



To Translate or to Transfer, that is the question: a Case Study of English-Persian Translation of Chemistry Terminology

Abdul Amir Hazbavi

Department of English Language Translation & Teaching, Islamic Azad University, Bandar Abbas Branch, Bandar Abbas, Iran.

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ABSTRACT

There is no doubt that the world is constantly developing in terms of technology. This technological development had caused a drastic linguistic problem of addressing the expanding wave of newly coined concepts and technologies for which no equivalents in Persian used to exist. To preserve and help strengthen the existing Persian Language terminology, Iran's Academy of Persian Language and Literature started to introduce Persian equivalents for English terminologies of chemistry in 1997. Thenceforth the Academy has introduced at least twenty thousands of Persian equivalents in various fields, but Iranian translators seem to be reluctant about using these newly introduced terminologies. However, no scientific study has investigated the usability and acceptability of these Persian equivalences to the date. To investigate whether the Persian equivalents introduced by the Academy of Persian Language and Literature are really in use or not, the present study first compiled a list of 100 terminologies of chemistry introduced by the Academy of Persian Language and Literature. Then the Persian translations of 10 English books on the related field were investigated to gather the Persian equivalents Iranian translators had used in their translations for the terminologies under the study. Besides, the translation procedures adopted by translators for translating the terminologies under the study were investigated too. The study revealed that most Iranian translators still do not welcome the Persian equivalents introduced by the Academy of Persian Language and Literature and prefer to borrow the original English terminologies through different translation procedures. In addition, the study showed that in most cases, 71 cases out of the total of 100 cases, Iranian translators had used equivalents other than the ones the Academy of Persian Language and Literature had introduced which in turn indicates that Iran's Academy of Persian Language and Literature has failed to reach its goal of providing acceptable and usable Persian equivalents for English terminologies of chemistry.

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Introduction

As the world develops, new technologies are developed rapidly and new machines are introduced daily. These new inventions usually come together with new concepts as well as terms for which finding an equivalent is not an easy job. In another word, translation of scientific terms that emerged in western developed countries languages into a language of third world developing countries which are still having financial and social problems sometimes seems to be problematic. As put by Nida (1964):

“If however, the translation of the scientific texts from one language to another participating in a modern culture development is not too difficult, it is not surprising that the converse is true – that translating specific material from a modern Indo – European language into a language largely outside the reach of western science is extremely difficult. This is one of the really pressing problems confronting linguists in Asia today” (p. 223).

As a field, technical translation has been recognized, studied, and developed since the 1960's (Thompson, 1967). In fact, technical translation is the medium through which language, discourse and communication can exist in a global world (Hermans, 1998). Stemming from the field of translation

studies, the field of technical translation has witnessed a great growth during the past 4 decades. The reason might be the great amount of technological inventions accomplished in the aforementioned period for every new machine comes with a user's manual, which is soon translated, into many different languages. Though technical translation is only one subset of the different types of professional translation, it is the largest subset as far as output is concerned. Currently, more than 90% of all professionally translated work is done by technical translators, highlighting the importance and significance of the field (Kingscott, 2002). According to Hager (2000), translation is at the heart of international scientific and technical communication.

The main goal of technical translation is to clearly present technical information for the TL readers. According to Byrne (2006), the primary goal of scientific translation is to deliver scientific information while it aims at presenting well-expressed information that should be used easily, properly and effectively. Consequently, the translator becomes according to Amman & Vermeer (1990) the intercultural or cross-cultural scientific writer.

Likewise, technical translation makes texts with technical jargons –which are usually a must for utilizing new

technologies- accessible for a wider ranging audience. Today, there is no doubt that scientific translation has played a crucial role in the acquisition of new technologies and spread of technology all over the world, for new technologies always come together with manuals and instructions -from fairly simple to highly complicated- without which the users cannot benefit from the technology. These instructions need to be translated in order to facilitate the situation for the spread of the new technologies in countries of other languages.

However, technical translation covers the translation of many kinds of specialized texts. As put by White (1996), every field of study, be it biology, precision engineering, electronics, or meteorology has its own specialized terminology.

However, Al-Hasnawi (2010) believes that scientific translation needs a sense of discrimination, to be able to choose the most suitable equivalent term from the literature of the field or from dictionaries. It is undeniable that terminology has a significant role in scientific translations, and it is a crucial feature in scientific texts. Byrne (2006:03) argued that "Terminology is, perhaps, the most immediately noticeable aspect of a technical text and indeed it gives the text the "fuel" it needs to convey the information". Besides, Yowell and Lataiwish (2000) claimed that terminology could be one of the most serious obstacles that translators of scientific and technical texts may face; especially in the case the target language is a language such as Persian. Also, as Seiny (1985) mentions the terminology is responsible for 40% to 60% of the technical translator's errors. This significant percentage clearly shows the importance of special attention to terminology while translating technical texts. Technical translation competence therefore is firstly to solve terminological problems when interpreting a given source text and then creating a new text in the form of a translation (Rogers, 2007).

Statement of the Problem

As world witness great scientific and technological development, new English words used to express new concepts, techniques and inventions come into existence. During the last decades, these new words have developed in such a quick way that dictionaries can by no means trigger of (Al-Hasnawi, 2010). This technological development had caused a drastic linguistic problem of addressing this expanding wave of newly founded concepts and techniques for which no equivalents in Persian used to exist. However these words, according to Pinchuk (1977), are the most significant linguistic feature of technical texts.

In other words, Persian language used to suffer from a serious shortage of vocabulary in the field of technology and science, and technical translators had to resolve this problem before anything else. One solution adopted by most translators to cope with this problem was to borrow the English technical terms. That was the case for Persian translation of most English chemistry terminology.

However, the process of borrowing a target language word could happen through different translation procedures namely, Transcription Transference, Naturalization, and Calque. Transcription is defined by Harvey (2003) as reproducing the source language word in the target language while keeping the source language letters. In contrast as defined by Newmark (1988), transference is the process of transferring a source language word to a target language text, which includes conversion of source language letters into the letters of the target language. Newmark (1988), also defines naturalization as

adapting the source language word first to the normal pronunciation, then to the normal morphology of the target language. The translation procedure of Calque is defined by Vinay and Darbelnet (1976) as borrowing an expression from source language and then translating literally each of its elements using target language words. Regardless of the procedure adopted, this remarkable number of borrowed English terms which soon spread among all Persian speakers was viewed as a threat by the Iran's Academy of Persian Language and Literature (APLL) and led to the attempts the APLL made in order to find Persian equivalents for the English terms.

Established in the early 1990, Iran's Academy of Persian Language and Literature is a scientific governmental institute, responsible for the use of the Persian language in Iran. The academy members are academics of Persian literature and linguistics from Iran, Tajikistan, Afghanistan, and Uzbekistan. According to the statute of the APLL, the main objectives of this academy include the following:

- To establish terminology management units and organizing similar units in other universities as well as scientific and cultural organizations and coordinate their activities through exchange of experiences
- To Monitor terminologies from other languages translated into Persian in order to determine criteria for the preservation and strengthening Persian vigor in dealing with new concepts and terminology
- To Plan and manage new principles of choosing Persian equivalents for non-Persian terminologies
- To organize the imported foreign words in Persian and their equivalents
- To help standardize concepts and terminologies of different fields of science and technology in Persian language

However, as stated above, the main objective of the APLL has been creating and approving official Persian equivalents for the non-Persian general and technical terminologies. It should be mentioned that the Iranian law requires those equivalents passed by the APLL, to be used in all official communications of government bodies and government-owned companies, and in product names of all private companies.

Anyhow, the APLL introduced its first collection of Persian equivalents in 1997. Thenceforward, the PLLA has introduced nearly 20,000 Persian equivalents for the borrowed foreign terms in more than 40 different fields, but the Persian translators still seem to be reluctant to use the introduced Persian equivalents in their translations. Since the introduction of the Academy of Persian Language and Literature Equivalents (APLLE), there have been ongoing critics and concerns as well as discussions on various issues related to the usefulness of APLLE, but to the date, no research has been done to study the use of these Persian equivalents among Persian translators. Therefore, the present research, which tries to study the use of the APLLE as well as procedures adopted by translators translating English chemistry terminology into Persian, should be considered as the first step in this regard.

Procedure

The current study is a descriptive study, which aims to answer the unanswered question of "Are the Persian equivalents introduced by APLL really in use or not?". To start the study, a list of 100 Persian equivalents introduced by the APLL in the field of chemistry was generated from the published APLL official source of Persian equivalents. Then, the Persian translations of the below-mentioned 10 English books of

chemistry were explored in order to find the Persian equivalents the translators had chosen for the English chemistry terminologies in the list.

Appendix 1 shows the list of English chemistry terminologies used as the corpus of the study.

Data Analysis

Having finished extracting the Persian equivalents of the 100 English terminologies of chemistry, they were analyzed through comparing with the original English terms in the list in order to specify the translation procedures adopted by the translators. The data analysis revealed that the Iranian translators have used the APLLE only in 29 cases for translating the 100 terminologies in the list. It also showed that from the 71 remaining terminologies, 11 were translated through Transcription procedure, 43 terms were translated through Transference, 4 terms through Naturalization procedure, 2 terms by the Calque procedure. Besides, in 11 cases the Iranian translators have used their own Persian equivalents to translate the terminologies in the list.

Regardless of the translation procedure adopted, the study clearly showed that in most cases -71 cases out of total of 100 cases- the Iranian translators have not used the APLLE, which in turn means that the translators are reluctant about using APLLE in their translations.

However, to illustrate the frequency and percentage of each translation procedures, figure 1 and 2 were drawn. While figure 1 illustrates the percentage of each translation procedure adopted by translators, the bars in figure 2 compare the frequency of the translation procedures studied in the present paper.

Figure1, Percentage of each translation procedure

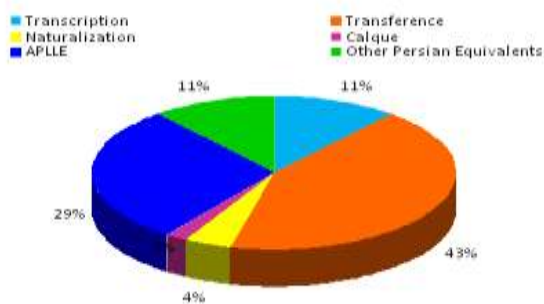
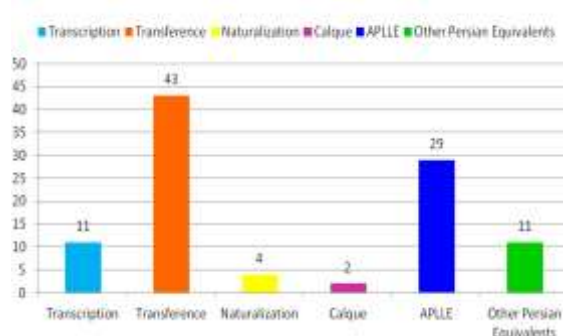


Figure 2, Frequency of each translation procedure



Conclusion

It becomes obvious from the data presented so far that the Iranian translators are not eager to use the APLLE while translating terminologies of chemistry. Although the present study was conducted on terminologies of one field of science i.e.

chemistry, it can be considered as a starting point for future studies on the use of Persian equivalents of English terminologies introduced by the APLL, for it has paved the way for future researches. Of course one single research is not enough and more research should be carried out in order to decisively say that the APLLE are used or not and whether the APLL has reached the goal it has been established for or not. In addition, researchers may replicate the same study on a larger scale by increasing the number of translated books under the study in order to support or reject the idea that the APLLE of English chemistry terminologies are not welcomed by English into Persian translators. Likewise, terminologies of other fields of science and technology can be investigated in future to support or reject the findings of the present research.

However, the present study revealed that Iranian translators of chemistry terminologies are reluctant to use the APLLE in their translations. Many reasons can be named for this reluctance among which might be the following:

- Being unaware about the Persian equivalents introduced by the APLL
- Iranian translators might believe instead of working with multiple languages, using English as the primary language is a better way of communication when it comes time for technical terminologies
- They might believe that APLLE are unfamiliar for target readers and might result in confusion

Whatever the reason is, this is a good topic for a new study to discuss the reason behind this reluctance. Besides, future works should try to aim to show how to improve the use of APLLE among Iranian translators.

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Title	Author(s)	Translator(s)	ISBN	Year of Publication
Principles of instrumental analysis. 3 rd Ed	S. Douglas Arvid	F. Bandarchian F. Asadian	964616014x	2004
Chemical Kinetics: Principles and advanced Discussions	S. R. Logan	F. Gharib R. Nasiri K. Zare	9645882133	2002
Chemical applications of Group theory, 3 rd Ed	F. A. Cotton	N. Safari M. Zahedi	9647916190	2006
Basic principles of inorganic chemistry	C. Murphy B. Hathaway	T. Marashi	9649066187	2003
General chemistry: the essential concepts, 3 rd Ed	R. Chang	D. Habibi E. Soleimani	9786009065813	2008
Solutions manual for chemistry	C. Mortimer	K. Behzadi	9646186521	2002
Chemical Chaos	N. Arnold	M. Mazinani	9643492265	2006
Textbook of practical organic chemistry, 5 th Ed	I. Vogel	A. Pourjavadi Z. Vosoogh	9640110883	2003
Alchemy: Science of the Cosmos, Science of the Soul	B. Titus	P. Faramarzi G. Radi	9789647813572	2010
Physical Chemistry	Ira N. Levine	G. Asadpour G. Parsafar	9643182797	2002