Argumentative Characteristics of Popular Scientific and Academic Scientific Texts in Economic Discourse

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Abstract — The article is devoted to the phenomenon of linguistic argumentation. Despite the numerous and multidimensional studies of text / discourse, the argumentative characteristics of the text remain poorly understood. The present study is an analysis of academic scientific and popular scientific texts of economic discourse from the viewpoint of their argumentative organization. Its objective is to specify the character of the textual category of argumentation and to establish its peculiar properties in academic scientific and popular scientific texts of economic discourse. Unlike most researchers, who interpret the argumentation with an emphasis on the logical (evidentiary) side of this phenomenon, the authors consider the argumentation as a universal framework for the process of constructing and transmitting knowledge, the main way of speech influence on the information recipient. This interpretation is possible when distinguishing between a broad and a narrow approach to argumentation. By argumentation in a broad sense, the authors mean a communicative process that accompanies any informatively meaningful speech unit and acts as a universal way of transferring knowledge in discursive activity. Argumentation in the narrow sense is identical to the proof by arguments, The study reveals that the three main aspects of argumentation – factual, logical, and rhetoric - are manifested more evenly in the texts from popular scientific articles.

Keywords — text, discourse, argumentation, popular scientific text, academic scientific text

I. INTRODUCTION

At the present stage of social and scientific development, the agenda of a great number of disciplines, such as psychology, sociology, logics, linguistics, philosophy, and rhetoric is overlapping and brings forward the regularities of human thinking and perception of the world in the process of life activity. The functional approach towards language studies has determined the necessity for the research of the discourse in subject areas using the texts of various styles and genres, in which communicative-and-pragmatic intentions of a linguistic persona are actualized, and the vision of a certain fragment of the worldview, as the reflection of human mental activities and interaction with the world, is unfolded. The researchers’ focus on textual activities in the fields of advertising, politics and PR communications is especially strong [1, 2]. We believe that the reason for such attention lies in outstanding communicative-pragmatist nature of texts included into the above types of communication. Thus, for instance, according to N.P. Belousova’s remark, the advertising discourse does not just reflect the cultural values of certain social medium groups, but also impresses the addressees of advertisement messages with own values, and primarily, the value of consumption, forming certain style of behavior, dictating specific attitudes towards life, and offering to act according to the contents of advertisement [2, p.14]. Advertising and political communication may be classified as the leading types of oral activities, presenting outstanding examples of the strongest communicative impact over public awareness at present.

At the same time, the studies of business discourse and economic discourse in particular are no less interesting from the viewpoint of functional approach oriented at the speaking subject. As one of the main forces of economic and social development of the world in recent decades, economic science has an increasingly significant impact on the life of both individual and society as a whole. In this context, the authors think it vital to examine the manifestation of the textual category of argumentation in various economic texts. For this purpose, the authors reviewed various outlooks on linguistic argumentation, specified its nature, after which academic, scientific and popular scientific texts of economic discourse were analyzed from the viewpoint of their argumentative organization. Analysis of the most wide-spread views on the nature of argumentation testifies to its multidimensional character and allows the authors to differentiate between wide
and narrow approaches to its interpretation. Argumentation, in a wide sense, is a universal category forming the basis of any discourse, including economic. Argumentation, in a narrow sense, is equal to demonstration with arguments. The study of economic discourse in the context of argumentation was conducted on the basis of the wide approach to argumentation as a universal means of persuasion, a key pattern of speech influence.

As we will repeatedly resort to the concepts of "text" and "discourse" in this article, let us briefly note our position on these phenomena. We understand discourse as an activity taken in the aggregate of the process and the result, where the process is a verbal activity here and now, and the result is a collection of texts generated in the process of communication.

II. MATERIALS AND METHODS (MODEL)

Over the past decades, the phenomenon of argumentation has repeatedly been the subject of many-sided and numerous studies. In particular linguistic argumentation received multilateral coverage in domestic and foreign works [3-7]. It should be emphasized that this large-scale issue is becoming especially important and relevant in the light of the study of textual problems from a communicatively pragmatic point of view.

Analysis and systematization of existing views on the nature of the argumentation proves the multifaceted nature of this phenomenon and the ambiguity of the interpretations adopted.

The traditional paradigms of the study of argumentation are logico-philosophical, rhetorical and neo-rhetorical.

Starting with the syllogistics of Aristotle, the logical and philosophical tradition links argumentation to the processes of proving any thesis. This approach can also be found in Russian scientific works. The argumentation implies providing logical arguments to justify the truth of any issue [8]. G. Brutyan [9], who introduced the term "argumentation" into the Russian philosophical language, defines it as a method of reasoning, during which a certain position is put forward as a proven proposition regardless of the truth of the thesis by influencing the consciousness of a person and organized in the aggregate of the process an argumentative discourse. The result, where the process is a verbal activity here and now, and the result is a collection of texts generated in the process of communication. In authors' opinion, the ability to argue is the approach to argumentation as to the form of functioning of everyday language in the dialectical process of critical discussion for the proof of a certain point of view, its protection in a conflict situation, as a procedure for resolving disagreements on the issue under discussion or refuting the expressed opinion [12]. An attempt is made to link the logical, rhetorical and social aspects of the argumentation, which doubtlessly contributes to an even deeper penetration into the nature of this phenomenon. From this viewpoint, the work by D. Budylin, in which the nature of the argument is associated with the logic of social life, is interesting [13]. As the author correctly notes, arguments can justify the proposed position, while not being true. On the other hand, the addressee can accept the thesis, not considering it as the consequence of the arguments. Based on this, D. Budylin concludes that the logic of the connection of premises and conclusions should be considered in the aspect of social practice, "logical proof can be taken into account only with a socially organized reference to reality".

Thus, at the present stage, the argumentation is described as a multidimensional phenomenon involved in building successful speech communication. It is noted that argumentation is an integral part of human life, covering all spheres of human activity, from everyday communication to scientific disputes; that, being the most ancient intellectual-communicative activity of man, it is inseparable from the development of society.

At the same time, characterizing argumentation as a universal phenomenon of the communication process, many researchers present it as a particular type of communication or a separate speech act. Thus, by the definition of A. Baranov, argumentation is a particular kind of communication that specifically affects the consciousness of the addressee through linguistic signs organized according to the principles of persuasion adopted in the given cultural society [14]. A similar point of view is expressed by S. Dashkova, who defines the argumentation as a special type of communication, affecting the consciousness of a person and organized in accordance with the norms of the argumentative discourse of a particular language community [15].

Generally, in linguistic works of recent times, dominating is the approach to argumentation as to the form of functioning of everyday language in the dialectical process of critical discussion for the proof of a certain point of view, its protection in a conflict situation, as a procedure for resolving disagreements on the issue under discussion or resolving the dispute [16].

According to the authors of the article, from the linguistics standpoint, a broader view of argumentation as a phenomenon penetrating all spheres of human communication, beginning with everyday communication and ending with scientific disagreements and disputes, is feasible. Due to the fact that in the process of communication, people not only pass on information to each other about the world around them, but also establish mutual understanding with the communicative partner, exert influence on them in a certain way, make an attempt to achieve a result of one kind or another, induce to accomplish one or another action, logical-communicative process of substantiating the position of one person for the purpose of its subsequent understanding and acceptance by another person, i.e. argumentation, becomes an integral part of each discourse. In authors' opinion, the ability to argue is the basic condition for the formation of any speech product by the subject and the corresponding perception by the addressee...
of speech as one of the determinants of human behavior inextricably linked with communicative activity and the transfer of knowledge [17]. Argumentation acts as a way of conveying and substantiating knowledge. Information arriving at the cognizing subject becomes a part of its knowledge system only when, through reasoning, it is passed through its intellectual, sociocultural and ethical-ideological attitudes, which creates the prerequisites for its deciphering and understanding. Argumentation, being a universal means of persuasion, as the main method of speech influence, is the framework of the process of constructing and transmitting knowledge as mental representations of situations, events, etc. of the real world to their addressee. In other words, every discourse presupposes a verbal influence, every verbal influence is realized through conviction (and / or suggestion), and every conviction is inextricably linked to argumentation, as a logical-communicative process serving to substantiate a certain point of view, with the purpose of its perception, understanding and / or acceptance by an individual or a collective recipient. Depending on the goals of communication, the subject area of speech activity, the age of participants in communication, the whole complex of social, cultural, national-religious and other factors that influence the perception of information by the addressee, different types of substantiation are employed for the argumentation: explanation, proof, definition, refutation, evaluation, presentation, illustration, exemplification, etc. All the listed actions are special cases of substantiating the author's position (opinions, viewpoints, proposals, etc.), i.e. a particular manifestation of the argumentation [18].

In the light of the foregoing, it seems appropriate to treat the argumentation as a universal communicative-pragmatic process of substantiating a certain piece of knowledge with the purpose of transmitting it in the course of discursive activity, accompanying the creation of any verbal unit characterized by a relatively complete meaning, that is, having a certain informative value. In the authors' opinion, the argumentative characteristics are inherent in texts not only from areas of communication that have the task of resolving disputable, conflict situations. Moreover, the authors cannot agree with the existing opinion that argumentative rhetoric is strictly dialogical by its very nature, and argumentation and argumentative discourse in monologue speech are an impersonal and dispassionate way of persuasion, unlike a dialogue that expresses the pragmatic interests of the participants in the discussion [19]. Undoubtedly, a dialogue, as a form of communication, significantly reduces misunderstanding in the process of communication, allows you to promptly correct a speech message in accordance with the opponent's reaction. However, the task of any text is to influence the addressee (reader, listener, interlocutor) with a view to influence the value system, the behavior or the state of the recipient in a certain way. Creating the text, the author chooses the language tools, which, on the one hand, would contribute to the fullest reflection of the main idea of the text, its conceptual content, and, on the other hand, would allow the recipient to adequately perceive the text. The text with all its architektonics and organization, with all the language tools used in it, should provide the addressee with the formation of its mental model [20].

Certain language organization of the text gives an orientation and direction for its specific apprehension. The speech impact made by the information subject on its recipient with the help of linguistic, paralinguistic, and non-linguistic symbolic means, in the process of speech communication, cannot be carried out without the textual category of argumentativeness, which is no less important than other textual categories, such as integrity, cohesion, information content, and so on [21].

The authors of the article, in their approach to the argumentation, share the position of N. Fanyan, who proposes to consider argumentativeness as a constant that is intrinsic to any speech action, consider any discourse as argumentative, and any text as argumentatively loaded [22].

Developing the idea of N. Fanyan, it can be said that knowledge transfer by influencing another personality's argumentative space is possible only through the procedure of argumentative alignment of information.

In the authors' opinion, argumentation universality lies in its content that, according to the classical definition, is represented by the following aspects: factual, which is actually information about the facts involved as arguments; rhetorical, which means various forms and styles of speech and emotional impact; ethical, which means moral acceptability or permisibility of arguments; logical, which implies connectivity and a sequence of arguments; and, finally, axiological, coupled with a value selection of arguments [23]. The listed components of the argumentation mutually complement one another and may vary depending on the specific subject area, making up the argumentative framework of the speech product.

The wide understanding of argumentation offered by the authors does not exclude other approaches to this phenomenon. From the authors’ viewpoint, it makes sense to differentiate the phenomenon of argumentation in a broad and narrow sense.

Depending on the goals of communication, the subject area of speech activity, the age of communication participants, the entire complex of social, cultural, national-religious, and other factors that affect the perception of information by the addressee, different types of justification are used for the argumentation: explanation, proof, definition, refutation, assessment, presentation, illustration, exemplification, etc. All the listed actions are special cases of substantiation of the author's position (opinion, viewpoint, proposal, etc.), i.e. particular manifestations of reasoning. Therefore, the proof based on the truth/correctness criterion is only one of many argumentative actions in the process of communication. Providing the evidence (arguments) for establishing the truth/correctness of any position or thought, i.e., as noted above, a common interpretation of reasoning within the logical proof process framework, can be interpreted as an argumentation in the narrow sense.

Argumentation, in the broad sense of the word, is a universal instrument of knowledge transfer in natural speech communication, a universal way of influencing the recipient's world model through the justification and transfer of a fragment of the opponent's knowledge. At the same time, such natural speech phenomena as dispute, proof, reasoning, explanation, exemplification, classification, and others act as argumentative action alternatives in people's communicative practice.
III. RESULTS AND DISCUSSION

As known, text is the main carrier, source, and channel of verbal transmission of scientific knowledge (regardless of the type of certain sciences – natural, exact, humanitarian; and the differences between the genres of the utterance – an article, textbook, monograph, report, etc.). The concepts of discourse and text mutually complement each other. Text is created in a discursive, that is, socially oriented and socially based communicative activity and represents its result.

Traditional classification of text types allocated in the scientific style places the texts selected for analysis into different categories. Texts of textbooks, lectures are included in the academic scientific text type and, accordingly, belong to the academic scientific sub-style of the scientific style addressed to students and future specialists. The main goal of this style is teaching; academic scientific texts usually contain many terms, classifications, and are built on the “general-to-specific” principle. The texts of magazine articles are aimed at transferring scientific knowledge to a less homogeneous audience that does not have specific scientific and special knowledge comparable to the author’s knowledge. Therefore, they feature the simplified manner of presentation combined with the minimum use of numbers and special terms. Such texts belong to the popular scientific sub style of the scientific style.

The choice of fragments of academic scientific and popular scientific texts of economic discourse is not accidental. There is a belief that in the current conditions of a constantly increasing volume of incoming scientific and technical information, the most efficient way of transferring scientific knowledge is to popularize science with an emphasis on the general philosophical, general scientific, social and cultural aspects of scientific research and their results [24]. In the process of transferring knowledge to both the younger generation and the non-professional adult audience, the resolution of the problem of its assimilation is seen in a more or less accessible presentation of rationally selected material, in opposition to superficial absorption by the recipients of huge amounts of diverse information, cluttered with a bunch of unnecessary details.

A manual on economics for schoolchildren and a popular science article on economic processes, phenomena, etc. are both targeted at bringing economic knowledge to an audience that does not consist of specialists or scientists; in other words, it really serves the purpose of popularizing special scientific knowledge, its perception, understanding, and integration into the recipients’ knowledge system, with reasonable simplification of complex scientific knowledge, in order to secure it in a human’s vital practical experience. From this standpoint, not only the magazine article text acts as a popular scientific material, but the text of a school textbook as well.

In light of the foregoing, the authors deem interesting to analyze the argumentative load of these types of text in the context of manifestation of the three main aspects of argumentation – factual, logical, and rhetoric. The study was conducted using methods of generalization, contextual and comparative analysis, and analogies. Analysis of the organization of the argumentation in economic discourse was carried out based on texts of English textbooks on Economics totaling 1,010 pages and a selection of 28 economic articles from the Financial Times, contained in the text bank of the Market Leader Upper-Intermediate 2003 training complex [25].

IV. CONCLUSION

For the purpose of demonstrating specific features of factual, logical, and rhetoric aspects of argumentative organization of academic scientific and popular scientific texts, the authors hereby provide examples of analysis of text fragments of academic scientific and popular scientific discourse.

Academic scientific discourse

First comes the analysis of a text on economics for students that is a part of materials for preparation for GSE examination in Great Britain [26]. On first approach, it already becomes clear that this text is structured in accordance with the general specifics of constructing academic scientific works, which generalize and transmit the earlier accumulated experience. The description goes mostly from general to specific.

Example: There are many advantages of specialization and some are listed below. Firms can select candidates, who are good at performing particular tasks. An employee would find it easier and quicker to learn a job if it is a small task. By performing the same task every day, a worker becomes skilled at that particular job.

The educational package materials contain many classifications presented via textual and visual means and methods. The text is replete with economic terms and definitions.

Example: Money is anything that people are prepared to accept in debt payment. Legal tender is money that people must accept in debt payment.

The text contains numerous examples and visual guides.

Example: Extractive workers take raw materials from the land and the sea. Examples of such workers are coalminers, fishermen and farmers.

A chain of production contains the different stages needed before a product can be purchased by a member of a public.

Small shops are often run by families and specialize in a narrow range of goods, e.g. butchers, grocers and greengrocers.

This kind of material organization is primarily explained by its main task: to explain, as much as possible, completely and accurately, the facts of the social realm, give a systematic standard of economic knowledge, according to the approved curriculum and teaching programs. The material is addressed to an actual group or a collective recipient and is aimed at generating an actual fragment of knowledge with the recipient, who is, in a sense, under the control of the author in his or her receptive activities.

On the other hand, S. Dashkova [15], who studied the pragmatic role of argumentation in the organization of academic scientific text using textbook material, educational manuals, lectures on physics, mathematics, geography, biology, etc. for junior students, senior students, and high school students, makes a conclusion that in the mentioned texts types, the main forms of argumentation are deductive
and inductive reasoning. Their underlying basis is cause-and-effect relations. In the researcher’s opinion, most frequent in academic scientific texts is a deductive statement of reasons representing a short variant of a syllogism – the so-called enthymeme, where a major premise is missed. An analog to the structure of an enthymeme is a complex sentence with cause-end effect relationship and subordinate clauses of reason, purpose, concessive clauses, conditional clauses and consecutive clauses. For the purpose of simplifying the understanding of the enthymeme structure, the author, in the process of the material analysis, transforms all the listed types into subordinate clauses of reason, introduced by conjunctions of reason: as, because, whereas, etc. In the authors’ materials, such speculations are presented extremely poorly. Consider the following example.

A consumer might buy using a loan, because they can be used immediately and paid for at a later date.

The statement of the principal clause (A consumer might buy using a loan) is rationalized by the information contained in the subordinate clause (because goods can be used immediately and paid for at a later date). In this example, a major premise (a possibility of a delayed payment in the event of instant use of the goods is attractive for consumers) is implicit due to its excessiveness for analysis and understanding this reasoning. At the same time, the missed major premise is easily restored basing upon the knowledge already available.

In the majority of cases, there is consequent, unified conveying of information rarely vivified by rhetoric forms. The following example illustrates a typical way of presenting information:

The disadvantages of buying goods using a loan are that it is more expensive than paying cash. A consumer can buy more than he can afford. Many forms have to be filled in, which takes time.

Thus, on the one hand, the analyzed text fragment contains argumentative load primarily aimed at consequent presentation of factual material, that is, factual aspect of argumentation prevails. On the other hand, rhetoric and logical aspects have not been presented. This makes it possible to conditionally call "passive" the reserved argumentation of this fragment of an academic scientific text.

A similar argumentative organization is seen in other academic scientific analysis materials, for example, the Marketing textbook [27]. It contains a large number of examples, definitions, and lists. The authors hereby observe a small number of connectors of logical-semantic constructs and certain manifestations of a rhetoric argumentation element, in particular, inverted word order in a sentence, for instance:

Underpinning Moore's planning activities are a number of marketing concepts…; emotionally colored lexis, seen in certain headlines, for instance:

*Japan: A Humbled Giant*

*The Remarkable Latin American Economic Miracle*

*Popular scientific discourse*

On the contrary, in the texts from popular scientific articles, argumentation is expressed in various aspects and presented "actively". Here is an analysis of the argumentation organization in a popular scientific text of an article called "Wal-Mart finds German failures hard to swallow" from the Financial Times [25].

The article contains extensive factual information on a major chain of hypermarkets Wal-Mart in Germany – brief history of establishment, today's position in the global and German markets, a list of problems that Wal-Mart faced when entering the German market. Similarly to the construction of the fragment of academic scientific text, the information is given in the direction from general to specific. For instance, at the beginning of the article, the problem is set forth and the preconditions of its occurrence are being analyzed: Wal-Mart, the world’s largest retailer, is losing up to $300 million a year in its German venture after misjudging both the corporate culture and the market.

The text contains statistical data demonstrating the shares of German and world market occupied by Wal-Mart Germany.

Despite the fact that the text is aimed at a wide audience of readers with different levels of economic knowledge, it contains quite a number of specific terms: venture, retailer, acquisition, distribution, suppliers, etc. This could possibly be explained by the statement that economics is one of the fields of human world comprehension where scientific and everyday awareness are closely connected, which allows the recipients with different levels of economic background to adequately perceive lexical nominations in economics and incorporate them into their vision of the world. The noticed trend also points at the growth of the economic science authority and the democratization of economic scientific knowledge.

The factual aspect of argumentation is visible also in the peculiarities of lexical execution of the analyzed text fragment. The text that describes Wal-Mart's missteps in Germany contains quite a lot of lexical units with negative semantics: verbs – lose, misjudge, worry, disregard, fail, deprive, prevent; nouns – a stain on the group’s record, mistake, chaos, discontent, lack, problem; adjectives – poor performance; a glaring mistake; unattractive, too small, cramped or poorly located sites.

From the viewpoint of representativeness of the logical argumentation aspect, it should be noted that in a rather small text contains many so-called connectors, that is conjunctions and parenthetical words, which provide the explicitly expressed logical connection and consequence of utterances – for example, although, then, yet. Yet, the causality, as well as in the case with the academic scientific text on economics, is observed very seldom, and in the analyzed text, it is represented in one sentence only.

As for rhetoric means of argumentation encountered in the analyzed fragment, it is worth noting reciting, comparing, and using superlatives forms.

Thus, the following sub-text fragment presents the list of innovations at one of Wal-Mart chain supermarkets in Germany:

*There was space to walk around, freshly-baked bagels, free carrier bags and probably the biggest fish counter in Baden-Wurttemberg.*
Recitation without doubt attracts the reader’s attention to the swing of Wal-Mart’s entrance to the German market.

Striking, interesting, clear and persuasive argumentation is exercised via similes based on metaphorical transfers. Figurativeness used by the author intensifies aesthetic and emotional impact over the addressee making the speech more efficiently forceful. Let us consider a few examples:

Wal-Mart Germany is a midget in the food retail industry.

Although a drop in the ocean for the worldwide group (…), its poor performance has been a stain on the group’s record.

While defining the place of Wal-Mart Germany in the world market of food products, the author of the text compares the German enterprise with a wharf, calls it a drop in the ocean of the global food production. In addition to ornamentation of speech, this figurative comparison enables the author to attract the addressee’s attention and more accurately and economically present the idea. In this context, the following example is interesting. Marking the mistakes made by Wal-Mart Group in Germany, the author uses biblical themes. Thus, the sentence informing of the consequences of appointment Americans for top-management positions in Wal-Mart Germany is as follows:

The ensuing exodus of German managers (…) deprived the group of local expertise.

The text contains references to people from the profession, for instance: “The problem is that Germany is beginning to raise questions about the group’s entire international strategy”, says Andrew Fowler, food retail analyst at Morgan Stanley Dean Witter.

It can be seen that the reference to the authority is executed in the form of a quotation, which is obviously a characteristic feature of academic scientific texts.

V. CONCLUSIONS

Based on the foregoing, the following conclusions can be made:

1. Analysis and systematization of existing views on the nature of argumentation allows the authors to distinguish between broad and narrow approaches to its interpretation. Argumentation in the broad sense is a communicative process that accompanies any informatively significant speech formation and acts as a universal way of transferring knowledge in discursive activity. Argumentation in the narrow sense is identical to the proof by arguments. The separation of a broad and narrow interpretation of argumentation proposed by the authors allows one to exclude the existing vagueness and fuzziness in explaining this phenomenon.

2. Analysis of academic scientific and popular scientific texts in economic discourse, from the viewpoint of their argumentative organization, has demonstrated that the main aspects of argumentation – factual, logical, and rhetoric – are presented more evenly in the texts from popular scientific articles. In academic scientific texts, factual aspect of argumentation prevails.

3. For all the differences of argumentative procedures in the analyzed fragments of academic scientific and popular scientific texts on economics, certain common positions make the authors assume that in the discourse of economics, there is a convergence trend between academic scientific and popular scientific sub-styles of the scientific style.

The conducted research allows getting a deeper insight into the problem of linguistic argumentation as a whole and the argumentative organization of economic discourse in particular.

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