

## THE INTERRELATION OF THE PHATIC AND INFORMATIVE FUNCTIONS OF THE LANGUAGE IN ACADEMIC DISCOURSE

### ABSTRACT

The article aims to reveal the interrelation of phatic and informative functions of the language in academic discourse. The object of the study are the interrogative sentences used in lectures. These sentences are studied at both subsidiary and main discourse levels. It has been shown that the phatic function provides for the continuity of descriptions in the subsidiary discourse by eliminating the possible barriers between the lecturer and the audience. At the level of the main discourse, the phatic function structures the descriptions. By signaling the beginnings and the ends of the descriptive episodes, questions not only structure them but also promote the perception of the lecture.

**Key words:** *interrogative sentences, phatic token, continuity, academic discourse, phatic function, informative function*

### РЕЗЮМЕ

### ВЗАИМОДЕЙСТВИЕ ФАТИЧЕСКОЙ И ИНФОРМАТИВНОЙ ФУНКЦИЙ ЯЗЫКА В АКАДЕМИЧЕСКОМ ДИСКУРСЕ

В данной статье предпринята попытка выяснить, каким образом фатическая и информативная функция языка взаимосвязаны в академическом дискурсе. Исследование показало, что в академическом дискурсе вопросы функционируют как фатические речевые явления и оказывают влияние на информацию, которая описывается в главном дискурсе. Таким образом, выясняется, как вопросы влияют на структуру и организацию лекций и как способствуют их пониманию. В свою очередь, эта связь обеспечивает корреляцию между фатической и информативной функциями.

**Ключевые слова:** *вопросы, непрерывность, академический дискурс, фатическая функция, информативная функция.*

## ԱՄՓՈՓՈՒՄ

### ԼԵԶՎԻ ԽՈՍՔԱՐԿՄԱՆ ԵՎ ՏԵՂԵԿԱՏՎԱԿԱՆ

### ԳՈՐԾԱՌՈՒՅԹՆԵՐԻ ՀԱՐԱԲԵՐԱԿՑՈՒԹՅՈՒՆԸ ԳԻՏԱԿԱՆ ԴԻՍԿՈՒՐՍՈՒՄ

Հոդվածի բուն նպատակն է ցույց տալ, թե ինչպիսի հարաբերակցության մեջ են գտնվում խոսքարկման և տեղեկատվական գործառույթները: Վերոնշյալ գործառույթների փոխկապակցվածությունը բացահայտելու համար իբրև ուսումնասիրության գլխավոր առարկա են ընտրվել հարցական նախադասությունները: Վերջիններիս կիրառման շնորհիվ իրացվում է խոսքարկման գործառույթը, որն էլ նպաստում է նկարագրությունների, որպես տեղեկատվական գործառույթի ենթագործառույթի, կառուցվածքային ամբողջականության ապահովմանը: Սա էլ իր հերթին հնարավորություն է տալիս խոսքարկման գործառույթին իրականացնել իր դերակատարումը, այն է՝ ապահովել երկրորդային դիսկուրի շարունակականությունը:

**Բանալի բառեր՝** հարցական նախադասություններ, շարունակականություն, գիտական դիսկուրս, խոսքարկման գործառույթ, տեղեկատվական գործառույթ:

## INTRODUCTION

The genre of lectures is one of the current means to disseminate scientific and professional information to the target audience at institutions of higher education. Its major function is to inform (Bligh, 1972; Gregory, 1975; Deroey and Taverniers, 2011), which, according to Deroey and Taverniers (2011), is *‘improving students’ subject knowledge and skills’* (Deroey and Taverniers, 2011: 5). Nevertheless, the notion of “informing” is quite broad and vague for taking it as an object of investigation. To meet that goal the function has been narrowed down into sub-functions.

One of the sub-functions is Describing (Deroey and Taverniers, 2011, Horwood, 1988). Usually, the sub-function is defined as an utterance that gives information about *‘superficial details’* which can be a *‘number, size, time and place’* (Horwood, 1988: 43-44). Of course, no one can claim that this definition of the sub-function, still wide enough, does not encompass whatever describing

is in reality. We completely agree with the definition proposed by Horwood (1988) with a slight modification to be made. In the research, describing will be regarded as a process of presenting a phenomenon through the features that help us get the understanding of the phenomenon. With this approach, our further task is to observe how questions impact descriptions.

## **METHOD AND MATERIALS**

The research is based on the analyses of 70 lectures on Natural Sciences. The lectures have been uploaded by some prominent universities (MIT, Oxford, Yale, etc.) that have aimed at improving the level of education globally. All the lectures have been delivered by 70 different specialists for getting objective and realistic outcomes not impacted by the stylistic preferences of the language users.

As for the method, the investigation will be carried out on two planes of the discourse: subsidiary (when the discourse is related to the subject and its delivery) and main (when the discourse is oriented at stimulating the overall discourse perception) (Montgomery, 1977). In this way, we will get more comprehensive results about how the phatic function impacts the informative one in the academic discourse.

To add, some features of non-verbal behavior have been taken into account in the research so that the functional performance of the questions is decoded in its full realization. Some of them are the existence of pause that has been expressed through “+++” and the absence of pause marked with “---“ that is followed by the exact number of how long the pause has lasted.

## **FUNCTIONS OF QUESTIONS IN THE SUBSIDIARY DISCOURSE THE FUNCTION OF ATTRACTING ATTENTION**

Questions have come up with a variety of functions that promote the continuity of the subsidiary discourse (Montgomery, 1977). The function to attract attention is picked up intentionally because in the research we have encountered a number of cases when an interrogative statement may easily be replaced with the declarative one in the description, whereas the speaker chooses to express of the intended idea in a form of a question. Why? Answering the question has motivated us to concentrate on the particular function.

From our perspective, the explanation to why there are questions in descriptions is reasoned with the notion that when an idea is expressed in the form of a question, it holds the audience's attention which is an important aspect in lecturing (Westwood, 1996; Camiciottoli, 2007; Fortanet-Go'mez, I. and Ruiz-Madrid, N. M<sup>a</sup>., 2014; Bamford, 2005). As David Hoffeld (2016) has stated as soon as the brain hears a question it completely gets focused on it and cannot think about anything but the question. What is more interesting is that the whole process lasts unconsciously and on its own without a human control or desire (all these complicated processes are explained in neuroscience). It means that a special question in the interrogative form but with no function to elicit feedback has the feature of holding the students' attention and keeping the audience involved in the lecturing process. This idea refers not only to ad hoc questions that are the consequence of the immediate interaction but also to the ones that seem to be '*generalized statements of the subsequent discourse topic*' in an interrogative form which have been called RHETORICAL QUESTIONS (Montgomery, 1977: 113). For instance,

(1) *Well, after two steps, those are all the possible places 05:25 he could be. 05:26 So on average, how far is the drunk from the origin?+++ 05:30 Well, if we look, he could either be two steps away, 05:35 if he took another step east, zero steps away, 05:39 if he took a step west, or what do we see for the top two?+++ 05:47 Well, the top and the bottom one, 05:49 we can go back and use the Pythagorean theorem. 05:57  $c^2 = a^2 + b^2$  squared equals a squared plus b squared...* (Guttag, 2016).

As we see the lecturer uses interrogative and not affirmative statements to express the ideas within the episode. The answer to the question "Why questions and not affirmative statements?" is because questions have the feature to attract attention and focus attention (Camiciottoli, 2007) so that the audience is engaged in the delivery and can distinguish between the ideas which are more essential in comparison (Westwood, 1996, et al.). This promotes the lecture continuity as no need arises to stop the lecture to regain the students' attention or highlight the relative priority of some ideas over the others.

As for functioning as questions that set the opening of the episode, below is the example:

(2) *So conversely, what happens, then, 23:40 when I set the temperature very low?+++ 23:44 Then there's a very, very low probability 23:45 of accepting those changes, right?+++23:48 So if I have a very low temperature--*

*temperature 23:51 approximately zero-- then I'll never go uphill. 23:54 Almost never go uphill. 23:56 So we have a lot of control over how much of the space 23:58 this algorithm explores by how we set the temperature. 24:03 So this is again a little bit of the art simulated annealing-- 24:06 decide exactly what annealing schedule to use, 24:08 what temperature program you use...* (Fraenkel, 2014).

The application of the question as a rhetorical one (called so by Montgomery (1977)) makes no difference in the functional realization of the question. Though the question is in the main discourse it still functions to get attention or focus attention on the idea (Camiciottoli, 2007).

In this respect, it is to the point to discuss how it happens that the same linguistic unit may function at the two levels. The explanation is that some language elements may occur on the two discourse planes simultaneously as it happens with markers and conjunctions. The relative line that makes the same units a part of the two discourse levels is their position in the overall discourse: if the unit stands at the boundaries of episodes, then it belongs to the main discourse, while if it is located within an episode, it becomes part and parcel of the subsidiary discourse (Montgomery, 1977).

## **THE FUNCTION OF EXPLICITNESS**

Speaking with questions while describing a phenomenon is advantageous for another reason as well, that is to make the description more explicit. The notion of explicitness may be discussed from a number of angles. Firstly, questions address the idea directly by formulating immediately what the content is. In particular, the audience is informed about what the lecturer is describing. Moreover, the question also signals that after the question the upcoming information is the explanation to the question, this way making the data delivery predictable in the description. This strategy does not work in the case of declarative statements because the same sentence contains information about not only the theme but also the explanation or rheme which makes the discourse delivery implicit to some extent and increases the chances for a variety of interpretations contentwise. This may reduce the possibility of the overlap between what is intended to be understood and what is comprehended in reality. Therefore, we may generalize and say that questions contribute to the subsidiary discourse development as restatements (Montgomery, 1977) and stimulate the

correct interpretation of the communicated idea on behalf of the audience. To exemplify,

(3) ... *And then second half of the course, 42:18 oh, the rewards finally come of then putting all the pieces 42:22 together, looking at individual categories of behavior-- 42:26 sexual behavior, aggressive behavior, parental behavior, 42:31 schizophrenia, depression, personality disorders, language 42:36 use. 42:36 In each of these cases, what's going on a second before?+++ 42:40 What's going on 10 million years before?+++ 42:42 Where do all these buckets disappear in the interactions?+++ 2:47 So that's going to be the strategy for the course... 42:49* (Sapolsky, 2010).

In the example, the lecturer directly addresses the tasks that the audience is to face during the lecture while describing the course. It eliminates the possibility of experiencing misunderstanding or no understanding at all because of the implicitness of the information delivery. In addition, the question makes it obvious that the upcoming information refers to the question as a response or explanation to the questions, thus setting grounds for the predictability of describing.

Below is another example with the same interpretation:

(4) ...*And the process  $X_t$  is covariance 54:27 stationary if and only if all the roots 54:28 of this characteristic equation lie outside the unit circle. 54:33 So what does that mean?+++ 54:35 That means that the norm modulus of the complex  $z$  54:41 is greater than 1. 54:42 So they're outside the unit circle 54:45 where it's less than or equal to 1. 54:47 And the roots, if they are outside the unit circle, 54:56 then the modulus of the  $\lambda_j$ 's is greater than 1...* (Kempthorne, 2013).

It may be added that the same interpretation concerns not only the questions that come across in informing statements but also the ones that open and close episodes. We think that the choice to put the idea into the interrogative form is meaningful and is conditioned with making the communicated idea explicit and signaling that whatever comes after it is its explanation.

Let's take this example:

(5) *So the question is, though, what is this gap here 37:07 between when it starts and when it meets its maximum?+++ 37:11 Well, when we use an expression like-- we 37:19 said we can express this as some  $A \cos(\omega t - \phi)$ . 37:24 It's just the point at which the cosine then 37:27 reaches its maximum. 37:32 So if this axis here is  $\omega t$ , if we plot this*

actually 37:40 versus  $\omega t$ , then one full cycle 37:45 here is  $2\pi$  or 360 degrees. 37:51 So if you plot it versus  $\omega t$ , then this gap in here 37:55 is just  $\phi$ ... (Vandiver, 2011).

As we see the episode begins with the question which directly formulates the task and highlights that the answer to the question will be provided in the rest of the description. From this vantage point, the delivery of the description is made explicit and the possibly wrong inferences are reduced, even eliminated.

Moreover, there have been the instances when the lecturers have preferred talking with quoted special questions over declarative statements in their descriptions. It is assumed that the preference is still reasoned with the notion that questions formulate the idea directly and make the delivery of the description explicit as it happens in this example:

(6) *But notice that along each 40:10 horizontal line here, I want to know “How many times 40:14 can it intersect the contour curve?”+++ 40:16 That is the same as asking along one of these lines, “How 40:20 many times could it intersect?”+++ See, this is a graph of the 40:25 function along this horizontal line 40:29 and, therefore, how many times can it intersect 40:32 one of the contour curves the same number of times that a 40:36 horizontal line can intersect this curve?+++ 40:39 Twice...* (Mattuck, 2006).

## OTHER LESS FREQUENT FUNCTIONS

Indeed, the functions mentioned above are not the only ones that contribute to the describing sub-function. There have been some more ones with the same perlocutionary effect to provide the description continuity. In this respect, questions function as restatements in the process of speech development because they 'reflect back... on the main discourse' (Montgomery, 1977: 100). For example,

(7) Now just to remind you about Chi-square statistics-- 13:40 I'm sure people have seen this before-- the usual formulation 13:44 is that you compute this Chi-square polynomial 13:50 on the right-hand side, which is the observed 13:52 number of something minus the expected number of something 13:54 squared over the expected number or something. Right?+++ 13:58 And you sum it up over all the different cases. 14:01 And you can see that the expected number of As 14:03 is given by the little formula on the left. 14:07 Suffice to say, if you expand that formula and manipulate

it, 14:11 you get the equation we had on the previous slide. 14:14 So it's still that fuzzy, friendly Chi-square formula 14:17 you always knew, just in a different form, OK?---3sec 14:22 (Gifford, 2014).

The example above indicates that the question is applied for providing continuity of the description. How? Firstly, by focusing attention on the importance of the idea (Schleef, 2009) so that the audience is aware of what is primary. The function orients the further behavior of the audience. Moreover, the lecturer verifies the information in the preceding sentence in order to make the information reliable and eliminate any doubts about the truthfulness of the idea similar to 'boosters' (Hyland, 1998). Thirdly, the question creates the illusion of involvement because in reality the question does not offer the turn (the absence of the extra-linguistic features lead to that interpretation) but is a means to turn the lecture from being lecture-oriented into 'audience-oriented' (Goffman, 1981, reported in Malavskaja, 2016; Young, 1994; Hyland, 2005), thus impacting the further involvement of the audience in the lecture. Then, the question makes the lecturer's speech not authoritative by creating the atmosphere that the audience is asked for the information and the lecturer needs that information which encourages the students to think that they are also knowledgeable and not simply passive learners, which might be felt when the lecturer talks all the time during the lecture (Hyland, 1998). As we see while acting as restatements (Montgomery, 1977) the questions provide the description with continuity and eliminate the possible barriers on the way of its development.

There is another example to analyze:

**(8) PROFESSOR:** So what do these things look like, in general?+++ 55:03 And what is the condition on our score for this algorithm 55:07 to work?---4sec 55:12 What if I gave a score of plus 1 for a match, 55:16 and zero for a mismatch?+++ 55:17 Could we do this?--- 2sec 55:20 Joe, you're shaking your head. 55:21

**AUDIENCE:** It would just be going up. 55:23

**PROFESSOR:** Yeah. 55:24 The problem is, it might be flat for a while, 55:26 but eventually it would go up. 55:27 And it would just go up and up and up... 55:29 (Burge, 2014).

It is clear that while describing the phenomenon the lecturer initiates the Interaction phase (Young, 1994) when the feedback is elicited through the highlighted question. The continuity of the discourse is still guaranteed because



with the question the lecturer has the desire to eliminate the possible barrier that he thinks the audience may have, hence the interaction may help to get rid of it.

Or this context:

(9) Well now I have to turn your attention to this guy. Alright?+++ 57:03 This is made by Professor Vandiver's machinist, 57:11 a perfect example of a second order system. 57:15 And I bring it to your attention here 57:17 for two-- at the end of the day what we're going to do 57:20 is I'm going to demonstrate exactly what I just 57:25 did for the textbook case, the textbook system. 57:28 I want to demonstrate exactly the same thing for this guy, 57:33 only this is a real system. OK?+++ 57:35 Very nice. 57:37 We have a steel rod. 57:39 It must be a half inch in diameter. 57:40 The whole thing weighs several pounds. 57:43 These sliding masses are right circular cylinders with a hole 57:48 drilled through them... 57:49 (Gossard, 2011).

In the same descriptive context we have two questions which function in the same manner, i.e. to signal the upcoming idea (Schleef, 2009). This function brings continuity to the description by making the upcoming piece of information predictable, and that provokes the perception of the upcoming information.

## THE FUNCTION OF STRUCTURING DESCRIPTIONS

As for the phatic function at the level of the main discourse (Montgomery, 1977), it has been discovered that it is the function that structures the discourse. Now, what happens to describing when questions are interpreted at this level? More specifically, our aim is to understand how questions impact descriptions at the level of the main discourse.

In the main discourse questions in descriptions signal the end or the beginning of the idea under description, thus structuring the description. They act as tokens of prospective and retrospective focusing that start or end episodes correspondingly (Montgomery, 1977).

Let's take the example when the description of the phenomenon is viewed in the main discourse at boundary episodes. To detail, we analyze how the former descriptive episode is connected with the upcoming one:

(10) ...By 37:41 the conservation 37:43 requirement for flow, we know that the 37:46 flow into any node has got to be equal 37:48 to flow out of any node. That's for all 37:51 nodes except for s and T. So in 37:53 particular, that's

for all nodes and a 37:55 except for us as T isn't in there anyway, 37:58 so they all cancel out to zero except 38:02 for the flow out of s. So that's ,that's 38:07 true.

Now why do we care ?---3sec 38:13 Page five. Okay. So that's well. This is 38:21 what we know about the flow value. It's 38:23 equal to this thing. And now if you draw 38:28 one of those little pictures, here's a, we 38:33 have three kinds of edges with respect 38:39 to a. We have edges that go out of a into 38:42 V... (Gusfield, 2013).

As it is seen the question acts as a rhetorical question that connects the former and current episodes as a general statement that signals the start of the current episode (Montgomery, 1977). It means that the phatic function adheres structure to descriptions by connecting the former event to the upcoming one.

Here is another interesting example:

**(11)** ...So let's suppose our goal-- an algorithmic problem is, 06:34 compute the nth Fibonacci number. 06:39 And I'm going to assume here that that fits in a word. 06:42 And so basic arithmetic, addition, 06:44 whatever's constant time per operation. 06:48

So how do we do it?+++ 06:50 You all know how to do it. 06:52 Anyways- - but I'm going to give you the dynamic programming 06:56 perspective on things. 06:57 So this will seem kind of obvious, 07:00 but it is-- we're going to apply exactly the same principles 07:03 that we will apply over and over in dynamic programming. 07:06 But here it's in a very familiar setting. 07:11 So we're going to start with the naive recursive algorithm... (Demaine, 2011).

This example is not different from the one above: it is a rhetorical question that opens the episode and in its interrogative form makes the description stand out, become organized, hence easy to perceive.

In addition, questions have also closed episodes in the main discourse by marking their ends:

**(12)** ... And what that allows for it allows the pituitary to know how much cortisol is in the system. So when it, when it, when it kind of realizes, oh, my god, yeah... The ACTH made it there and cortisol came out. Now that I hear the cortisol is the procedure I'm going to stop, I'm going to slow down on the ACTH and I'm going to relax a little bit. And that's something called negative feedback. OK?+++

Negative feedback- big term in biology and all this stuff just means that the more cortisol you get it to send out, the less ACTH. OK?+++ It's kind of a

balancing mechanism, brings us back to baseline so that we stop secreting so much dang cortisol... (McFadden, 2011).

The question acts as a token of retrospective focusing that connects the current episode with the upcoming one while describing the '*negative feedback*' in this particular case. This leads to having a structured description at the level of the main discourse.

The illustration of the next example will make the statement above more convincing:

**(13)** ...But they will do that in a very particular way, 22:27 in that only strands that exactly match will be able to 22:32 reform their native structure. Right?+++ A blue strand here will never 22:38 re-nature with a red strand because their sequences don't 22:43 match exactly, 22:48 but a complementary blue strand will always rematch with its 22:53 partner. Alright?+++

Now this is the basis of a 22:56 physical chemistry process called hybridization. 23:00 It turns out that this is how we can identify specific DNA 23:05 sequences and how we can do things like DNA fingerprinting, 23:11 how we can clone molecules, DNA molecules, from one organism 23:15 to another, rely very heavily on this principle of re-naturation 23:21 and hybridization... (Saltzman, 2008).

Alright as a question ends the episode in this context by signalling its end and the beginning of the new one through its interrogative form. The patterned and frequent behavior of the question adheres structure to the overall discourse. The structure, in its turn, is a major factor that influences the perception of a genre (Brown & Manogue, 2001).

Overall, relying on the data acquired through the analyses of 70 lectures on Natural Sciences to understand the interrelation between the phatic and informative functions, it may be concluded that the phatic function provides for the continuity of descriptions in the subsidiary discourse by eliminating the possible barriers. At the level of the main discourse, the phatic function structures the descriptions which is detected through the functions the questions have fulfilled. As has been pointed out, by signalling the beginnings and the ends of the descriptive episodes, questions not only structure them but also promote the perception of the lecture.

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**Հակոբյան Ն.**- ասպիրանտ, ԵՊՀ եվրոպական լեզուների և հաղորդակցության ֆակուլտետ, անգլիական բանասիրության ամբիոն  
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Ներկայացվել է խմբագրություն՝ 28.11.18, տրվել է գրախոսության՝ 02.12.18-09.12.18, երաշխավորվել է ԵՊՀ եվրոպական լեզուների և հաղորդակցության ֆակուլտետի անգլիական բանասիրության ամբիոնի կողմից, ընդունվել է տպագրության՝ 13.05.19