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PECULIARITIES OF SCIENTIFIC AND TECHNICAL TRANSLATION

Summary. The article has been devoted to the investigation the peculiarities of texts of scientific and technical style and analysis of the grammatical and lexical features of scientific and technical texts. The paper contains some examples of difficulties concerning the translation of scientific and technical materials. The article outlines the main requirements which should be met by the translator while translating texts of a given style.

Key words: applied discipline, vocabulary, grammar, emotivity, terminology, abbreviation, accuracy, syntactic structure, polysemantic words, author's idea.

Introduction. At present, there is a need to distinguish the scientific and technical translation not only as a special kind of translation activity and a special theory investigating this type of activity, as well as assigning the status of an independent applied discipline to the scientific and technical translation [3]. From the point of view of linguistics, the characteristic features of scientific and technical literature extend to its stylistics, grammar and vocabulary. The main task of scientific and technical translation is the extremely clear and accurate communication of information to the reader. This is achieved by logically substantiating the actual material, without explicitly expressed emotivity [1]. The style of scientific and technical literature can be defined as formal-logical.

Scientific and technical texts reveal a number of grammatical features. The most typical lexical sign of scientific and technical literature is the richness of the text with terms and terminological phrases, as well as the presence of lexical constructions and abbreviations.

The **purpose** of the article is to identify the features of translating technical literature.

The purpose of this work has the following **objectives**:

1. Investigate the peculiarities of texts of scientific and technical style.

2. Analyze the grammatical and lexical features of scientific and technical texts.

The characteristic features of the scientific and technical style are its informativeness (meaningfulness), logic (strict sequence, a clear connection between the main idea and details), accuracy and objectivity, clarity. Texts of this style can have these features to a greater or lesser degree; all such texts show a predominant use of linguistic means that contribute to the satisfaction of the needs of this sphere of communication. In the field of vocabulary, this involves the use of scientific and technical terminology and special vocabulary [12].

With respect to the syntactic structure, English texts of scientific and technical content differ in their constructive complexity. They are rich in participial, infinitive and gerundial constructions, which sometimes make it difficult to understand the text and put additional tasks for the translator.

Abundance with terms is one of the defining characteristics of the scientific and technical text. In the scientific and technical text, the share of terminological vocabulary is no more than 25%, and the main part of the vocabulary is general scientific, general technical and commonly used words [9]. Therefore, scientific and technical vocabulary can be divided into terminological and nonterminological, which includes general scientific, general technical and commonly used vocabulary. This division and classification are to a certain extent conditional because of the mobility of the vocabulary, the process of its constant replenishment with new units, and also because of the polysemantic words that enable them to function in different layers of the lexical content of the language. The same term in different sublanguages can express different concepts. The term "valve" refers to an electronic lamp, a crane in heat engineering, a valve in the engine industry, instrumentation, hydraulics, "storage" – memory; in other areas it actively functions as a warehouse, storage, accumulation. The technical term "frame" means: a frame in any device, a frame in machine tools, a frame in construction, a frame in movie production and television. Hence, the term, functioning in various spheres, can turn out to be polysemic.

In English scientific and technical texts an important place is occupied by a variety of types of abbreviations. Since they function independently, they are fixed in lexicographic sources and often become more known than their sources (radar, sonar, laser), they can be considered lexical units of the scientific and technical language. In English and the language of abbreviation, by sound and graphic form, it is customary to divide into abbreviations and acronyms.

There is an extensive group of words and terms called "false friends of an interpreter" (e. g. contribution – технологічний, data – дані, instance – екземпляр, simulation – моделювання), transliteration translation of which leads to distortions of the meaning of the translated text.

Terms should provide a clear and accurate indication of real objects and phenomena, establish a clear understanding of the experts of transmitted information. Therefore, special requirements are imposed on this type of words. First of all, the term should be precise, have a strictly defined meaning, which can be revealed by a logical definition that establishes the place designated by the term concept in the system of concepts of a given field of science or technology.

To a great extent it favors the mutual understanding of specialists and the wide use of special general technical vocabulary, which also constitutes one of the specific features of the scientific and technical style. These are words and combinations that do not have the property of a term to identify concepts and objects in a certain area, but are used almost exclusively in this sphere of communication, selected by a narrow circle of specialists, familiar to them, allowing them not to think about the way of expression of thought, but to concentrate on the essence of the matter. Special vocabulary includes all possible derivatives of terms, words used in describing the connections and relations between terminologically designated concepts and objects, their properties and features, as well as a num-

ber of national words that are used, however, in strictly defined combinations and thus specialized. Such vocabulary is usually not fixed in terminological dictionaries, its meanings are not specified by scientific definitions, but it is no less characteristic of the scientific and technical style than the terms. In electronics manuals, for example, the voltage is applied – напруга подається; the magnetic field is set up – магнітне поле створюється; the line is terminated –ланцюг виводиться на затискачі; the switch is closed – перемикач замикається. Compliance with the norms of the use of special vocabulary puts before the translator special tasks when creating the text of the translation.

English scientific and technical materials reveal a number of grammatical features. Any "scientific and technical grammar" is not developed. In scientific and technical speech, the same syntactic structures and morphological forms are used, as in other functional styles. However, a number of grammatical phenomena are noted in this style more often than in others, some phenomena, on the contrary, are found in it relatively rarely, others are used only with a characteristic lexical "scope" [2]. The general properties of the scientific and technical text cannot but be reflected in the syntactic structure of the utterance. For such materials, definitions of concepts and a description of real objects are especially characteristic by indicating their properties. The hidden definitions are also the numerous attributive groups, which are used in large numbers in scientific and technical materials. After all, calling a device a mechanically timed relay (механічно встановлене реле) is just like defining it as a relay which is mechanically timed (реле, що встановлене механічно). Such definitions make it possible to point out the most diverse features of an object or phenomenon: a medium-powered computer, silicon rectifiers (a silicon diode). The number of definitions in such combinations can be very significant.

The scientific and technical materials of the English language are characterized by the predominance of simple sentences, which, on average, make up more than 50% of the total number of sentences in the text. At the same time, the number of complex sentences is relatively small. This phenomenon is unusual for the corresponding style in the Ukrainian language, where complex sentences are used very widely. In this regard, English-Ukrainian technical translations often use the combination of sentences, resulting in two or more simple sentences of the English original correspond to one complex sentence in the Ukrainian translation.

A translation using a dictionary of unfamiliar unambiguous terms is straightforward. It is different when one English term corresponds to several Ukrainian ones, for example: switch – вимикач, перемикач, комутатор. In this case, a conscious choice of an analogue can be dictated only by a good knowledge of this subject. Let's take a sentence: Most of the modern radio-transmitters can communicate both telegraph and telephone signals. Two variants of translation are possible: *Більшість сучасних радіопередавачів можуть передавати як телеграфні, так і телефонні сигнали* or *Більшість сучасних радіопередавачів можуть працювати як в телеграфному так і в телефонному режимі*. The second version of the translation will be more correct.

When translating an English text, the translator must fully and accurately convey the author's idea, embodying it in the form inherent in the Ukrainian scientific and technical style and by not transferring to the Ukrainian text the specific features of the English script. In the English text, the personal forms of the verb are predominant, whereas the Ukrainian scientific style is characterized by impersonal or indefinite personal constructions.

In English texts of a descriptive nature, the future time for the expression of ordinary action is often used. Guided by the context, such sentences should be translated not by the future, but by the present.

In English scientific and technical texts passive constructions are especially common, whereas in the Ukrainian language the passive voice is used much less often. When translating, therefore, it is necessary to resort to the replacement of passive constructions with other means of expression more characteristic of the Ukrainian language.

Conclusions. As a result of the study of the scientific and technical text, it can be concluded that the main stylistic feature of this text is an accurate and clear presentation of the material in the absence of expressive elements that give the speech emotional scope. In the scientific literature there are almost no metaphors, metonymic transpositions and other stylistic figures widely used in fiction [1].

For all its stylistic remoteness from the live spoken language, the scientific and technical text includes a certain number of more or less color-neutral phraseological combinations of a technical nature. The main requirements that a scientific and technical translation must meet are: accuracy – all provisions interpreted in the original must be stated in the translation; Compression – all the provisions of the original should be stated, concise and laconic; clarity – the conciseness and brevity of the language of translation should not interfere with the presentation of the vocabulary, its understanding; literariness – the text of the translation must satisfy the generally accepted norms of the literary language, without using the syntactic constructions of the original language.

In the course of the study, one can also highlight that the characteristic features of the scientific and technical text are:

1) the scope with special terms and terminological combinations;

2) the presence of grammatical and lexical constructions;

3) a discrepancy in the use of similar stylistic features in the original and translation;

4) the different frequency of use of certain parts of speech.

All terms are combined into terminological systems that express the concepts of science and technology. The difficulties encountered in the translation of terms are related to the shortcomings inherent in existing terminology systems.

Translation of the scientific and technical text must correctly convey the meaning of the original in a form that is as close as possible to the form of the original. Retreats should be justified by the peculiarities of the Ukrainian language, the requirements of style. Translation as a whole should not be either a literal or a free retelling of the original, although elements of both are necessarily present. It is important not to lose the essential information of the original.

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Щипачова Д. С. Особливості науково-технічного перекладу

Анотація. Стаття присвячена дослідженню особливостей текстів науково-технічного стилю й аналізу граматичних і лексичних особливостей наукових та технічних текстів. Матеріал містить деякі приклади труднощів, пов'язаних із перекладом науково-технічних текстів. У статті перелічені головні вимоги, що постають перед перекладачем під час перекладу текстів даного стилю.

Ключові слова: прикладна дисципліна, словник, граматика, емотивність, термінологія, абревіатура, точність, синтаксична структура, полісемантичні слова, ідея автора.

Щипачева Д. С. Особенности научно-технического перевода

Аннотация. Статья посвящена исследованию специфики текстов научно-технического стиля и анализу грамматических и лексических особенностей научных и технических текстов. Материал содержит некоторые примеры трудностей, связанных с переводом научно-технических текстов. Статья перечисляет основные требования к переводчику в процессе перевода текстов данного стиля.

Ключевые слова: прикладная дисциплина, словарь, грамматика, эмотивность, терминология, аббревиатура, точность, синтаксическая структура, полисемантические слова, идея автора.