Rendering Translation Studies Terminology from English into Arabic: Identification of Methodology and Assessment of Adequacy

https://doi.org/10.33806/ijaes2000.21.2.7

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Abstract: This study examines the translation methodology used in rendering Translation Studies (TS) terminology from English into Arabic as a key factor for the development of Arabic Translation Studies. The study is based on the investigation of Arabic translations of seven English TS works. The study aims to identify the translation techniques used in translating terms in context, and to evaluate the adequacy of the translation equivalents produced by those techniques in terms of achieving denotative precision and conciseness. The findings indicate that ten techniques are used, with calque, glossing and the use of an existing equivalent being the most common. The equivalents produced by the ten techniques vary in their adequacy for maintaining contextual meaning and achieving conciseness. The findings show that the most appropriate equivalents are those produced by calque and the use of an established equivalent. The study shows a clear lack of agreement and coordination among Arab translators in using existing translation equivalents and/or creating new ones, thus adding to the current terminological chaos in Arabic Translation Studies which is already lagging behind rapid developments of the discipline in other languages.

Keywords: Adequacy, Arabic, English, terminology translation, Translation Studies terminology, translation techniques

1. Introduction

Terms of a discipline are key items in the linguistic representation of the conceptual structure of the specialized knowledge of that discipline. They represent key concepts, which are the building blocks for specialized knowledge development and communication. In other words, "terms are units that relate language to the real world and represent objects in the real world. Specialists use terms to express themselves and exchange thoughts and organize the structure of their disciplines" (Cabré 1999: 39). Hence, two essential qualities, namely conciseness and denotative precision, are stressed by terminology standards suggested by terminologists and international organizations such as ISO and UNESCO. They consider conciseness an essential formal feature of terms because it speeds up technical communication and qualifies terms for further derivation and compounding (Giaber 2017: 54). Meanwhile, precision is a universal requirement of communication. It is a measure of the accuracy with which knowledge and intention are represented in a text. [...]. In special communication terms are considered substitute labels for definitions because only a full and precise definition is the proper linguistic representation of a concept. (Sager 1990: 109)

In other words, denotatively, terms refer to the concepts delimited by specialists in specific definitions. This delimitation distinguishes one concept from another and minimizes disagreement between specialists.

When specialized knowledge is translated, equivalent target language (TL) terms are selected or created to represent those concepts originally developed in a source language (SL). The journey of specialized concepts from SL to TL is not usually an easy one, especially when it occurs between two structurally and culturally different languages like English and Arabic. This is because such differences entail different conceptual/cognitive configurations in the minds of the language users. These configurations determine the way specialized concepts and terms are developed and formed in the SL. Subsequently in translation, they also affect the way specialized concepts are conceptualized and transferred into the TL and the way TL equivalents are selected or created. Following Cabré (1999: 47-48).

a good [...] translation not only has to express the same content as the source text, but it also has to do so in the forms that a native reader of the target language would use. In the case of specialized translation, the reader will be a specialist in the field.

This means that TL equivalents must meet the expectations of TL specialists including conciseness, precision and appropriateness.

Other factors affecting the translation of terminology are (a) history of the discipline, (b) nature of its subject of study, (c) relationship with other disciplines and (d) differences in accumulative experience in terminology management acquired by users of the two languages involved in translation. If these factors are applied to TS, it is legitimate to say that it is a recent discipline with ongoing development in theory and methodology. As the subject of study, translation is a type of human behavior, which, due to socio-cultural factors, undergoes constant change, resulting in a constant flux of terms and a change in the way they are used. Meanwhile, because of its genealogical relationship with literary studies and linguistics, TS has borrowed many literary and linguistic terms some of which have developed new senses but are still shadowed by literary and linguistic interpretations (see Marco 2009). Finally, the effect of differences in accumulative experience in terminology management is evident in the case of English and Arabic. English is one of the key languages in which TS has developed its terminological system and matured into a full-fledged discipline. In contrast, although Arabic was the language of one of the greatest translation movements in history (i.e. Graeco-Arabic translation movement) (see also Gutas 1998; Ghazala 2012: 30-52; Abdalla 2018), TS in Arabic is still lagging behind, especially in respect of terminology standardization (for more on this point see Ali 2007b: 5-6; Al-abdan 2013: 9-10; Abdalla 2018: 199-226). Thus, in addition to its lagging status, Arabic TS must deal with all terminological problems related to the nature of translation as a subject of study, recency of TS, its relationship with other disciplines and contrastive structural and cultural differences between Arabic and other languages from which TS literature is translated.

The rendering of TS literature from English into Arabic is part of the Arabicization Movement, which started in the late nineteenth century with the beginning of what is known in the Arab World as the renaissance. In dealing with terminology issues, the renaissance period was characterized by individual and institutional efforts (such as those of the Arabic language academies in Cairo and Damascus). In recent times, more individual than institutional efforts are made, possibly due to a lack of enough resources on the part of institutions. During our screening process to select sources of data for this study, we have noticed that most translations into Arabic of TS works were made by single translators, although some were commissioned by institutions such as the Arab Organization for Translation and National Translation Centre.

Reading English-Arabic translations of TS literature shows (a) clear differences in translation methodology among translators coupled with a lack of coordination and/or agreement on the use of existing terms or the creation of new ones and (b) the inadequacy of many translation equivalents in maintaining the contextual meanings of terms and achieving an acceptable degree of conciseness. This situation seems to have negative implications for the quality of translation and development of the TS terminological system in Arabic.

The aim of this study is to identify the translation techniques used in translating TS terms from English into Arabic and evaluate the adequacy of the equivalents produced by those techniques in respect of maintaining denotative precision and achieving an acceptable degree of conciseness in Arabic.

2. Literature review

The translation of terminology from foreign languages into Arabic has been of interest to specialists for many decades. Some studies present general issues such as methods of translation, methods of term formation and terminology standardization in Arabic. Others discuss issues related to the translation of specialized terms in specific branches of knowledge.

Khasāra (2008: 19-20) identifies three methods for creating terms in Arabic: (a) *al-tarjama* (translation), (b) *al-tawlīd* (generation), and (c) *al-iqtirād* (borrowing). He explains translation as using a traditional or new recognized correspondent in the TL for a term in the SL, whereas generation includes various types of derivation and use of figurative language. Borrowing includes both naturalization and transliteration. Khasāra discusses these methods from a lexicological viewpoint. Also, his use of the term 'translation' in the narrow sense of replacing a source text (ST) term with a TL term is confusing to use within translation studies.

Darir (2016) identifies six methods of term-formation in Arabic: (1) reviving old words; (2) semantic expansion for existing words; (3) derivation; (4) blending; (5) borrowing, and (6) calque. According to Darir (2016: 326), although there is no clear-cut 'rules' on when to use the different methods of producing terms, Arabic language academies tend to prefer reviving old words over producing new words or borrowing. He summarizes the trends followed by Arab scholars into purists (those insisting on resorting to heritage and derivation to

keep the language free from foreign influences) and modernists (who welcome the unrestricted use of loan words, loan translation and blending). In his opinion, actual usage shows that purists have lost the battle due to the large number of new concepts and terms of modern knowledge that are being introduced continuously into the language (Darir 2016: 327). While Darir's (2016) paper provides a good summary of methods identified by scholars of Arabic throughout the years, it does not provide any descriptive analysis of any data.

Awang and Salman (2017) investigate the methods used in forming terms in the Cairo Academy's *A Collection of Scientific and Technical Terms Vol 42*. They use Vinay and Darblent's direct methods of translation (borrowing, calque and literal translation) and methods of Arabicization (transliteration, derivation and composition (*tarkiib*)) to analyze ten terms from this collection. Results show that the highest rate of translation methods used is the combination of borrowing and literal translation, whereas the highest rate for Arabicization methods is a combination of transliteration and composition. By composition they mean hybrid formation involving Arabic and foreign elements in forming equivalents (Awang and Salman 2017: 98). Awang and Salman (2017) use different labels for the same methods (e.g. transliteration and phonetic borrowing) which is highly confusing. Also, their results cannot be generalized as their data is limited to 10 terms in one case study.

Hassan (2017) examines the techniques used in rendering terms in the Microsoft Terminology Collection to identify the type of change applied to the ST term. His analysis distinguishes three main categories of terms: translated, expanded and Arabicized (Hassan 2017: 69). Translated terms are one-word SL terms replaced by one-word TL terms which "refer to the same thing" (Hassan 2017: 73). Expanded terms are those derived from TL roots by using derivation, compounding or blending (Hassan 2017: 75). Both translated and expanded terms involve semantic transfer, but only expanded terms involve morphological changes. Arabicized terms are those borrowed from the SL involving phonological and morphological changes (Hassan 2017: 79). In his conclusion, he presents guidelines to technical translators in which he prefers translation and expansion over Arabicizing "as long as the term denotes either the whole class or any random member of the [word] class" (Hassan 2017: 84). This recommendation does not take into consideration conciseness and precision as two essential requirements in forming terms. The examples given for all three categories included terms that were of one-word length and denotatively precise and those that were composed of more than one word and/or imprecise. In other words, the focus on the changes applied to ST terms does not allow for the assessment of the adequacy of term formation methods.

Although many TS works have been translated into Arabic from other languages, to the best of our knowledge, no separate study has exclusively dealt with issues related to the translation of TS terminology into Arabic. Several studies published during the past decade deal with the issue of translating linguistics terminology from French and/or English into Arabic: Abdellah (2003); Dabāsh (2005); Miqrān (2009); al-'abd (2011); Elenizi and Ghraiba (2012);

Z'ayyin (2013) and Bin Mālik (2015). These studies highlight the importance of terminology translation in modern times and discuss some issues facing Modern Standard Arabic (MSA) in accommodating modern linguistic concepts. These issues include (a) contrastive morphological differences between Arabic and French and/or English (Dabāsh 2005: 69-70), (b) translation methodology used by Arab translators and lexicographers in rendering linguistic terms into MSA (Abdellah 2003; Dabāsh 2005: 70-78; al-'abd 2011: 121-139), and (c) problems of terminology standardization and variation in method among Arab translators and lexicographers (Dabāsh 2005: 78; al-'abd 2011: 147-152; Z'ayyin 2013: 122-137). In terms of translation methodology, which is the most relevant issue to our study, these studies identify several translation techniques. These include (a) use of existing lexical items, (b) derivation of new words, (c) use of metaphor to create new lexical items, (d) use of blending, (e) use of paraphrase, (f) direct borrowing, in which a foreign language term is used verbatim in Arabic, (g) conceptual borrowing (i.e. calque) in which the translator borrows the SL concept only and expresses it literally in Arabic words, and (h) hybrid formation (i.e. a mix of translation and borrowing) (see Abdellah 2003; Dabāsh 2005: 70-77; Migrān 2009: 151-156; al-'abd 2011: 121-139; Z'ayyin 2013: 113-122; Bin Mālik 2015: 127-134). In discussing these techniques, some studies use limited data and examples such as Abdellah's (2003), which identifies techniques based on 11 terms only. Other studies are extensive and provide valid statistical results like al-'abd's(2011). However, his study focuses on term formation from the view point of Arab lexicologists. It does not consider translating terminology within a context and its influence on term choice.

Although TS is genealogically related to linguistics, and many linguistic terms constitute an essential part of TS terminology, only Elenizi and Ghraiba (2012) explicitly discuss translation terms alongside pure linguistic terms. The authors briefly discuss four issues using a small number of examples: (a) the role of Arab translators in linguistic terminology translation, (b) appropriateness of some existing French-Arabic and English-Arabic equivalents, (c) translation techniques used, and (d) the importance of standardizing linguistic terminology in Arabic. The study stresses the contribution of translators to the creation of Arabic equivalents for linguistic and TS terms within the processes of translating TS works and compiling of bilingual specialized dictionaries (ibid: 2-3). The study points out that some of the existing equivalents are denotatively acceptable, but some are not. However, the authors do not discuss the key issue of quality thoroughly. As for translation methodology, the study identifies three techniques: (a) borrowing (e.g. سيميولوجيا simyūlūjyā for 'semiology'), (b) calque (e.g., فعل fi'l taḥqīqī for 'illocutionary act') (ibid: 4-7) and (c) adaptation, but no examples are given for this technique (ibid: 10). Because the study does not rely on a large-scale corpus and does not give clear importance to conciseness and appropriateness, in assessing the adequacy of these techniques, the study results are not reliable and cannot be generalized over other Arabic translations of linguistic and translation terminology.

In view of the above discussion, our study comes to fill a gap in terminology studies in Arabic. The study figures out as a pioneer study dealing with TS terminology translation and management. One of its key merits is that it deals with the translation of terms descriptively in their contexts rather than prescriptively out of context.

3. Research methodology

This study is a descriptive analytical investigation of contextual English-Arabic equivalents used by Arab translators in rendering seven English TS works. The aim is to identify the translation techniques used and the appropriateness of the resulting equivalents. By 'context' we mean the linguistic, semantic, notional and pragmatic elements and features of a running text (or part of it) in which a term is used. In a running text, terms may occur in different forms (i.e. noun, adjective, verb) to facilitate the communication of ideas. Thus, pragmatically, terms are units of communication and reference with certain discourse characteristics. As such, they occur in well-defined communicative situations (Cabré 1999). It follows that the occurrence of a term is determined by its context. This context is specified in terms of the features with which the term combines as a sequence (Crystal 1980/2008). "By being studied in the context of communicative situations, terms are no longer seen as separate items in dictionaries or part of a semi-artificial language deliberately devoid of any of the functions of other lexical items" (Sager 1990: 58). Therefore, in translating terminology, the context plays a vital role in determining the contextual meaning of a term and, consequently, its translation in a TL. For more on the significance of the context in translating lexical items, see Al-Titinchy and Al-Titinchy (2015-2016).

The selected English works, written by renowned scholars on various aspects of translation and interpreting, are presented in Table 1.

Table 1: English TS works and their Arabic translations

No.	English Text	Arabic Translation				
1	Catford, John. (1965). A Linguistic Theory of Translation.	Catford, John. (1983). Nazariyya Lughawiyya fi al-Tarjama.				
2	Newmark, Peter. (1988). A Textbook of Translation	Newmark, Peter. (2006). Al-Jāmi ʿfī al-Tarjama.				
3	Hatim, Basil and Ian Mason. (1990). <i>Discourse and the Translator</i> .	Hatim, Basil and Ian Mason. (1998). <i>Al-Khiṭāb wa al-Mutarjim</i> .				
4	Bassnett, Susan. (1980/1991). Translation Studies.	Bassnett, Susan. (2012). <i>Dirāsāt al-Tarjama</i> .				
5	Jones, Roderick. (1998). Conference Interpreting	Jones, Roderick. (2007). Tarjamat al-Mu'tamarāt: Dirāsa Tafṣīliyya.				

	Explained.				
6	Munday, Jeremy. (2001). Introducing Translation Studies: Theories and Applications.	Munday, Jeremy. (2010). Madkhal 'ilā Dirāsāt al-Tarjama: Nazariyyāt wa Taṭbīqāt.			
7	Dickins, James, Sandor Hervey and Ian Higgins (2002). <i>Thinking Arabic Translation</i> .	Dickins, James, Sandor Hervey and Ian Higgins (2007). al-Tarjamal mina al-ʿarabiyya ʾilā al-ʾinjlīziyya.			

These works are selected because (a) they are famous texts in TS and are widely used in the English-speaking countries and the Arab World, (b) they include terms covering various aspects of TS and (c) their translations are carried out by Arab specialists with native language competence working in Arab universities as professors of translation and/or linguistics. These translations are investigated at micro level to identify the techniques adopted by the translators in rendering TS terms in specific contexts. The selected terms include (a) pure TS terms (e.g., translation equivalence, simultaneous interpreting, Skopos theory) and (b) key terms borrowed from other disciplines such as linguistics (e.g., discourse, cohesion, context) and are used in TS in English. The criteria for selecting these terms are (a) being highlighted by ST authors as terms and/or (b) being listed in one or more of the TS dictionaries (i.e. Shuttleworth and Cowie 1997; Delisle, Lee-Jahnke and Cormier 1999; Sin-wai 2004; Palumbo 2009) and/or terminology glossaries in TS textbooks and other TS works (e.g. Newmark 1988; Baker 1992/2011; Munday 2009; Colina 2015).

The seven works were perused page by page to identify and select TS terms which appear in the above-mentioned TS dictionaries and/or glossaries. The seven translations were also perused to identify the corresponding translation equivalents used by the translators. Table 2 shows the distribution of terms/translation equivalents in the corpus.

Table 2: Distribution of translation equivalents as per the seven works

No.	Arabic Translation	Number of Terms/Translation Equivalents
1	Catford (1983)	42
2	Newmark (2006)	123
3	Jones (2007)	56
4	Dickins, Hervey and Higgins (2007)	74
5	Munday (2010)	151
6	Bassnett (2012)	41
7	Hatim and Mason (1998)	107

Table 2 shows that the number of terms varies from one text to another because of the differences in the nature and purposes of the source texts (i.e., monograph, textbook or reference) and differences in the field aspects covered by each text.

4. Data analysis

4.1. Identification of translation techniques and evaluation of equivalents

In TS, the terms 'technique', 'procedure', 'strategy' and 'method' are used by different scholars and writers to refer to 'the way a text unit is translated from one language into another', leading to different classifications and categories. Molina and Hurtado Albir (2002: 506) point out that "the same concept is expressed with different names and the classifications vary covering different areas of [translation] problems. In one classification one term may over-lap another in a different system of classification. The category itself is given different names". This has resulted in terminological confusion in the discipline (see Newmark 1988: 81-92; Vinay and Darbelnet 1995: 30-42; Chesterman, 1997: 87-116; Byrne 2012: 118-131; Almanna 2016: 55; Giaber 2019). In this study, translation technique is "the transfer mode or procedure opted for by the translator in rendering a micro-level unit of the ST [...] in a specific context" (Giaber 2019: 108).

Data analysis shows that in translating TS terminology from English into Arabic, translators use ten techniques: (a) calque, (b) glossing, (c) use of an established equivalent, (d) description, (e) paraphrase, (f) use of a synonym, (g) use of a mixed technique, (h) borrowing, (i) addition, and (j) reduction. The frequency of these techniques varies from one technique to another and from one translator to another as can be seen in Table 3.

Table 3. Frequency of translation techniques

No	Translation Technique	Catford 1983	Hatim and Mason 1998	Newmark 2006	Jones 2007	Dickins et al. 2007	Munday 2010	Bassnett 2012	Total Cases
1.	Calque	29	44	64	12	46	104	14	313
2.	Glossing	43	89	23	3	64	14	17	253
3.	Established equivalent	8	27	47	31	16	24	15	168
4.	Description	1	5	4	9	7	2	2	30
5.	Paraphrase	2	14	4	3	2	7	0	32
6.	Synonym	1	3	4	1	3	4	3	19
7.	Mixed technique	1	10	0	0	0	6	1	18
8.	Borrowing	0	1	0	0	0	2	3	6
9.	Addition	0	3	0	0	0	1	3	7
10.	Reduction	0	0	0	0	0	1	0	1

Table 3 shows that 'calque' is the most used translation technique (313 cases), 'glossing' comes second (253 cases) and 'use of an established equivalent'

comes third (168 cases). The remaining techniques vary from 1 to 32 cases. In what follows, each of the techniques will be discussed using examples from different Arabic translations.

4.1.1. Calque

Vinay and Darbelnet (1995: 32) define calque as "a special kind of borrowing whereby a language borrows an expression form of another, but then translates literally each of its elements". According to the authors, the result is either a lexical calque, which respects the syntactic structure of the TL and introduces a new mode of expression, or a structural calque which introduces a new construction into the TL (ibid: 32). What concerns us here is the lexical calque, which applies to the translation of lexical items, and the purpose is to fill a lexical gap in the TL or to retain a special SL sense. Thus, calque "refers to a deliberate choice, not the unconscious influence of undesired interference" (Chesterman 1997: 94).

Analysis shows that morphologically most calques in the corpus mirror the structures of their English counterparts in the number of words, thus they are mostly concise. Denotatively, many of the calques are precise as they refer to the exact SL concepts such as الوظيفة الجمالية al-wazīfa al-jamāliyya for 'aesthetic function' (Newmark 2006: 61), التحليل النقابلي al-taḥlīl al-taqābūlī for 'contrastive analysis' (Munday 2010: 23), and الترجمة الفورية al-tarjama al-fawriyya for 'simultaneous interpretation' (Jones 2007: 111). These equivalents agree with the guidelines set by the Arabic language academies in terms of denotative precision and conciseness (Al-Kasimi 2008: 559, 563 and 567). Few calques, however, do not express the contextual meanings of the SL terms such as الترجمة اللغوية الضمنية al-tarjama al-lughawiyya al-dimniyya [the implicit lingual translation] for 'intralingual translation' in Munday (2007). Although the translator here makes use of the Arabic word ضمن dimna[within], which is supposedly standing for the prefix intra-, the adjective form used (i.e. ضمنية dimniyya) means 'implicit', which does not refer to the right concept in this context. In Dickins et al. (2007: 25), the translator produces a denotatively more precise equivalent for this term: الترجمة al-tarjama al-dākhiliyya [internal translation]. Chronologically, the translation by Dickins et al. appeared three years before Munday's, which shows that either Munday's translator did not know of/read the translation of Dickins et al., or he did not view this translation as adequate. In either case, this is an example of lack of coordination/agreement among translators.

4.1.2. Glossing

Glossing is the technique of giving additional information to clarify concepts, establish semantic links between SL and TL terms or give alternative equivalents. Usually, the purpose is to "compensate for the lack of precise equivalents to certain words in the source text or for a perceived lack of sufficient knowledge on the part of the reader" (Sharkas 2011: 371). This study identifies two types of glossing: interlinear glossing and footnote glossing.

a. Interlinear glossing

This is the inclusion of additional information within the lines of the translation. This includes (1) insertion of SL terms after TL equivalents, (2) provision of alternative translations and (3) insertion of explanations. These types will be explained with examples from different translations.

1. Insertion of SL terms after TL equivalents

The insertion of SL terms in their original forms immediately after their TL equivalents is called 'double presentation', especially in the case of calques (see Pym as quoted in Chesterman 1997: 95). Analysis shows that this technique is used in Newmark (2006), Dickins et al. (2007), Catford (1983), Hatim and Mason (1998) and Bassnett (2012), but not in Jones (2007). The following example is from Dickins et al. (2007: 42):

sanuţliqu muṣṭalaḥ 'al-khasāra fī al-tarjama' translation loss 'alā al-takrār' aw al-tamthīl ghayr al-tāmm li-l-naṣṣ al-maṣdar fī al-naṣṣ al-hadaf.

[We will use the term 'loss in translation' for repetition or incomplete representation of the source text in the target text.]

By placing the English term 'translation loss' immediately after its Arabic equivalent, the translator makes a contextual visual link between the two. Cognitively, this visual link creates an association between the English term and its Arabic equivalent.

2. Provision of alternative translation equivalents

In addition to using equivalents for terms, three translators offer alternative Arabic equivalents to some terms, usually between brackets. This is to indicate the existence of more than one possible translation in Arabic. This indication of possibility can be attributed to the lack of standardization of TS terminology due to the recency of the discipline in Arabic. This technique is used in Catford (1983), Hatim and Mason (1998) and Bassnett (2012). For example, in translating 'word-for-word translation', the translator of Catford (1983: 50) uses الترجمة الكلمية المامية الم

Another exampleis أو التركيب النحوي الكامل (ليجاء bunyat al-jumla (المحلة al-tark $\bar{l}b$ al-naḥw \bar{l} al-k \bar{l} mil) for 'clause structure' (p. 61). An example from Hatim and Mason (1998) is الإيحاء 'al-istilz \bar{l} am (الإيحاء 'iyḥā') for the term 'implicature'. Provision of alternative terms may reflect a lack of confidence in the terms generated by the translator.

3. Insertion of explanations

This is used in Catford (1983) and Hatim and Mason (1998). In Catford (1983), the translator uses the Arabic explanatory article $\frac{1}{2}$ and $\frac{1}{2}$ that is at the beginning of the gloss. Examples are أي التغيرية أو $\frac{1}{2}$ التعاقبية

and أي في نصبين مختلفين) and أي في نصبين مختلفين إنه 'ayy al-taghyīriyya 'aw al-taṭawwuriyya' أي في نصبين مختلفين ayy fī naṣṣayn mutakāfiayn) for 'co-textual' (p. 58). Hatim and Mason (1998) insert العلاقة بين العلاقة بين العلاقة على العالمة العلاقة العالمة المشاركين العلاقة العالمة المشاركين العلاقة العالمة العالمة

b. Footnote glossing

Translators use footnotes to add information and/or explain the contextual meaning of a text unit (e.g. a term). This technique is used in Catford (1983) and Bassnett (2012). In Catford (1983), footnotes are used in addition to the translation of original ST footnotes. In his introduction, the translator points out that he had to use explanatory footnotes due to the lack of established linguistic and TS terminology in Arabic (Catford 1983: 11). To differentiate between his footnotes and the author's footnotes, the translator places the word nutarjim (The Translator) between brackets at the end of each of his footnotes. The translator's footnotes vary in length considerably. In some cases, the footnote is one or two lines long as on pages 27, 30, 38, 64, 65 and 112. For example, on page 27 the translator adds a footnote to explain the English term 'collocation' as follows:

تلازم الألفاظ أو الاقتران الدلالي collocation هو انتظام أو توزيع المفردات مع بعضها البعض انتظاما طبيعيا أو إيحائيا

Talāzum al-'alfāz 'aw al-iqtirān al-dilālī collocation huwa intizām 'aw tawzī' al-mufradāt ma 'a ba 'ḍihā al-ba 'ḍ intizāman ṭabī 'iyan 'aw iyhā 'iyan.

[Association of words or semantic connection 'collocation' is the organization or distribution of words with each other in a natural or suggestive way.]

In other cases, the footnote is longer ranging from three to six or seven lines (e.g., pp. 23, 43, 48 and 61). In one case, the footnote is half a page in which the translator defines the English term 'phoneme' and gives additional information about it (p. 22).

In Bassnett (2012), footnotes are used for explaining terms, such as 'phoneme', 'moneme' (p. 63), 'onomatopoeia' (p. 116) and other items in the text (see pp. 57, 75, 86, 92, 96, 97, 112, 114, 155). In translating the term 'phoneme' the translator uses borrowing to create الفونيمة al-funima in Arabic and explains it in a footnote as follows:

الفونيمة: هي إحدى وحدات الكلام الصغرى التي تساعد على تمييز نطق لفظة ما عن نطق لفظة أخرى في لغة أو لهجة.

Al-funima: hiya 'iḥdā wiḥdāt al-kalām al-sughrā al-latī tusā 'idu 'alā tamyīz nuṭqi lafzatin mā 'an nuṭqi lafzatin 'ukhrā fī lughatin 'aw lahja.

[The phoneme is one of the smallest speech units which help distinguish between the pronunciation of one word and another in a language or dialect.]

The above-mentioned examples show that using footnotes in translation to clarify concepts and/or add contextually relevant information is a useful technique because footnotes are a useful source of information for the translation readers; they facilitate their conceptualization of terms in context, especially at times when terms of the translated discipline have not been established. However, footnotes should be concise and precise in order not to burden the translation with unnecessary detail and to avoid excessive visibility of the translator.

4.1.3. Use of an established equivalent

This is the use of a TL expression recognized by TL users such as lexicographers, translators and academics. This technique agrees with the recommendation by the Academy of Arabic Language in Cairo and the Coordination Bureau of Arabicization to adopt commonly used translation equivalents (Al-Kasimi 2008: 559 and 563). Usually, established TL equivalents become part of the specialized language in common use (see Molina and Hurtado Albir 2002: 510). Use of an established borrowing (e.g., the Arabic استر النبجية istrātījiyya for the English 'strategy') also falls under this technique. This study shows that all seven Arab translators use established Arabic equivalents recognized by some specialized English-Arabic dictionaries of linguistic terms, namely:

- a. Al-Khuli. (1982). A Dictionary of Theoretical Linguistics
- b. Bakalla et al. (1983). A Dictionary of Modern Linguistic Terms
- c. ALECSO. (1989). Unified Dictionary of Linguistic Terms
- d. Baalbaki. (1990). Dictionary of Linguistic Terms
- e. El-Sayed. (2000). York Dictionary of Linguistics

Data analysis shows that established equivalents are semantically transparent and maintain the contextual meanings of their corresponding English terms. Terminologically, this reflects their appropriateness for use within the special languages of linguistics and TS.

Table 3 shows that 'use of an established equivalent' comes third after 'calque' and 'glossing'. The main difference between established equivalents and

calques is that established equivalents are original Arabic formations used as terms to refer to linguistic and/or translation concepts before the recent flux of translation terminology. But calques are comparatively new formations based on literal translation of foreign terms to borrow related concepts. Generally, calques started to appear in Arabic TS through the translation of modern TS literature to accommodate modern concepts and to fill in terminological gaps in modern Arabic.

4.1.4. Description

This is the replacement of a ST term with a description in the TT of the entity it refers to, its function or how it looks like (see also Molina and Hurtado Albir 2002: 510). It is used when the translator fails to find or create a TL equivalent that achieves the contextual meaning of the SL term. Equivalents produced via description are lengthy formations lacking the property of conciseness. In Hatim and Mason (1998: 56), the term 'restricted registers' is translated descriptively as المواقف المحددة المواقف المحددة المعارفة المعارفة المعارفة المعارفة المعارفة المعارفة المعارفة المعارفة المعارفة على القام Bassnett (2012: 33), the four-word translation, but morphologically lengthy. In Bassnett (2012: 33), the four-word translation on the film]is used to describe how 'subtitling' looks like. A more concise and precise translation is subtationally allutication all-sinamāiyya (Ali 2007a: 264).

In Jones (2007: 28), the five-word descriptive phrase الترجمة إلى غير اللغة الأم al-tarjama 'ilā ghayr al-lugha al-'umm[the translation into a language other than the mother tongue]is used for the one-word term 'retour'. Here, the translator describes how this type of interpreting happens in terms of directionality. In English-Arabic translation, the term 'retour' is problematic because (a) it is originally French, (b) it is semantically complex and (c) Arabic does not lexicalize the concept of 'interpreting into an active language other than the interpreter's mother tongue' expressed by this term. Denotatively, the descriptive phrase used here is precise because it is semantically transparent and expresses the ST concept. However, structurallyit lacks the property of conciseness.

In Catford (1983: 147), 'register' is translated descriptively as اللهجة الاجتماعية الاجتماعية الاجتماعية الاجتماعية الاجتماعية al-lahja al-ijtimā 'iyya al-mihaniyya[social professional dialect]. This three-word translation is lengthy and imprecise because of the use of اللهجة الاطالهجة اللهجة اللهجة dialect), which denotes a different concept. The English term 'register' refers to 'a variety of language defined according to the situation (rather than the user, as with dialect)' (Wales 1990/2011: 61). Based on these differences, 'register' is better translated functionally into Arabic as اللغة into wiyyat al-lugha [type of language] (cf. al-Khuli, 1982: 239).

4.1.5. Paraphrase

This is the use of more words in the TT than were present in the ST to re-express an idea or reinforce the sense of a ST word whose correspondence in the TL cannot be expressed as concisely as in the SL (Delisle, Lee-Jahnke and Cormier 1999: 116). Paraphrase is not frequently used by the seven Arab translators. The

difference between paraphrase and description is that paraphrase is the reexpression of a concept; therefore, it is an explanatory procedure. In Hatim and Mason (1998: 8), the translator uses مستوى البعد الدلالي البعد الدلالي البعد الدلالي البعد المستوى البعد الدلالي البعد الدلالي البعد الدلالي البعد الدلالي البعد المستوى البعد الدلالي البعد المستوى البعد البعد

In addition to being denotatively loose, equivalents produced by paraphrase and description include unnecessary elements and lack the property of conciseness. For example, in التعادل على مستوى البعد الدلالي al-ta ʿādul ʿalā mustawā al-bu ʿd al-dilālī, the three elements على مستوى البعد ʿalā mustawā al-bu ʿd are unnecessary. The translator could have used the concise expression للدلالي al-ta ʿādul al-dilālī only, though denotatively it is imprecise. An appropriate Arabic equivalent for 'pragmatic equivalence' is التحقيقية في النص al-takāfu ʾal-takāfu ʾal-tadāwlī. In Hatim and Mason (1998: 121), 'text act' is paraphrased as النص al-tahqīqiyya al-sā ʾida fī al-naṣṣ [the illocutionary force predominating the text]. A more appropriate equivalent will be

4.1.6. Use of a synonym of an established equivalent

This is the use of "a near TL equivalent to an SL word in a context, where a precise equivalent may or may not exist" (Newmark 1988: 84). It is used by the seven translators with a total of nineteen cases. Although the Arabic correspondent of 'equivalence' is نامند الملكة ا

4.1.7. Use of a mixed technique

This is the use of more than one technique in translating one ST term, a technique not very frequently used. In Hatim and Mason (1998: 10), the term 'dynamic equivalence' is translated as التعادل الدينامي al-ta'ādul al-dināmī[the dynamic equalization], which involves three translation techniques; namely (a) use of a synonym, (b) borrowing and (c) calque. In Catford (1983: 49), the translator uses an established borrowing and free translation to render the term 'morpheme-to-morpheme equivalence' into the Arabic five-word phrase المالكل مورفيم مورفيم مورفيم مورفيم المالية الله المالية المالية

compound adjective 'morpheme-to-morpheme equivalence' into a prepositional phrase in Arabic. The equivalent produced in this way, however, does not take the form of a term, but that of a clause in Arabic. Therefore, it cannot be considered an 'equivalent term'. Nonetheless, because the ST term does not occur again in the original text, the translation does not pose a real terminological problem in the TT.

Another example is the use of borrowing and literal translation in rendering the term 'architranseme' in Munday (2010: 96) into الترانسيم الرئيسي الرئيسي al-trans $\bar{l}m$ al-ra ' $\bar{l}s\bar{l}$ which is a hybrid formation. The translator uses borrowing for 'transeme' and uses literal translation to transfer the meaning of the prefix archi- into الرئيسي al-ra ' $\bar{l}s\bar{l}$ (chief). This hybrid equivalent is relatively concise but semantically opaque for those who have no previous knowledge of the term 'transeme' in English.

4.1.8. Borrowing

This is the process or product of taking a word or expression straight from the ST and using it in the TT with or without a change in the phonological and/or morphological structure (Molina and Hurtado Albir 2002: 510). The purpose of borrowing is to fill a lexical gap in the TL or to convey a special SL effect. When borrowing involves no phonological and/or morphological change it is called 'pure borrowing' (Vinay and Darbelnet 1995: 31-32), but when it involves such change it is called 'naturalization' (see Newmark 1988: 82). As Table 3 shows, borrowing is used in six cases only. In Hatim and Mason (1998: 103), 'semiology' is translated as السيمولوجيا al-simūlujyā and in Bassnett (2012: 37, 'semiotics' is rendered as السيميائية al-sīmyā 'iyya. In Munday (2010: 96), the translator uses ترانسيم transīm for the term 'transeme', which is relatively new in English and the author explains it as 'comprehensible textual units'. Because Arabic does not lexicalize this concept, no ready translation equivalent is available. Thus, the translator seems to have opted for borrowing to avoid the use of the calque technique which, if used, would have produced a long equivalent that lacks conciseness, i.e. وحدات modeling other borrowings involving structurally similar English terms formed by the suffix -eme, namely فونيم funīm for 'phoneme', مورفيم murfīm for 'morpheme' and الكسيم liksīm for 'lexeme' (see al-Khuli 1982). Though concise, ترانسيم transīm is not semantically transparent.In Munday (2010: 189) الكانبالية (189 al-kānibāliyya is used for 'cannibalism'. In general language, the term 'cannibalism' is translated into Arabic as أكل لحوم البشر al-bashar[eating human flesh], but this translation obviously cannot be used here for the name of this movement in translation. Instead, the translator opts for borrowing to create the concise oneword term الكانبالية al-kānibāliyya using the Arabic suffix ينبر. iyya, which is widely used in MSA to create terms denoting 'an approach or school of thought' (see Mohamed 2015). Like الكَانْبالية al-kānibāliyya is concise but semantically not transparent. However, in cases such as these borrowing remains the best option.

4.1.9. Addition

This is the adding of a word in the TT with the aim of qualifying a concept or clarifying an idea in the TL. Analysis shows that addition is used in Hatim and Mason (1998), Bassnett (2012) and Munday (2010). In translating the one-word term 'context', the translator of Hatim and Mason (1998: 179) uses a two-word equivalent in Arabic, i.e. السياق العام al-'am[general context]. The word al-'ām (general) is added, probably to identify the type of context the ST writers were discussing. Also, in translating the term 'channel', the translator uses the two-word equivalent التواصل al-tawāṣul[communication channel] (p. 74) in which the word

In Bassnett (2012: 38), the translator uses the equivalent الترجمة بين لغتين الترجمة بين المخالفتين al-tarjama bayna lughatayn mukhtalifatayn [translation between two different languages] for 'interlingual translation'. A contrastive analysis of the English term and the Arabic translation shows that the Arabic word مخالفتين mukhtalifatayn [different] is added, apparently for the purpose of clarification. In a similar way, the translator uses the Arabic two-word equivalent اللغوية al-lughawiyya [linguistic structures] (p. 110) for the English one-word term 'structures'. Here, the word اللغوية al-lughawiyya is added, apparently to distinguish them from other types of structure.

In Munday (2010: 73), the term 'correspondence' is rendered into two words instead of one, i.e., النطابق النط

4.1.10. Reduction

This is the suppression of a ST item in the TT (Molina and Hurtado Albir 2002: 510) by using fewer words in the TT than those in the ST. According to Vinay and Darbelnet (1995: 348), "reduction is a special case of economy". Analysis shows only one case of reduction. In Munday (2010: 136-137), the translator suppresses the term 'functional sentence perspective' structurally and semantically and renders it into the two-word phrase غيم المنظور al-jumla [functionality of the sentence] instead of the three-word translation المنظور المنظور المنطقية العملة [functional sentence perspective]. Semantic abstraction is achieved by using the word sentence perspective]. Semantic abstraction is achieved by using the word wazīfītyya, which is formed by the Arabic suffix بنايم denoting 'a state or condition' (see Mohamed 2015: 240). Thus, المنظور الوظيفي الجملة "wazīfītyyat al-jumla" means 'the state or condition of the sentence being functional'. Morphologically, it is relatively concise, but denotatively it is not as precise as state or condition of the sentence, while the second

describes a theory or an approach of linguistic analysis, which is the intended meaning of the ST term.

5. Conclusion

This study was devoted to the investigation of the translation methodology adopted by Arab translators in rendering TS terminology from English into Arabic. The aim was to identify the translation techniques used in translating terms in context, and to evaluate the adequacy of the equivalents produced by those techniques in respect of precision and conciseness. Investigation of the equivalents in Arabic translations of seven TS works shows that ten translation techniques have been used in rendering TS terminology from English into Arabic. These are calque, glossing, use of an established equivalent, description, paraphrase, use of a synonym, use of a mixed technique, borrowing, addition and reduction. The most frequent techniques are calque, glossing and use of established equivalents. The study shows that the most appropriate equivalents in terms of precision and conciseness are those produced by calque and use of an established equivalent.

While calque, glossing and use of an established equivalent are expected to be used in translating terms, it is the use of the other techniques that requires further examination to identify relevant factors and/or motives. When translators decide to resort to techniques such as description, paraphrase and addition they help transfer the meaning of the ST terms within specific contexts (which is basically what translation aims to do) although they do not create concise terms in the TL. It could be argued that creating terminology is the job of terminologists, not translators. Translators also often work against tight deadlines. Nonetheless, we cannot ignore that translators are at the frontline of linguistic interaction between languages, and it is usually translators who first introduce a term or concept into a TL. Therefore, it is vital for translators as well as students of translation to be aware of the issues that new terminology present. It is also important for terminologists and lexicographers to specifically refine terms that have been rendered using techniques other than borrowing, calque and established equivalents so that they develop adequate correspondent terms.

The study shows that English, as a language of primary term-formation, has an impact on how terms are conceptualized and translated into another language. Differences in word-formation methods between English and Arabic, as the language of secondary term-formation in this case, seem to entail different conceptual/cognitive configurations that determine the way SL specialized concepts are conceptualized and transferred into Arabic and the way translation equivalents are formed. Morphologically, most calques, for example, mirror the structures of their English counterparts in terms of the number of words. Meanwhile, most English one-word terms formed through affixational derivation are translated by compounds of two or more words in Arabic. This is because most of the concepts denoted by derivational suffixes in English are expressed by full words in Arabic.

The study also shows a clear lack of agreement and/or coordination between Arab translators in using existing equivalents and/or creating new ones, thus producing variation in TS terminology. However, as TS is a relatively new discipline in Arabic, it is not unusual that its terminology has not yet stabilized, especially taking into consideration that standard Arabic is not often used as the language of academic discourse. This situation adds more responsibility on the part of translators, terminologists and academics to aim for standardization through creating glossaries. Accordingly, skills of documentary research, terminology extraction and terminology management should be prioritized in translator education and training.

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