Scientific communication and translation problems with synonyms, antonyms, homonymys in construction sphere

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Abstract. The relevance of the studied problem is due to the activation of the processes of integration and globalization of business, scientific and educational relations, as well as the expansion of international cooperation, accompanied by an increase in the volume of communications in various professional fields. Scientific communication, both oral and written, has become an integral part of higher education and scientific activity. Analyzing and processing up-to-date international educational and scientific information to build new scientific ideas using the skills and abilities of correct translation has actualized the need for research. The study discusses the problems of translating construction terminology from English into Russian. The goal of the article is to analyze various ways of translating synonyms, antonyms, homonyms in construction. We used methods of analysis, processing, generalization and systematization of scientific works to get a broader view of the problem and consider it from different angles. Ways to overcome the problems discussed were proposed. The article may be of interest to teachers of English and students of non-linguistic universities.

Key words: communication, construction, language, translation, terminology, English, synonyms, antonyms, homonyms, construction.

1 Introduction
The relevance of the translation problems of synonyms, antonyms, homonyms from professional English into the Russian language in construction has been increasing in connection with the widespread use of Internet resources and need of professional communication. It is important to read and translate scientific works correctly, as well as to be able to present ideas at conferences, on the pages of scientific journals [1-6]. Apparently, for this one should study the ways of correct translation of synonyms and antonyms, homonyms as well as lexical and grammatical features of scientific style, causing difficulties in the translation [7-13]. Extension of the professional terms in English-language texts actualizes the problem discussed in this article [1, 4, 6, 12, 14, 15, and 16].

Problems in translation of synonyms, antonyms, homonyms from professional English into the Russian language has been studied by such linguists as [7, 17, 18, 19]. The researchers [2, 3, 5, and 20] consider the evaluative motivation and technological advances in the translation process. The peculiarities of terms and phrasal lexical units and their translation issues are considered in the works of [8, 9, 10, 11, 13, and 19].

The researchers revealed and described different aspects of scientific translation from English into other languages, definitions of terms used in construction and other surveys, converses and antonyms in translation, specificity of translation of different types of terms from English into Russian.
However, the problem of various translation methods of synonyms, antonyms, homonyms in the sphere of construction is not sufficiently developed.

2 Materials and methods
For research in this work, we used methods of analysis, processing, generalization and systematization of scientific works, which allows us to get a broader view of the problem and consider it from different angles. The research is based on the scientific works of such scientists as E. Lugovskaya E. Pavlova, L. Kvasova and well known foreign scholars such as Al-Hassnawi Ali R. A., H. Mitchell, N. Maskaliūnienė, S. Shiyaband others. The main methods the research is based on are the comparison, observation and empirical methods and the teaching-practicing-controlling approach. Essential information was got from authentic professional journals. The comparison method ensures taking into account the similarities and differences between terms translation. Through the observation method we analyzed literature, as well as dictionaries, and find out the similarities and differences of the meanings of the terms in the languages under consideration. The methods allow overcoming translation problems of the terms of the target and origin languages that are used in several meanings.

3 Results

3.1 Language difficulties in translation synonyms, antonyms, homonyms in construction
Translation is an important component in learning professional communication in English. Translation of antonyms, homonyms and synonyms from professional English into Russian language causes lots of difficulties and this problem has been growing globally with the spread of the Internet. It is very important to identify the difficulties of translation of synonyms and homonyms for beginner translators. When considering antonyms in Russian and English, it should be noted that they express a contradiction either morphologically or through the formation of complex words whose elements are contradictory. In connection with this it is advisable to allocate derivational patterns that are characteristic of both the Russian and English languages, as well as for each language separately, and compare them [6].

3.2 Antonyms in texts on construction
Opposites are words of one part of speech which have various sounds and writing, having opposite lexical values, for example: "truth" – "false", "kind" – "angry", "talk" – "silent." Lexical units of a language are closely related not only to the basis of their association by similarity or adjacency as a lexical-semantic versions of multivalued words. Most of the words of a language do not contain the characteristics of antagonism therefore antonymous relations for them are impossible, however, in a figurative meaning they can gain the antonym. Thus, the contextual relationship of antonymous words direct possible value and then these pairs of words contain emphatic basis and perform a special stylistic function [9].

During the study, English and Russian electronic dictionaries of antonyms were studied online. Unfortunately, none of the sources includes professional and scientific terms in the field of construction. (Dictionary of antonyms of the Russian language and opposite expressions https://antonymonline.ru/; My antonyms https://myantonyms.ru/; Antonyms dictionary http://ru-antonym.ru/; Antonymus https://antonimus.ru/; Synonyms and Antonyms https://www.synonyms.com/antonyms/ONLINE).

Table 1. Translation of antonyms in construction.

| №  | English Terms               | English Antonyms | Russian Terms             | Russian Antonyms |
|----|-----------------------------|-------------------|---------------------------|------------------|
| 1  | conductor (noun)            | insulator         | provodnik                 | isolyator        |
| 2  | alternating (adjective)      | direct current    | peremenniy tok            | postoyanni       |
3.3 Synonyms in construction

Synonyms are words that belong, as a rule, to the same part of speech, different in pronunciation and writing, but have a similar lexical meaning. Examples of synonyms in the Russian language: yadro – osnova, kolebaniya – libratsyiya, amplituda – razmakh, otkloneniye. The examples of synonyms were revealed while analyzing professional texts in the sphere of radio construction.

Table 2 shows synonyms in English and Russian which can be found in professional texts. We did not set the task to identify all possible synonyms for the terms presented, but only the most frequently used as examples. These examples prove the idea that the variability of the values of synonyms and their number greatly complicates the task of translating a scientific text not only for a beginner translator, but also for a more experienced specialist. It should be noted that the more synonyms a term has, the more difficult it is to choose an exact translation of a given word. For example, the word reflection has only 2 synonyms, and the word charge - 19 according to the Internet ISYNONYM Online synonym dictionary (http://isynonym.com/). Sometimes terms have several meanings, some of which are not related to the scientific text. Thus, the term magnetism is a physical phenomenon produced by the motion of electric charge, resulting in attractive and repulsive forces between objects and the ability to attract and charm people.

Table 2. Translation of synonyms in construction.

| № | Terms in English | Synonyms | Terms in Russian | Synonyms |
|---|------------------|----------|------------------|---------|
| 1 | voltage (noun)   | potentialpowerpressure tension | napryazheniye | potentsial potuga napryag materia |
| 2 | substance (noun) | materialcontentessence quiddity ray irradiation | veshchestvo | substantsiya radioizluzheniye |
| 3 | radiaion (noun)  | emanation radiotherapy emission | izluzheniye | radiatsiya yomkost kholodilnik |
| 4 | capacitor (noun) | condenser capacitance | kondensator | |
| 5 | connection (noun) | link socket jack slot terminal | soyedineniye | soedineniye rodstvo pryomshnik |
| 6 | acceptor (noun)  | hole | aktseptor | pryomshnik dyrka |
| 7 | magnetism (noun) | magnetics magnetic force charm | magnetism | magnitniye svoistva obayaniye privlekatelnist |
3.4 Homonyms in scientific professional oral communication

According to modern researches there are some types of homonyms which are the words that sound like one another, particularly when that are pronounced the same way but spelt differently [2]. Next come words that have the same pronunciation but different meaning. Moreover we can come across terms with the same spelling and different pronunciation. At last, there exist homonyms with certain word forms. Let’s look at some examples: «know» [nəʊ] — «no» [nəʊ], too [tuː] – two [tuː], bloc [blɒk] – block [blɒk], lead [liːd] – lead [led]. Many other homonyms occur when certain verbs, nouns, and pronouns are used in their forms showing person, number, or tense. Word order and meaning help us to distinguish between such homonyms aurally. One should pay particular attention to such phenomena as:

- third person singular (sees [siːz] – seize [siːz] – seas [siːz]);
- Past Indefinite (allowed [əˈlaʊd] – aloud[əˈlaʊd]; passed [paːst] – past [paːst]);
- Past Participle (seen [siːn] – scene [siːn]);
- plural form of nouns (rays [reɪz] – raise[reɪz]);
- pronoun forms (our [ˈauə(r)] – hour [ˈauə(r)]; their [ðeə(r)] – there [ðeə(r)]);
- contractions (who’s [huːz] – whose [huːz]; we’ll [wiːl] – wheel [wiːl]);

| 8 | refraction (noun) | deflection | refractivity | prelooomleniye | reflaktsiya |
|---|------------------|------------|--------------|----------------|-------------|
| 9 | density (noun)   | concentration | crowding | thickness | plotnost | udelnyves |
|   |                   | infection   | broadcast |           | skuchennost | kompaktnost |
| 10| transmission (noun) | handover | gearbox | audio | transmissiya | ye
|   |                   |           |          | voice | privod |
|   |                   |           |          | good | podacha |
|   |                   |           |          | echo |           |
|   |                   |           |          | end |           |
| 11| sound (noun)     | boundary  | verge     | advantage | krai | kromka |
|   |                   |           | perimeter | hem |           | rebro |
|   |                   |           |           |      | lezviye | katma |
| 12| edge (noun)      |           | wire      | strand | provod | provodnik |
|   |                   |           |           | coreandleader |          | konduktor |
|   |                   |           |           |           | dirizhyor | rukovoditel |
| 13| conductor (noun) |           | fee       | cost | zaryad | obyazannosty |
|   |                   |           | duty      | levy |           | obvineniye |
|   |                   |           | accusation | spiral |           | otetstvennost |
|   |                   |           |           | spool |           | raskhody |
| 14| charge (noun)    |           |           | spiral | katushka | zmeevik |
|   |                   |           |           | loop |           | vitok |
|   |                   |           |           | exchanger |         | koltso |

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- contractions (who’s [huːz] – whose [huːz]; we’ll [wiːl] – wheel [wiːl]);
- two-word combination – one word (all ready [ɔːˈredi] – already [ɔːˈredi]; all together [ˌɔːlˈredi] – altogether [ˌɔːlˈredi]).

Most researchers note that homonyms cause difficulties in translating to a greater extent with oral communication and the perception of scientific, professional speech by ear. Especially, if many professional terms are included in the statement [9].

3.5 Recommendations to overcome difficulties in translation

When translating from one language into another, we are interested in revealing means of expression of the same values in the source language and target language. It should be noted that we transfer not only grammatical elements, structures, and specific meanings that occur in the speech. When comparing grammatical categories and forms of English and Russian languages the following phenomena are usually revealed:

1. the absence of one or other categories in one of the languages;
2. partial match;
3. complete match.

The need for grammatical transformations occurs only in the first and second cases. In the Russian language, compared to English, there are no such grammatical categories as Gerund or Future in the Past Tense as well as Infinitive and some others [13]. A partial match or a mismatch in meaning and use of appropriate forms and designs also requires grammatical transformations. The differences between the grammatical systems of Russian and English are especially obvious when speaking about article forms in the English language and their absence in the Russian language. When translating, synonyms, antonyms, homonyms from professional English into Russian, you must understand the meaning of these words in the source text.

Let’s look at the following examples that prove what is said above:

1) When connecting a capacitor to an electrical circuit, it accumulates a charge. (Pri podkluchenii kondensatora k elektricheskoy seti on nakaplivaet zaryad).

2) The appearance of the potential difference is a consequence of the flow of electric current. (Poyavleniye raznosty potentsialov yavlyaetsya sledstviem protekaniya elektricheskogo toka).

According to many researchers, the translation of foreign language professionally oriented texts represents a significant challenge. Some researchers offer to reduce complexity, simplifying and adapting the texts contained native foreign language [3], [6]. It is important that the process of selecting professional texts should include the analysis of the content. This will reveal the presence of the new information in the text, which allows the user to select the most important components (classification, language concepts or problems), as well as language resources-signals that enable you to anticipate further the content of the text - units classified as connectors. Full understanding of them, according to the researchers, helps to understand the semantic context of the text, the development of the author's ideas, as well as provides a depth of understanding of the message in translation.

4 Discussion

The researchers revealed and described different aspects of scientific translation from English into other languages, definitions of terms used in construction and other surveys, converses and antonyms in translation, specificity of translation of different types of terms from English into Russian. Problems in translation of synonyms, antonyms, homonyms from professional English into Russian language has been studied by Russian linguists: E. Lugovskaya [Lugovskaya, 2016] E. Pavlova [Pavlova, 2016], L. Kvasova [Kvasova, 2017] L. Sakayeva, [Sakayeva, 2019]; A. Baranova, [Baranova, 2018] and well known foreign scholars such as Al-Hassnawi Ali R. A [Al-Hassnawi, 2018], H. Mitchell [Mitchell, 2015], N. Maskalüniënė [Maskalüniënė, 2016], S. Shiyab [Shiyab, 2019].

The mentioned researchers considered not only problems of scientific translationor evaluative nomination in translationbuttechnological advances for translating sign languageand lexical problems in scientific text translation as well. We fully agree that converses and antonyms in translationcause problems for professional texts translators. It is evident that translation features of neologisms in the
sphere of construction and peculiarities of translating terms of construction discourse, the problem of various translation methods of synonyms, antonyms, homonyms in the sphere of construction are not sufficiently developed and should be considered as well.

5 Conclusions
The relevance of the research in the sphere of the translation of synonyms, antonyms, homonyms from professional English into Russian language in Construction has been increasing recently. The widespread use of Internet resources and need of professional communication in the correct form actualizes the problem of scientific and professional texts translation. It is important to read and translate scientific works correctly, as well as to be able to present ideas at conferences, on the pages of scientific journals.

Summing up, we note that the translation of synonyms, antonyms, homonyms from professional English into Russian in the field of construction causes considerable difficulties not only because of the presence of unfamiliar words and terms, general scientific and highly specialized, lexical and grammatical homonyms, but also because of the use of a large number of formulas in the scientific literature and physical and mathematical symbols, as well as lexical units that do not have an equivalent in the native language.

The foregoing confirms the need to continue research in the field of scientific communication and translation, as well as the importance of developing practical recommendations to overcome the problem under discussion.

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