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ANALYSIS OF TRANSLATION STRATEGIES OF SPACE INDUSTRY TERMS, AS WELL AS TRANSLATION TRANSFORMATIONS USED IN THE TRANSLATION OF SPACE TECHNOLOGY

The rapid development and wide influence of the industry obliges translators to develop more and more accurate and detailed dictionaries.

Therefore, our study of English-language terminology in the field of space vehicles **is relevant**, as it is aimed at creating an English-Ukrainian dictionary in the space industry with an explanation of new linguistic realities.

The novelty of the research, peculiarities of the translation of cosmic terms were revealed; and translation transformations during the translation of terms on the topic "Spacecraft" into Ukrainian were investigated; further improvement of the vocabulary base.

The object is peculiarities of the translation of cosmic terms in the studied languages.

The subject is space terminological vocabulary in English and Ukrainian languages.

Research aim is to create an illustrated English-Ukrainian dictionary on the topic of "Spacecraft", an analysis of translation strategies of space industry terms, as well as lexical and stylistic transformations used in translation.

In order to achieve this aim, the following objectives have been set:

- 1. *To definite* the main terms in translation and its characteristics.
- 2. *To identify* the possibilities of translation of cosmic terms.
- 3. *Select* relevant English terms, find their translation or offer your own translation for those terms that do not have a translation.
- 4. *To study* grammatical, lexical and lexical-grammatical transformations during the translation of selected terms.

The material for our research was the terms we found, which were translated from English. The material was selected from the source of L. M. Vetukhov, M. S. Goncharenko, O. L. Zubkova, M. O. Mitrakhov, S. P. Redchyts, M. K. Khvatov "Russian-Ukrainian-English Terminological Dictionary of Rocket – of space technology" (2006).

The theoretical significance is based in the fact that the obtained results of our research are a certain contribution to the general theory of translation of space industry terms.

The practical value of our work is that the accumulated lexical material can be used when supplementing dictionaries, glossaries, handbooks on space terminology in English and/or Ukrainian.

In the course of theoretical research we:

1) Featured the main terms in translation:

The first one we faced was technical translation. It is the translation of scientific and technical materials using specialized terminology related to the scientific or technical field.

In scientific and technical translation, an important place is occupied by the reproduction of special vocabulary, that is, terms and terminological compounds that make up separate term systems in certain sciences.

The other one is the terminological system. It is a complex lexical layer of any field of scientific knowledge, which contains in its composition such a part of the dictionary as includes the names of the main branch objects, phenomena, objects or materials.

The term has the following characteristics:

- belonging to a certain terminological system;
- it has a definition; (Each scientific term has its own definition.)
- ambiguity within one term system;
- accuracy (Accuracy is determined by the fact that the term should convey the essence of the concept it denotes as completely and accurately as possible. A term that does not have a precise wording is a source of misunderstandings between specialists and translators.)
- stylistic neutrality;
- lack of synonyms and homonyms within the same term system;
- lack of expressiveness, imagery, subjective-evaluative shades.

2) We identified the possibilities of translation of cosmic terms. Aerospace terminology was formed on the basis of general technical terms, as well as terms of natural sciences, so such a vocabulary has its own structure, and a significant part of it is the terminology of various branches of science and technology related to the organization of flights, construction and operation of space aircraft for flight performance and exploration of outer space and the Earth.

The term "cosmos", which left astronomy, plays a key role in the formation of the terminological system of this field, and the role of the attribute "cosmic", regardless of its location in the terminological phraseology, remains unchanged and performs the functions of concretizing and introducing the main technical terms to the branch terminology. In addition, aerospace terminology borrows astronomical terms that are full synonyms.

3) We chose the relevant English terms and find their translation or offer your own translation for those terms that do not have a translation. 50 English terms were selected and their translation was found in the dictionary of L. M. Vetukhova, M. S. Goncharenko, O. L. Zubkova, M. O. Mitrakhov, S. P. Redchyts, M. K. Khvatov "Russian-Ukrainian-English Terminological Dictionary of Rocket and Space Engineering" (2006).

4) Grammatical, lexical, and lexical-grammatical transformations during the translation of selected terms were investigated. The results of the study showed that the most common method is the use of grammatical transformations, which accounts for 40% of all methods used. The second place is occupied by lexical transformations of 30%. The most difficult thing was to find direct equivalents in the translation language, which make up only 10% of all selected terms.

In the practical study, we:

1. Analysed the main translation transformations used in the translation of space technology. Among those are:

- Lexical transformations;
- Grammatical transformations;
- Lexical and grammatical transformations;
- Equivalent translation.

2. Analysed each of these transformation:

1) Lexical transformations:

- **tracing**

Remote command – дистанційне управління;
atmospheric regulator – атмосферний регулятор;
ground check – наземна перевірка;
high gain antenna – високочастотна антена;

- **transcoding**

Sich-2-M Ŕ – «Січ-2-М»;
Apollo – Аполон;
astrodynamics – астродинаміка;

- **specification**

Lifespan – термін експлуатації;

launch window – термін запуску;

2) Grammatical transformations (Complex transformations):

- **permutations**

Spacecraft magnetic attitude control systems – магнітні системи керування орієнтацією і стабілізацією космічного апарата;

spacecraft solar array honeycomb plastic panel – сотопластова основа сонячної батареї для космічних апаратів;

pressure drop stabilizer – стабілізатор перепаду тисків;

mission analysis – аналіз місії;

Earth-Moon propulsion system – рушійна установка Земля-Місяць ;

- **omission**

liquid-propellant rocket engines – рідинні ракетні двигуни;

- **addition**

basic specifications - основні технічні характеристики.

3) Lexical and grammatical transformations:

- **explication:**

Omni Bravo – ручне керування;

vacuum thrust – тяга двигуна у пустоті;

intercept distance – відхилення при контакті;

prime crew – основний склад екіпажу;

depressurizing – зменшення тиску;

4) Direct counterpart

Landing – посадка;

gauge – показник;

FAO – КПД.

Results. Due to the enormous importance of space technology for the development of modern society and for the scientific activity of man, the improvement of the efficiency of material production requires constant monitoring and improvement of technical dictionaries of this field. Going into space allows not only to more successfully solve today’s tasks, the acceleration of space will speed up the solution of grandiose problems that will inevitably arise before humanity in the future.

Summarizing the highlighted results of translation techniques, it can be concluded that the predominance of permutation and tracing is caused by sufficient motivation of the meaning of the terminological unit by the values of

its components. During the translation, the norms of the use of terms in the Ukrainian language were not violated, and therefore these methods of translation are satisfactory. As we see in other cases, it is impossible to borrow concepts that are absent in the language of translation, so we had to resort to such methods as replacement, permutation, concretization, addition, and descriptive translation. Specific cases of using translation transformations, their advantages and disadvantages were also considered.

The statistical data obtained on the basis of the analysis of interlanguage transformations were divided into three classes of translation transformations: lexical, grammatical, and lexical-grammatical. The share of lexical is equal to 30%, and grammatical - 40%, lexical - grammatical - 20% and 10% - direct counterparts.