

Translation – Oriented Problems of Creating & Unifying Scientific / Technical Terms

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Abstract

The world has witnessed speedy progress in science and technology. Hence, scientific/technical terms are coined, e.g. English terms, to meet the need for referring to discoveries and inventions. In translating these terms into Arabic linguists and translators encounter serious problems.

This paper highlights the problems of translating English-Arabic terms and tries to shed light on the factors which cause these problems and hinder the translation process.

Ideally, these terms must be unified and standardized to overcome the difficulties of translating them into Arabic. Therefore, linguists and translators exert effort to achieve this goal in the Arab world.

Introduction

Developments in human knowledge and technology depend on exchanging and documenting information among nations. Scientific and technical terms are coined to meet the need of referring to discoveries and inventions. This has led to difficulties, specifically in translating terms relevant to this field into Arabic.

Many problems, e.g. imprecision and inaccuracy hinder the process of translating English scientific/technical terms into Arabic. This gives rise to a wide variety of terms which expresses one concept. Such multiplicity of terms brings in confusion, since

synonyms do not reflect the inherent quality of scientific or technical objects which should be rendered accurately and precisely.

Ideally, scientific or technical equivalent terms should be standardized and unified in translation. However, Arabic faces serious problems of expressing this ever-expanding wave of scientific and technical concepts and terms for which there are no equivalents in Arabic. In this respect Nida (1964:223) says:

If, however, the translation of scientific texts from one language to another participating in modern cultural development is not too difficult, it is not surprising that the converse is true- that translating scientific 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.

Roots of the Translation Problems

One may notice that Modern Standard Arabic (MSA) which is the prestigious variety used by all educated Arabs on formal occasions, especially in written Arabic and translation, differs from the colloquial one used in everyday life. When scientific products are imported, their foreign terms are borrowed and, consequently used in Arabic. Hence, they attain respectability and find their way into MSA, e.g. microsoft (مايكروسوفت), microphone (مايكروفون), telescope (تلسكوب), etc. However, the great majority of these borrowings remain confined to substandard Arabic or the coequal. Therefore, language academies and translators face difficulties and serious challenges as to how to render these foreign terms into Arabic. They may resort to direct borrowing or loan translation.

Neither of these techniques is hardly intelligible even to a specialist, let alone the average Arab reader. On the other hand, despite the fact that SA is the main means of communication among all Arabs in the Arab world and that each Arabic speaker (for example an Egyptian) can easily communicate with another, say a Jordanian, using SA, there is confusion and chaotic situation in using scientific or technical terms. This is mainly because such terms are neither standard nor unified in Arabic. For example, the technical term 'سيارة' (a car) is used in Jordan whereas the term 'عربية' which refers to the same object is used in Egypt.

The root of the problem is that scientific and technical language should be precise, i.e. one word for one referent. Geographical factors give rise to different words being used for the same referent (dialectal differences). Social factors are also constantly at work influencing the meanings of words. Word meanings are constantly changing, although the process is rather slow and may take years. We often notice words falling into disuse. Thus, there is an endemic conflict between the demands for scientific terminology and the reality of the semantic change in Arabic.

In Arabic there are two dimensions to translation problems:

1. Linguistic Factors

A. Diglossia in Arabic: Arabic is one of the oldest living languages in the world. Nevertheless, an intra-lingual problem emerges due to the social development in Arabic speech community, i.e. diglossia. Ferguson (1959:336) defines this linguistic phenomena as

a relatively stable language situation in which, in addition to the primary dialects of the language, which may include a or regional standards, there is a divergent, highly codified,

often grammatically more complex, super-posed variety, the vehicle of a large and respected body of written literature, the heir of an earlier period or in another speech community, which is learned largely by formal education and is used for most written and formal spoken purposes, but is not used by any sector of the community for ordinary conversation.

In view of this definition and as it is well known there are four distinguished varieties which exist side by side:

a. Classical Arabic (الفصحى): it is a variety which is on one extreme and the colloquial Arabic on the other. It is the literal variety of Arabic which maintains a high degree of uniformity and functions as the official standard language in all Arab countries, primarily due to the fact that it is the language of Qur`an. There is a close link between Islam and the classical Arabic as mentioned in the holly Qur`an. It is characterized by inflectional structure for mood and case and is used in formal situations, which include political speeches, sermons, lectures, news broadcast, conference discussions and most written activities.

b. Colloquial or Spoken Arabic: it is the language of everyday activities, which varies not only from one Arab country to another, but also from one area to another within each country. Among the colloquial varieties are those spoken by rural and nomadic groups.

c. Educated Arabic: it is an intermediary Arabic which results from the combination of Classical and colloquial Arabic. Al-Toma (1969:4) says it is “a branch of MSA in which there are dialectical spoken forms. It is generally used by Arabic native speakers on formal occasions, but hardly used in everyday conversation.” The main feature of this variety is colloquialism, especially in the fields

of phonology and grammar, but there is a degree of classicism mainly in the use of lexical items.

d. Modern Standard Arabic: this variety of Arabic has been developed with the development and widespread of mass media, especially the newspapers. The only difference between this variety and the Classical Arabic is the use of common lexical terms and the flexibility in using translated words and phrases. (Stetkevych, 1970:116) thinks it is:

a useable and functional variety. It has done away with things which are not in our present realm of thought and experience and substituted relevant ones for them. Modern Arabic has become simplified; it is grammatically more logical according to one claim and grammatically more flexible and ... ; it has bridged the gap between the Classical and the colloquial.

The colonial pasy has worsened the giaglossic situation for it has led scholars to have different cultural backgrounds in scientific, technical and technological subjects. Hence, two signifiers or more, which are borrowed from different languages, are used to denote one signified, for example ‘nitrogen’ which is English whereas ‘azote’ is French. On the other hand, a number of Arabic signifiers are used to express a single technical term, for example ‘ alluvial plane’ is signified as ‘سهل غريني أو سهل طيني’.

1. The Purists and Innovators

The conflict between the purists and innovators in the Arab world is another factor in deep rooting the problem of unified and standardized translation of technical and scientific terms in Arabic. Al-Kasimi points out that:

The purists advice that new terms should as far as possible be coined from native roots or by the revival of old words (al-istinbat). They discourage the adoption of loan words. Foreign terms have to be translated into Arabic, whereas the innovators advocate the practice of free borrowing from English, French and even from the colloquial dialects of Arabic to meet the ever-lasting need for scientific and technical terminology.

Zaghloul (2007:288) says "The purists condemn borrowing' maintaining that Arabic is capable of generating the needed terminology through its internal morphological processes."

This excessive conservatism of the purists towards Arabic has delayed the process of unifying and standardizing translated scientific and technical terms, in which equivalences should correspond to one distinct foreign term each by discouraging the adoption of loan words and imposing archaic ones. They think that loan words destroy the spirit of the language. So, neither term, i.e. the loan nor archaic word, is established and unified. The fact is that any living language adopts and adapts loan words to its morphological and phonological pattern. Arabic can adapt loan words by analyzing and structuring them in accordance with its inflectional structure. For example, the loan word 'televise' is reanalyzed as a four-consonants root 'telfz' from which the verb 'talfaza, the participle 'mutalfaz' and the noun 'tilfaz' are derived in accordance with the Arabic patterns.

The process is also delayed by encouraging scholars to derive technical terms from native roots. Moreover, what adds to the difficulties of standardization is the persistence on Arabizing rather than translating such terms into their Arabic equivalent.

2. Non-Linguistic Factors

Geographically, the Arab world occupies a vast stretch of land which extends from Casablanca on the Atlantic Ocean in the west to Kuwait on the Arabian Gulf in the east, Aleppo and Syria in the north and Sudan in the south. This sheer size of the Arab world can make communication difficult. Academically, setting up language academies in almost all Arab countries that function independently and separately has led to duplication of efforts in terminology creation. Other sources which coin new terminology are ministries of education, university lecture, translators, journalists and above all "lexicographers, writers and scientists who have taken an active part in the process of supplying Arabic with new technical terms."(A-Kasimi, 1079:115).

The most important reasons for the failure of the process of translation, particularly in the last century are:

1. The belief that Arabic is inappropriate for modern science.
2. All scientific and technical subjects are taught in foreign language.
3. The shortage of specialized linguists and qualified people who can bear the burden of scientific and technical translation.
4. All engineers and technicians who have studied abroad use foreign terms to express objects or concepts in their specialized fields let alone their ignorance of the simple Arabic grammatical rules, especially derivation and analogy.(Dickins, 2002: 184).

The Impact of Western Languages

Arabic vocabulary has been influenced by Western languages as a result of its contact with the European cultures. This contact has been primarily through English and French which have introduced Western technology into the Arab world.

These two languages are considered as second languages in the Arab countries and, generally speaking, knowledge of the second language is indispensable for career advancement.

It is worth noting that loan words are preferred over their native counterparts, such as 'mobile' (الهاتف النقال), the mouse (الفارة) etc. At least, there is a choice; but at the colloquial level it is quite common to find loan technical terms for which there are no accepted lexical units in the standard language such as terms of car parts which provide a well-known example.

Essentially, the problem of standardized Arabic equivalents of many technical foreign terms has not been solved yet. Even in cases where there is a standardized term for a technical concept or object in Arabic, lexical variation may occur as a result of borrowing from different sources. Hence, "there is no agreement among the Arab on the rendering of scientific and technical terms" (Elmgrab, 2011:492). This poses a potential translation problem in the scientific and technical disciplines in the Arab world.

Duplication in Translating Scientific & Technical Terms in Arabic

The major problem in creating and unifying scientific-technical terms in Arabic is the duplication of these terms, (Emery, 1982: 85) says

Much of duplication can be attributed to geographical and political factors: the sheer size of the Arab world and the concern of

the Arab countries to build their own particular educational systems and develop their own political identities. There are, yet, other factors: the role of the Classical Arabic and the influence of Western languages.

Classical Arabic is the language of the holy Qur'an and Islam. It was, also, the medium by which Greek science passed to the West via translations into Arabic in the eighth century. Later these translations were rendered into Medieval Latin. In the middle of " the eighth century to the end of the tenth, almost all non-literary and non- historical secular Greek books that are available throughout the Eastern Byzantine Empire and the Near East were translated into Arabic,"(Gutas, 1998: 1). Arabs brought with them into Spain the Arabic version of the Greek work, from which translations were made into Latin and spread throughout Europe, which was then in its dark age. Moreover, Arabic is the means whereby educated Arabs from different Arab countries communicate with each other. Hence, it is a patent factor of the Arab world unity.

The influence of Western languages on how Arabic has borrowed their scientific and technical terms is evident. Sometimes Arabic borrows two terms from two different languages, specifically English and French, which denote the same concept or object. Naturally, such languages adopt different terms for objects or concepts. These terms have been borrowed and translated into Arabic. Therefore, "Arabic will end up with two different terms which are conceptually related, but morphologically alien. An example of duplication in Arabic the English master card (bitaqa ra'isya) is French."(Al-Kasimi,1979:115).

Conclusion

Scientific and technical terms which flow to the Arab world are borrowed from different foreign countries. This situation poses translation problems and makes translation process impractical let alone creates problems and obstacles to layman and professional translators alike. So Arab science academies, which were set up, universities, linguists, lexicographers and translators try to coordinate their efforts to strengthen the trend towards translating, coining and unifying Arabic scientific and technical terms to avoid duplication. Moreover, they try to standardize and up date the lexicons in this field. Hence, an academic federation under the auspices of the Arab Education, Cultural and Scientific Organization has been set up and called Arab science academy (المجمع العلمي العربي)

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