

NININS 2020**International Scientific Forum «National Interest, National Identity and National Security»****DETERMINOLOGIZATION AND TRANSTERMINOLOGIZATION
PROCESSES IN MODERN OIL AND GAS DISCOURSE**

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(a) National University of Oil and Gas «Gubkin University», 65-1, Leninsky prospect, Moscow, Russia,
n.gorokhova@nxt.ru**Abstract**

Lexical and semantic modification processes in specialized terminology are one of the main interests in modern linguistics. They play an essential role in many scientific contexts, for example, in power engineering, the production of fossil fuels, petroleum drilling. Identifying the semantic modifications of technical terms in oil and gas discourse has become the purpose of this study. The investigation of the lexical units in oil and gas discourse based on English and American periodicals made it possible to analyze the material and to establish that determinologization is an active process of terms transformation formed on the semantic conversion of the term into the status of a common word. Scientific and technological progress, computerization of production, the emergence of new technologies, as well as their popularization among the population, are the reasons for the appearance of new terminological units. The result of such terms spread has led to the process of terminologization or creating new meanings and new translations of existing terms. According to the study, transterminologization is a process in which a term belonging to one field of knowledge can be rethought and take place in another field of knowledge acquiring new definitions there and contributing to the formation of other new terminological units. The analysis shows that technical terms enter the everyday people life and acquire new properties; as a consequence, the oil and gas discourse becomes a flexible part of the language use and a subject to change.

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Keywords: Determinologization, oil and gas discourse, term, terminology, terminologization, transterminologization

1. Introduction

The idea of semantic modifications is discussed in many Russian scientific papers (Gorokhova, 2014; Leichik, 2007; Sulejmanova, 2006; Tatarinov, 1988; Yunusova, 2010) and foreign ones (Kreidler, 1998; Sager, 1990). It is the well-known fact that any specialised terminology is one of the most flexible parts of the language use due to its instability compared to the terminological system (Gorokhova, 2019). Innovative technologies, informatisation of technical processes, modern production methods cause new terms to appear, which leads to modifications of existing terminological units and their meanings, and as a consequence, their new translations. An important factor in such semantic transformations is the interaction of special terms with common words (Grinev-Grinevich, 2008; Leichik, 2007; Litovchenko, 2006). The processes of semantic modifications occur in several ways, such as terminologization and determinologization of terminological vocabulary. Terminologization is a necessary process which is characterised by the conversion of a common word into the status of a term (Lavrova, 1996; Nikulina, 2013). This transformation becomes possible when a particular phenomenon is not designated, and a common word can better describe it (Sobyanina, 2003). In the process of determinologization, terms lose their properties acquiring the additional status of common words; however, they still possess their terminological functions (Superanskaya et al., 2012). In modern linguistics, in addition to determinologization and terminologization, there is such a concept as transterminologization, which is a process in which a term belonging to one field of knowledge can be rethought and take place in another special sphere (Zhelezovskaya, 2010). One of the most attractive sources of terms modifications in oil and gas discourse is rethinking the meaning of existing terms and the emergence of a new lexical unit (Gorokhova & Kubyshko, 2020).

2. Problem Statement

2.1. Determinologization

Scientific and technological progress becomes the cause of the penetration of terminological units into general use. Determinologization is the term going beyond the terminological field, the loss of terminological properties, and the subsequent use of terminological meaning in general language (Majaeva, 2009). In most cases, the vast majority of new words (about 90 %) come from scientific and technical terminology (Superanskaya et al., 2012). This trend proves that the process of determinologization constantly occurs and is determined not only by linguistic but also by extralinguistic factors (Gorokhova, 2014). The process of determinologization takes place according to several reasons, including raising the level of culture in a society (Polyakova, 2006). The media, as a rule, also contribute to the popularisation of science among the population. The industrial development plays an important role, thanks to this growth all kinds of innovative technologies are increasingly being introduced into human life and as consequence terms penetrate the everyday life of people (Sulejmanova, 2006). Even though special terms acquire the additional status of common words, they nevertheless still fulfil their terminological functions. However, there are great differences between the term of professional discourse and the term as a common word.

In the process of determinologization, the term loses its properties, such as invariability, conceptuality. However, becoming a common word, it acquires new, already pragmatic properties. Scientists note that the term and the common word characterise different volumes of concepts, a kind of simplification of a concept takes place hereto. The terminological unit is converted from the term into the common word of general use, and it manifests itself within the context (Superanskaya et al., 2012). The process of determinologization, as a rule, includes several stages, which are shown in Table 01.

Table 1. Stages of determinologization process

First stage	Second stage
the term is a part of a common word with terminological meaning	the term loses its meaning and is rethought; as a result, non-terminological units appear

Because the oil and gas discourse are often associated with a description of oil production processes and methods of drilling wells, the terms that have become common vocabulary in most cases refer to the field of oil recovery and drilling techniques (Gorokhova, 2019). So, a few examples of term determinologization are presented in Table 02 and Table 03.

Table 2. Term determinologization

Concept	Definitions
Drill (as terminological unit)	1.a tool or machine with a rotating cutting tip, used for making holes 2.a roating tool that is inserted into a drilling machine or tool for boring cylindrical holes 3. to make a hole by boring 4.to drill for oil <i>e.g., In 2005, seven drilling stabilizers had fractures because of material properties, bend-strength ratios, and stress centralization.</i>
Drill (as common word)	1.to tell someone something repeatedly to make them remember it 2.o practise something, especially military exercises 3.to look for something on a computer or website <i>e.g., If you drill down on the numbers, you can see that we devote far too many resources to so-called quality-of-life crimes.</i>

Table 3. Term determinologization

Concept	Definitions
Slate (as terminological unit)	a dark grey rock that can easily be cut into thin pieces or a small, flat piece of this used for covering a roof <i>e.g., And of nylon slate added to fuel brick.</i>
Slate (as common word)	to do something once, not considering what has happened in the past <i>e.g., I do not see why implementing some such proposal would be "impossible" in practice if we could start the design of society with a clean slate.</i>

An analysis of such a phenomenon as determinologization shows that this is an active process that affects many aspects of human activity. The transformation of terms into the status of common words is a source of emergence of new special meanings that allow terms functioning equally in both the professional sphere and in everyday speech (Vinogradov, 2014).

2.2. Transterminologization

Transterminologization is another important phenomenon of modern linguistics which is a process when a term belonging to one field of knowledge can be rethought and move to another professional sphere. The emergence of transterms is possible due to the need to give names to a large number of objects using a limited number of words. Furthermore, the appearance of various scientific fields contributes to the spread of transterminologization. Thus, in the process of transterminologization, an integration of different fields of science and knowledge occurs (Korshak & Shammazov, 2001). The example of semantic modifications of the term «valve» is given in Table 04.

Table 4. Term transterminologization

Terminological field	Example
petroleum engineering	gate valve
mechanical engineering	engine valve
anatomy	heart valve
music	wind instrument valve
aviation	anti-icing shutoff valve
food industry	feed control valve
agriculture	air valve
thermal engineering	rotating valve
metrology	sliding-plate valve
shipbuilding	throttle butterfly valve
military terms	pendulum type gate valve
biology	bauhin's valve
automation	chock valve

The study makes it possible to conclude that the special feature of such a phenomenon as transterminologization is the semantic transformation of the term and its conceptual environment which occurs in the process of the term movement from its initial field of knowledge to another sphere. The conversion of the terminological unit characterizes transterminologization; the latter acquires new definitions and contributes to the formation of other new terminological units.

3. Research Questions

Decades of practical terminology work and the theoretical studies of English technical discourse, based on the premises of the General Theory of Terminology, have resulted in the appearance of criteria of terminological semantic modifications for many concepts in each specialised subject field. However, modern linguists, studying the lexical transformations in different spheres, note that an integrated model of learning terms conversions was not yet developed. This problem formed the basis of the analysis of

semantic modifications of technical terms, which were extracted from oil and gas discourse to facilitate the process of their understanding and use. The issue of semantic modifications is one of the unsolved at the moment, insufficiently studied in modern linguistics. At the same time, the main task of researchers is not to understand the final model of terms transformations of English technical discourse, but to develop a complex system for analysing terms conversions, to classify them according to their features and to build potentially their typology. Another problem and the task of the modern society is sharing the experience of systematisation rules as fixed patterns to simplify and accelerate the process of communication.

4. Purpose of the Study

The purpose of this article is to identify the semantic modifications of technical terms in oil and gas discourse. In accordance with this goal, the following questions are answered:

- determine the technical terminology containing semantic transformations
- identify semantic terms conversions
- analyze semantic terms changes.

5. Research Methods

The methods relevant for such an analysis are stipulated by the aim of identifying semantic modifications of technical terms in oil and gas discourse. Special terms that are manifested in the considered discourse can be presented on the basis of the method of continuous sampling from modern dictionaries and research materials, the method of contextual analysis using authentic text materials. The method of comparative analysis using an online search service, as well as the descriptive method necessary for identifying the peculiarities of terminological transformations are used hereto. Such linguistic processes contribute to the development of the special language and its creative renewal. The process of semantic modifications that occur in the professional field is actively manifested in English scientific and technical discourse. The appropriate linguistic processes are frequent in the special language to a great extent accelerating the process of communication and contributing to the emergence of new terms.)

6. Findings

6.1. Academic results

The practical work with Gubkin University students allows successfully studying semantic modifications for many terminological concepts in oil and gas discourse and teach students to understand and define such transformations in translation of specialised literature and professional articles of the studied field of knowledge. In 2020 the author's textbook was developed, consisting of 5 units of 4 parts each containing a lecture, including the explanation of the theory of semantic modification processes; a text, involving all the possible terms conversions; a test, intended for examining the correctness of terms translation that have undergone semantic transformations and audio material for self-testing. Educational materials have a clear and logical structure, meeting the requirements of English language discipline.

The textbook is free of charge and is available for students during all the educational period, which started at the National University of Oil and Gas in September annually. The textbooks are used by Master and Post-graduate students as well as by the second- and third-year bachelor students and also by specialists engaged in the process of professional communication.

6.2. Scientific results

A study of oil and gas discourse based on English and American periodicals made it possible to identify the semantic modifications of technical terms and came the following conclusions: 1. special terminology is one of the most flexible parts of the language due to the influence of many factors, such as technical progress, industrial informatisation, technological development; 2. the processes of semantic conversions occurring in the form of determinologization and transterminologization of terminological vocabulary is established; 3. the widespread of determinologization and transterminologization phenomena in oil and gas discourse is proved; 4. the theory that terms modification is one of the most attractive sources of the emergence of new lexical vocabulary is confirmed; 5. the idea of semantic modifications simplifying and accelerating the process of communication is argued. The analysis clearly shows that the trend of determinologization and transterminologization will never stop. These processes occur in almost every scientific sphere and play a crucial linguistic role in various fields of specialised knowledge, many areas of professional activity, forming and replenishing the scientific and technical discourse.

7. Conclusion

It is generally accepted that terminology, as a rule, is a certain established system that does not undergo any changes and is not too actively replenished. The analysis allows concluding that the processes of determinologization and transterminologization are evidence of the flexibility of terminological vocabulary of oil and gas discourse. Scientific and technological progress contributes to the fact that, on the one hand, terms enter people lives and acquire new properties, and, on the other hand, common words may acquire the status of terms. In some cases, terms move from one area of knowledge to another, acquiring new definitions there and contributing to the formation of other new terminological units. Such conclusions revealed the need to study how the terms function, what changes they can undergo, and in which cases they can gain or lose their meanings.

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