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**ON LINGUISTIC TOPOLOGY AS ONE OF THE FEATURES
OF SCIENTIFIC COMMUNICATION****N. V. Shamina**

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Abstract. The article presents the analysis of the interaction of the theoretical foundations of linguistics and mathematics that formed the principles of the topological approach in linguistics. Under linguistic topology it is understood the stability of linguistic units which configuration properties remain unchanged when entering a syntagmatic chain (a text). Terminology questions in full arise with respect to the translation of scientific texts. Terms, as a rule, are frequent in a special text and play an important semantic role in it. Broad use of terminology in scientific communication demonstrates its linguotopological features.

Keywords: scientific communication; terminology; linguistic topology; philological topology; target language.

Scientific communication in its functional uniqueness began to be studied almost in parallel with the development of national languages and stylistic differentiation. Scholastic science which used Latin as the language of international communication laid the foundations for the clear understanding of the whole groups of words, i.e. for the terminological sustainability of scientific language. In English tradition this agrees with the classical statements of philosophical aesthetics of Francis Hutcheson who believed that beauty is unity in diversity.

As it is well-known, the distinctive features of each style depend on its social purpose and the combinations of linguistic features, which predominate in the act of communication and, consequently, in the sphere of communication, whether the purpose of communication is the transmission of information, expression of emotion or prompting to any action. It is considered that the only function of scientific style is the intellectual-communicative one, additional functions are optional. Thus, scientific style is characteristic for the texts intended for the reporting of accurate information from a special field. The most notable but not the only feature of

this style is the use of special terminology. Each branch of science develops its terminology in accordance with the subject and method of its work.

Broad use of terminology in scientific communication demonstrates its linguotopological features [2, p. 75]. As it is known, the terms of natural (chemical term "valence") and precise ("topology" in mathematics) sciences are used in linguistics. From the point of view of mathematics, topology is a section that deals with relations between specific points of the shape and such of its basic properties that remain unchanged when the form of this shape undergoes a complete change (for example, if a rubber sheet on which a triangle is drawn is given a conical or spherical form). If this concept is applied to modern science, it is possible to imagine the history of *a topos*.

Under linguistic topology it is understood the stability of linguistic units which configuration properties remain unchanged when entering a syntagmatic chain (a text).

However, it is necessary to make the distinction between the concepts "philological topology" and "linguistic topology". According to the basic statements topological meth-

ods of research involve the study of the relationship between texts from the point of view of variant / invariant. In this case the linguistic variant is understood as a specific-historical and sociolinguistic concept. Philological topology studies the correlation of genetically related, philologically comparable texts (options) and highlighting the main, the relatively constant, the semiotically relevant and the meaningful (invariant) in them. It is not without reason as philology studies the spiritual culture of the people, expressed in language and literary creativity. Linguistics is the study of the language, hence there is a slightly different understanding of linguistic topology in contrast to philological one.

A rare study of the language of scientific literature deals without ascertaining the fact that the language of scientific prose is primarily characterized by the presence of diverse stereotypical structures that possess a high degree of obligatory use. Linguistic topology is closely connected with the phenomenon of stereotype. The consolidation of the phenomenon of stereotype is promoted by the presence in academic prose of a large number of terms and the so-called terminological word-combinations. It promotes the formation of collective-objective selection of linguistic resources determined by the desire of the author of a scientific work to rely on generalized experience. This selection is opposed to the individual subjective factor determining the selection of language means in a work of fiction.

In academic prose special attention is deserved by considering the topology of the term. Humanitarian science has many definitions of the term. Without discussing and analyzing each of the existing definitions, it is possible to adopt the following definition: a term is a word or phrase formed on the basis of subordinating relationships, having professional value, expressing and forming professional concept and used in the process of learning and mastering a certain range of objects and relations between them.

One of the structural features of the modern terminology is its inclination towards liberation from the effects of the root and fundamental meanings of words of their language. The term is necessary for the expression and comprehension of specific scientific, technical, industrial or socio-political concepts. And if the term is created, formed on the basis of the well-known words, the meaning of the word, its root or base will appear in the meaning of the term and interfere with its professional comprehension. This is not desirable. Therefore, in the development of terminology, in the process of creating new terms, especially nowadays, there is quite a strong tendency to rely on foreign roots and foundations – often Greek or Latin.

The words used almost exceptionally within the framework of a style and special meanings of popular words can be used as terms. For example, outside such lexical units of the English language like ‘androgyny’, ‘ingroup’, etc. widely used in texts on sociology can be hardly met outside the scientific material. At the same time, in these texts words like ‘family’, ‘society’ and others with well-known common meanings serve as terms.

As it is mentioned above, the terms must provide the clear and accurate indication of real objects and phenomena, to establish clear understanding by specialists of the transmitted information. Therefore, this type of words must satisfy special requirements. First of all, the term must be accurate, i.e. it must have strictly defined meaning that can be discovered by the logical definition establishing the place of the concept designated by the term in the system of concepts of the science [1]. So, if some notion of sociology is referred to as ‘endogamy’, then the value of this term must exactly match the definition of the concept (the requirement that marriage occur within a group) that links it to other concepts contained in the definition (marriage, group). For the same reasons, the term should be unambiguous and in this sense independent from the context. In other words,

it needs to have its exact meaning specified in its definition in all cases of its use in any text so that the person using the term needn't decide every time which of the possible meanings is used here.

In the terminology greater emphasis is laid on the concept of the "terminological system". Any terminological system is mapped to a certain area of knowledge, problem, topic, academic school, etc. – the set of terms associated to each other by the conceptual, lexical-semantic, derivational, and grammatical "levels".

Derivational links between terms are not coincident with conceptual relations. So, between the English terms of sociology – 'duties', 'rights' – there are no derivational dependencies, however, there are conceptual ones. 'Ingroup', 'outgroup' are connected by word-formation, they are also connected conceptually, although the conceptual connections are not analogous to word-formation. 'Social dilemma', 'social-emotional specialist', 'social group', 'social loafing' – all these terms are connected derivationally, although this does not mean that the derivatology of terms is completely isomorphic to their conceptual relatedness.

It is clear that in science terms–word-combinations are commonly used; they are formed by adding to the term denoting a generic concept specifying characteristics in order to obtain the concepts directly related to the original ones. In this way specific terminological nests spanning numerous varieties of referred phenomena are formed, for example: 'coercive organization', 'formal organization', 'informal organization', 'utilitarian organization', 'voluntary organization'. Sometimes the process of formation of topological phrases occurs in the reverse order: aspectual meaning determines the number of generic terms, for example: 'institutional ageism', 'institutional discrimination', 'institutional sexism'.

Terminology questions in full arise with respect to the translation of scientific texts.

Terms, as a rule, are frequent in a special text and play an important semantic role in it. When translating a scientific text in the majority of cases the terms already existing in the relevant branch of scientific literature of the translating language are used. For example, the English 'media' means in Russian "mass media means". The stock of the special scientific knowledge in this field cannot be replaced by the skillful use of dictionaries, although it is necessary. The basic precondition of correct translation is the knowledge of the subject [3]. The correct understanding of a foreign-language term also means making the right choice of words for its translation. So, the English 'objective method' is interpreted as the "inductive method" (a person who knows the subject will never say "objective method"). Therefore, the final choice of the option is determined not only by the requirements of sense but also by the terminology established in the target language.

All of the above allow concluding that the linguistic topology in scientific communication involves the stability of its basic elements. This means that the meaning of terms and terminological phrases should remain unchanged regardless of the context. That's why the term must possess ideal requirements – unambiguity and precision. However, that is the thinking which does not allow you to fulfill these ideal requirements.

Thus, the application of the mathematical term "topology" in linguistics opens up interesting perspectives and possibilities for further study.

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