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ISSUES RAISED BY THE ENGLISH-ROMANIAN TRANSLATION OF CARDIOVASCULAR TERMINOLOGY

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Abstract: In the past decades, the never-ending technological expansion and the emergence of new technological fields, such as those of body implants, genetic engineering, robotic surgery, stem cell treatment, drones, biometrics, artificial photosynthesis, artificial brain, etc., have transformed English into the main language of scientific writing. The growing interest in issues such as creating and modifying species, or life extension has resulted in new discoveries and the terminology that describes them. The aim of this paper is to investigate the linguistic and cultural aspects determined by the changes and differences in the translation of medical and epidemiological terms. For this purpose, our paper analyses the issues raised by the English-Romanian translation of medical texts that cover a wide area of echocardiography. The first part of this study accommodates the reader with a general background of translation theories and medical terminology. The second part is focused on our corpus analysis, where we applied several translation theories in order to point out the difficulties in translating a medical text.

Keywords: specialized translation, medical text, cardiovascular terminology, source language, target language

1. Introduction

The technological expansion and the emergence of new technological fields have transformed English into the main language of scientific writing (see Popescu, 2015). Since the beginnings of civilization, people around the world have used the practice of translation in various fields of interest: legal, medical, economic or cultural. However, the study of translation is considered to be new. Translation as a form of communication involves rendering the message from a source language (SL) text into the target language (TL) text (Bassnett, 1980: 132).

After years of debating literal and free translation, theoreticians in the 1950s and 1960s started to debate new linguistic issues. The concept of "equivalence" was one of the outstanding issues at that time. In this respect, Roman Jakobson tries to tackle the problem of "equivalence in meaning" between words in different languages. He notes that "there is ordinarily no full equivalence between code-units" and that an interlingual translation involves "substituting messages in one language not for separate code-units but for entire messages in some other language" (Jakobson, 1959/2004: 139). Jakobson sees no issue with rendering a message that has been written in another verbal language; when talking about equivalence, his focus shifts towards the difference in the structure and terminology of languages.

Peter Newmark in his books *Approaches to Translation* (1981) and *A Textbook of Translation* (1988), discusses the distinction between semantic translation (which renders the exact contextual meaning of the SL original, in compliance with the semantic and syntactic

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structures of the TL) and communicative translation (which produces on the TL readers an effect as close as possible to that obtained on the SL readers).

In their turn, Jean-Paul Vinay and Jean Darbelnet identified different translation strategies in their *Translation Procedure* (1958/1989). They discussed two general kinds of strategies, i.e. direct translation (including borrowing, calques and literal translation) and oblique translation (i.e. transposition, modulation, equivalence and adaptation).

2. Medical Translation

It is generally acknowledged that medical translation is one of the oldest translation fields, along with religious translation. Medical translation has two main purposes: information and promotion. When the medical translation is intended for informing doctors, the translator needs specialized knowledge concerning the scientific subject matter. When the medical translation is intended for the promotion of a pharmaceutical product to a bigger audience, the translator's job is even more complex. S/he must have the skills of sending messages both to specialist health workers and non-specialists audiences in the field.

Most translation problems arise when language systems, concepts, and notions differ from one country/culture to another. Medical language includes a large variety of specialized terminology applied to different contexts (see Buzarna-Tihenea, 2015a; Buzarna-Tihenea, 2015b). Being used orally or in writing, it serves different kinds of communication: doctor-doctor, doctor-nurse, doctor-patient. In other words, it covers the area of communication from specialist to specialist or it addresses the general public, sometimes in the form of popular magazine articles.

Being or not being professionals in medical sciences, translators use different strategies and techniques to solve the problems that might occur. Most problems that a translator confronts are terminological, linguistic or extra-linguistic. Scientific or general specialized texts have a well-defined pragmatic, semantic and grammatical structure. Both linguistic and extra-linguistic paradigms have a huge impact on the message to be conveyed, its accuracy and understanding, especially in such a sensitive domain such as human health.

From the terminological point of view, the language of medicine is constantly changing and evolving. Some terms are new, others become obsolete. Thus, there are various translation problems that need to be identified and dealt with when translating medical texts.

Medical terminology is difficult for several reasons. First of all, medical profession consists in jargon and idiosyncratic phrases, which sound unusual in the context of every day conversation (Fischbach, 1998: 70). In addition to jargon and idiosyncratic phrases, there are also other very specific medical terms which have been developed in order to describe a disease, medication, dosage, methods of examination.

Secondly, the medical terminology is constantly evolving due to new additions, whether new terminology is based on Latin/ Greek or not. In order to approach the medical terminology problem we need to become familiar with the meanings of prefixes, suffixes and roots. Some of them are known world-wide:

- Prefixes: a-, an- = without; anti- = against; ante- = before; co- = together; di- = two; extro- = outside of; hemi-, semi- = half; hyper- = above; hypo- = below; inter- = between; intra- = inside; post- = after; pre- = before; trans- = through; e.g. *anti*coagulation = the prevention of coagulation, *anti*-inflammatory = a medicine intended to reduce inflammation; *ante*flexion = a bending forward of an organ; *hyper*tension = high blood pressure*; hypo*kinesis = diminished or abnormally slow movement.

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- Suffixes: -ac, -ic, -al, -ous, -tic = related to; -ate, -ize = to use; -cyte = cell; -ologist = specialist; -ology = study; -pathy = disease; -ent, -er, -ist = agent; -graph = instrument used to record; -emia = condition of the blood: ischemia = an insufficient supply of blood to an organ, usually due to a blocked artery; -itis = inflammation of an organ: endocarditis = when the endocardium becomes damaged, bacteria from the blood stream can become lodged on the heart valves or heart lining; the resulting infection is known as endocarditis; -osis is a suffix occurring in nouns that denote conditions and especially disorders or abnormal states: diagnosis = the process of determining a diseased condition (see the dictionaries, glossaries and medical journals listed in bibliography).

Thirdly, synonyms may be confusing. Translators have to do enough macro-editing to ensure that the text is cohesive and can be understood by the reader.

On the linguistic level, grammatical problems might occur in translation. Some of them are related to compounding, inflexion, and derivation (morphology), while others are the effect of how words are arranged in sentences (syntax). The morphological and syntactical structure of the language dictates how messages are to be selected, formulated and organized.

When translating a text, grammatical and lexical choices are extremely important, and are carefully performed by the translator within certain time limits. There is a major distinction between these two types of choices: lexical choices (vocabulary or terminology) and the grammatical ones. The latter are compulsory and resist change. New concepts and terms are quite easily introduced into a language (although they would require an extended period of time), while grammar structures cannot be altered. During the process of translation, the content of information from the source language undergoes some transformations in the target language, triggered by the differences between the two grammar systems (i.e. of the SL and the TL). These transformations occur either by adding the necessary information or by removing some pieces of information that the translator deems as irrelevant (as far as their translation in the target language is concerned). In this respect, it is noteworthy Baker's statement, according to which "a translation which repeatedly indicates information that is normally left unspecified in the target language is bound to sound unnatural" (Baker 1992: 87).

In terms of grammar, one problem encountered by translators is the use of English tenses. It is difficult for non-native speakers of English to understand the difference between past tense and present perfect tense, or the use of present tense simple instead of past tense simple in narratives. Authors of Romanian medical research articles frequently use the past tense (Romanian being the source language). This situation raises several issues when translators have to opt for the past simple or present perfect tenses (English being the target language), in the case of temporal markers that are not necessarily connected to certain time structures in the source language.

Another translation issue raised by the gaps between the source language and the target language in terms of grammatical structures is represented by the use of the passive voice. For instance, scientific articles that employ passive constructions preferably use the form without the agent. This situation occurs when the target language lacks the necessary transitive verb in order to convey a similar structure. It is noteworthy that Romanian authors of medical articles prefer the use of reflexive constructions (e.g. *se observă*, *se înregistrează*, *se analizează*). It should also be noted that, when using an active construction in the target language in order to translate a passive structure from the source language (or the other way around), the translator may alter important elements of the text, such as the intention of the SL message, the semantic structure of the SL text and even the amount of information from the

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SL clause. Therefore, the translator should tackle these changes and assess their consequences, their implications, in order to choose the best translation option (especially since each voice has its own stylistic value in the two languages involved in the translation process, i.e. the target language and the source language).

Related to the above-mentioned issues, Newmark remarks that "the medical translator has much more freedom with grammar than with lexis" (1988: 1406). For example, for the purpose of an accurate and "natural" translation of a medical article, the translator should have in view the frequency of the source language characteristics from the respective text (such as specialized terminology, phrases, compound words, collocations, word order); moreover, these characteristics should correspond to those from the target language text. In this respect, medical English texts are characterized by a sober, technical and formal style and, during the translation process we should assess these features and have in view their impact on and their occurrence in the target language text.

According to Pilegaard (1997: 175), on the pragmatic level, firstly, any translator is judged by his ability to produce clear, comprehensible translations and should take an active role in trying to ensure that the text is clear and readable. According to Chesher (1988: 3), sometimes, translators strive to produce scientific and accurate translations and end up with intricate and almost incomprehensible texts. In order to avoid such "failures", one pragmatic strategy that should be applied is represented by the *explicitness change*. By means of this strategy, some pieces of information from the source text may be added or deleted, in order to make the text more or less explicit. For example, the phrase "a clinical reality" can be translated in the target language as "să devină realitate"; in its turn, the term "shape" can be translated as "forme caracteristice". Another pragmatic skill is interpersonal change strategy which affects the style of the text to make it more or less informed, technical (e.g. "Doppler color" for "Doppler color flow imaging"). In Stetting's opinion (1989), another strategy that could be used for the purpose of an accurate translation is represented by *transediting*. This strategy implies the extensive transformation of the target language text (for instance, the translator may modify the organization, the arrangement of the information from the source text).

In the translation of specialized medical textbooks and articles, the degree of complexity is also triggered by extra-linguistic aspects. For instance, the translator may face strict deadlines, pressure, the complexity and variety of topics, lack of experience, insufficient knowledge of the subject matter, the constraint of space (a maximum number of words), etc. Kim Grego (2000: 40) states that translation should be viewed as "a *product*, a *process*, a *practice* and emphasizes the role played by extra-linguistic knowledge and some other factors:

> *Best applied to translation, however, is the sociolinguistic notion of context, the only one which, based on a wider set of linguistic and extra-linguistic factors, can account for the many variables constraining translation, represented (…) by the translator's language variety, knowledge, education, training, as well as his/her age, gender, ethnicity, etc. But even the sociolinguistic notion of context cannot entirely cater for the key variable in translation – experience* (ibid. 42).

Extra-linguistic problems in translation may derive from a variety of differences between Romanian and English in the following areas: social conditions (groups, subcultures, living conditions, working conditions) and lifestyle (way of life, housing conditions, food, leisure activities). All these aspects can be part of the doctor-patient interview and can play an

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important role in diagnosing the condition of the patient. How these problems can be solved depends on the translator's linguistic and extra-linguistic knowledge in the two cultures.

Other cultural elements in the translation of medical texts pertain to names of medicines, procedures and protocols, names of instruments, measurement unit, questions relating to patient history, the availability of therapeutic methods). While all these culture-specific problems are context dependent, their methods of translation cannot be generalized.

3. Corpus Analysis

The corpus used in our research consists of texts selected from *Echocardiography. A Journal of Cardiovascular Ultrasound and Allied Techniques* (September and October 2016) and from a textbook of cardiovascular medicine, entitled *Braunwald's Heart Disease* (2011).

By studying the texts and using dictionaries (such as *Cambridge Free English Dictionary and Thesaurus*; *English Oxford Living Dictionaries*; *Latin Dictionary - Where Latin Meets English; Merriam-Webster's Learner's Dictionary; Oxford Concise Medical Dictionary* - which also provide the etymology of the words analyzed; *The American Heritage Stedman's Medical Dictionary*), we were able to notice the presence of medical terms of Greek and Latin origin which are almost similar in English and in Romanian: "aneurysm" (*anevrism*), "aorta" (*aortă*), "cardiopulmonary" (*cardiopulmonar/ cardiorespirator*), "cardiovascular" (*cardiovascular*), "catheterize" (*cateteriza*), "dyspepsia" (*dispepsie*), "endocarditis" (*endocardită*), "pathophysiology" (*patofiziologie*), "retroflexion" (*retroflexiune*), "thoracic" (*toracic*).

In addition to the classic Greek and Latin medical terms, we have encountered some other terms, particularly used in the field of echocardiography, e.g. "with advances in other cardiovascular imaging modalities such as *cardiac magnetic resonance imaging (CMR)* and *computed tomography (CT)*" (cu progresul în alte tehnici de imagistică cardiovasculară, precum *imagistica prin rezonanţă magnetică cardiacă (RMN)* şi *tomografie computerizată (CT)*, "*Tissue Doppler imaging (TDI)* records the motion of tissue or other structures" (*Ecocardiografia Doppler tisulară (TDI)* înregistrează mişcarea ţesutului sau a altor structuri). In these examples, one can notice that the two forms, MRI and CMR are translated into Romanian by using the same term, *RMN* (for both of them); the acronym *TDI* is preserved in Romanian, and so is *CT*. The same phenomenon can be noticed in "dobutamine is not as sensitive as thallium uptake or *positron emission tomography (PET)*" (dobutamina nu este la fel de sensibilă precum absorbţia de taliu sau *tomografia cu emisie de pozitroni (PET)*.

Other interesting examples are the borrowing "speckle tracking" (a method that uses two-dimensional images) translated as *ecografia speckle tracking* or *metoda speckle tracking*; the calque *M-mode recordings* (*înregistrările mod-M*, where M stands for "Motion" – *mişcare*); "outpatients" (*pacienţi în ambulatoriu*); the acronyms: SPECT (*single-photon emission computed tomography* (in Romanian *SPECT* - the calque *tomografie computerizată cu emisiune de fotoni*; "mitral regurgitation (MR)" (*regurgitare mitrală - MR*); "two-dimensional (2D)" (*2D* or *bidimensional*); "transthoracic echocardiography (TTE)" (*TTE - ecocardiografie transtoracică*); "vena contracta (VC)" (*vena contracta – VC*).

4. Conclusion

Taking into account the terminological difficulty of medical translation, the variables which have a major impact on this process, and studying both mono and bilingual texts in the domain, we have been able to highlight some weaknesses in the translation of texts connected to this field.

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Medical research has been allotted significant attention, time and funds, and more and more professionals have become involved in the prevention and treatment of diseases, all over the world. Consequently, the scientific advances in this domain trigger more and more new coined terms, and the necessity to use them in appropriate contexts.

Viewing translation as a form of communication, translators should consider the intention expressed by the author in the source text, the form of the message (the medical information, the morphological, syntactical and pragmatic features of such specialized texts), the general context, the translator's idiosyncrasies, his/her psychological traits and, more importantly, the audience. However, all these elements may raise translation difficulties.

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