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## TRANSLATION OF TECHNICAL TERMS IN POPULAR SCIENCE TV PROGRAMS

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Mass media play a vital role in the life of society, they record and report various events in human life. Television texts and hosts' speech are full of stylistically marked lexical units and a variety of means of expression and figurativeness. One of these means is a term which is used in non-specific environment. Terms in non-technical context can not only perform their direct nominative function, but also they can perform a stylistic function enriching the speaker's speech, hence making it more interesting for the audience. Terms in popular science TV shows can denote objects, processes and phenomena, as well as be used for description of person's character and appearance. The article describes and analyzes types of terms used in popular science TV programs, translation techniques applied for metaphorical terms, abbreviations and anthroponyms. The influence of nontechnical context on translation of technical terms has also been highlighted as well as issues concerning it, namely the loss of terminological meaning in the target language (determinologization), acquisition of terminological meaning by target language lexical units (terminologization) and omission of terms in the target language. The research was carried out on original British and American popular science TV programs "Mythbusters" and "Top Gear" and their translated versions in Ukrainian.

**Key words:** metaphorical terms, abbreviations, anthroponyms, popular science TV programs, translation, nontechnical context, determinologization, omission.

**Introduction.** Advances in science and technology stimulate the introduction of words into language from various technical and scientific spheres denoting objects and phenomena, technologies and processes. Not only do terms occur in scientific articles and technical texts and specifications, but they can also be found in belles lettres, fiction and mass media. Being a specific feature of scientific style, technical terms are used for description of scientific phenomena and objects of technical fields of science. In mass media, on the other hand, they serve as stylistic means for the description of person's characteristics, interests and activities. On television terms mostly occur in popular science TV shows where they characterize new gadgets, tendencies, innovations and experiments.

The occurrence and functioning of terms in mass media is a subject of systematic research. A great deal of currently available information has been researched and published by H. Abakumova, V. Karpova, T. Katysh, T. Molodid, Y. Panaieva, O. Ponomariv et al., who contributed greatly in the development of linguistic science. Yet modern tendencies and changes in language provide horizons for further research into functioning and applications of terms.

**Topicality.** Along with these research directions little attention is given to the translation of terms in mass media and on television because they are considered to be a distinctive feature of scientific style. Translating mass media text, translators should take into consideration the context and stylistic features of the text to produce the most suitable translation. In some cases, terminological meaning can be conveyed by means of colloquial words in order not to break text cohesion. It is conveying the correct meaning suitable for nontechnical context that is considered to be the most difficult in translation of each word combination, not the words with fixed terminological

meaning. The analysis of semantic relations between different words in compound terms and terminological word combinations also plays a vital role for adequate translation. What is more, there are numerous metaphors and anthroponyms among technical terms which possess a certain degree of figurativeness, and abbreviations which are difficult to understand due to differences in meaning in various fields of science [1, с.79-80]. All abovementioned issues determine the topicality of the article.

**The aim of the article.** The article is aimed at determination and analysis of different ways of translation of technical terms in popular science TV programs and the influence of nontechnical context on their translation.

**Research material.** To carry out the research we analyzed original popular science TV programs “Top Gear” and “Mythbusters” together with their translated versions broadcasted on Ukrainian TV channels.

**Translation of metaphorical terms.** In popular science TV programs linguistic and speech metaphors can be found. Since their equivalents are usually fixed in dictionaries and they either retain or lose their figurative meaning in the target language, metaphors don't cause any problems with translation. The real difficulties can be faced at translation of metaphorical terms as they don't have well-established equivalents and practically act as semantic neologisms.

Having analyzed the ways of translation of metaphorical terms in popular science TV programs, we distinguished three main translation techniques:

1. by means of metaphorical word with the same or very similar figurative meaning:

*I've got the foot lever down. – Опускаємо ланку.*

*...how do we know when a knee joint, for instance, won't be thrown out and keel him over. – ... і де знати, що от-от не вийде з ладу, скажімо, колінний суглоб і він не перекинеться?*

2. by means of metaphorical word with different figurative meaning:

*That probably means that we're doing a plane on conveyor belt. – Мабуть йдеться про літак на конвеєрній стрічці.*

*Now, I don't know if this is right, but you're the only Lib Dem opposed to speed bumps. – Мені сказали, не знаю чи це правда, що Ви – єдиний ліберальний демократ, що виступає проти лежачих поліцейських.*

3. by means of non-metaphorical word with rather denotative than figurative meaning:

*To imitate a computer drive, Adam and Jamie set up a high-speed run with a CD mounted to its plastic tray. – Дослідники монтують вбивчий двигун у пластиковий привід від справжнього CD-рому.*

*If you are over land, a hard wired phone cost to transmit in the belly of a plane that then talks to one of a hundred and 35 land based radio towers. – Якщо ти над землею, вмонтований телефон зв'язується із передавачем у фюзеляжній частині літака, який, у свою чергу, зв'язується з однією з 130 наземних радіостанцій.*

As research results showed, the most frequently used technique is translation by means of non-metaphorical word. The general rule for translation of metaphorical terms implies that it is not necessary to convey the figurative meaning of linguistic metaphor, yet the figurativeness of speech metaphor should be conveyed if possible. To compensate the loss of stylistic means due to the use of words with denotative instead of figurative meaning in the target language, a translator can choose a metaphorical word as an equivalent to non-metaphorical one elsewhere in the text [2, с.203-204].

**Translation of anthroponyms.** Another type of compound terms is anthroponyms which contain proper names (usually last names) as one of the components. They can be either derivatives (e.g. *darwinism*), or terminological word combinations where last name is in Nominative case or Genitive case (*Frenel zone* – *зона Френеля*, *Doppler's effect* – *ефект Доплера*). In the course of our research two-component, three-component and four-component anthroponyms have been found. Thorough analysis of the research material revealed two common ways of translating anthroponyms. According to the most frequent one, proper name which is placed in attributive position in the source language occupies postposition in Genitive case in the target language:

*The teeth are placed inside the Faraday cage along with a crude antenna made from a cardboard cylinder and insulated copper wire.* – *Дослідники поклали у клітку Фарадея пломби і просту антену, зроблену з картону і мідного дроту.*

*To get a bigger spark, Jamie connects a device called a Jacob's ladder.* – *Щоб отримати більшу іскру, Джеймі взяв пристрій, який називається петлею Якоба.*

Another less common way of translation of anthroponyms is descriptive translation with the omission of last name:

*We have a Penet-radiation unit.* – *Ми маємо з собою флюорограф.*

This is explained by the fact that it is the meaning of the phrase that translators should necessarily convey. The grammatical form is retained if possible.

There are some more ways of translating anthroponyms known in the linguistic science, such as by means of relative adjective formed on the basis of proper name (*Debye shielding* – *дебайвське екранування*), word combination containing the word “method” (*Monte-Carlo simulation* – *моделювання методом Монте-Карло*) or appositional position of proper name (*Fourier optics* – *фур'є-оптика*), but such anthroponyms were not found during the research as they are not widely used in mass media.

**Translation of abbreviations and acronyms.** Like anthroponyms, terminological abbreviations and acronyms are not frequently used in popular science TV shows. Among those found in the course of our research we distinguished three-, four-, five- and six-component abbreviations and acronyms. Despite the fact that linguistics deals with much more ways of translating terminological abbreviations, our research covers only a few of them which can be explained by the necessity to maintain the stylistic integrity of the text. Hence, the following ways of dealing with abbreviations and acronyms in translation were revealed:

1. by omission of the abbreviation and generalization of meaning:

*We'll cheat. With the help of the wizards of NOS.* – *За допомогою шахрайства. А допоможуть нам чарівники-хіміки. А їм допоможе закис азоту.*

*Top avionics, computers, LCD displays. Not a gauge inside.* – *У ній повно радіоелектроніки, комп'ютерів та дисплеїв. І жодного датчика.*

2. by the corresponding full form in the target language:

*It produces a radiation level of about 55000 rph.* – *У нас є кобальт, який виробляє рівень радіації у розмірі 55 000 рентген на годину.*

*Sure, the Smart has a turbocharger, but only get 80bhp.* – *Звісно, у Смарт є турбіна, але все одно двигун видає лише 80 кінських сил.*

3. by transcoding the full form of abbreviation and omission of its components:

*If anyone's gonna have a high-speed CD-ROM drive for us to test, it's gonna be now.* – Якщо Ви шукаєте компакт диск чи ще щось інше, то Вам сюди.

4. by means of the corresponding abbreviation in the target language (b):

*Gyro stabilized magnetic compass system, VHF communication transistor (a), navigation receiver, VOR localized radiobeacon (b).* – Гідростабілізована система магнітного компаса, VHF-передавач (a), приймач навігаційної системи, ОВЧ радіомаяк (b).

5. by leaving untranslated and introducing the abbreviation in original form into a target language text (see the previous example (a))

6. by contextual replacement of the abbreviation component:

*The electrons are leaping off the PBC and being stored in a Leyden jar.* – Електрони притягуються до металу і залишаються у горщику Лейдена.

**The influence of context on translation of terms in mass media.** It is a well-known fact that context plays an important role in choosing the most suitable equivalent for a specific term, especially in mass media. Context should be taken into account in order to choose the equivalent that would preserve cohesion and coherence of the text, possess certain pragmatic meaning and be in harmony with the text stylistics. Being the distinctive feature of scientific style, terms are not widely used in mass media. They perform nominative function and are stylistically neutral which is not typical of television. Therefore, translators should be aware of lexical and grammatical translation techniques oriented on appropriate perception of the text in target language.

One of such techniques is contextual replacement of a word or a word combination which is used when the well-established equivalent does not fit into specific context making it necessary to replace the term with another word:

*The radio transmitter will pump radio frequencies into the air around the teeth.* – Передавач трансляватиме в ефір радіохвилі.

*It's high-voltage and potentially lethal.* – Це дуже потужний пристрій і, навіть, дуже небезпечний для життя.

In the first case the word *pump* is used in figurative meaning and would cause misunderstanding if translated in its direct meaning, therefore, it is substituted with the word which is more likely to be used in the “broadcasting” meaning.

In the second case the meaning of the word *high-voltage* is not lost and replaced with the colloquial synonym.

The results of our research also showed that in case of the abovementioned transformation the replacement of term follows in two ways – the term is substituted either by a colloquial word or another term. These transformations occur due to stylistic features of the text and the need to simplify the understanding of terms or avoid tautology:

*Anticipating the big bang, the guys are constructing the chamber with a failure point.* – Дослідники майструють камеру з двох половин, враховуючи так звану точку розлому, на випадок того, якщо сила вибуху буде надмірною.

*With the chamber saturated in gasoline it is time now for Adam's panty generator to spark an explosion.* – У камері напує бензин і зараз Адам спробує підірвати її з допомогою генератора статичної напруги.

In the first sentence *failure point* has a fixed equivalent *критична точка* but to specify its meaning in this particular situation the translator replaced it with *точка розлому*.

In the second sentence the word *saturated* means that the chamber is full of gasoline vapour (пар), hence the Ukrainian translation variant *напує*.

Contextual replacement can also occur as the result of rethinking and development of semantic meaning of the term:

*Instead of a heavy chassis, they use a raised-car style space frame that takes three weeks to weld. – Замість стандартного звичайного шасі тут застосували підвіску із збільшеним дорожнім просвітом. На створення пішло 3 тижні.*

*Space frame* is literally *просторова конструкція, каркас*, so having chosen a descriptive translation of the car construction, the translator facilitated understanding of the car design for ordinary viewers.

Another type of contextual replacement is the substitution of term by a commonly used word. The cases of such substitution are more common due to the fact that occurrence of terms in nontechnical context is not typical. The example of this transformation is as follows:

*This brass screen (a) will shield the skull from outside interference (b) during the test. – Під час експерименту ця латунна шафа (a) захищатиме череп від зайвих хвиль (b).*

The transformation of contextual replacement also works for the terms with figurative meaning. In this case a commonly used word in the target language can acquire terminological meaning and act as a metaphorical term:

*There's a new boot lid, there are lumps on the bonnet, and there's a new radiator grille. – Нова кришка багажника, на капоті виступи, де приховані зябра.*

Such a term can become a slang expression and find its application among people majoring in specific fields of science and engineering, youth and automobile drivers.

In case of contextual replacement not only can terms be replaced with common words in the target language, but they can also be translated by means of abstract phrases which only show the existence of an object or process without naming or specifying it. The brightest examples are the following:

*They make a heat sealer for that. – Для цього роблять спеціальний апарат.*

*Digital gauges are set on along the course. – Вздовж доріжки вони розклали спеціальні прилади.*

The translation of terms by means of common words leads to the process in which terms lose their terminological meaning in the target language. It does not happen very often, though, as the translator's main task is to produce the most accurate translation of each word combination.

Most terms which have lost their terminological meaning in the target language are single-component terms, with rare cases of two-component ones:

*Yank the lever, will you? – Натисни на ручку, будь ласка.*

*We've got to locate the error in make-up and correct it — and we've got ten days to do it in. – Ми мусимо знайти слабке місце в конструкції і виправити його — на це в нас лишилося десять днів.*

In the process of translation of mass media texts, especially in popular science TV shows, certain lexical units may acquire terminological meaning. First of all, it is determined by the context and it is a translator who makes a choice. There are fewer examples of words which acquire terminological meaning making this process quite rare in mass media texts. The following sentence serves as an example of such a

qualitative change, where the word *mace* with the meaning *булава* is translated with the word *важіль* and hence, the original meaning of the sentence is changed:

*Towards that, as yet, I had only my iron mace. – Єдиною моєю зброєю в цих пошуках був залізний важіль.*

Contextual translation results not only in substitution of terms by other terminological units or common words, but there are also cases when terms are omitted in the target language if possible. This can be done if the text remains coherent, but in most cases omission of terms leads to the loss of meaning. Depending on the structure of a term, they can be omitted partially or completely in the target language. In case of single-component terms, only complete omission is possible:

*Let the fuel light come on, then let the needle go through the red till it's at the bottom of the gauge. – Ви чекаєте, поки загориться індикатор пального, аж поки не залишиться от стільки.*

Multi-component terms, on the other hand, more readily lose one or a few of their components (a), though complete omission can also be observed in rare cases (б):

(a) *This is no ordinary diesel engine. – Цей дизель незвичайний.*

(б) *It was going round to bunch them all up, and the bloke in the Lister Storm got on the car-to-pit radio and said, "Slow him down, I can't keep up!" – Один із гонщиків зв'язався з базою і попросив Audi їхати повільніше, бо він за ним не встигає.*

**Conclusion.** To sum up, popular science TV programs combine the distinctive features of all functional styles of speech, utilizing terms as means of expression which perform nominative and stylistic function. Such terms fall into several groups, such as metaphorical terms, anthroponyms, abbreviations and acronyms. The figurative meaning of metaphorical terms is rarely preserved in the target language making the change or loss of figurativeness common. Translation of abbreviations and acronyms is the most challenging task, though, as their meaning is difficult to understand due to polysemy in different fields of science. Such terms are often translated by the corresponding full form of the abbreviation, yet they may look odd in nontechnical context and therefore, are sometimes translated by another technical term in the target language or common word causing the generalization of terminological meaning. The same process is observed at translation of other technical terms in popular science TV shows leading to terms' acquiring new meaning or the transition of stylistically marked lexical units to neutral vocabulary. And vice versa, common words can acquire terminological meaning or be omitted in the target language. Thus, the terms' functioning in nontechnical context and dynamic changes in speech arising as the result are the prospective directions for further research.

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### **І. С. Грицай. Переклад технічних термінів у науково-популярних телепередачах.**

Засоби масової інформації являються важливою частиною суспільного життя, які фіксують різноманітні події в житті людей. Телевізійне мовлення насичене стилістично-забарвленою лексикою і великою кількістю засобів образності та виразності. Одним з таких засобів є термін, що вживається в нехарактерному для себе середовищі. У статті розглянуто і проаналізовано види термінів, що зустрічаються у науково-популярних телепередачах, способи перекладу метафоричних термінів, аббревіатур і термінів з антропонімами. Також висвітлюються питання впливу нетехнічного контексту на переклад технічних термінів, а саме процеси втрати термінологічного значення терміном (детермінологізація), набуття термінологічного значення загальноповживаним словом у мові перекладу (термінологізація) та вилучення одиниць з контексту. Для дослідження були обрані оригінальні британські та американські науково-популярні телепередачі “Mythbusters” і “Top Gear” та їх переклади українською мовою.

**Ключові слова:** метафоричні терміни, аббревіатури, терміни з антропонімами, науково-популярні телепередачі, переклад, нетехнічний контекст, детермінологізація, вилучення слова.

### **И. С. Грицай. Перевод технических терминов в научно-популярных телепередачах.**

Средства массовой информации являются важной частью общественной жизни и фиксируют разнообразные события в жизни людей. Телевизионная речь насыщена стилистически-окрашенной лексикой и большим количеством средств образности и выразительности. Одним из таких средств является термин, который употребляется в нехарактерной для себя среде. В статье рассмотрены и проанализированы виды терминов, которые употребляются в научно-популярных телепередачах, способы перевода метафорических терминов, аббревиатур и терминов с антропонимами. Также освещаются вопросы влияния нетехнического контекста на перевод технических терминов, а именно процессы утраты термином терминологического значения (детерминалогизации), приобретение терминологического значения общеупотребительным словом в языке перевода (терминалогизации) и опущение термина в контексте. Для исследования были выбраны оригинальные британские и американские научно-популярные телепередачи “Mythbusters” и “Top Gear”, и их переводы на украинский язык.

**Ключевые слова:** метафорические термины, аббревиатуры, термины с антропонимами, научно-популярные телепередачи, перевод, нетехнический контекст, детерминалогизация, опущение слова.