Liudmyla MOSHKOVSKA
Senior Lecturer at the Department of Foreign Philology and Translation, Kyiv National Transport University, 1 Mykhaila Omelianovycha-Pavlenka St, Kyiv, Ukraine, 02000

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TRANSLATION OF TRANSPORT TERMINOLOGY IN ACADEMIC TEXTS OF COMPRESSED TYPE

The article is aimed at investigating the ways of the faithful conveying of English-language transport terms in academic texts of compressed type into Ukrainian. A number of scientific methods were employed in the research: theoretical analysis of academic literature, comparative and contextual methods, statistical analysis of data processing, methods of linguistic and translation interpretation of final results. Relevance of the research is to characterize and compare functional features of theses, summaries, abstracts, to distinguish terminological units inherent in each type according to their structural and semantic criteria and to identify the most applicable ways of their adaptation in translated texts through the transformational approach application. As a result, the abstract is characterized as a brief informative text, outcomes of the main research provisions without author’s conclusions with the predominant application of terms of different structural types. The text of a summary is represented as a text’s fragment in the form of a concise characteristic of a scientific paper with the exposition of the main author’s ideas, research results expressed by author’s terms-acronyms, proper names, intrabranch terminology. The English thesis is characterized as a research theme introduction and its substantiation with the main idea identification where interbranch terms, intrabranch lexical units, terms-internationalisms, proper names, general scientific terms function. Hence, the lexical semantic transformation permutation was described as a dominant way of conveying eight structural models of terminological noun clusters. Combined transformations were employed to translate terminological clusters and terms-neologisms denoting transport systems in the texts of abstracts and summaries: loan translation + adaptive transcoding + permutation + substitution; substitution + omission + loan translation; generalization + explication. Loan translation and transcoding were used to translate simple, derivative interbranch, general subject field terms, terms-internationalisms, general scientific lexemes denominating participants of transport services, operations, transport documents in abstracts. One- and two-component interbranch and general subject field terms expressing transport facilities and transport-related problems were translated through modulation. Partial explication and descriptive translation were applied for conveying proper names, intrabranch terms in the texts of theses and summaries.

Key words: abstract, thesis, summary, interbranch terminology, intrabranch term, lexical semantic transformations.

Людмила МОШКОВСЬКА
старший викладач кафедри іноземної філології та перекладу, Київський національний транспортний університет, вул. Михайлівська Омеляновича-Павленка, 1, Київ, Україна, 02000


ПЕРЕКЛАД ТРАНСПОРТНОЇ ТЕРМІНОЛОГІЇ В АКАДЕМІЧНИХ ТЕКСТАХ КОМПРЕСОВАНОГО ТИПУ

Стаття спрямована на дослідження способів точної передачі англомовних транспортних термінів в академічних текстах компресованого типу на українську мову. У роботі застосовано низку наукових методів: теоретичний аналіз наукових джерел, порівняльний та контекстуальний методи, статистичний аналіз обробки даних, методи лінгвістичної та перекладацької інтерпретації отриманих результатів. Актуальність дослі-
дження позага у характерісті та порівнянні функціональних властивостей тез, резюме, анотацій, виокремлених характерних термінологічних одиниць для кожного типу з урахуванням структурно-семантичних ознак та у виокремлених найуживанішіших способів їх адаптації в перекладахних текстах через застосування трансформаційного підходу. Таким чином, анотацію охарактеризувано як коректні інформаційно насичений текст, підіумок основних положень дослідження без авторських висновків з переважним використанням термінів різних структурних типів. Резюме представлено як текстовий фрагмент у вигляді стислої характеристики наукової праці з викладом головних думок автора та результатів дослідження, що відтворені авторськими термінами-акронімами, власними назвами, вузькогалузевою термінологією. Англомовну тезу охарактеризовано як представлення теми дослідження та її обґрунтування із зазначенням головної ідеї, де функціонують міжгалузеві терміни, вузькогалузеві лексичні одиниці, терміни-інтернаціоналізми, власні назви, загальнонаукові терміни.

Отже, лексико-семантичну трансформацію пермутацію описано як домінантний спосіб передачі восьми структурних типів термінів, вузькогалузеві лексичні одиниці, терміни-інтернаціоналізми, власні назви, загальнонаукові терміни. Англомовну тезу охарактеризовано як представлення теми дослідження та її обґрунтування із зазначенням головної ідеї, де функціонують міжгалузеві терміни, вузькогалузеві лексичні одиниці, терміни-інтернаціоналізми, власні назви, загальнонаукові терміни. Оскільки, лексико-семантичну трансформацію пермутацію описано як домінантний спосіб передачі восьми структурних типів термінів, вузькогалузеві лексичні одиниці, терміни-інтернаціоналізми, власні назви, загальнонаукові терміни.

Ключові слова: анотація, теза, резюме, міжгалузева термінологія, вузькогалузевий термін, лексико-семантичні трансформації.

**Problem Statement.** The European course and Bologna system implementation in higher education institutions have made a remarkable impact on the education process reorganization and scientific practice. Mastering academic written speech (academic texts of compressed type, in particular) has become the main requirement for students, scholars who highlight their outcomes in scientific journals to ground the validity of experimental data, thus making them public. However, research material exposition in English is closely related to some difficulties caused by the choice of the appropriate linguistic means to introduce scientific ideas in the compressed text space of abstracts, summaries and theses. As a result of direct translation of these texts into English or English primary sources interpretation in the target language, an expert faces a number of problems that arise due to semantic discrepancies of original scientific texts and their translated versions of compressed type resulting in the content distortion and inadequacy of the original material comprehension in translation. Hence, there is an urgent need for students and researchers to improve skills in writing academic texts and in choosing the appropriate linguistic means to faithfully interpret them into the target language.

**Analysis of Recent Researches and Publications.** Academic writing is regarded by most scholars as the methodology of compiling scientific texts to represent different researches and theoretical generalizations based on scientific methods. The academic text is a scientific text aimed at informing scientific community about the research phenomenon. Philologists I. B. Korotkina, S. K. Revuts’ka, V. M. Zinchenko determine academic writing as a universal set of skills recognized as the dominant ones for successful studies at a higher education institution. This complex encompasses linguistic and metalinguistic competences such as: logic, analytical and critical thinking, objectivity and respectful attitude to other ideas and texts (Ревуцька, Зінченко, 2019). Academic writing is characterized by a variety of genres that have their own structural and linguistic ordering, scientific value in the English academic context. Monographs, handbooks, lectures, reports on the outcomes of conferences, congresses, oral speeches, dissertations and scientific records are referred to primary academic sources since they presuppose the original author’s contribution in the creation. Primary texts are based on the author’s researches and his personal viewpoints. Secondary texts compiled on the basis of original works are represented by essays, reviews, theses, abstracts, summaries, encyclopedic articles and scientific discussions. While preparing secondary texts, the compression of information is observed. Researcher O. V. Ierchenko supports a scientific idea of linguist L. N. Murzin that compression does not consist in a simple reduction of the text volume. While decreasing it, it is necessary to preserve its content. So, he divides textual compression into two types: quantitative (structural) and qualitative.
Thus, in the context of writing abstracts, summaries and theses, “compression” phenomenon performs the function of structural and semantic processing of certain information that stipulates information volume shrinkage either in the contextual plane or in the information expression plane. In the process of exploring translation approaches to adequately convey the meanings of terminological units that constitute the lexical layer of three types of compressed texts, it was revealed that philologists L. O. Chernyakhovska, L. P. Bilozerska, H. I. Voznenko divided terms into two groups from the viewpoint of their translatability factor: those having dictionary equivalents and those having no fixed equivalents (Білозерська, Возненко, Радецька, 2010). Scientist V. I. Karaban elaborated an extended classification of lexical transformations for terms having no equivalents recorded in dictionaries in order to deduce partial correspondences that are to be pragmatically adopted in the target language text (Карабан, 2004). Researchers A. Ya. Kovalenko and G. I. Miram singled out three main stages of rendering terminological units via identification of their meanings in the context of word-groups, their faithful linguistic representation in the target language with final verification against semantic, functional and pragmatic relevance (Коваленко, 2002; Мірам, 2005). Analyzing some peculiarities of transport terminology conveying into Ukrainian, linguists Ye. G. Kryzhanovska and H. P. Lytnieva highlighted the ways and procedures by distinguishing typical models of terminological clusters functioning in English scientific and technical texts (Lytnieva, 2019). It can be inferred that the transformational approach to achieving partial equivalence is the most relevant way to faithfully interpret English transport terms meanings in the Ukrainian language.

Therefore, an insufficient level of scientific elaboration of the issue and its relevance for modern development of the transport sphere, that has become a driving force of the technological progress, enabled to determine some basic provisions of the research. Therefore, an insufficient level of scientific elaboration of the issue and its relevance for modern development of the transport sphere, that has become a driving force of the technological progress, enabled to determine some basic provisions of the research.

The purpose of the article is to investigate the ways of the faithful conveying of English transport terminology in academic texts of compressed type into Ukrainian. It can be achieved through the following tasks fulfilment:

- to describe functional peculiarities of English academic transport texts of compressed type;
- to conduct structural and semantic analysis of English terms in abstracts, theses, summaries;
- to determine the most applicable ways of English transport terms rendering into Ukrainian.

The subject of the research is English transport terminology in academic texts of compressed type. The object of the research is the ways of rendering English transport terms into Ukrainian.

A number of scientific methods applied in the research made it possible to resolve the tasks set above. They are based on the functional approach, involving theoretical analysis of academic literature, of English theses, summaries and abstracts of Kyiv National Transport University conferences, scientific publications on transport issues for a comprehensive study in compliance with the comparative and contextual methods, statistical analysis of the data as well as with the method of linguistic and translation interpretation of the results obtained.

Presentation of Research Outcomes. It is worth considering functional features of the texts of compressed type. In our research, the concept “compression” is regarded as a process of folding the main text that leads to the condensation of the text’s fragments without the information content change or as a modification process due to the textual volume compaction with the informativeness preservation. As a consequence, textual organization of abstracts, summaries and theses becomes the product of compression, being directly related to original extended structures and the content of a primary source.

The abstract realizes a supplementary function allowing the reader to give evaluation of the suggested article as well as communicative, representative, informative and summarizing functions when the main provisions of the original work are represented. Appropriately arranged abstracts have become an important factor to attract the target readers’ attention, triggering their research interest (Iverson, 1998). So, the abstract is a structural part of scientific articles that includes a message which is a report about the research and its account of the issue in a certain sphere. Another type of the compressed text is an English summary that is a concise text’s fragment in the form of the reduced superficial representation
of scientific work. When compiling a summary, information undergoes compression with the focus on the field specificity and the main ideas determined by the author without immersing into theoretical fundamentals of the scientific theory. It comprises a brief introduction of the issue under review, its analysis and conclusions. The summary generalizes the author’s ideas. Hence, the abstract is intended to specify the ideas highlighted without the author’s stances exposition while the summary is designed to emphasize the author’s ideas. The summary can be viewed as a successive compression of the text’s fragments (revealing, paraphrasing), resting on the ideas grounded and conclusions made by the author. It is applied in student academic work, theses’ representation and scientific discussions (Короткина, 2011).

It is to be noted that academic texts of compressed type are saturated with terminological transport units that are under review in our research as technological advances in the transport sphere constantly replenish a lexical system with author’s terms, terms-internationalisms, nationally biased units of lexicon, terminological acronyms and proper names, often functioning as the components of terminological clusters. Referring to the definition of linguist I. S. Квятко, a term is defined as a word or a word-group that denotes a concept of a certain well-established scientific or technical field and has systemic relations with other words or word-groups, forming a closed system which is characterized by informativeness, unambiguity and stylistic neutrality (Квятко, 1976). It is worth emphasizing that English abstracts pertain excessive interbranch terminology in combination with general scientific lexemes in abstracts, the summary incorporates author’s terms – acronyms or proper names expressed by noun word-groups (TOR – The Onion Route; Toyoda Automatic Loom Works) and intrabranch terminology mostly represented by two-component asyndetic noun word-groups (the hydraulic circuit, the steering pump) since it is designed to concisely expound the data focusing on a specific technical issue and general conclusions. “Pressure testing has been carried out in the hydraulic circuit of the steering system to identify insufficient pressure in the steering pump…”

In contrast to abstracts and summaries, English theses are compiled by avoiding excessive intrabranch terminology. They expound the purpose of the research focusing on the newly designed transport systems, mechanisms, auto parts to emphasize the relevance of the study and arouse scientific interest of transport experts. The lexical layer encompasses proper names denoting transport systems, internationalisms of terminological nature, multi-component terminological clusters to specify advantages of novel transport technologies. “EU-LIVE – “Efficient Urban Light Vehicles”, a European R&D project will come up with a comprehensive solution covering a wide range of L-category vehicles... for the next generation of electrified, cost- and energy-efficient light urban vehicles” (Бабич M. Y., Сид’ко M. V., 2016). In addition, special phraseology and cliched phrases are widely employed in English theses: fundamental changes, to be beyond the scope of, for this purpose, to solve a number of problems, to measure and evaluate the impact.

It was found that plural forms of nouns denoting liquids, auto parts, general scientific phenomena (oils, steels, clippers, techniques, procedures, methods, data, models), prepositions “of” and “for” providing syndetic connections within word-groups (agency for road management, local effects of varying degrees), terminological word-groups with nouns as head components (design, model, type, system, network), causal indicators (since, therefore, result in, lead to, become, totalling) are employed in three types of compressed texts.

After conducting structural analysis of the most common transport terms, functioning in three types of compressed texts, it was revealed that simple (one-component) terms amount to 15 % of all the cases (the stroke – хід поршня, gears – шестерні, a hub – хаб). In addition, derivative terms formed by prefixal, suffixal, prefixal and suffixal ways account for 35 % of the examples considered (telecommunications – телекомунікації, transmission – трансмісія, oils – олива,
congestion – перевантаження). Complex terms (terminological clusters) constitute the largest group of lexical units (50 %) in academic texts of compressed type.

Taking the transformational approach into account, one of the most common ways of conveying meanings of simple and derivative interbranch and general subject field terms denoting participants of transport services, transport operations, transport documents appeared to be loan translation that was employed in 15 % of all the cases considered. Loan translation is regarded as a way of conveying the denotative meaning of the original lexical unit without preserving a sounding or orthographic form but with the structural and semantic model representation (Naumenko, Gordieva, 2011, c. 9). “The carrier ensures the delivery by making appropriate choices in the framework of the contractual agreement with the freight owner…” (Summary) – “Перевізник забезпечує доставку, приймаючи відповідні рішення в рамках договірної угоди з власником вантажу...” Another lexical transformation (15 % of the examples) frequently used to render simple and derivative interbranch terms-internationalisms and general scientific terms was identified as transcoding of two terms: transliteration and adaptive transcoding.

“Cities ranking at the top of surveys measuring urban quality of life have advanced urban transport systems that prioritize public transport and their infrastructure...” (Abstract) – «Міста, що займають найвищий рейтинг у дослідженнях якісного рівня життя, мають вдосконалені системи міського транспорту, які надають пріоритет громадському транспорту та їх інфраструктурі...».

In case of dictionary equivalents absence or loan translation and transcoding ways irrelevance, such lexical and semantic transformation as modulation (so called semantic development of the concept) to faithfully convey the meaning of one-component and two-component intrabranch or general subject field terms denominating transport-related challenges and names of transport facilities into the target language was employed in 14 % of the cases. “This will result in severe increase in congestion and incidents at rail yards...” (Abstract) – “Це призведе до суттєвого збільшення рівня перевантаження автомобільних доріг та нещасних випадків на залізничних сортувальних станціях...”.

It was pointed out that the terminology system of three types of compressed texts encompasses a considerable number of two-, three- and four-component noun-groups of terminological nature with the constituents changing their positions in translation through a lexical semantic transformation of permutation that is mainly subject to the following procedure: rearrangement of the elements in the reverse order (from right to left). The models of terminological asyndetic clusters were formed according to the frequency of their application in academic texts of compressed type:

1. N + N (head): shipment requirements – умови постачання, route determination – визначення маршрутів;

Another group of terminological syndetic noun clusters can be described by two-component models with the prepositions “of”, “from” or extended by the copulative conjunction “and”:

1. N + from + N: energy from the fuel – енергія від пального (loan translation);
2. N + of + N: the performance of technologies – ефективність технологій (concretization + transliteration);

Comparing the ways of rendering the above-mentioned terminological clusters of the most productive models, it should be emphasized that the lexical semantic transformation of permutation realized by the reverse order of transmitting components within two and three-component asyndetic noun-groups proved to be dominant (19 % of all the cases). Moreover, many terminological clusters of the indicated types were conveyed by combined transformations (17 % of the complex terms) in order to faithfully realize the meaning of the concept, thus avoiding the ambiguity of its interpretation in the target language text. In addition, there were rare cases of multi-component terms, functioning to describe nanomaterials of auto
parts or novel transport services. They were mostly rendered through combined transformations: impact energy absorbing material – речовина, що поглинає енергію при зіткненні (permutation + verbalization + contextual substitution); non-conventional uses of tramway vehicles – непротипідійне використання трамвайів (substitution + omission + loan translation).

In the process of conveying terms-neologisms, it was indicated that they function in academic abstracts to name newly emerged smart transport systems (proper names). The componential approach to their rendering allowed to identify the appropriate translation ways for their pragmatic adaptation in the target language text. “Intelligent Transport Systems (ITS) applications can be grouped within five summary categories as Advanced Traveler Information Systems, Advanced Transportation Management Systems, ITS-Enabled Transportation Pricing Systems, Advanced Public Transportation Systems” (Thesis) (Babych M. Y., Yurkas N. Y., 2019). – «Інтелектуальні транспортні системи (ІТС) можна звести до п’яти базових категорій: Віддосконалі інформаційні Системи для мандрівників (loan translation + adaptive transcoding + permutation + substitution), Передові системи управління перевезеннями (permutation + loan translation + substitution), Системи ціноутворення та транспортні послуги з підтримкою ІТС (permutation + substitution + modulation + transliteration), Віддосконалі системи громадського транспорту”.

It can be stated that theses, abstracts and summaries contain proper nouns representing names of transport facilities, departments, companies, brands. One of the efficient translation techniques was partial explication (8 % of the lexemes) with the transplantation of the English name (4 %). “The Trum introduces a concept vehicle compatible with LRT and trolleybus infrastructure which is intended for urban goods delivery and compares the costs of trumming against those of trucking under different scenarios…” (Summary) – «Виробнича кампанія “Trum” представляє концепцію автомобіля, сумісного з леккорейковим транспортом та тролейбусною мережею, що призначений для міської доставки вантажів з порівняльним аналізом витрат на доставку трамваям та вартості вантажоперевезень за різними схемами…». As can be seen, the abbreviation LRT was conveyed in the Ukrainian summary through the full name of the concept expressed by the three-component terminological noun cluster.

In the theses about engine designs, a number of terminological abbreviations expressing certain positions of valves were conveyed into Ukrainian through a lexical semantic transformation of description (4 % of the terms) to fully disclose the meaning of the concept being represented in the first sentence: DOHC (Double OverHead Camshaft) – двигун з двома розподільними валами в головці блока циліндрик; SOHC (Single OverHead Camshaft) – двигун з одним розподільним валом і клапанами в головці блока циліндров. When mentioning them in the text for the second time, English abbreviations were transplanted in the target language text of the thesis as well as the English language names of well-known car brands, the engines of the indicated types were installed in: Renault Logan – Renault Logan, Fiat 125 – Fiat 125, Jaguar – Jaguar, Alfa Romeo – Alfa Romeo. Furthermore, there were some cases of employing the lexical and semantic transformation of compression (12 %) through the use of Ukrainian abbreviations when conveying syndetic and asyndetic terminological clusters that express some specifications of engine mechanisms: the efficiency of the piston engine – ККД поршневого двигуна, a timing belt – ремінь ГРМ.

Conclusions. To sum up, English abstracts, summaries and theses are regarded as the secondary academic texts of compressed type pertaining lexical and functional peculiarities. They are compiled to expound brief information of scientific researches and their results in different scientific publications. They are identified as those saturated with a great number of terms: general scientific, interbranch, general subject field, intrabranch terminological units, proper names and abbreviations. The structural and semantic criteria of their classification enabled to describe the most common ways of their faithful translation into Ukrainian. In the perspective, a comprehensive analysis of grammatical aspects of English academic texts of compressed type will enable to identify syntagmatic properties of technical terms within specific syntactic units that will result in a full description of grammatical and lexico-grammatical transformations to adequately convey lexical and grammatical units into Ukrainian, thus achieving structural, semantic and pragmatic correspondences of the original text of the compressed type and its translated version.
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ЛІТЕРАТУРА:


REFERENCE: