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TECHNICAL TRANSLATION: THE STATE OF THE ART

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Introduction

Technical translation (TT) is the semiotic process of conveying meaning of a very specialized nature from a source language (SL) into a target language (TL). The objective of technical translation is to present new technical information to a new audience as a response to a very explicit demand for technical information which should be easily accessible, i.e., comprehensible, clear and rapidly available. "Technical translation is fundamentally domesticating: intended to support scientific research, geopolitical negotiation, and economic exchange, it is constrained by the exigencies of communication and therefore renders foreign texts in standard dialects and terminologies to ensure immediate intelligibility"(L. Venuti, in Baker 2001: 244).

Technical translation must not be interpreted as covering the whole range of specialized translation. We consider specialized translation as superordinate of legal translation, technical translation, financial translation, medical translation, etc., and technical translation as that complex activity the result of which is the correct TL version of service manuals, technical documentation, user guides, etc.

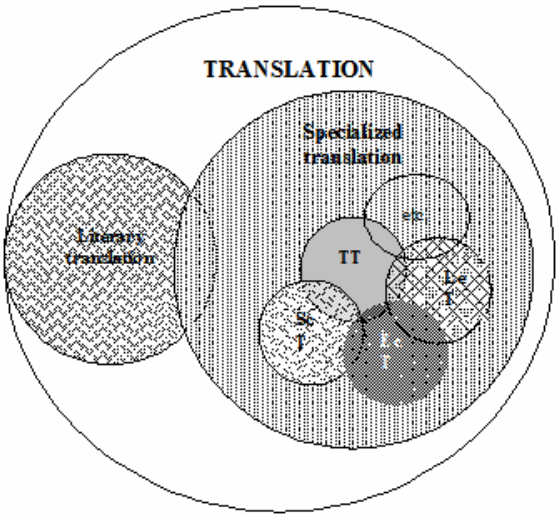
If we attempt to assess the relationship between the impact of technical translation, and the attention bestowed upon it, we will be flabbergasted to discover that not only has it "long been regarded as the ugly duckling of translation, especially in academic circles" (Byrne 2006:1), but it has also been overlooked in the literature on translation theory and practice.

Efforts have already been made but, quantitatively and qualitatively, they lag behind those for the elucidation of the issues of literary translation. Those efforts have focussed more upon terminological and technical issues (machine translation, for instance) and also subject knowledge, although increasing numbers of translation professionals and theorists realize that technical translation offers promising material and perspectives for theoretical investigation and practical breakthroughs.

Javier Franco Aixelá of the Department of English Studies, University of Alicante (Spain), provides significant data in his survey of the publications that deal with the problems of translation. He used the BITRA (Bibliography of Interpreting and Translation), a free online bibliography (http://www.ua.es/dfing/tra_int/bitra_en.htm) which, at present, already has more than 40,000 entries and communicated the results in an article published in *The Journal of Specialised Translation*. By September, 2003, out of the 20,945 publications that were listed in the BITRA only 1,905, i.e. 9.3%, dealt with the problems of technical and scientific translation, while literary translation is represented by 4,314 entries that account for 21%.

All the data were systematized in a table (shown below) that gives a very clear idea of the number of publications and the reduced attention given to specialized translation.

Total entries		Technical and Scientific Translation (absolute numbers)	Technical and Scientific Translation (%)
Until 1900	259	0	0
1901-1950	340	5	1.4%
1951-1960	596	38	6.4%
1961-1970	761	59	7.7%
1971-1980	1,594	119	7.5%
1981-1990	4,830	372	7.7%
1991-2000	10,450	1,071	10.2%
All years (incl. 2001-2003)	20,495	1,905	9.3%



This is particularly surprising while, according to estimations, technical and scientific translation accounts for approximately 90% of the yearly total translation output (Kingscott 2002: 247). This figure can be explained by the fact that various laws, regulations, directives issued by authorities all over the world require that wide-ranging, precise and effective technical documentation in a variety of languages be provided to consumers and all parties interested. Such requirements are stipulated, for instance, in legislation such as Council of the European Union Resolution C411 (1998a), EU Directive 98/37/EC (Council of the European Union 1998b) and Council Directive 93/42/EEC (1993) and international standards such as EN 292-2: 1991 and EN 62079: 2001.

The fact that international co-operation in scientific, technological, and industrial activities is increasing makes it much more obvious that technical translation employs significant numbers of translators and thus the profession should be better supported by theoretical approaches of its specific issues.

1. Approaches to technical translation

In the opening lines of this paper, we have already stated our position with reference to the collocation 'technical translation'. Were we to attempt visualizing our image of the various types and subtypes of translation, we would picture it as one big circle - representing translation in general – that includes two overlapping circles, literary translation and specialized translation respectively. Inside the circle representing literary translation we can draw smaller overlapping circles that envisage prose translation, drama translation, poetry translation; however, dealing with the issues of literary translation would be beyond the scope of our paper.

In the circle representing specialized translation, we have drawn several overlapping circles for scientific translation (ScT), legal translation (LeT), economic translation (EcT), technical translation (TT), and one circle marked *etc*. for other types of specialized translation that could not be represented, because of space restrictions. The fact that the circles overlap is

very unproblematic to explain as terminologies sometimes overlap to various degrees and the same translation strategies and techniques can be applied to any and all these types of translation.

Technical translation is not limited to terminology problems. It is true that vocabulary is the major linguistic feature of technical texts; nevertheless, as Newmark (1988) has asserted in *A Textbook of Translation* (quoted by Byrne 2006: 3), terminology accounts for not more than just 5-10% of the total content of technical texts. This extreme attention devoted to terminology in technical translation can be explained by the simple fact that it is one of the most obvious difficulties. If we use the extremely useful BITRA bibliographic database again, a search using as subject "terminology" will result in 878 titles while another search using the keyword "translation" will provide 2972 results, and "technical translation" 226. A closer scrutiny of TT will make it obvious that "perhaps even more important than terminology is actually knowing how to write the texts" (Byrne 2006: 4). Translators must, in fact, have a thorough knowledge of both the SL and TL, and make the technicalities of technical writing an important part of their training.

If style is the way in which a content is written or performed, the characteristic way into which it is expressed in language or the arts by a person, or group of people or during a period, then problems of style are an integral part of technical translation as the way and the accuracy in which the technical content is conveyed from SL into TL may turn out to be of critical importance at times. In many cases, not only authors of technical texts but also technical translators have to adapt to space requirements and this under no circumstances at the expense of clarity and appropriateness of content. The result of technical translation work should not leave things open to interpretation.

Technical translation is not a mere reproductive transfer process. The fact that the translator has to operate with a restricted terminology and is constantly subjected to stylistic constraints makes it obligatory for the professional to constantly search for linguistic solutions to guarantee appropriate communication of content. At the same time, technical translation is not only a process of conveying specialised information form SL to TL. Precautions have to be taken so that the transmission process is an accurate one, the information is delivered in the correct form and is complete; thus, the persons using the information can obtain the same results as those intended by the author of the original technical text and the information can be used correctly and successfully.

In fact, if we are to speak of perfect equivalence, it can be realised between the responsibilities of the author of the original technical text and the translator's. Surprising as it may seem to some people, technical translation involves detailed knowledge of the SL and TL cultures, SL and TL language conventions, text type and genre conventions, register, style. The translator should also possess an exhaustive understanding of the intended users of the information and of the way in which people acquire information and how they utilize it.

It is not compulsory for a technical translator to be first and foremost a consummate expert in one or several specialized fields. The translator must definitely have a very good and comprehensive understanding of the basic scientific principles and technologies and always be ready to research a new subject area. The technical translator must also possess writing skills, and a profound knowledge of genres and text types and they also *need high spatial and logical/mathematical intelligence as well* (Robinson 2007: 56).

In our opinion, technical translation differs in many respects from various types of translation, among them literary translation. In the case of literary translation the process starts from the SL author that produces the SL written text that is read by the SL reader. The document originator/initiator, if we need to identify one, is the SL author. It is relatively difficult to identify the translation initiator; it can be a publishing house that considers that it is their duty to initiate the translation of a given work because it is beneficial for the financial

balance of their entity, or because it is their duty towards the reading public, for instance. Then, as a result of the process of translation, a TL written text is produced that eventually reaches the TL reader.

SL author → SL written text → SL reader
↓
translation
(translator)
↓
TL written text → TL reader

In the case of technical translation, there is a document initiator; the SL author, or, more exactly technical writer, does not produce a service manual, for instance, as a result of a moment of artistic inspiration, but acts in accordance with the instructions of the company (the document initiator) that manufactures the product and desires to ensure its optimum and safe utilization by the user, or compliance with regulations, etc. The SL written text obtained is sent back to the document initiator that distributes it to a special type of SL reader, the user of the product.

When decision is taken to translate the service manual, this is done by a translation initiator. There are cases when the translation initiator is the document initiator; nevertheless, this not the general rule. The reasons for initiating a translation are obviously very different and will not be dealt with here. Then, the translation is made and the resulting TL written text is made available to the TL reader that is, again, a very special type of reader who will use the results of technical translation, in our case, for operating and servicing the product safely and efficiently. One further aspect should be highlighted: both the SL reader (user) and the TL reader (user) are the factors that motivate the document initiator and the translation initiator in their enterprise. Mention should also be made that it is very likely that the majority of TL readers fail to realize that they are reading a translation if the quality of the translation is good and by applying what they read they obtain the expected results. This is very different from literary translation where the readers are sometimes acutely aware that they come into contact with a foreign culture through the mediation of translation.

document initiator → SL author → document initiator → SL written text → SL reader (user)
↓
translation initiator
↓
translation (translator)
↓
TL written text → TL reader (user)

2. Translation theories

It is a very well-known fact that the 20th century was a turning point as far as the theory and practice of translation are concerned. Numerous translation strategies such as transposition, paraphrasing, literal translation, calquing, etc., were identified in the work of the translators and then theorized. For each of the strategies, the practitioners have found what they considered as the appropriate conditions of implementation and the suitable type of text. Nevertheless, the major problem is that the theories of translation are so diverse – which is not necessarily a negative situation – that while one favours a number of strategy choices, another may discard them as inappropriate.

We will attempt a very brief review of the major trends in translation theory with a view to establishing which one provides most answers to the problems of technical translation.

The issue of the equivalence is central in many theories. If we consider the source-oriented theories that rely very heavily on the notion of equivalence, translation is an attempt to reproduce the source text as closely as possible. We know only too well that the SL text and its translation into a TL can never be equivalent in all respects. That is why various types of equivalence have been identified: formal and dynamic equivalence (Nida 1964), denotative, connotative, pragmatic, textual and formal aesthetic equivalence (Koller 1979), equivalence at the level of any TL category such as unit, class, structure, element of structure, etc. (Catford 1965), a. s. o. Nevertheless, more formal linguistic approaches disallow, for instance, the use of paraphrasing. If we attempt to achieve dynamic equivalence, as advocated by Nida (1964), we will not be allowed to use calques or to introduce loanwords. The pursuit for formal equivalence will make anything that is not word-for-word translation unacceptable.

We may, thus, conclude that source-oriented theories of translation are of little help in solving the problems of technical translation for the reason that a meticulous study of the practice of translation makes it very evident that technical translators use practically all the strategies at various stages as they must "achieve a high level of acceptability, primarily because technical texts, particularly instructional texts, are intended to function first and foremost as a target language text" (Byrne 2006: 24).

A breakthrough was achieved when translation theorists such as Reiss (1971/2000) and House (1981) changed the focus on the function of the TL text and realized a fusion of approaches which consider both the SL and the TL texts. Their approach was a functionalist one, as it took into account the extralinguistic, pragmatic and communicative factors of translation. Nevertheless, detailed analyses of this approach by various authors evidentiate that it could not give a satisfactory solution to the problems of technical translation.

The relevance theory applied to translation by Gutt (1991), among other things, makes its contribution to the solution of the problems of technical translation by implying that it is a communicative approach and should be viewed as an endeavour that is focused on the needs of the TL reader (user) who expects to retrieve information from a TL text promptly and efficiently.

The *Skopos* theory championed by Vermeer (1989) upholds the idea that the methods and strategies used to produce a translation are determined by the intended purpose of the TL text. Vermeer states that the objective of any translational action and the way in which it is to be carried out should be the result of a negotiation between the translator and the client who commissions the action and this is a prerequisite for success. The same goes for translation proper: "**skopos** and mode of realization must be adequately defined if the text-translator is to fulfil his task successfully" (Vermeer 1991, qtd. in Venuti 2000: 221). A closer scrutiny of the theory that was briefly presented above - which is not possible in the present paper due to editorial space restrictions - will make it obvious that the *Skopos theory* appears to offer a more flexible framework that makes it possible for the translator that adheres to it to employ what strategies and techniques of translation he/she considers appropriate for a given translation project, text, or section of the text.

One further aspect deserves brief mention in this concise survey of technical translation: the impact of machine translation (MT) upon it. A MT system can process huge amounts of information at speeds unattainable by human translators and thus optimize the work. Also, an enormous quantity of effort has already been dedicated to the codification of technical vocabulary and its implementation into the computer's dictionary. As a consequence, translations of technical texts can reach high levels of accuracy and uniformity of vocabulary and also of cost-effectiveness for quantitative and/or rapid translation of

technical documentation.

Conclusions

To draw a conclusion would be untimely as translation theory and practice generally speaking is a work in progress and so are the attempts to theorize technical translation. What really needs to be addressed, in the case of TT, are the ways to detect the actual needs of the TL reader (user), to achieve a profound understanding of how technical communication operates in the target language and what the optimum strategies are for efficient communication by means of a technical text.

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