. It also provides that where prohibition has been carried and is in force, the proposal shall be that the licences for sale of intoxicating liquor be restored. Every person entitled

to vote at an election of members of the Legislative Assembly is entitled to vote at the poll. The proposal is carried if three-fifths at least of the number of votes given throughout the State are in favour thereof, provided that it shall not be carried unless 30 per cent., or more of the number of Assembly electors throughout the State vote for the proposal. If prohibition comes into force it takes effect at the expiration of the year in which the vote was taken, and all licences for the sale of intoxicating liquor cease, and the registration of all clubs is annulled, and until licences are restored no licences may be granted or certificates of clubs be registered. Nothing, however, shall prohibit the sale of alcoholic liquor for use in arts or manufacture, or for medical, scientific, sacramental or industrial purposes. Where a resolution of prohibition is carried, no compensation will be payable to any person whomsoever. The poll shall not be taken on the same day as elections for the Legislature.

7. *Tasmania.*—(i) *General.* In this State the subject of Local Option is dealt with in Part V. (Sections 39 to 53) of "The Licensing Act 1908" as amended by the "Licensing Act 1917". The provisions of Part V. of the Act of 1908 did not come into force until 1st January, 1917. It was thereby provided that a poll of ratepayers was to be taken in each city, and in each municipality in which more than one licensed house was situate, once in every third year. The most recent polls taken were in December, 1923, in Hobart and Launceston, and in April, 1924, in other municipalities. The resolutions submitted at the polls in accordance with the Act were (a) for continuance of the existing number of licences, (b) for reduction in such number. The Act provided that a resolution was carried if a majority in number of the votes was given in favour thereof, provided that such resolution should not be carried unless 25 per cent. or more of the number of the electors on the roll voted upon such resolution. In neither of the cities (Hobart and Launceston) was either resolution carried, the statutory proportion of the electors not having voted at either poll. In one municipality the resolution for continuance was carried. In each of the remaining 39 municipalities in which polls were taken, the statutory proportion of electors failed to vote, and accordingly no resolution was carried.

(ii) *Results of Polls.* The following table shows the results of the Local Option polls taken in each of the cities (Hobart and Launceston) in December, 1923, and in the municipalities in April, 1924:—

LOCAL OPTION POLLS.—TASMANIA, 1923 AND 1924.

Poll taken at—	Electors on Roll.	Votes for Continuance.	Votes for Reduction.	Informal Votes.
	No.	No.	No.	No.
Hobart	11,806	750	1,526	77
Launceston	6,520	579	1,252	146
Municipalities	37,973	3,611	2,950	316
Totals	56,299	4,940	5,728	539

§ 4. Lord Howe Island.

1. *Area, Location, etc.*—Between Norfolk Island and the Australian coast is Lord Howe Island, in latitude 31° 30' south, longitude 159° 5' east. It was discovered in 1788. The total area is 3,220 acres, the island being 7 miles in length and from $\frac{1}{2}$ to $1\frac{1}{2}$ miles in width. It is distant 436 miles from Sydney, and in communication therewith by monthly steam service. The flora is varied and the vegetation luxuriant, with shady forests, principally of palms and banyans. The highest point is Mount Gower, 2,840 feet. The climate is mild and the rainfall abundant, but on account of the rocky formation only about a tenth of the surface is suitable for cultivation.

2. **Settlement.**—The first settlement was by a small Maori party in 1853; afterwards a colony was settled from Sydney. Constitutionally, it is a dependency of New South Wales, and is included in the electorate of Sydney. A Board of Control manages the affairs of the island and supervises the palm seed industry referred to hereunder.

3. **Population.**—The population at the Census of 3rd April, 1921, was 65 males, 46 females—total 111.

4. **Production, Trade, etc.**—The principal product is the seed of the native or *Kentia* palm. The lands belong to the Crown. The occupants pay no rent, and are tenants on sufferance.

§ 5. Commercial and Industrial Bureau of the Board of Trade.

1. **Initiation.**—The initial step towards the creation of a trade promotion organization was taken in February, 1918, when the Prime Minister called a conference of the various associations connected with primary industries, manufactures, and commerce. On behalf of the Commonwealth Government the Prime Minister undertook to provide somewhat similar machinery to that set up by Governments of other countries with the object of co-operating with producers, manufacturers, and merchants in the improvement of methods and the finding of profitable markets. The proposals of the Government were endorsed by the conference, and the Bureau of Commerce and Industry was initiated, and, under the charge of a Director, attached to the Department of Trade and Customs.

Associated with the first Director, in an honorary capacity, there was a temporary general council containing representatives of the primary producers, the Associated Chambers of Manufactures, the Associated Chambers of Commerce, together with representatives of the banking, shipping, metals, coal and timber interests, and the Commercial Travellers' Association. The first Director resigned in March, 1919, and the new Director was later on appointed a member of the Board of Trade, and the Bureau of Commerce and Industry, as it was then termed, was merged into that body, under the title of "The Commercial and Industrial Bureau of the Board of Trade." The direction of the Bureau was assumed by the Board of Trade, and the temporary general council ceased to function.

2. **Functions.**—The functions of the Bureau now closely resemble those of the Departments of Trade of Great Britain and of the Bureau of Foreign and Domestic Commerce of the United States of America, the two latter, in their present form, being comparatively recent creations. The aim of the Bureau is to foster and develop the foreign and domestic commerce, the manufacturing industries, and the transportation facilities of Australia.

Amongst its duties also are the direction of the work of the Trade Commissioner for the East and the investigation of markets for Australian products. In fulfilling its prime function of assisting commerce and manufacturing, the Bureau collects information from the Australian Trade Commissioners, from British and foreign official sources, from Trade Representatives and other sources; and it distributes this information to the Council of Industrial Development of Western Australia, the Advisory Council of Science and Industry of South Australia, the Queensland State Trade Commissioner, Trade Associations, Chambers of Commerce and Manufactures in the various States, the Press, and sometimes confidentially to individuals.

3. **Activities.**—(i) *Nature of Inquiries dealt with.* Inquiries received and answered by the Bureau may, for convenience, be divided under two heads:—

- (a) *From Overseas manufacturers*—(1) The availability, cost and quality of raw materials. (2) Import duties. (3) Tariff considerations. (4) Rates of wage and labour conditions generally. (5) Assistance in transferring plant and skilled operatives. (6) Local markets and possibility of export, etc.

(b) *General inquiries*—(1) By oversea merchants asking to be put in touch with suitable representatives in Australia. (2) By Australian exporters asking to be put in touch with reliable representatives in oversea countries. (3) By Australian producers regarding possible markets, local and external, for their products. (4) By oversea buyers regarding supplies of materials produced in Australia. (5) General and technical inquiries for varied information by local merchants, manufacturers, and producers.

(ii) *The Woollen Manufacturing Industry.* The Bureau has been particularly active in its endeavours to assist in the development of the woollen manufacturing industry in Australia, and the ease with which some of the companies have been floated may, in some measure, be ascribed to the information collected and disseminated by the Bureau.

(iii) *Publications.* Further particulars concerning the activities of the Bureau may be found in the Reports which are issued annually.

§ 6. Commonwealth Institute of Science and Industry.

1. *General.*—An account of the origin of the temporary Institute was given in Official Year Book No. 9, pp. 1135-8, while the progress of its activities has been outlined in succeeding issues.

The "Institute of Science and Industry Act 1920," assented to 14th September, 1920, provides for the establishment of the Institute on a permanent basis.

The Act also provides that the Institute shall establish (a) a Bureau of Agriculture, (b) a Bureau of Industries, and (c) such other Bureaux as the Governor-General determines. Power is given for the establishment of a General Advisory Council and Advisory Boards in each State to advise the Director with regard to—(a) the general business of the Institute or any Bureau thereof, and (b) any particular matter of investigation or research.

The term for which the appointment of Director is made is five years, and any person so appointed shall at the expiration of his term of office be eligible for reappointment. The first director of the permanent Institute is Sir G. H. Knibbs, K.B., C.M.G., President of the Australian Association for the Advancement of Science, Hon. F.S.S., M.I.I.S., Hon. M.S.S., Paris, Hon. M. Amer., S.A., etc., etc., formerly Commonwealth Statistician, who was appointed on the 18th March, 1921.

Under the Act the Director shall co-operate, so far as is possible, with existing State organizations in the co-ordination of scientific investigations. The statutory powers and functions of the Director are as follow :—(a) the initiation and carrying out of scientific researches in connexion with, or for the promotion of, primary or secondary industries in Australia; (b) the establishing and awarding of industrial research studentships and fellowships; (c) the making of grants in aid of pure scientific research; (d) the recognition or establishment of associations of persons engaged in any industry or industries for the purpose of carrying out industrial scientific research, and the co-operation with and the making of grants to such associations when recognized or established; (e) the testing and standardization of scientific apparatus and instruments, and of apparatus, machinery, materials and instruments used in industry; (f) the establishment of a Bureau of Information for the collection and dissemination of information relating to scientific and technical matters; and (g) the collection and dissemination of information regarding industrial welfare and questions relating to the improvement of industrial conditions.

2. *Work of the Institute.*—The Institute has made investigations into various matters of importance to Australia, and has issued a number of bulletins and pamphlets. The subjects considered in previous years are briefly indicated on page 1037 of Year Book No. 15. The more important subjects studied in recent years are :—

A. Agricultural and Pastoral Industries. (i) Prickly Pear, (ii) White Ant Pest, (iii) Cereals, (iv) Viticultural Problems, (v) Sheep Blow-fly, (vi) Food Preservation, (vii) Cattle Tick, (viii) Castor Beans, (ix) Fruit By-products, (x) Dehydration of Fruit and Vegetables, (xi) Milk Products, (xii) Fertilizers, (xiii) Herbicides, (xiv) Animal Pests, (xv) Citrus Fruit Problems, (xvi) Bunchy-top of Bananas, (xvii) Seed Improvement.

- B. Forest and Vegetable Products.* (i) Paper Pulp, (ii) Tanning Materials, (iii) Preservation of Timber, (iv) Wood Borers, (v) Essential Oils, (vi) Wood Waste, (vii) Physical Properties of Australian Timbers.
- C. Manufacturing Industries.* (i) Leather and Tanning, (ii) Pottery, (iii) Engineering Standardization, (iv) Liquid Fuels, (v) Power Alcohol, (vi) Paints, (vii) Animal Products, (viii) Textiles, (ix) Building Materials, (x) Oil, Fat and Waxes, (xi) Refrigeration and Cold Storage Problems.
- D. Mining and Metallurgy.* (i) Malleable Iron, (ii) Economic Minerals, e.g., Magnesite, Barytes, etc., (iii) Pigments, (iv) Metals and Alloys, (v) Ores, (vi) Oil Shale.
- E. Miscellaneous.* (i) Carburetters, (ii) Power, (iii) Clays.

In addition to these investigations, the nucleus of a Bureau of Information has been established, with a library of scientific books and journals catalogued and indexed. A large amount of information has been disseminated among Government Departments, technologists, manufacturers and others vitally interested in Australian Industry.

3. **Publications.**—A list of the publications issued up to the 14th March, 1921, is given in Year Book No. 14, p. 1063, since which date the following bulletins have been issued:—(i) A Classification and detailed Description of the Barleys of Australia, (ii) A Classification and detailed Description of the Oats of Australia, (iii) The Production of Liquid Fuels from Oil Shale and Coal in Australia, (iv) The Manufacture of Pulp and Paper from Australian Woods, (v) A Classification and detailed Description of the more important Wheats of Australia. A pamphlet has also been published on "The Co-operative Development of Australia's Natural Resources," as well as circulars on the following subjects:—(i) Weevils in Wheat Stacks, (ii) Leaks in Fruit Containers, (iii) Scientific Road-making, (iv) a Forest Policy for Australia, (v) Cotton, its Cultivation in Australia, (vi) The Water Hyacinth, (vii) New Tanning Materials. The publication of "Science and Industry," the Journal of the Institute, has been suspended since the end of 1920.

§ 7. Department of Chemistry, South Australia.

In South Australia, a Department of Chemistry was formed in 1915. The Department is principally engaged in general routine chemical examinations and analyses in pursuance of various Acts of Parliament and for Government Departments, but the chemical investigation of local products and industries forms an important branch of its work. At first the Department issued bulletins, of which nine have been published, but since 1918 the results of investigations made have been embodied in the reports of the Advisory Council of Science and Industry of South Australia. Researches have been carried out for the Wheat Weevil Committee, and investigations have been made into the lignites at Moorlands, the utilization of grapes and surplus lemons, cold-water paints and tannins. Further investigations into South Australian lignite are reported in the South Australian Mining Review.

§ 8. State Advisory Council of Science and Industry of South Australia.

The Advisory Council of Science and Industry of South Australia is the result of the fusion of the members of the Committee of Scientific Research and the Committee on Post-war Problems. The members of the Council, who all act in an honorary capacity, are the nominees of the different public-bodies in the State, such as the Chamber of Commerce, the Chamber of Manufactures, Associated Banks, United Trades and Labour Council, Employers' Federation, etc., and include a number of Government technical officials and University professors.

For the purposes of investigation, the Council is divided into Committees, under the headings Agriculture, Pastoral, Mineral, Manufacture, Trade, Commerce, and Transport. These Committees consider and take evidence on subjects proper to their provinces, and report to the Government.

The office of the Council is attached to the Department of Chemistry, where research work is carried out at the instance of the Council, the Director of Chemistry being Vice-Chairman of the Council. Four reports have been issued for the years 1919 to 1922, and contain a summary of the work done, with reports of investigations, including the "Wheat Pests Problem," "Utilization of Surplus Lemons," "Cold Water Paint," "Tannins," etc. The Council also distributes information forwarded by the Commercial and Industrial Bureau of the Board of Trade.

§ 9. Valuation of Australian Production.

1. Value of Production.—The want of uniformity in methods of compilation and presentation of Australian statistics renders it an extremely difficult task to make anything like a satisfactory valuation of the various elements of production. At present there is so little accurate statistical knowledge regarding such industries as forestry, fisheries, poultry, and bee-farming, that any valuation of the production therefrom can only be regarded as the roughest approximation. As a matter of fact, complete information as to value of production in all States is available in regard to the mining industry alone, and even in this case adjustments have to be made before the returns are strictly comparable. Careful estimates have been made in connexion with the value of production from the agricultural and pastoral industries, which, it is believed, in the main give fairly accurate results. The returns given in the following table for 1912 and subsequent years may be taken as substantially correct. The table hereunder shows the approximate value of the production from all industries during the years specified:—

ESTIMATED VALUE OF PRODUCTION.—AUSTRALIA, 1912 TO 1922-23.

Year.	Agriculture.	Pastoral.	Dairy, Poultry, and Bee-farming.	Forestry and Fisheries.	Mining.	Manufacturing.(a)	Total.
	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000	£1,000
1912 ..	45,754	51,615	20,280	6,432	25,475	57,022	206,578
1913 ..	46,162	57,866	20,341	6,338	25,594	61,586	217,887
1914 ..	36,052	61,055	21,562	6,419	22,053	62,956	210,097
1915 ..	75,475	66,180	21,156	5,777	22,060	62,883	253,531
1916 ..	61,255	76,142	26,949	5,505	23,192	64,205	257,248
1917 ..	59,641	82,322	31,326	5,523	24,998	69,797	273,607
1918 ..	59,036	86,793	33,738	7,137	25,462	75,362	287,528
1919-20 ..	72,202	100,920	38,830	10,170	18,982	98,162	339,266
1920-21 ..	112,801	86,882	52,613	10,490	21,613	109,435	393,834
1921-22 ..	81,890	69,254	44,417	10,373	19,977	120,751	346,662
1922-23 ..	84,182	91,475	43,542	10,845	20,316	131,848	382,208

(a) These amounts differ from those given in Chapter XXII., Manufacturing Industry, which include certain products included under Dairy Farming and Forestry in this table.

2. Relative Productive Activity.—The relative output or production per head of population measured quantitatively cannot be gauged from a mere statement of the total value of production from year to year. If measured by mere value, increase of price would have the effect of making an equal production with that of a time when prices were lower, and show an increase which would, of course, be misleading. For example, the annual figures showing the estimated value of production from Australian industries do not directly show whether there has been any increase in the quantity produced, since the price-level at the time is itself a factor in the determination of the values. Before, therefore, any estimate of the relative increase or decrease in production (that is, in the

relative quantity of output) can be formed, the variations due to the price element must be eliminated. This is done in the following table, in which Column I. shows the estimated value of production (i) in the aggregate and (ii) per head of mean population. In Column II. the estimated value of production per head of population is shown in the form of index-numbers with the year 1911 as base; that is to say, the production per head in 1911 is made equal to 1,000, and the values for the other years computed accordingly. In Column III. production price index-numbers are given; it is assumed that these index-numbers reflect, with substantial accuracy, variations in production prices in Australia as a whole. The figures in Column IV. are obtained by dividing the figures for each year in Column II. by the corresponding figures in Column III. They show the estimated relative productive activity per head of population, taking the year 1911 as the basic or standard year, the fluctuations due to variations in prices having been eliminated.

RELATIVE PRODUCTIVE ACTIVITY.—AUSTRALIA, 1871 TO 1922-23.

Year.	I.		II.	III.	IV.
	Estimated Value of Production.		Relative Value of Production per Head (Year 1911 = 1,000).	Production Price Index-Number (Year 1911 = 1,000). (a)	Estimated Relative Productive Activity Index-Numbers (Year 1911 = 1,000). (a)
	(i) Total (000 omitted)	(ii) Per Head of Population.			
	£	£			
1871	46,700	27.46	667	1,229	543
1881	71,116	30.83	748	1,121	667
1891	96,087	29.65	720	945	762
1892	95,244	28.81	699	918	761
1894	83,773	24.45	594	749	793
1896	92,605	26.06	633	922	686
1899	112,273	30.21	733	809	906
1901	114,585	29.96	727	974	746
1902	109,615	28.29	687	1,051	654
1903	117,672	30.04	729	1,049	695
1904	122,343	30.78	747	890	839
1905	135,846	33.68	818	910	899
1906	147,043	35.94	873	948	921
1907	166,042	39.90	969	1,021	949
1908	164,934	38.97	946	1,004	942
1909	174,195	40.29	978	976	1,062
1910	187,741	42.43	1,030	963	1,070
1911	188,404	41.19	1,000	1,000	1,000
1912	206,578	43.52	1,057	1,074	984
1913	217,887	44.52	1,081	1,054	1,026
1914	210,097	42.25	1,026	1,256	817
1915	253,531	51.01	1,238	1,292	958
1916	257,248	52.30	1,270	1,398	908
1917	273,607	54.91	1,333	1,486	897
1918	287,528	56.58	1,374	1,583	868
1919-20	339,266	63.96	1,553	1,875	828
1920-21	393,834	72.77	1,767	1,911	925
1921-22	346,662	62.91	1,527	1,579	967
1922-23	382,208	67.85	1,647	1,753	940

(a) Production Price Index-numbers are not available prior to 1903, and Wholesale Price Index-numbers are substituted therefor.

The total production from all industries during 1922-23 was £382,208,000, equal to an average of £67.85 per inhabitant.

In Year Book No. 5 (page 1217) will be found the value of production in each State at decennial intervals since 1871, and for the year 1909. Details for individual States are not available for subsequent years owing to discontinuance by the Customs Department of the collection of statistics of interstate trade.

CHAPTER XXVII.

STATISTICAL ORGANIZATION AND SOURCES OF INFORMATION.

§ 1. General.

1. **Development of Australian Statistics.**—(i) *Crown Colony Blue Books.* The statistical organization of the Australian States owes its origin to the “Blue Books” which in the Crown Colony days were prepared annually for the information of the Colonial Office, London. These documents were intended rather for administrative purposes than as records of statistical data, but their use in this latter respect has in many cases been quite as important as their primary purpose.

The account of the growth and progress of an infant colony furnished by a series of these Blue Books is highly informative, and although some matters of great importance were left untouched, or treated insufficiently, the limited range of economic activities was usually fairly covered, and an interesting index of material development was furnished.

Apart from their specific utility, these Blue Books served the purpose of a basis on which the later statistical publications were fashioned, and they thus furnished for the British Empire an element of uniformity in the matter of statistical compilation.

(ii) *Statistical Registers.* Following the advent of Responsible Government which was granted during the period 1851–60 to all the Australian States except Western Australia—and to that State in 1890—the “Blue Book” was succeeded by a publication which in all cases was known as the “Statistical Register.” In many respects this was the old Blue Book in a new guise. The information contained was in most cases a summary of the more important data obtainable as by-products from the activities of the various administrative departments of the Government. Gradually, however, statistical consciousness emerged, and the necessity for special effort in the compilation of such data was realized. The most important of the early evidences of definite statistical effort was the taking of the population Censuses which in all the States were initiated under the Crown Colony regime. This for long furnished the sole example of extensive governmental organization for a purely statistical purpose; in practically all other cases the statistics were by-products. The growing need for quantitative data concerning the progress of the several young communities of Australia led to improvement in the methods of statistical record, and gradually to the recognition of an officer of the public service whose principal duty was that of preparing and publishing such data. It was probably due to the circumstance that the office of the Registrar-General of Births, Deaths, and Marriages had usually been employed as head-quarters for the intermittent Censuses that this officer in many of the States was selected as the Statistician, and in some instances received that or a similar title in addition to his title of Registrar-General.

(iii) *Prominent State Statisticians.* Amongst the various holders of the position of Government Statistician, or its equivalent, three stand out prominently in respect of their efforts to place Australian Statistics on a satisfactory basis. The earliest of these was Mr. H. H. Hayter, who filled the position of Government Statist of Victoria from 1873 until his death in 1895. Under his control the “Victorian Year Book” and the Statistical Bureau were initiated, many marked improvements were effected in the collection and tabulation of statistical data, and a reputation for careful investigation and lucid interpretation was established. Under his guidance excellent statistical data for Australasia were compiled annually, and he was an untiring worker in the cause of statistical uniformity. His nosological index for the classification of causes of death was long a standard work in the field of Vital Statistics in Australia. The next in point of time of the three mentioned above was Mr. R. M. Johnston, who filled the position of Government Statistician in Tasmania from 1882 until his death in 1918. Like Mr. Hayter, he was a keen advocate of uniformity throughout Australia in the compilation of statistics, and gave great assistance at various statistical conferences, particularly in the matter

of classification of data. He was a man of diversified attainments, and his influence on the development of statistical investigation in Australia was considerable. The third of the State statisticians indicated was Mr. T. A. Coghlan (now the Hon. Sir T. A. Coghlan, K.C.M.G., I.S.O.), who filled the position of Government Statistician in New South Wales from 1886 to 1905, when he resigned to take up other duties. Under his direction many improvements were effected in the statistical compilations of that State, and the Statistical Register issued during and since his time is one of the most complete statistical analyses available of any community. A Year Book entitled "The Wealth and Progress of New South Wales" was published by him, and also a publication entitled "The Seven Colonies of Australia," which appeared at intervals of about two years. This latter is of some special interest as its general plan formed the groundwork of the present "Official Year-Book of the Commonwealth of Australia." Apart from his individual efforts in the direction of statistical uniformity for Australia, Mr. Coghlan was also strongly in favour of the practice of holding periodical statistical conferences, and assisted at several of these in connexion with census and general statistics.

(iv) *Statistical Conferences.* To enable the statisticians of the several States to interchange ideas, and to ensure the attainment of results which would be capable of comparison and would be suitable for the ascertainment of aggregates for Australia, conferences were held from time to time in the several States from as early a date as 1861. There were in all six conferences prior to the formation of the Federal Bureau of Census and Statistics in 1906. These conferences took place respectively in 1861, 1875, 1890, 1900, 1902, and 1903, and in many cases were attended by a representative of New Zealand. By means of them a great improvement in the uniformity of statistical data was effected.

(v) *Federal Bureau.* Under the provisions of the Commonwealth Constitution, section 51, sub-section (xi.), power is conferred on the Federal Parliament "to make laws for the peace, order, and good government of the Commonwealth with respect to Census and Statistics." In compliance with this provision, the Census and Statistics Act 1905 was passed, and in 1906 the Federal Bureau of Census and Statistics was created. The first Federal Statistician was Mr. G. H. Knibbs (now Sir George H. Knibbs, K.B., etc.) who filled the position from 1906 until his appointment in 1921 to the position of Director of the Commonwealth Institute of Science and Industry. To the task of organizing the work of the new Bureau Mr. Knibbs brought a lengthy and varied experience in important branches of public service in New South Wales, and in the formation of his staff he drew largely upon the staffs of existing State Statistical Offices. One of the earliest steps taken was that of holding in November and December, 1906, a conference with the State statisticians to define the relations between the several Bureaux and to arrange for the interchange of data. The conference was marked by great cordiality between the various representatives, and an extensive series of forms was approved for the supply of data by the States to the Commonwealth. In each case, the State Statistician became the representative in his own State of the Commonwealth Statistician for the purpose of carrying out the provisions of the Federal Act. Some of the outstanding features of the Bureau's activities during the period of control by Mr. Knibbs were as follows:—

(a) The initiation and annual publication of the Official Year-Book of the Commonwealth of Australia;

(b) The annual publication of Statistical Bulletins dealing with the principal activities of the whole of Australia;

(c) The quarterly (at one time monthly) publication of a Summary of Australian Statistical Data;

(d) The formation of a Labour and Industrial Branch to record prices, wages, and kindred matters;

(e) The taking of population censuses for all Australia in 1911 and 1921;

(f) The taking of a special War Census (including a Wealth Census) in 1915;

(g) The compilation and publication of a series of Life Tables for Australia and its component States, and of monetary tables based thereon.

The vacancy caused by the transfer of Mr. Knibbs was filled in 1922 by the appointment—as from 1st August in that year—of Mr. C. H. Wickens, who had previously filled the position of Supervisor of Census in the Bureau.

(vi) *Uniformity of Statistical Control.* At various dates since the creation of the Commonwealth, proposals have been made for the unification of statistical compilation in Australia. Under the provisions of the Federal Constitution the item "Census and Statistics" is not allocated exclusively to the Federal Parliament, but is one of those matters in connexion with which powers may be exercised concurrently by Federal and State Legislatures. In the matter of the Census, the States have ceased to function since the Commonwealth undertook the work, but the right of a State to take a Census at any time is not vitiated thereby. In the field of General Statistics, on the other hand, there are now seven separate bureaux operating. As, however, each State bureau is concerned solely with its own territory, and as in many matters the Commonwealth Bureau is largely interested in the presentation of the data for Australia as a whole, there is not a great deal of overlapping or duplication of effort. Such duplication does, however, exist to some extent, especially in the matter of publication, and at conferences of the State Premiers in 1906 and 1918 resolutions were passed in favour of combining Federal and State bureaux, but in each case the idea was subsequently abandoned. At a conference between Federal and State Ministers in May, 1923, the matter was again under consideration, and a resolution in favour of one statistical authority for Australia was passed, the consideration of details to be left to a conference of Commonwealth and State Statisticians. This Conference was held in October, 1923, and formulated a scheme for the transfer of such of the State Bureaux as the Governments concerned desired to hand over to the Commonwealth. Up to the present (August, 1924) no actual transfer has taken place, but arrangements are well advanced for the transfer of the Tasmanian State Bureau at an early date, while in some other cases the matter is still under consideration. On the 18th August, 1924, and succeeding days, a conference of the Government Statisticians of the Commonwealth of Australia, the Dominion of New Zealand, and the several Australian States was held in Adelaide to discuss arrangements for increasing the efficiency and uniformity of statistical compilation, and for diminishing the amount of duplication of effort still existing. The results attained were very satisfactory, and are likely to increase the value of the statistical data of the two Dominions.

(vii) *Present Organization.* The existing organization in respect of the collection, tabulation, etc., of statistical data as between the State and Federal Statistical Bureaux, and State and Federal Government Departments, is set forth in the accompanying conspectus.

PRESENT ORGANIZATION OF STATISTICAL COLLECTION, TABULATION, SUMMARY AND REVIEW.

A.—CLASSIFICATION ACCORDING TO SUBJECT.

Note.—C.S.=Commonwealth Statistician. S.S.=State Statistician
 C.D.=Commonwealth Department S.D.=State Department
 (non-statistical). (non-statistical).

Subject.	Collected by—	Tabulated by—	Australian results summarized and reviewed by—
I. Population—			
(i) Census	C.S.	C.S.	C.S.
(ii) Vital Statistics	S.D.	C.S. and S.S.	C.S.
(iii) Migration	C.S., C.D. and S.D.	C.S.	C.S.
II. Production—			
(i) Land Settlement	S.D.	S.D.	C.S.
(ii) Agriculture	S.S.(a)	S.S.	C.S.
(iii) Pastoral	S.S.(a)	S.S.	C.S.
(iv) Dairying	S.S.(a)	S.S.	C.S.

(a) State Police collect original individual returns from owners, occupiers, etc., without charge (except out-of-pocket expenses).

PRESENT ORGANIZATION OF STATISTICAL COLLECTION, TABULATION,
SUMMARY AND REVIEW—*continued.*A.—CLASSIFICATION ACCORDING TO SUBJECT—*continued.*

Subject.	Collected by—	Tabulated by—	Australian results summarized and reviewed by—
II. Production—<i>continued.</i>			
(v) Mineral	S.D.	S.D.	C.S.
(vi) Forestry	S.D.	S.D.	C.S.
(vii) Fisheries	S.D.	S.D.	C.S.
(viii) Water Conservation	S.D.	S.D.	C.S.
(ix) Manufacturing	S.S.(a)	S.S.	C.S.
III. Transport and Communication—			
(i) Railways—			
(a) Government (C'wealth)	C.D.	C.D.	C.S.
(b) Government (State)	S.D.	S.D.	C.S.
(c) Private	C.S.	C.S.	C.S.
(ii) Tramways	C.S.	C.S.	C.S.
(iii) Shipping	C.D.	C.S.	C.S.
(iv) Posts	C.D.	C.D.	C.S.
(v) Telegraphs	C.D.	C.D.	C.S.
(vi) Telephones	C.D.	C.D.	C.S.
(vii) Aircraft	C.S.	C.S.	C.S.
(viii) Motor Vehicles	S.D.	S.D.	C.S.
IV. Trade and Commerce—			
(i) Imports	C.D.	C.D.	C.S.
(ii) Exports	C.D.	C.D.	C.S.
(iii) Customs	C.D.	C.D.	C.S.
(iv) Excise	C.D.	C.D.	C.S.
V. Finance—			
(i) Commonwealth	C.D.	C.D.	C.S.
(ii) State	S.D.	S.D.	C.S.
(iii) Private			
(a) Banking	C.S. and S.S.	C.S. and S.S.	C.S.
(b) Insurance	C.S. and S.S.	C.S. and S.S.	C.S.
VI. Social—			
(i) Education	S.D.	S.D.	C.S.
(ii) Hospitals	S.S.	S.S.	C.S.
(iii) Charities	S.S.	S.S.	C.S.
(iv) Judicial	S.S.	S.S.	C.S.
VII. Labour and Industrial—			
(i) Prices	C.S. and S.S.	C.S. and S.S.	C.S.
(ii) Wages	C.S. and S.D.	C.S. and S.D.	C.S.
(iii) Industrial Disputes	C.S. and S.D.	C.S. and S.D.	C.S.
(iv) Trade Unionism	C.S. and S.D.	C.S. and S.D.	C.S.
(v) Unemployment	C.S. and S.D.	C.S. and S.D.	C.S.
VIII. Local Government			
	S.S.	S.S.	C.S.
IX. Miscellaneous—			
(i) Electoral	C.D. and S.D.	C.D. and S.D.	C.S.
(ii) Meteorological	C.D.	C.D.	C.D.

(a) State Police collect original individual returns from owners, occupiers, etc., without charge (except out-of-pocket expenses).

PRESENT ORGANIZATION OF STATISTICAL COLLECTION, TABULATION, SUMMARY, AND REVIEW—*continued.*

B.—CLASSIFICATION OF SUBJECTS ACCORDING TO DEPARTMENT RESPONSIBLE FOR COLLECTION.

Data collected by—

Commonwealth Statistician.	Commonwealth Department (non-statistical).	State Statist.	State Department (non-statistical).
Census. Migration (Rail). Railways (Private). Tramways. Aircraft. Banking. Insurance. Prices. Wages. Industrial Disputes. Trade Unionism. Unemployment.	Migration (Sea). Government Railways (C'wealth). Shipping. Posts. Telegraphs. Telephones. Imports. Exports. Customs. Excise. Finance (C'wealth). Electoral (C'wealth). Meteorological.	Agriculture. Pastoral. Dairying. Manufacturing. Banking. Insurance. Hospitals. Charities. Judicial. Prices. Local Government.	Vital Statistics. Land Settlement. Mineral. Government Railways (State). Motor Vehicles. Forestry. Fisheries. Water Conservation. Finance (State). Education. Wages. Industrial Disputes. Trade Unionism. Unemployment. Electoral (State).

C.—CLASSIFICATION OF SUBJECTS ACCORDING TO DEPARTMENT RESPONSIBLE FOR INITIAL TABULATION.

Commonwealth Statistician.	Commonwealth Department.	State Statist.	State Department.
Census. Vital Statistics. Migration (Rail and Sea). Railways (Private). Tramways. Shipping. Aircraft. Banking. Insurance. Prices. Wages. Industrial Disputes. Trade Unionism. Unemployment.	Government Railways (C'wealth). Posts. Telegraphs. Telephones. Imports. Exports. Customs. Excise. Finance (C'wealth). Electoral (C'wealth). Meteorological.	Vital Statistics. Agriculture. Pastoral. Dairying. Manufacturing. Banking. Insurance. Hospitals. Charities. Judicial. Prices. Local Government.	Land Settlement. Mineral. Government Railways (State). Motor Vehicles. Forestry. Fisheries. Water Conservation. Finance (State). Education. Wages. Industrial Disputes. Trade Unionism. Unemployment. Electoral (State).

D.—THE AUSTRALIAN RESULTS ARE SUMMARIZED AND THE STATISTICS ARE REVIEWED BY THE COMMONWEALTH STATISTICIAN IN ALL THE CASES ABOVE EXCEPT METEOROLOGICAL STATISTICS WHICH ARE DEALT WITH ENTIRELY BY THE COMMONWEALTH METEOROLOGIST.

2. Sources of Information.—The foregoing conspectus gives in concise form the main sources from which general statistical data are obtained. It may be noted that such information is furnished in various ways—(a) Directly, in response to the Commonwealth Statistician's demand; (b) by the State Statisticians who collect directly from individuals or through the medium of police officers or special collectors; (c) by Commonwealth and.

State Government Departments either in their Departmental Reports or in response to special inquiries (the Commonwealth Trade and Customs Department supplies returns of Trade, and of Customs and Excise); (d) by scientific and technical experts invited to contribute special articles for the Official Year Book.

In addition, information may be obtained through the State Statisticians acting in the capacity of duly constituted officers under the provisions of the Commonwealth Census and Statistics Act.

§ 2. Statistical Publications of Australia.

1. **General.**—The official statistical publications of Australia may be divided bibliographically into two main divisions, viz. :—(1) Commonwealth publications dealing both individually and collectively with the several States of the Commonwealth, and (2) State publications dealing with individual States only. Besides these there are many other reports, etc., issued regularly, which though not wholly statistical, necessarily contain a considerable amount of statistical information. The more important of these published to August, 1924, are indicated below.

2. **Commonwealth Publications.**—Commonwealth publications may be grouped under two heads, viz. :—(i) Publications issued by the Commonwealth Statistician, and (ii) Parliamentary and Departmental Reports and Papers.

(i) *Publications issued by the Commonwealth Statistician.* The following is a list of the principal statistical publications issued from the Commonwealth Bureau of Census and Statistics since its inauguration up to August, 1924 :—

- Australian Life Tables, 1901–1910. Australian Joint Life Tables, 1901–1910.*
Census (1911) Bulletins.
Census (1911) Results.—Vols. I, II., and III., with Appendix “Mathematical Theory of Population.”
Census (1921) Results.—Bulletins, Nos. 1 to 26. Report, Parts I to V.
Finance—Bulletins, 1907 to 1916–17 annually; 1917–18 and 1918–19 (one vol.); 1919–20 and 1920–21 (one vol.); 1921–22; 1922–23.
Labour and Industrial Statistics—Memoranda and Reports, various, to 1913.
Labour Report, annually, 1913 to 1923.
Local Government in Australia—July, 1919.
Official Year Book of the Commonwealth of Australia—Annually, 1907 to present issue (1924).
Oversea Trade, annually, 1906 to 1922–23.
Pocket Compendium of Australian Statistics (formerly *Statistical Digest*), 1913, 1914, 1916, and 1918 to 1924 annually.
Population and Vital Statistics Bulletins—Reports, various. Commonwealth Demography, 1911 to 1923 annually.
Production—Bulletins, annually, 1906 to 1922–23.
Professional Papers—Various. A full list will be found in Official Year Book No. 13, p. 3.
Quarterly Summary of Australian Statistics—first issue, No. 70, December, 1917, replacing *Monthly Summary of Australian Statistics* (Bulletins 1 to 69), and incorporating data from earlier publications relating to Labour, Shipping, Trade, Vital Statistics, Oversea Migration, etc.
Social Insurance—Report to the Hon. the Minister of Trade and Customs, 1910.
Social Statistics—Bulletins, 1907 to 1915 annually, and 1918.
Superannuation for the Commonwealth Public Service—Report to the Hon. the Minister for Home Affairs, 1910.
Transport and Communication—Bulletins, 1906, 1908, to 1916 annually; 1919 to 1923 annually.
Wealth—The Private Wealth of Australia and its Growth, as ascertained by various methods, together with a Report of the War Census in 1915.

(ii) *Commonwealth Parliamentary and Departmental Reports and Papers.* Lists of the principal official reports and other documents containing statistical information issued from the inauguration of the Commonwealth were given in Year Books up to No. 15, but limits of space preclude the incorporation of this information in the present volume.

3. *State Publications.*—The chief statistical publications of each State are set out hereunder. Limits of space preclude a further enumeration of the various Departmental Reports, statements of accounts, etc., issued by officials, boards, local government bodies, etc., in each State.

- (a) New South Wales—Statistical Register (annual); Official Year Book of New South Wales (annual); Statesman's Year Book (annual); Vital Statistics (monthly and annual); Statistical Bulletin (monthly to December, 1919, thereafter quarterly).
- (b) Victoria—Statistical Register (annual to 1916, then discontinued); Victorian Year Book (annual); Vital Statistics (annual and quarterly); Statistical Abstracts (quarterly to 1917).
- (c) Queensland—Statistical Register (annual); Official Year Book, 1901; A.B.C. of Queensland Statistics (annual); Vital Statistics (annual and monthly).
- (d) South Australia—Statistical Register (annual); Official Year Book, 1912 and 1913; Blue Book (annual); Statesman's Pocket Year Book (annual); Returns of Births and Deaths (monthly).
- (e) Western Australia—Statistical Register (annual); Statistical Abstracts (quarterly, previously issued monthly to July, 1917); Pocket Year Book of Western Australia (annual); Circular (monthly), containing Principal Statistics.
- (f) Tasmania—Statistical Register (annual); Statesman's Pocket Year Book annual, from 1915; Statistical Summaries (annual); Vital Statistics and Migration (annual and monthly).

§ 3. Bibliography of Recent Works on Australia.

1. *General.*—In Official Year Book No. 13, a list of the principal general works dealing with Australia and Australian affairs, published from 1901 to 1920, will be found. Of the publications of the first seventeen years of the Commonwealth the more important are now repeated, with a fuller list of works published within the last six years.

- ALLIN, C. D. *A History of the Tariff Relations of the Australian Colonies.* Minneapolis, 1918.
- ANDERSSON, G. *Australien; Natur och Kultur: Studien och Minnen.* Stockholm, 1922.
- ARMOUR, Rev. J. *The Spell of the Inland: a Romance of Central Australia.* Melbourne, 1923.
- ATKINSON, MEREDITH (Ed.). *Australia: Economic and Political Studies, by Various Writers.* Melbourne, 1920.
- AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. *Annual Reports of Proceedings.*
- BEAN, C. E. W. (Ed.). *Official History of Australia in the War of 1914-1918 (in 12 vols.).* Vol. I., Sydney, 1921.
- BEAN, C. E. W., and GULLETT, H. S. *Official History of Australia in the War of 1914-18.* Vol. XII. Sydney, 1923.
- BLAND, F. A. *Shadows and Realities of Government, W.E.A. Series,* Sydney, 1923.
- BOWDEN, S. H. *History of the Australian Comforts Fund.* Sydney, 1922.
- BOYCE, W. D. *Australia and New Zealand Illustrated.* Chicago, 1922.
- BRADY, E. J. *Australia Unlimited.* Melbourne, 1918.
- BRITISH IMMIGRATION LEAGUE OF AUSTRALIA. *Annual Reports.*
- BRYANT, J. *The Story of Australia: for Boys and Girls.* London, 1920.
- BRYCE, VISCOUNT. *Modern Democracies.* London, 1921.
- CHILDE, V. G. *How Labour Governs: a Study of Workers' Representation in Australia.* London, 1923.
- COGHLAN, SIR T. A. *Labour and Industry in Australia.* London, 1918. 4 vols.
- COLLINGRIDGE, GEORGE. *First Discovery of Australia and New Guinea.* Sydney, 1906.
- CRIVELLI, G. M., and LOUVET, PIERRE. *L'Australie et la Pacifique.* Paris, 1923.
- OUTLACK, F. N. *Official History of Australia in the War of 1914-18.* Vol. VIII. Sydney, 1923.
- DUNBABIN, T. *The Making of Australasia; a brief History of the Origin and Development of the British Dominions in the South Pacific.* London, 1922.
- ELLIS, A. D. *Australia and the League of Nations.* Melbourne, 1922.
- FAULKNER, C. C. *The Commonwealth Bank of Australia: a Brief History.* Sydney, 1923.

- FAVENC, E. *Explorers of Australia*. Melbourne, 1908.
- FEDERAL HANDBOOK OF AUSTRALIA. Melbourne, 1914.
- FOSTER, MRS. A. G. *Odd Bits of Old Sydney*. Sydney, 1921.
- FOSTER, A. G. *Early Sydney*. Sydney, 1920.
- FOX, FRANK. *Peeps at Many Lands*. Australia. London, 1911.
- GREGORY, J. W. *The Dead Heart of Australia*. London, 1906. *Australia and New Zealand* (in Stanford's Compendium of Geography and Travel). London, 1907. *Australia*. Cambridge, 1916.
- GULLETT, H. S. *Official History of Australia in the War of 1914-18*. Vol. VII. Sydney, 1923.
- HEATON, H. *Modern Economic History* (with Special Reference to Australia), W.E.A. Series. Melbourne, 1921.
- HIGGINS, H. B. *A New Province for Law and Order*, W.E.A. Series. Sydney, 1922.
- HOOKEY, M. *The Romance of Tasmania*. Hobart, 1921.
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2. Works on Special Subjects.—In addition to the works set out above, dealing generally with the historical, industrial and personal aspects of the Australian people, there have been a number of recent works upon special subjects, the more important of which will be found in Official Year Book No. 13, pp. 11-12. The following list of more recent works of note may be of interest :—

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- MAIDEN, J. H. Critical Revision of the Genus Eucalyptus. 6 vols. and 2 parts of 7th vol. Sydney, 1903-24. Forest Flora of New South Wales. 7 vols. and 5 parts of 8th vol. Sydney, 1904-24.
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APPENDIX.

[Recent information and returns which have come to hand since the various chapters were sent to press are given hereunder.]

CHAPTER I.

DISCOVERY, COLONIZATION, AND FEDERATION OF AUSTRALIA.

§ 9. Commonwealth Legislation.

2. **Governors-General and Ministries.** (p) BRUCE-PAGE GOVERNMENT (p. 42).

Minister for Trade and Customs and HON. HERBERT EDWARD PRATTEN (13th
Minister for Health June, 1924).

Minister for Works and Railways .. HON. WILLIAM CALDWELL HILL (8th August,
1924).

CHAPTER III.

GENERAL GOVERNMENT.

§ 1. Scheme of Parliamentary Government.

4. **The Cabinet and Executive Government.** (v) *The Cabinet.* (c) *State Ministries* (p. 86).

NEW SOUTH WALES.

Minister without Portfolio—HON. F. S. BOYCE, K.C., M.L.C.

VICTORIA.

(1st July, 1924.)

Premier and Treasurer—

HON. G. M. PRENDERGAST.

Chief Secretary—

HON. T. TUNNECLIFFE.

Minister of Education and Minister of Labour—

HON. J. LEMMON.

Minister of Agriculture and Minister of Railways—

HON. E. J. HOGAN.

President of the Board of Lands and Works, Commissioner of Crown Lands and Survey, and Minister of Water Supply—

HON. H. S. BAILEY.

Attorney-General and Solicitor-General—

HON. W. SLATER.

Commissioner of Public Works, Minister of Public Health, and Minister in Charge of Immigration—

HON. J. P. JONES, M.L.C.

Minister of Mines and Minister of Forests—

HON. D. L. MCNAMARA.

Ministers without Portfolio—

HON. W. J. BECKETT, M.L.C.

HON. J. H. DISNEY, M.L.C.

HON. J. CAIN.

HON. G. C. WEBBER.

QUEENSLAND.

Secretary for Public Instruction—

HON. F. T. BRENNAN.

Assistant Minister—

HON. M. J. KIRWAN.

SOUTH AUSTRALIA (p. 87).

(16th April, 1924.)

<p><i>Premier, Treasurer, Minister of Irrigation, and Minister of Repatriation—</i> HON. J. GUNN.</p> <p><i>Chief Secretary and Minister for Railways—</i> HON. J. JELLEY, M.L.C.</p> <p><i>Attorney-General, Minister of Housing, and Assistant Minister of Repatriation—</i> HON. W. J. DENNY.</p>	<p><i>Commissioner of Crown Lands and Minister of Agriculture—</i> HON. T. BUTTERFIELD.</p> <p><i>Commissioner of Public Works, Minister of Education, and Minister of Industry—</i> HON. L. L. HILL.</p> <p><i>Minister of Mines, Minister of Marine, Minister of Immigration, and Minister of Local Government—</i> HON. A. A. KIRKPATRICK, M.L.C.</p>
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WESTERN AUSTRALIA (p. 87).

(17th April, 1924.)

<p><i>Premier, Colonial Treasurer, and Minister for Forests—</i> HON. P. COLLIER.</p> <p><i>Minister for Lands, Immigration, and Industries—</i> HON. W. C. ANGWIN.</p> <p><i>Minister for Mines and Agriculture—</i> HON. M. F. TROY.</p> <p><i>Minister for Railways, Justice, and Police—</i> HON. J. C. WILLCOCK.</p>	<p><i>Minister for Public Works and Water Supply, Labour, and State Trading Concerns—</i> HON. A. MCCALLUM.</p> <p><i>Colonial Secretary, Minister for Education, Health, and the North-West—</i> HON. J. M. DREW, M.L.C.</p> <p><i>Ministers without Portfolio—</i> HON. S. W. MUNSIE. HON. J. W. HICKEY, M.L.C. HON. J. CUNNINGHAM.</p>
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§ 2. Parliaments and Elections.

6. The Parliament of Victoria. (ii) *Particulars of Elections* (p. 92).

GENERAL ELECTION, LEGISLATIVE ASSEMBLY, JUNE, 1924.

Particulars.	Males.	Females.	Total.
Electors enrolled	433,357	467,070	900,427
Electors in contested districts	301,745	324,505	626,250
Electors who voted	190,153	180,810	370,963
Percentage of electors who voted in contested districts ..	63.02	55.72	59.24

8. The Parliament of South Australia. (ii) *Particulars of Elections* (p. 93).

PARLIAMENTARY ELECTIONS, APRIL, 1924.

Particulars.	House of Assembly.			Legislative Council.		
	Males.	Females.	Total.	Males.	Females.	Total.
No. of electors enrolled	141,944	147,899	289,843	67,429	22,018	89,447
No. of electors in contested districts	125,933	131,060	256,993	55,670	19,098	74,768
Electors who voted	87,712	73,453	161,165	36,626	10,492	47,118
Percentage of electors who voted in contested districts	69.65	56.05	62.71	65.79	54.94	63.02

9. The Parliament of Western Australia. (ii) *Particulars of Elections* (p. 94).

PARLIAMENTARY ELECTIONS, 1924.

Particulars.	Legislative Assembly. March, 1924.			Legislative Council. May, 1924.		
	Males.	Females.	Total.	Males.	Females.	Total.
No. of electors enrolled ..	101,717	88,152	189,869	43,897	14,904	58,801
Electors who voted ..	55,591	43,800	99,391	16,552	4,659	21,211
Percentage of electors who voted to electors on roll in contested districts ..	66.00	59.00	62.32	47.06	39.25	45.12

CHAPTER VI. OVERSEA TRADE.

§ 4. Oversea Trade.

1. Total Oversea Trade, p. 223.—The following particulars have been compiled from preliminary returns relating to the Oversea Trade of Australia during the year 1923-24 :—

Period.	Recorded Value.			Value per Inhabitant.			Per-centage of Exports on Imports.
	Imports.	Exports.	Total.	Imports.	Exports.	Total.	
1923-24	£1,000. 140,570	£1,000. 119,567	£1,000. 260,137	£ s. d. 24 8 11	£ s. d. 20 15 11	£ s. d. 45 4 10	% 85.1

CHAPTER VII. TRANSPORT AND COMMUNICATION.

A. SHIPPING.

§ 10. Miscellaneous.

6. Commonwealth Navigation and Shipping Legislation, p. 279.—By section 51 (1) of the Commonwealth Constitution, the Parliament of the Commonwealth is empowered to make laws in respect of trade and commerce with other countries and among the States. By section 98 the power in this particular respect is further defined as extending to navigation and shipping. The most important enactment in regard to shipping and navigation is the Navigation Act 1912-1920, being the Act of 1912 (No. 4 of 1913), as amended by the Acts of 1919 (No. 32 of 1919) and 1920 (No. 1 of 1921).

The first essay in the way of legislation in this direction was made in March, 1904, when a Bill for a Navigation and Shipping Act was introduced in the Senate by the Attorney-General of the first Deakin Administration. This Bill was withdrawn at an early stage for further consideration and re-drafting. The Deakin Ministry resigned in April, 1904, and the succeeding Watson Government, in view of the far-reaching and important character of the matters comprehended in the measure, decided to refer the Bill for consideration and report to a Royal Commission. The Commission commenced taking evidence in July, 1904, and in March, 1905, presented an interim report and a Draft Bill. The main principles of the new draft, in so far as they affected overseas shipping

were then, at the invitation of the Imperial Government, considered at an Imperial Shipping Conference held in London in the early part of 1907, at which representatives of Great Britain, Australia, and New Zealand were present. The Conference considered, *inter alia*, the following recommendation of the Royal Commission :—“ That the coastal trade of the Commonwealth be reserved for ships on the Australian Register, or ships conforming to Australian conditions, and licensed to trade on the Australian coast ” ; and recommended :—“ That the vessels to which the conditions imposed by the law of Australia or New Zealand are applicable should be (i) vessels registered in the colony, while trading therein, and (ii) vessels wherever registered, while trading on the coast of the colony. Further modifications were made in the draft (by the Royal Commission) to conform to the resolutions of the Conference, and the resultant Bill was re-introduced in the Senate in September, 1907, by the second Deakin administration. Owing to pressure of other business, however, it lapsed. The Bill was again introduced in the Senate in September, 1908, by the same Government, but again lapsed ; proceedings were resumed in 1909, but the Bill lapsed in the Committee stage. It was brought in again in 1910 by the second Fisher Administration, revived in 1911, lapsed again, and finally became, under the last-mentioned Government, the Navigation Act of 1912.

In 1919 another Bill was introduced by the Australian National War Government to give the power to proclaim different portions of the Act to commence at different times. This Act (No. 32 of 1919) also extended the operation of the Act to the Territories under the authority of the Commonwealth, and those governed under a Mandate. Another amending Act was passed by the same Government in 1920, enabling the Commonwealth to fulfil its obligations under the International Convention for the Safety of Life at Sea, and to grant permits to British ships to trade on the coast in special circumstances.

The British Merchant Shipping Act 1894 requires that any legislation by the Parliament of a British possession, repealing wholly or in part any provisions of that Act, shall not take effect until the approval of the King has been proclaimed in that Possession. All the Navigation Bills, therefore, had been drawn to commence on dates to be fixed by proclamation after the King's approval thereto had been proclaimed in the Commonwealth.

The Act was passed in 1912 and reserved for the Royal assent which was proclaimed in Australia in October, 1913. Owing to the outbreak of war in August, 1914, however, the commencement of the Act was, at the request of the British Government, postponed.

At the conclusion of the war the proclamation of the Act could no longer be delayed. In order to make the change as gradual as possible, groups of sections have (under the power granted by the 1919 Act) been brought into operation from time to time. The first group—the Coasting Trade provisions—commenced on 1st July, 1921. Others commenced on the first days of October, 1921, March, 1922, February, 1923, March, 1923, and October, 1923, until the only important sections not yet in operation are those relating to the inspection and testing of anchors, chain cables and gear, and to pilotage.

Soon after the coasting trade provisions commenced, the owners of a number of intra-State ships took steps to have tested the validity of the application to their ships of the manning and accommodation provisions of the Act. The judgment of the High Court was to the effect that those provisions did not apply to vessels engaged *solely* in the domestic trade of a State. In consequence of this judgment, the Government decided not to enforce the provisions of the Act then in force on any intra-State ships.

Notwithstanding the fact that a considerable amount of shipping was thereby left to the control of the various State Governments, for all ships trading beyond one State there is uniform procedure in regard to (i) the engagement and discharge of seamen ; (ii) the inspection of accommodation provided for crews ; (iii) scales of medicines ; (iv) the survey of hulls, machinery and gear ; (v) the carriage and stowage of cargo ; (vi) loadlines ; (vii) the adjustment of compasses ; (viii) the examination of masters, mates, and engineers for certificates of competency ; etc.

Wireless installations have been provided on many additional ships, and a system of boat drills for crews has been drawn up, under which all Australian seamen afloat will become competent to handle oars and boats and take up their allotted positions. A system of “ sectional ” surveys has been introduced, by means of which a ship may have portions of the annual survey carried out at different ports, thereby minimizing interference with the regular time-table.

In the principal Mercantile Marine Offices, where seamen are engaged and discharged, branches of the Commonwealth Savings Bank have been established, and have been well patronized by seamen.

The Act is in many respects flexible, provision being made for granting relief from some of its most stringent provisions. As pointed out previously, a recommendation of the Royal Commission of 1904 was that the coastal trade of the Commonwealth should be reserved to Australian ships, or ships conforming to Australian conditions. This provision is contained in section 238 of the Act, but by section 286 the Minister has power to grant permits to British ships which do not conform to those conditions, in circumstances when he is satisfied that the licensed service provided is inadequate. Such power has been made use of in the case of the Thursday Island trade, and that of the North-west coast, since July, 1921. Ten vessels have held permits to trade between Thursday Island and other Commonwealth ports, and three (later increased to four) to trade between Fremantle and the North-west ports. Two have obtained permits to trade in Papua and New Guinea. In addition to these, a large number of permits have been granted, from time to time, for single voyages, chiefly to carry meat from North Queensland ports southward.

Another direction in which the provisions of the Act may be varied is in regard to the manning scales, which are contained in schedules appended to the Act. These scales may be varied by regulation, and Committees of Advice may be appointed to deal with individual cases. The scales in regard to many ships have, under these provisions, been increased or reduced, according to the recommendations received by the Department.

The Act is administered by the Navigation Branch of the Department of Trade and Customs, there being a Director of Navigation and a staff of technical and clerical officers attached to the head office, with a Deputy Director of Navigation, and technical and clerical staffs in each State. The Department requests, when necessary, the advice of a body called the "Marine Council," consisting of six members, representing ship-owners, underwriters, deck and engineer officers, and seamen, with the Director of Navigation, *ex officio*, as chairman. Any question regarding administration, or the making of regulations, etc., may be referred to the Council for advice, but it is obligatory on the Minister to seek the Council's advice upon all proposed regulations with respect to the scales of officers, crew, and provisions.

CHAPTER VIII.

FINANCE.

A. COMMONWEALTH FINANCE.

§ 2. Consolidated Revenue Fund.

Division II.—Revenue.

1. Total, pp. 365-6.—Revenue for year 1923-24 amounted to £66,017,203.
2. Revenue per Head, p. 366.—The revenue per head of population for 1923-24 was £11 9s. 8d.

Division III.—Expenditure.

2. Total Expenditure, p. 372. For the year 1923-24 the total expenditure was £68,345,774, and the expenditure per head of population £11 17s. 9d.

§ 4. Commonwealth Loan Funds and Public Debt.

7. Commonwealth Public Debt.—(ii) *Place of Flotation*, p. 385. At the 30th June, 1924, the debt stood as follows :—

	£
Payable in London	142,524,394
Payable in Australia	262,215,113
Value of Transferred Properties	10,860,591
	<hr/>
Total	415,600,098
	<hr/>

(iv) *Amount of Interest Payable*, p. 386. At the 30th June, 1924, the interest payable on the debt amounted to £21,919,467, of which £8,407,469 was payable in London and £13,511,998 in Australia.

CHAPTER XVII.

AGRICULTURAL PRODUCTION.

§ 4. Wheat.

7. Voluntary Wheat Pools, p. 685.—The voluntary wheat pools which handled the harvests of New South Wales, Victoria, South Australia, and Western Australia in 1922–23 were continued on identical lines for the 1923–24 season. The system adopted is a co-operative one, controlled by Committees appointed by the growers, the whole of the proceeds, less administrative expenses, being distributed amongst contributors of wheat to the pool. The marketing of wheat in Queensland was conducted on the compulsory basis by the State Wheat Board, consisting of five representatives of the growers with a Government appointee as Chairman. The quantities of wheat received by the different pools were as follows :—

WHEAT RECEIVED BY VOLUNTARY POOLS, 1923–24.

Particulars.	Unit.	N.S.W.	Victoria.	S. Aust.	W. Aust.
Wheat received	Bushel	9,681,154	18,500,000	10,324,875	7,278,833
Percentage of total market-able wheat	%	33	60	33	40

The requisite financial accommodation was furnished by the Commonwealth Bank, supported by a guarantee of 3s. 8d. per bushel by the Commonwealth Government. An initial advance of 3s. per bushel was made available to growers on the delivery of their wheat at country stations, and a second advance of 1s. per bushel, less rail freight, has also been made in all the States to 31st July, 1924, with the exception of Western Australia, where, however, at the 21st July the amount estimated to be distributed to farmers as final payment was £453,892, which would make the net result to growers 4s. 7½d. per bushel, less only rail freight.

The 1923–24 harvest in Queensland was practically a failure owing to the drought, approximately a quarter of a million bushels only being reaped. The whole of the prime seed was retained by the Board for growers' planting requirements for the 1924–25 season. Briefly the 1923–24 pool may be described as a Seed Wheat Pool. Owing to the smallness of the harvest, arrangements were entered into with the Queensland Government to guarantee the Board's account with the Commonwealth Bank, to make available a first advance of 5s. per bushel and 8d. per bushel for expenses.

CHAPTER XXI. MINERAL INDUSTRY.

§ 1. The Mineral Wealth of Australia.

3. Value of Production during 1923, p. 769.—The following table gives the value of Australian mineral production for the year 1923 :—

MINERAL PRODUCTION.—VALUE, 1923.

Minerals.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
	£	£	£	£	£	£	£	£
Gold ..	83,325	422,105	392,563	4,203	2,232,179	16,300	743	3,151,418
Silver and Lead ..	2,956,862	963	216,645	60	60,061	218,881	..	3,453,472
Copper ..	82,375	..	430,746	232,172	65,100	435,413	30	1,245,836
Iron ..	710,706	..	150	445,303	..	..	..	1,156,159
Tin ..	180,789	10,371	114,945	..	15,095	236,955	13,886	1,572,041
Zinc ..	1,411,652	..	..	..	..	..	..	1,411,652
Coal ..	8,607,892	563,289	976,663	..	368,949	70,797	..	10,587,590
Other ..	173,105	34,495	135,222	208,644	5,717	53,623	1,952	612,758
Total ..	14,206,706	1,031,223	2,266,934	890,382	2,747,101	1,031,969	16,611	22,190,926

CHAPTER XXIV. POPULATION.

§ 3. Distribution and Fluctuation of Population.

1. Present Number, p. 895.—The estimated population on the 30th June, 1924, together with details of the increase since the preceding year, and since the Census of 1921, are given hereunder :—

AUSTRALIA.—ESTIMATED POPULATION, 30th JUNE, 1924.

States and Territories.	Males.	Females.	Persons.
New South Wales	1,134,990	1,091,725	2,226,715
Victoria	813,936	825,768	1,639,704
Queensland	436,835	390,613	827,448
South Australia	268,420	260,444	528,864
Western Australia	193,106	167,246	360,352
Tasmania	106,813	106,387	213,200
Northern Territory	2,556	1,070	3,626
Federal Capital Territory	2,385	1,296	3,681
Total, Australia	2,959,041	2,844,549	5,803,590

The corresponding figures for the whole of Australia at 30th June, 1923, were 2,897,047 males, 2,791,045 females, or a total of 5,688,092. There was thus a total increase during the year ended 30th June, 1923, of 115,498, made up of 61,994 males and 53,504 females. Of this total increase the excess of births over deaths accounted for 76,814, while the excess of arrivals over departures accounted for 38,684. Details for the several States and Territories are as follows :—

INCREASE OF POPULATION FOR THE YEAR ENDED 30th JUNE, 1924.

States and Territories.	Natural Increase, i.e., Excess of of Births over Deaths.	Net Migration, i.e., Excess of arrivals over Departures.	Total Increase.
New South Wales	31,685	5,463	37,148
Victoria	18,811	13,507	32,318
Queensland	11,655	10,352	22,007
South Australia	6,471	5,708	12,179
Western Australia	4,859	7,374	12,233
Tasmania	3,303	(a) 3,887	(b) 584
Northern Territory	18	(a) 40	(b) 22
Federal Capital Territory	12	207	219
Total, Australia	76,814	38,684	115,498

(a) Excess of departures.

(b) Decrease.

These figures indicate that since the Census of 4th April, 1921, the population of Australia has increased by 367,856, representing an average rate of increase of slightly more than 2 per cent, per annum.

GENERAL INDEX.

[NOTE.—This index is followed by a special index to maps, graphs, and diagrams, also an index relating to special articles, etc. in previous issues of the Official Year Book.]

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