

Linguistic Borrowing as a Way to Enrich Oil and Gas Terminology

Samigullina L.Z.

Department of Humanities and Socio-Economic Sciences
Ufa State Petroleum Technological University,
Branch of the University in the City of Oktyabrsky
Oktyabrsky, Republic of Bashkortostan, Russia
sliliyaz@mail.ru

Samigullina E.F.

Kazan State University of Architecture and Engineering
Kazan, Republic of Tatarstan, Russia
elina-sam@bk.ru

Danilova O.V.

Department of Humanities and Socio-Economic Sciences
Ufa State Petroleum Technological University,
Branch of the University in the City of Oktyabrsky
Oktyabrsky, Republic of Bashkortostan, Russia
oks-danil@yandex.ru

Latypova I.A.

SBEI Tuymazy teacher training College
Tuymazy, Republic of Bashkortostan, Russia

Abstract – The article deals with terminological borrowing as a way to develop an oil and gas terminological system in modern conditions of globalization and developed communication technologies. The article studies the types of borrowed words, describes methods for borrowing foreign language vocabulary by national terminological systems. It analyzes structural and semantic features of borrowed terminological units. The article overviews linguistic approaches. The authors conclude that Greek and Latin morphemes which have become an international terminological basis for all European languages are often used as standard term elements in the terminological systems. Borrowing is a way used to eliminate conceptual and translation gaps.

Keywords – borrowing, terminological system, source language, loan translation, current trends in linguistics.

I. INTRODUCTION

National scientific traditions are a phenomenon that is historically conditioned and reflects originality of the worldview of a nation, and, undoubtedly, influences the metalanguage of a certain area of knowledge. The social causes of formation and extinction of terms are the level of scientific and technical development of society rather than linguistic processes. The national language in the country, where any scientific discovery was made, forms a term for nominating new phenomena. At a certain historical stage, it becomes a leader and terminological foundation for borrowing terms by other languages.

Terminological borrowings are given much attention in the scientific literature. The borrowing objects are terms, language units, reflecting cultural characteristics of a particular ethnic community (culture-specific, connotative vocabulary). The most important motive for borrowing is the fact that another language can be a source for acquiring values, achievements, or lifestyle.

Borrowing of lexical units is carried out by native speakers from the source language or translation of a foreign language text. New meanings are built on the basis of existing ones, which serve as semantic analyzers of a knowable object and components of the generated meaning. The fact that there are borrowings in dance terminology indicates that the term is borrowed as an idea of an object marked by the specificity of associative links that are the basis for formation of the figurative and value components of the term.

Scientific and technical progress and improvement of oil and gas production processes develop various semantic processes in terminology, complicate them, contribute to formation of complex terms, borrowing of foreign terminological units.

Formation and use of lexemes in professional discourse of the oil and gas industry are based on the following principles: 1) active participation of syntax and word-building resources of each language - reliance on their own language means: from single-word root words to affix lexemes, the latter are predominant; 2) translation of terms (loan translation); 3) unification (synthesis of achievements of general scientific and professional - chemistry, physics, mathematics, geology, electrical engineering, hydraulics, mining, etc. In general, terminological fields of the languages are characterized by a considerable degree of coincidence of terminological elements.

II. RESULTS AND DISCUSSION

The borrowing is studied by many linguists in various aspects. The issue of borrowing is interaction and coexistence of two (or more) societies in one geographic, cultural and linguistic environment which causes a clash of different cultures and worldviews. Thus, the term “borrowing” can be defined as transfer of the conceptual, cultural and moral views

of the world expressed by the lexical, phonetic and graphic units from one culture to another one.

A developed terminological system of any scientific discipline or professional branch is a tool for its successful development.

In modern linguistics, three types of borrowing can be distinguished:

1) *Interlingual, or external borrowing: the term is borrowed from another national language;*

2) *Borrowing from the literary language (domestic borrowing): 'well' in English is a narrow and deep pit for taking water from the aquifer (Ozhegov) and a oil well. This method is formation of lexical-semantic words referred to as substantial terms;*

3) *Intersystem borrowing from various terminological systems: flow rate – an accounting term used in the oil industry (well flow rate). In this case, terms with the same meaning function in different terminological systems or are homonyms.*

The issues of traditional interlingual borrowing have been studied by many linguists. It is known that these issues are part of the problem of language contacts. When considering this phenomenon, linguists are interested in the following aspects:

- *linguistic nature of borrowing;*
- *causes ;*
- *types and methods of borrowing;*
- *ways of penetration of borrowed words;*
- *sources and chronology of borrowing;*
- *phonetic, grammatical, lexical, semantic, stylistic, syntactic, phraseological means used for learning foreign words;*
- *classification of borrowed words.*

The linguists also study the structural differentiation of borrowing, quantitative and statistical characteristics of this process, consistency of borrowing mechanisms.

The issue of borrowed terms is one of the most difficult in the practice of terminological studies due to difficulties in influencing the borrowing process because of the impossibility to predict development of science and technology at different stages. In addition, each spontaneous borrowing is a kind of "invasion" in the system of concepts and terms whose consequences are difficult to predict.

Meanwhile, scientists offer different interpretations of the problem of language interaction and its particular manifestation - borrowing.

Pure borrowing is literal original borrowing, transfer of a lexical unit from one language to another one in the form in which it existed in the source language. Translation borrowed words are translation loans reproducing the structure and meaning of a foreign language word. "Hybrid terms" are a

mixture of original and transferable borrowings. However, words consisting of borrowed elements that do not exist as independent words in other languages (*деформатор, дешифратор, декопатор*) are not borrowings. Based on the comprehensive analysis of borrowing, the researchers formulated criteria for classifying the term as "alien" or "own":

Correspondence of the combination of sounds of a given word to the generally accepted sound combinations of a given language;

Correspondence of the morphological form of the word to the generally accepted forms in this language, its harmonization with the whole system;

Derivatives of the word.

According to other authors, "the process of terminology borrowing is different from literary vocabulary borrowing. They classified borrowed words by several features:

1) *time of borrowing;*

2) *source language;*

3) *areas of human activities;*

4) *causes: extralinguistic (historical and cultural factors) and linguistic (lack of an equivalent for nominating a new concept; use of one borrowed word instead of a description; elimination of homonymy and polysemy; clarification and specification of the concep; impossible formation of derivatives: трение – фрикционный);*

5) *nature of borrowed words:*

a) *material borrowing:*

- *lexical borrowing (borrowing of the material form of a word with its content);*
- *formal borrowing (borrowing of the material form of the word with a new content); morphological borrowing (borrowing of morphemes to build new terms in the host language);*

b) *loan translation:*

- *derivational loan translation;*
- *phraseological loan translation;*
- *semantic loan translation;*

c) *mixed borrowing:*

- *hybrid borrowing: one part is borrowed, and the other one is translated;*
- *semi-borrowing: one part is borrowed and the other one exists in the language [1].*

The terms that are borrowed from related fields of knowledge are an integral part of the term system. The oil and gas industry uses achievements of geology, geophysics and their terminology: Russian *порода, отложение, смачиваемость, насыщение, проницаемость, седиментация*; English *rock, deposit, wettability, saturation, permeability, sedimentation* are not foreign borrowed words [2].

Some researchers propose other classifications of borrowed vocabulary. Based on the degree of adaptation, they can be divided into

1) *Borrowed words*:

- a) *barbarisms (alter ego)*;
- b) *transliterated words (Eng.: Taxes – Rus.: Texac)*;
- c) *borrowing from other languages (not native), transmitted through their (native) graphic system (not barbarisms) which have not undergone any significant transformations on the basis of the recipient language (метродотель)*;

d) *internationalisms (цивилизация)*;

2) *quasi-borrowed words*:

- a) *conversion (институт)*;
- b) *mixed words (динамический)*;
- c) *hybrid words (иоссейный)*

The researchers distinguished between six external features of borrowed words:

1) *phonetic features: features of the sound form of words (sounds and combinations of sounds) that are not characteristic of the Russian language*;

2) *graphic features: letters and letter combinations which are not characteristic of a given language*;

3) *morphological features: various types of deviations from grammatical norms*;

4) *derivational features: suffixes -изм, -ист, -аж, -ер, -ация and prefixes анти-, ре-, де-, архи-, ин- и т.д. and some word-formation elements авто-, гидро-, гео-, био-, аэро-, -лог, -граф, -метр*;

5) *syntactic features: phrase models which are not characteristic of the Russian language*;

6) *semantic features: specificity of the context or thematic areas (architecture, biology, medicine, mineralogy, etc.), to which borrowed words belong [3]*.

Distinctive features of borrowed terms are as follows

1) *Unlike the general literary language, where the largest share of borrowed words is in informal speech, the borrowed terminology penetrates into the professional through scientific publications*;

2) *The terminological activity influences the borrowing process due to the possibility of systematic formation of terminological systems*.

The views of scientists on the typology of borrowed words are diverse. Their attitude to the issue of borrowing is ambiguous. Some linguists consider this phenomenon natural and desirable, contributing to international standardization of terminology. Other researchers believe that overloading of texts with borrowed words complicates perception, violates the style, causes confusion of styles or overall reduction in style [4].

The borrowed term seldom retains its original characteristics in the host language. It takes the form typical and convenient for use in a new language environment.

Researchers distinguish between phonetic, graphic, grammatical and lexical types of assimilation.

Other authors identify seven obligatory features of assimilation of a new word in the language:

1) *Transfer of a foreign word by phonetic and graphic means of a borrowing language*;

2) *Correlation of the word with grammatical categories of the host language*;

3) *phonetic development of the word*;

4) *grammatical development of the word*;

5) *word derivation activity*;

6) *semantic development of the word*;

7) *regular use in speech*

It is interesting to study some examples that reflect interaction of terminology of the oil and gas industry in Russian and English [5].

Let us give some examples of lexical borrowing from the English language: *barrel* → *баррель*; *bitumen* → *битум*; *racker* → *накер*; *tanker* → *танкер*; *condensate* → *конденсат*; *coefficient* → *коэффициент*; *anomaly* → *аномалия*; *indicator* → *индикатор*; *injector* → *инжектор*; *mineralization* → *минерализация*; *balance* → *баланс*; *concentrate* → *концентрат*; *corrosion* → *коррозия*; *crater* → *кратер* [6].

Morphological borrowed words in the Russian and English oil and gas terminological systems are as follows: *hydroelevator* → *гидроэлеватор*; *hydroextractor* → *гидроэкстрактор*; *geosynclinal* → *геосинклиналь*; *geophone* → *геофон*; *electroanalyzer* → *электроанализатор*; *electrometer* → *электрометр*; *gravimeter* → *гравиметр*; *inclinometer* → *инклинометр*; *viscosimeter* → *вискозиметр*; *manometer* → *манометр*; *hydrocylinder* → *гидроцилиндр*; *hydroblock* → *гидроблок*; *vibrating screen* → *вибросито*; *hydraulic mixer* → *гидромешалка*.

The examples of word-formation borrowing are as follows: *core catcher* → *керноловитель*; *clay mixer* → *глиномешалка*; *air heater* → *воздухонагреватель*; *beneficiation* → *обогащение*; *coating* → *покрытие*; *underground* → *подземный*.

The examples of phraseological loan translation are as follows: *annual production* → *годовая добыча*; *coal oil* → *угольная нефть*; *combustible substance* → *горючее вещество*; *compressed air* → *сжатый воздух*; *deep drilling* → *глубокое бурение*; *dehydrated oil* → *обезвоженная нефть*; *depleted well* → *истощённая скважина*; *diamond drilling* → *алмазное бурение*; *crooked well* → *искривлённая скважина*; *drilling speed* → *скорость бурения* [7].

The examples of mixed borrowing are as follows: *gas storage* → *газохранилище*; *gas cleaning* → *газоочистка*; *condensate line* → *конденсатопровод*; *melting zone* → *зона плавления*; *metal boiling* → *кипение металла*; *modulus of elasticity* → *модуль упругости*; *heat balance* → *тепловой баланс*.

In English, there are a few orientalisms (borrowed terms from the Arabic, Iranian and Turkic languages) which penetrated into English through other European languages.

The words *azimuth*, and *caliber* penetrated through French, *chemistry* – through Greek and Latin, *alcohol* and *algorithm* – through Latin.

Borrowed and native terms can form terminological nests: English: *dip azimuth*, *direction azimuth*, *strike (trend) azimuth*, *electrode spacing azimuth*, *astronomic azimuth*, etc.

The choice of a term to nominate a new concept is determined by national internal and external linguistic factors that condition each other. The informative aspect is also taken into account: the more information corresponding to the description of properties of a new object is present in the word meaning, the higher the probability of its choice for nomination of the object.

Due to objective economic and cultural historical features of industrial development in the regions where users of national terminological systems live, English is a source of oil and gas terminology which was borrowed by the Russian terminological system [8].

Formation of terminology is influenced by specific languages and historical conditions the terminology develops. Therefore, when developing scientific terminological systems, special attention should be paid to the sources of formation. Each national terminology is developed on the basis of a national literary language. Therefore, when creating terms, one should rely on the resources of the native language. However, this terminology formation method is not always applicable. Therefore, the terms are often formed on the basis of secondary nomination methods: rethinking, metonymic transfer [9].

International interaction of professionals has an inevitable impact on oration and development of terminological systems. Integration processes increase the number of international (Greek-Latin) term-elements and lead to direct borrowing of English, Russian, East Arabic terminological names. Therefore, internationalisms are one more source of borrowed words [10].

III. CONCLUSION

The analysis of borrowed words as the main source of terminological vocabulary allowed for the following conclusions: morphemes that have become an international terminological basis used in all European languages are standard terminology elements in the terminological systems under study.

The borrowed terms supplement the national terminological fund, eliminate denotative and significative gaps undergoing graphic, phonetic, grammatical, semantic changes in accordance with the norms of the host language.

Borrowed words contribute to internationalization of the terminological fund of the language of science and technology, while Greek and Latin terms and their

components contribute to formation of the general scientific picture of the world.

Any terminological system has a high level of structuring. Terminology development processes are regular. Therefore, along with borrowed terminological units, their strict organization is borrowed as well. Each microgroup of names tends to consistency. Compliance with all the requirements of the term, as well as similar consistency can help the borrowed term find its place in the terminological system of the language. The original term is more likely to be accepted by a linguistic group if it is used when internationalisms or foreign language words have not yet covered the entire verbal activity of the linguistic community. The internal form of native terms is transparent, i.e. the meaning of the term is clear. However, terms formed from general words can cause undesirable associations because of their long-term use in the general language. In most cases, the use of borrowed words in professional settings is due to communicative and pragmatic factors (a lack of redundant associations, one-to-one correspondence between names and concepts) and word-building possibilities of t borrowed words

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