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ПРОБЛЕМЫ ПЕРЕВОДА АНГЛОЯЗЫЧНЫХ НАУЧНЫХ ТЕКСТОВ В СФЕРЕ ГЕОДЕЗИИ

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Аннотация. Актуальность исследуемой проблемы обусловлена необходимостью корректного перевода аутентичных статей по геодезии с английского на русский. Данная статья посвящена особенностям перевода геодезических терминов. Ведущими подходами к исследованию этой проблемы являются актуализация, отбор, систематизация и обобщение методов иностранных языков и анализ первоисточников. В статье раскрывается проблема перевода научных текстов в сфере геодезии, актуальная для молодых исследователей,

рассматриваются термины и фразы, которые требуют особого внимания при переводе. Основным результатом исследования является анализ выбранных серий словосочетаний, терминов и аббревиатур, часто используемых в терминологии геодезии, и их проверка правильности перевода с английского на русский с помощью машинного переводчика. Материалы статьи могут быть полезны как студентам, обучающимся по специальности геодезия, так и студентам других специальностей, с целью расширения их словарного запаса и знаний в этой области.

Ключевые слова: английский язык, перевод, геодезия, научный текст, научный стиль, «ложные друзья» переводчика.

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PROBLEMS OF TRANSLATION OF ENGLISH SCIENTIFIC TEXTS IN THE SPHERE OF GEODESY

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Abstract. The relevance of the investigated problem is caused by the need of correct translation of authentic articles in geodesy from English into Russian. This article is focused on special features of geodetic terms translation. The leading approaches to the research of this problem are actualization, selection, systematization and generalization of foreign language translation methods and original source analysis. The article reveals that the problem of translating scientific texts in the sphere of geodesy is really relevant, and considers terms and phrases that require special attention while translating. The main result of the study is the analysis of selected series of word combinations, terms and abbreviations often used in the geodesic terminology and their verification of the correctness of translation from English into Russian with the help of a machine translator. The materials of the article can be useful both for students studying in the specialization of geodesy, and for students of other specializations, in order to expand their vocabulary and knowledge in this field.

Keywords: translation, geodesy, scientific text, scientific style, the "false friends" of the translator.

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The relevance of the investigated problem is caused by the need of correct translation of authentic articles in geodesy from English into Russian. As science and

technology develop, new English words appear, used to express new concepts, techniques and inventions. These processes in the last decades have become more rapid, and not all dictionaries can be used. This development of ever-expanding wave of new concepts and techniques for which there are no equivalents in Russian led to serious linguistic problems of translation from English into Russian. In spite of wide use of borrowings, transliteration and other means of translation, made for a huge amount of English scientific terminology, the translation of fully technical texts from English into Russian still represents a serious intellectual challenge.

This article is focused on some special features of translation of geodetic terms. In the process of writing the article, a huge amount of research work of domestic and foreign scientists was studied. Internet resources offer many works of Russian, American, European scientists, whose works can be used for studying and gaining additional knowledge.

The following domestic and foreign scientists were engaged in translating technical literature from English into other languages: L. Kvasova, Ali R. A. Al-Nasnashi, A. Iskakbaev and others. Ali R. A. Al-Nasnashi said that it is unquestionable that English–Arabic scientific translation is increasingly becoming a topic of much concern and importance today. Oil on the Arab side and technologies on the west side contribute to this importance. In his works he highlights problems that are likely to occur in the English-Arabic scientific translation, and attempts to identify some possible factors that may ultimately lead to a theory of this kind of translation. Researcher also reveals certain differences between scientific texts and literary texts. The paper also proposes a model for English–Arabic scientific translation in further attempts moving at a more extensive study [1].

A. Iskakbaev approved that in the English technical text there are often such constructions that are not available in Russian, therefore, during translation it must also be taken into account. It should also be remembered that in English the meaning of the sentence is concentrated on the beginning of the sentence, rather than in the Russian language. While in the English sentence we pay special attention to the main part of the thought that is at the beginning of the sentence. And when translating from

Russian, the necessary criterion is the definition of the semantic part of the context, which is often very difficult to do, since the sentence is so "littered" and difficult that it is not always clear to the Russian-speaking reader that the author intended to say [2]. L. Kvasova considers ways of translating of a number of grammatical and lexical difficulties (translation of headings, terms, inverted structures, participles, gerund and infinitive turns, etc.), reflecting the stylistic features of the scientific and technical text in general and the text on information technologies in particular, as well as some elementary grammatical topics (modal verbs fines compare adjectives, etc.) [3].

Analysis of their works makes possible to single out the main idea of the research - the necessity of special study of peculiarities of scientific articles translation including the rules of correct translation, the specific nature of the scientific style, the "false friends" of the translator, the difficulty in interpreting certain terms. In general, the studies mentioned above face the problem of general scientific texts translation, often not considering certain aspects of individual scientific disciplines, for example, geodesy, geology, meteorology, etc. Thus, in the article the attention is focused on geodesy and the article material could be used by students of the Department of Astronomy and Space Geodesy who often have to deal with scientific articles of foreign researchers and face the task of correct translation without losing the semantic load.

A technical translation is understood as a certain type of translation activity, namely the translation of technical literature, which differs significantly, for example, from the translation of fiction. Technical literature, as a rule, does not contain information which is aimed at conveying feelings, emotions, it has no purpose of an esthetic and emotional impact on the addressee, and its basic communicative function is communication. This fact (the predominance of the information aspect) that allows us to focus more on what is expressed, rather than on how it is done in the source code (SC) system [3].

To begin, it is useful to define just what is meant by technical translation and how it differs from translation of other types. B. Raffel divides translation

into three basic categories according to the source text: nonliterary prose (including technical material), literary prose, and poetry. According to B. Raffel, all three require the translator to produce "a comprehensible document" in the target language, to convey the context of the original document, and to cope "with syntactical and lexical features of both" the source and target languages. Knowing and conveying the context of the original document is crucial. A translation of French *ballon* into English as "balloon," "football," or even the technical-sounding "flask" will not do if the word in context means a storage sphere (such as for pressurized natural gas) [4].

Translation of scientific and technical texts is an essential feature of the contemporary fast-changing technological world. Each day brings up new technical and academic ideas, new concepts, new terms etc. [4]. According to the London Institute of Linguistics, in order to be a scientific translator, one must have: broad knowledge of the subject matter of the text, a well-developed imagination that allows the translator to visualize the described equipment or process, knowledge to be able to fill in the missing links in the source text, the ability to use your own language with clarity, conciseness and accuracy, practical experience of translation from related areas. In short, to be a technical translator, one must be a scientist or an engineer, a linguist and a writer [5].

Features of technical and scientific text should be carefully considered. The main communicative goal of technical and scientific texts is to inform the addressee about the results of academic research or about the technical design of equipment, the proof of scientific hypotheses, the creation of new concepts or ideas, instructing the addressee on how to apply scientific data or technical tools.

The language of scientific and technical texts should be as precise and clear as possible and ensure the full expression of facts and thoughts. Therefore, the main criteria of a quality translation are exactness and precision. The main function of the scientific and technical style is informative. To convey logical information, to prove its novelty and significance is the main goal of a scholarly, scientific

or technical author. This style is used in the professional fields of science, humanities, technology.

The scientific and technical style involves the following substyles: scientific, technical, instructional (educational), popular science substyle. The substyles are classified into the following genres: monograph, manual, textbook, article, report, technical description, discussion, etc. Distinctive features of scientific and technical style are accuracy, clear logic, compressive character, impersonality, formality.

The main linguistic features of the texts of scientific discourse are: the use of numerous terms, abbreviations and abbreviations of the "subject area", wide use of newly created words (neologisms) and foreign words, impersonality of expression, direct reference to different authors, direct quotes, footnotes and cross-references.

Considering the mentioned above special features of geodetic texts translation it was decided to divide the geodetic terms found in the articles into three groups [6, 7]:

- 1) terms not required for translation;
- 2) abbreviations;
- 3) professional geodetic terms and word combinations.

Let's consider the first group of terms. Undulation is height of geoid over ellipsoid. Altimetry is measurements of distances from the satellite to the surface of the World Ocean. Geoid is level surface of a figure of the Earth. Ellipsoid is mathematically approximate level surface of a figure of the Earth. Perturbation is function of disturbing forces. But Russian scientists translate these terms as “ондуляция, альтиметрия, геоид, эллипсоид, пертурбация” respectively.

Abbreviations are the second group of terms. There are a lot of abbreviations in professional geodesy. The vast majority of the world's population use Google translator. But often it gives us a translation completely distorting the meaning of geodetic abbreviations. For example, SST-HL (Satellite-to-satellite tracking High-Low), SST-LL (Satellite-to-satellite tracking low-low), SECOR (Sequential Collation of Range), Google translator translate as “отслеживание спутников до спутников с низким уровнем”, “отслеживание спутников до спутников с низким низким

уровнем”, “последовательная сортировка диапазона”. Correct translation of these and some other abbreviations are indicated in the Table 1.

The last group of terms includes professional geodetic terms and word combinations. Some common words in English have a different meaning in professional surveying. For example, in geodesy “chain” means a “полигон”, not “цепь, сеть”, “closure” means “привязка”, not “закрытие, смыкание”. The complete list is given in Table 1. With the standard translation of geodetic word combinations, their meaning is distorted completely or partially. For example, “datum reduction” and “common point” translate as “сокращение опорных точек” and “общая точка” respectively. The correct translation is shown in Table 1.

Table 1

EXAMPLES OF GEODETIC TERMS TRANSLATION

Groups of terms	Terms	Translation
terms not required for translation	Undulation	высота геоида (ондуляция)
	Geoid	геоид (уровенная поверхность фигуры Земли)
	Altimetry	альтиметрия (измерения расстояний от спутника до поверхности Мирового океана)
	Ellipsoid	эллипсоид
	Perturbation	пертурбация
abbreviations	SST- LL	метод межспутникового слежения низкий- низкий
	SST- HL	метод межспутникового слежения высокий - низкий
	SECOR (Sequential Collation of Range) system	система непрерывного определения дальности
	DMA (Defense Mapping Agency)	картографическое управление МО
	LURE (Lunar Laser Ranging Experiment)	экспериментальная лазерная локация Луны
	IGSN (International Gravity Standardization Net)	международная опорная гравиметрическая сеть

professional geodetic terms and word combinations	chain	полигон; звено триангуляции
	closure	привязка
	common point	узловая точка (нескольких теодолитных ходов)
	compensate for the undulation	вводить поправку на геоидальную высоту
	compensation for an error	компенсация координатной невязки
	consistent geodetic datum	согласованное начало системы координат
	datum	основа системы координат
	datum reduction	предварительное преобразование данных
	directionally sensitive antenna	направленная антенна
	discrepancy	невязка
	doppler shift	доплеровский сдвиг частоты
	first-Order arc	дуга триангуляции I класса
	geodimeter	геодезический дальномер
	knife edge pivot	опорная призма
	listing	номенклатура
	plane-table	мензула, планшет с мензулой.

Scientific translation, thus, becomes a prerequisite not only for the accurate understanding of technology, but to its introduction, installation, and operation as well. As science and technology develop, new English words used to express new concepts, techniques and inventions come into existence. These words have appeared and developed more rapidly during the last decades than dictionaries.

The ability to translate foreign texts correctly and thoroughly is now an important professional competence. Unfortunately, knowledge of foreign words and foundations of classical grammar does not guarantee that a person possesses skills to master the technique of translation. For the ability to translate you need to have formed translation skills, you need to know the characteristics of a foreign

language, a sense of language, so that you can choose the most appropriate equivalent term from the dictionaries.

To translate scientific authentic articles related to the specialty of geodesy, you need to know a huge number of professional geodetic terms, phrases, abbreviations. You should be aware of the fact that when translating geodetic terms, using various electronic translators, they often completely or partially distort the meaning of the translation.

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ПРОЕКТНО-ОРИЕНТИРОВАННЫЙ ПОДХОД КАК СРЕДСТВО МОТИВАЦИИ К ОВЛАДЕНИЮ ИНОСТРАННЫМ ЯЗЫКОМ

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Аннотация. Статья рассматривает некоторые теоретические основы проектно-ориентированного обучения и затрагивает основные принципы подхода. В этой статье также представлены промежуточные результаты и некоторый опыт эксперимента по углубленной языковой подготовке для студентов бакалавриата, который проводится в Южно-Уральском государственном университете с 2016 года.