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TRANSLATION OF SCIENTIFIC TEXTS IN A MULTIDISCIPLINARY CONTEXT: FEATURES AND CHALLENGES

In the modern scientific landscape, translation plays a key role in ensuring global communication among researchers from different countries and fields of knowledge. The rapid development of science, as well as the interdisciplinary nature of contemporary research, necessitates accurate and adequate translation of scientific texts. Translation becomes particularly significant in a multidisciplinary context, where different terminological systems, stylistic norms, and conceptual approaches intersect. This creates additional challenges for the translator, who must not only be proficient in languages but also understand the specifics of multiple scientific domains. Under such conditions, translation becomes not merely a linguistic transformation but a complex intellectual process of knowledge interpretation.

The relevance of this topic is determined by the growing volume of scientific information and the need to make it accessible to an international audience. Moreover, interdisciplinary research often involves the interaction of different scientific paradigms, which complicates the transfer of meaning into another language. The issue of terminology standardization and maintaining accuracy in translation is also crucial. An inadequate translation may lead to distortion of meaning, which is particularly critical in the scientific sphere. Therefore, the study

of the features and challenges of translating scientific texts in a multidisciplinary context is an important task of modern linguistics. The aim of this paper is to analyze the key characteristics of such translation and to identify the main difficulties faced by translators.

Terminological Complexity In Multidisciplinary Texts

One of the main features of translating scientific texts is working with terminology, which becomes especially complex in a multidisciplinary context. Each scientific field has its own system of terms that reflects its conceptual foundations. When several disciplines are combined, these systems may overlap or even contradict one another. The translator must clearly understand the meaning of each term in a specific context, as the same word may have different meanings across disciplines. For example, the term “model” in mathematics, economics, and sociology has different interpretations. This requires a high level of subject-matter competence from the translator.

In addition, there is often a lack of direct equivalents in the target language. In such cases, translators resort to calquing, descriptive translation, or the creation of new terms. This may lead to terminological variability and complicate text comprehension. It is also important to maintain consistency of terms throughout the text. Specialized dictionaries and glossaries are commonly used for this purpose. In multidisciplinary research, there is often a need to harmonize terminology across different fields. Thus, terminological complexity is one of the key challenges in translating scientific texts.

Stylistic Features Of Scientific Translation

Scientific style is characterized by precision, logical coherence, and objectivity. The translation of such texts must preserve these features regardless of the language. In a multidisciplinary context, stylistic norms may vary depending on the field of study. For instance, texts in the humanities may be more descriptive, while technical texts tend to be more formalized. The translator must take these differences into account and adapt the text to the norms of the target language.

Another important aspect is preserving the author’s style. Despite the standardized nature of scientific language, each author has individual features of expression. The translator must strike a balance between accurately conveying the content and maintaining stylistic nuances. In complex cases, some simplification of structures may be necessary to enhance clarity. Special attention should be paid to syntactic structures, which can differ significantly between languages. Therefore, the stylistic aspect of translation is no less important than the terminological one.

Conceptual Differences Between Disciplines

Multidisciplinary involves the interaction of different scientific concepts,

which can create difficulties in translation. Each discipline has its own system of notions and categories that do not always have direct equivalents in other fields. This complicates the interpretation of the text. The translator must not only translate words but also convey conceptual meanings. In some cases, this requires a deep understanding of the theoretical foundations of the research.

Texts that combine natural sciences and humanities are particularly challenging. In such cases, it is necessary to consider different approaches to describing reality. For example, the concept of a “system” may have different meanings in biology and sociology. The translator must determine what meaning the author intends in each case. Context plays a crucial role in this process. Misinterpretation may lead to significant errors. Thus, conceptual differences are an important factor influencing translation quality.

The Role Of Context And Adaptation In Translation

Context plays a crucial role in translating scientific texts, especially in a multidisciplinary environment. The meaning of terms and structures is often determined by context. The translator must consider both the local context (within a sentence or paragraph) and the global context (within the entire text). This helps avoid errors and ensures translation accuracy. In complex cases, consultation with subject-matter experts may be necessary.

Adapting the text to the target audience is also an important aspect. Scientific texts may be intended for readers with different levels of expertise. The translator must take this into account when choosing linguistic means. In some cases, slight transformations are acceptable to improve clarity. However, it is essential not to compromise scientific accuracy. Balancing precision and accessibility is one of the translator’s main tasks. Therefore, context and adaptation play a decisive role in the translation process.

The Use Of Technologies In Scientific Translation

Modern technologies have significantly influenced the process of translating scientific texts. The use of machine translation systems and specialized software increases the efficiency of translators’ work. However, in a multidisciplinary context, such tools have limitations. They are not always capable of correctly interpreting complex terms and contexts. Therefore, the role of the human translator remains essential.

Computer-assisted translation tools can be useful for preliminary text processing. They also help maintain terminological consistency. However, final editing must be carried out by a specialist. The use of electronic corpora and databases is also important, as they allow finding the most appropriate equivalents. In the future, the role of technology in translation will continue to grow, but it will

not fully replace the human factor. Thus, a combination of technology and professional competence is the most effective approach.

CONCLUSION

The translation of scientific texts in a multidisciplinary context is a complex and multifaceted process that requires a high level of professional competence. The main challenges include terminological complexity, stylistic features, conceptual differences between disciplines, and the need to consider context. Successful translation is possible only with a deep understanding of the subject matter and mastery of linguistic norms. Modern technologies also play an important role, as they can significantly facilitate the translator's work.

At the same time, technology cannot fully replace human intelligence and intuition. The translator remains the central figure in the process of transferring scientific knowledge. This is especially relevant in multidisciplinary research, where different approaches and methods are combined. Further research in this field may contribute to the development of new translation strategies. This, in turn, will improve the quality of global scientific communication.

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