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Functional-typological parameters of scientific discourse

The article describes the main components of the scientific type of discourse. Its functional and typological parameters are reviewed. The criteria for this type of discourse are identified. So-called set of regulatory principles following which optimizes the process of creation, transmission and use of knowledge undergoes analysis. As the study of the linguistic texture of scientific articles and monographs showed it seems interesting to consider the scientific discourse from the point of view of various language aspects: the unity of the two functions — informational and emotional.

Key words: discourse, scientific discourse, classification of discourse types, functional and structural categories; functions: informative and emotional; semantic and structural categories.

Various forms of communication in the field of science and techniques cover all new spheres of human activities including those which have traditionally considered being mononational. The nature of scientific monocultural and intercultural communication is gradually segregating from other forms and is taking new ways and types that are specific only to this sphere of activity [1]. All this allows talking about the uniqueness of scientific discourse which is confirmed by specific targets and strategies.

Until recently the scientific text has traditionally been studied in the framework of functional stylistics and the attention of scientists were always captivated by the systematic properties of the style and all the other elements inherent to the language of science were referred to its periphery. At the end of the XX century the view on the scientific text was radically changed, it is no longer considered as a separate product of monologue character, it is presented as a component of a coherent system of texts representing various fields of science, research strands and scientific paradigms [1].

Scientific discourse should be recognized as institutional and it should be noted that the interactive cooperation of social factors within a particular type of discourse attracts researchers due to a range of possibilities of linguistic and extralinguistic analyses that can create the conditions for studying and highlighting the challenges of the relationship between language and forms of human activity, language manipulation, beliefs, evaluation of statement sincerity [2].

In modern society there is a growing importance of scientific discourse because on the one hand more and more people are involved in this discourse within the professional communication; on the other hand the scientific discourse has a high degree of authority as the content of the scientific text is perceived as an objective and fair.

Investigation of scientific discourse is in the sphere of the interests of the cognitive linguistic paradigm in connection with integrative trend of science development about language and the need for interpretation of results obtained in related fields of knowledge — semiotics, sociolinguistics, psycholinguistics, culture study and philosophy. Scientific discourse in its thematic varieties attracts the attention of specialists because this research paradigm highlights not only the status and role relationships of the subculture but also the ways of constructing argumentation, forms of actualization, ways of ‘synchronizing’ within the information field.

Scientific discourse refers to a special type of communication which is characterized by a high degree of influence on the recipient and therefore the identification of the mechanisms of scientific argumentation is very significant. In this sense the importance of studying scientific discourse is dictated by the need to find optimal ways of argumentation and verification of scientific information which should be organically integrated into the scientific picture of the world.

The concept of ‘scientific discourse’ is used as: 1) scientific communication presented in conjunction with oral and written, verbal and non-verbal texts; 2) the particular scientific text considered within the context [1]. These definitions of scientific discourse are quite conventional. Separation of scientific discourse in the ‘broad sense’ is based on the idea of the scientific field as a special form of human activity which plays a vital function in modern society. This area is distinguished by a special use and own parameters of communication. Scientific discourse is a system of texts in which changes in the scientific picture of the world are

registered; it is a part of the general informational discourse that serves to a particular social group and is inextricably linked with both the scientific picture of the world and the national language picture of the world. Scientific and linguistic picture of the world exist in parallel, in some situations they influence each other thus keeping their own principal difference [1].

The main objective of the author of scientific discourse is to demonstrate the validity of his point of view in the process of cognition of the object of scientific research which in its turn is a part of the surrounding world. In constructing own statements the author assumes that he has to convince the recipient of the text hence the scientific texts have such a property as an element of polemics [3].

From other types of discourse scientific one also differs by the fact that the preparation level of the audience quietly correlates with the preparation level of the author of the text, the author does not need to motivate the recipient, attract him by bright titles as he is motivated by the perception by virtue of his professional identity [1]. Speech strategies of the members of scientific discourse are quite varied but in general they represent certain modifications of the main goal — to obtain objective knowledge about the world [2]. They are the definition of the problematic situation, highlighting the subject of scientific analysis, the study of history of the issue, formulation of hypotheses and research objective, rationale for choice of methods and engaging research materials, the construction of theoretical and experimental models of the subject matter, presentation of the results of observation and experiment, comments and discussion of the results of research, peer review of the research, identification of the areas of practical application of the results obtained, the presentation of the results obtained in a form suitable for specialists and non-specialists (students and the general public), etc. [1].

To determine the scientific discourse as an institutional one it needs to classify typical intentions of participants of communication, status characteristics of participants of communication, behavioral and stylistic norms of communication. Scientific institutional discourse is certainly clichéd kind of communication between scientists who may not be familiar with personally but they have to cooperate in accordance with the norms of society which can be defined as the scientific community. Thus according to V.Karasik there are soft and tough varieties of institutional discourse. Scientific discourse is soft and military discourse is tough, all kinds of discourse in which the important role are played by various kinds of rituals are tough [2]. One of the characteristic features of scientific discourse is a principal equality of all participants of scientific communication as none of the scientists cannot embezzle a monopoly on truth, objectivity and comprehensive argumentation and evidence for expressed regulations; any text can be subjected to analysis, evaluation and criticism from the point of view of the truth or falsity of some of its propositions and image of the text as a whole because the infinity of every act of cognition makes a scientist be critical about both others' and own investigations.

One of the most common methods of classification of discourse types is the distinction on spheres of activity and spheres of communication; on the basis of these criteria the scientific discourse which plays a crucial role in modern society is highlighted as it is the core of a common information resource. Scientific discourse not only serves to the representatives of a particular social group (scientists) but it is also inextricably linked with other critical discourses of modernity: political, religious and media. It is impossible to study and describe scientific discourse in isolation from such concepts as the scientific picture of the world as well as the national language picture of the world. Under the scientific discourse we should understand not only the sphere of exchange of scientific information in general but an actualized specific text or in other words a set of homogeneous speech acts or a single speech act which seeks to change our understanding of life [1].

The main ontological characteristics of scientific discourse are:

- Abstract in scientific discourse is seen in a distinct nominative and abstract and generalized design of the statement. Under the abstract and generalized design of the statement it is advisable to understand the functional and semantic 'colour' of scientific speech which manifests specificity of scientific thinking. In scientific language the objective properties of the phenomena under consideration should be reflected.

«The influence of mathematics, in particular the discovery of integral and differential calculation made impact on the study of Leibniz (1646–1716), the great German thinker of the XVII century, who put forward the concept of the unconscious mentality for the first time in the history of science. Picture of mental life has acted as an integral rather than the arithmetic sum. Based on the idea of continuous gradation of concepts, Leibniz distinguished perception (unconscious perception) and apperception (conscious perception which includes attention and memory). Being an idealist, Leibniz believed the universe was built from a plenty of souls — 'monads' ('Monad' — indivisible). However, he added a lot of new things in psychology, especially the idea of the active nature and continuous development of mentality, about the complicated ratio between the conscious and the unconscious» [4; 14].

- Consistency as one of the main characteristics is realized in scientific language which is a form of expression of concepts, opinions. In scientific discourse such language means that meet the requirements of logical thinking at maximum level, express conceptual content are used.

«Education especially higher education is considered as the main leading factor for social and economic progress. The reason of such attention is to understand that the most important value and main capital of modern society is a person capable of finding and developing new knowledge and making nonstandard decisions» [5].

- Objectivity of scientific discourse is achieved through the specifics of scientific cognition which establishes an objective scientific truth. Objectivity of scientific discourse is realized due to the impersonality of linguistic expression, the desire to focus on the subject of the statement and there is a small degree of subjectivity in scientific texts.

«Gender is a set of social representations, not a prescription fixed by nature; this is what we think of the field within our social and cultural conceptions. Gender studies are based on the principle of anthropocentrism in the study of linguistic phenomena. Anthro-oriented approach to the study of language and communication is associated with cognitive scientific paradigm and allows to consider gender as a cultural phenomenon and to put 'masculinity' and 'femininity' down statuses of concepts. In the framework of the linguistic paradigm of gender it is emphasized that the concepts of 'masculinity' and 'femininity' are constructed in the language because language is presented as a method of developing consciousness».

- Accuracy as a feature of scientific discourse is related to the specific scientific cognition. Scientific cognition involves not only objective but also an accurate representation of reality. Without accuracy of scientific knowledge the progress of science is impossible. This is evidenced by the prevalence of the linguistic means that are unambiguous and can accurately express the essence of concepts in scientific speech. These language means include terms and special terminology.

«Postpartum psychosis (or according to the International Classification of Diseases of 10th review — mental and behavioral disorders that occur in the first 6 weeks after delivery) is a rare mental disorder usually occurs in the first 2–6 weeks after delivery. Psychiatric disorders that arise after delivery have been already known at the time of Hippocrates who mentioned postpartum 'delusion' and 'mania'. The term 'generic fever' became widespread later» [6; 17].

- The necessity of the statements is the most important feature of scientific discourse. The absence of this property leads to the phrase mongering and declarativity which is unacceptable in science. The essence of this principle is that if a certain position is formulated or any hypothesis (theory) is proposed, it is necessary to give undeniable rational grounds (reasons, arguments) by virtue of which they should be accepted as true or more believable than before.

«Thus we can distinguish three aspects of being, existence of science — firstly it is one of the types of cognitive activity, the purpose of which is to obtain new knowledge; secondly — the result of this activity which can be represented as the union of newly gained scientific knowledge into a coherent, organic growing system (not just their sum); third — a social institution with specific infrastructure: scientific institutions which include academic, research and university scientific organizations; professional associations of scholars (scientific communities, forums, etc.); ethos (moral norms and values) of science; resources, finances, scientific equipment, scientific information system, various kinds of communication between scholars, etc.» [7;7].

- Setting for a search of truth. This imperative of scientific discourse assumes that our all statements are not guaranteed against mistakes. Truth in its classic sense is the ratio of the accordance of statements (hypotheses, theories) to its allocated fragment of reality.

- Conceptuality. This rule considers usage of categories system in any area of scientific discourse which serves as specific coordinates of the space of theoretical thinking. Firstly they are philosophical categories — ontological, epistemological and axiological. Secondly scientific categories, the system of which emphasizes a certain aspect of reality which is the objective content of statements of science.

«Time as a basic category of being is originally shaped in the ingenious image of the world and is represented in it by the richest paroemiological stock fixing an important role of the time phenomenon in a human life» [8].

- Methodology. It means that any scientific research can be carried out with the help of a certain set of rational methods.

«In the second half of the twentieth century scientists actively use the methods of mathematical analysis and differential equations, mathematical modeling, methods of probability theory and mathematical statistics have great success» [7;17].

• Creativity. Innovative research begins when the impossibility of solving a certain kind of problems (issues) on an existing theoretical base using previously established methods and means is fully realized. This evidence encourages the researcher to develop new ideas and hypotheses, to invent non-traditional experimental methods, means of monitoring and measurement.

«Modernization of the educational process in medical higher institutions shows that the training demands innovative technologies that provide development of skills directly required in future practice. The leading place among these methods belongs to the method of projects which allows to create a natural environment for the development of students' key competencies, educational situations, enables students to formulate and solve problems themselves, it is a technique of self-activity support by a student to resolve targeted problem» [9; 286].

• Criticism requires the ability to listen to counterarguments, try to be on others' point of view, to look at own position as if from outside and start a meaningful dialogue with other views.

• Evidence of presentation.

«Thus the surface-active properties at interphase borders with air and a solid surface are characteristic of all three varieties of amines and significantly enhance due to increase of their the molecular mass composition. In accordance with Rebinder classification they can be referred to the surfactants of wetting and dispersing properties. The last one is particularly important for any paint composition which includes white spirit solvent» [10].

Also monotonous, uniqueness, a high degree of certainty (invariableness) of linguistic units, lack of new speech means and original ways of their use, the use of well-established, stereotyped and therefore usual forms of expression devoid of any allegories, allusions, etc. are considered to be characteristic features of scientific style. An important tool to implement the effective functions of modern scientific text is estimability of presentation which promotes the development of socially and linguistically cultural significant values. In the modern scientific text there is a tendency to simplify the syntax, use special turn of speech. Authors often use analogies, comparisons and even metaphors [11]. In addition to the basic features scientific discourse has minor, namely: emotional and expressive features.

It can be concluded that the scientific discourse is a common type of verbal behavior of the subject in the field of scientific activity determined by social and historical conditions and approved by the stereotypes of organizing and interpreting scientific texts as the components that compose its specificity.

Thus the persistent symptoms of scientific discourse are conclusiveness, abstract and generalized character, objective presentation, accuracy, consistency, abstractness, conceptuality, methodology, validity, strict and clear presentation of the thought and in this regard the impersonality of presentation, all these are style creating features which can characterize the discourse of science.

References

- 1 Карчаева С.Х. Дискурсивность научного текста: автореф. дис. ... канд. филол. наук (10.02.19). — Пятигорск, 2010. — 20 с.
- 2 Карасик В.И. О категориях дискурса // Тверской лингвистический меридиан: сб. ст. — Тверь: Изд-во Твер. гос. ун-та, 2007. — С. 57–68.
- 3 Михайлова Е.В. Интертекстуальность в научном дискурсе (на материале статей): дис. ... канд. филол. наук (10.02.19). — Волгоград, 1999. — 205 с.
- 4 Петровский А.В. Общая психология. — 2-е изд., доп. и перераб. — М.: Просвещение, 1976. — 479 с.
- 5 Капбасова Г.Б., Сабирова Р.Ш. Учебно-методический комплекс по дисциплине «Психология». — Караганда: Изд-во КарГУ, 2011. — 89 с.
- 6 Жук Т.П., Дудаль Л.В. Особенности клинических проявлений и лечения послеродовых психозов // Медицина и экология. — 2014. — № 2(71). — С. 17–19.
- 7 Гаранина О.Д. История и философия науки: учеб. пособие. — Ч. 1: — М.: МГТУГА, 2007. — 128 с.
- 8 Кваньшева А.Б. Концепт «время» в русской языковой картине мира // Вестн. Караганд. ун-та. Сер. Филология. — 2014. — № 4(76). — С. 23.
- 9 Тлеумбетова Д.Б., Шеризатова Ж.Ж. Метод проектов как инновационная технология обучения языку // Материалы междунар. науч.-практ. конф. «Наука и образование в современном мире». — Т.3. — Караганда: Болашак-Баспа, 2014. — С. 286–289.
- 10 Дюрягина А.Н., Островной К.А., Бызова Ю.С. Влияние молекулярно-массового состава органических аминокислот на развитие адсорбционных процессов в дисперсных системах на основе уайт-спирита // Вестн. Караганд. ун-та. Сер. Химия. — 2014. — № 3(75). — С. 8.
- 11 Баженова Е.А. Специфика смысловой структуры научного текста и его композиции. Стилистика научного текста (общие параметры). — Пермь: Изд-во Перм. ун-та, 1996. — С. 158–234.

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Ғылыми дискурстың функционалдық-типологиялық өлшемдері

Мақалада дискурстың ғылыми типінің негізгі компоненттері сипатталды. Оның функционалдык-типологиялық параметрлері қарастырылды. Дискурстың осы типінің критерийлері айқындалды. Реттеуші қағидаттар кешеніне талдау жасалды, оларды ұстану білімді қалыптастыру, беру және пайдалану үдерісін оңтайландырады. Ғылыми мақалалар мен монографиялардың тілдік текстурасын зерттеу ғылыми дискурсты түрлі тіл аспектілерінің тұрғысынан: екі функция — ақпараттық және эмоциялық функцияның бірлігі тұрғысынан қарастырудың қызықты екендігін көрсетті.

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Функционально-типологические параметры научного дискурса

В статье описаны основные компоненты научного типа дискурса. Рассмотрены его функционально-типологические параметры. Определены критерии данного типа дискурса. Как показало исследование языковой текстуры научных статей и монографий, представляется интересным рассмотреть научный дискурс с точки зрения различных языковых аспектов: единство двух функций — информационной и эмоциональной.

References

- 1 Karchaeva S.Kh. *Discoursiveness of scientific text*: synopsis of a thesis for PhD in Philology, 10.02.19, Pyatigorsk, 2010, 20 p.
- 2 Karasik V.I. *Tver linguistic meridian: ant.art*, Tver: Tver State University Press, 2007, p. 57–68.
- 3 Mikhailova E.V. *Intertextuality in scientific discourse (on the basis of articles)*, Synopsis of a thesis for PhD in Philology (10.02.19), Volgograd, 1999, 205 p.
- 4 Petrovsky A.V. *General psychology*, 2 add. and rev., Moscow: Prosveshchenie, 1976, 479 p.
- 5 Kapbasova G.B., Sabirova R.Sh. *Set of teaching materials on Psychology*, Karaganda: KSU Publ., 2011.
- 6 Zhuk T.P., Dudal L.V. *Medicine and environment*, 2014, 2(71), p. 17–19.
- 7 Garanina O.D. *History and philosophy of science*, 1: Guide book, Moscow: MSTUCA, 2007, 128 p.
- 8 Kuanysheva A.B. *Bull. of Karaganda university*, Ser. Philology, 2014, 4 (76), p. 23.
- 9 Tleumbetova D.B., Sherizatova Zh.Zh. *Materials of the International scientific and practical conference «Science and education in the contemporary world»*, 3, Karaganda: Bolashak-Baspa, 2014, p. 286–289.
- 10 Dyuragina A.N., Ostrovnoy K.A., Byzova Yu.S. *Bull. of Karaganda university*, Ser. Chemistry, 2014, 3(75), p. 8.
- 11 Bazhenova E.A. *Specifics of semantic structure of scientific text and its composition. Stylistics of scientific text (general parameters)*, Perm: Perm University Press, 1996, p. 158–234.