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THE ROLE OF TRANSLATION COMPETENCE OF MEDICAL EXPERTS IN THE TRANSLATION OF ENGLISH-KURDISH MEDICAL ABSTRACTS

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A thesis submitted in partial fulfilment of the requirements of the degree of Doctor of Philosophy in Translation Studies

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School of Arts and Social Sciences

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January 2016

Dedication

To Zana: I’ll make it up to you

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Declaration

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Abstract

This study is an attempt to consider the role of translation competence of medical experts who are self-translating medical research abstracts from English into Kurdish. To do so, it investigates a corpus of research abstracts terminologically, syntactically and textually in order to identify and establish the translation competence of the medical experts.

The study adopts the descriptive approach to translation for the purpose of its investigation within the frame of which it employs Toury's methodology in order to analyse 65 originally written abstracts and 65 translated Kurdish abstracts. The aim of the study is to identify the translation competence of medical experts who perform English-Kurdish specialised medical translation. It also aims to identify any potential recurrent translational behaviour that occurs in Kurdish specialised medical translation. Moreover, the study aims to provide an insight into the status of Kurdish specialised language through examining the translated abstracts.

The results of the data analysis reveal that medical experts have successfully demonstrated the translation of their research abstracts as far as terminology and conceptual knowledge are concerned. However, their translations show recurrent cases of linguistic and textual markedness which can be attributed to a lack of linguistic and textual competence. The results also revealed that Kurdish specialised medical language is not under-developed as the study hypothesised but it has a rich stock of specialised terminology as well as naturalised terms that the medical experts have largely used in their self-translated abstracts.

Based on the outcomes of the study, it is concluded that medical experts require linguistic and textual competence as much as subject competence. In addition, consistent and appropriate proofreading can have a profound impact on specialised medical translation in reducing the incidence of syntactic and textual calques as well as common typographical errors before publication.

List of abbreviations

ST	Source text
TT	Target text
SL	Source language
TL	Target language
LSP	Language for specific purposes
LGP	Language for general purposes
EMP	English for medical purposes
KMP	Kurdish for medical purposes
DTS	Descriptive Translation Studies

Kurdish alphabet[1]

Latin	Kurdish
A	ا
-	ئ
B	ب
P	پ
T	ت
C	ج
Ç	چ
Ĥ	ح
X	خ
D	د
R	ر
Ř	ڕ
Z	ز
J	ژ
S	س
Š	ش
E	ع
Ğ	غ
F	ف
V	ڤ
Q	ق
K	ک
G	گ
L	ل
Ļ	ڵ
M	م

Latin	Kurdish
H	ه
E	ه
U	و
W	و
O	ۆ
Û	وو
Î	ی
Y	ی
Ê	ێ
I	.
N	ن

[1] Available online at: http://www.unilang.org/card.php?res=1462.

1 Introduction

1.1 Introduction

Translation is one of the key methods of knowledge dissemination and exchange in the world. It plays a pivotal role in information transfer in the sectors of technology, media, telecommunication, life sciences, finance, education, etc. (Bassnett, 2014, p. 3; Stiegelbauer, et al., 2012, p. 193; Dimitrova, 2005, p. 1; Montgomery, 2000, p. 3; Fischbach, 1993, p. 89). This leads to the overwhelming demand for professional translators worldwide (Montalt and Davies, 2014, p. 26; Bolaños-Medina, 2012, p. 26; Kingscott, 2002, p. 274 cited in Byrne, 2006, p. 2), especially scientific and technical translators (Gotti and Šarčević, 2006, p. 9). Nevertheless, there is a discrepancy between this demand and the short supply of high-quality specialised translators to perform scientific and technical translations (Schmitt, 1998 cited in Krein-Kühle, 2003; Wright and Wright, 1993). The discrepancy may partly be due to the fact that specialised translation requires translators not only to master both the source and target languages, but also to have at least rudimentary knowledge and understanding of the subject field (Segura, 1998, p. 43), as well as the research skills needed to master technical writing like experts (Wright and Wright, 1993, p. 1).

While the two terms of 'scientific translation' and 'technical translation' are quite often used together or sometimes even interchangeably (Jumpelt, 1961; Finch, 1969; Pinchuck, 1977; Maillot, 1981; Wright and Wright, 1993) or treated as two types of translation that share some of their features, Byrne (2006) argues that the two are different in terms of their subject matter, type of language and their purposes and as such 'cannot be compared equally' (ibid, p. 8).

In regard to the translation type that is of interest in this study, which is medical translation, some scholars label it as a branch of scientific translation (e.g. Byrne, 2006; Fischbach, 1993), whereas others categorise it under technical translation (e.g. Wright and Wright, 1993). The nature of medical translation is such that it shares the characteristics of both types, since it is about concepts (science) and application of those concepts (technology). However, categorising medical translation as well as describing it in terms of its inherent characteristics and examining the elements that pose difficulties to medical translators will be considered in more detail in the literature review. Instead, the primary focus of this chapter is to establish the context of our investigation and introduce the study objectives and questions in line with the problems that it aims to address, which lie in considering the role of translation competence, practice and production of specialised medical translation in Iraqi Kurdistan. LSP translation (Schäffner, 2004 Sandrini, 2006) or specialised translation (Desblache, 2001; Thelen; 2001; Rogers, 2015) like any other type of translation requires translators to have a certain degree of translation competence in order to be able to translate a text from one language into another. Translators performing specialised translation are typically either trained linguists who develop specialised research skills along with extra knowledge in specialised areas, or subject-area specialists who have developed a high degree of linguistic knowledge, which they apply to the translation of texts in their domains of expertise (Wright and Wright, 1993, p. 1). Within the context of Kurdistan, translation in general, as an activity, is performed by three main groups. One group that handles Kurdish translation consists of graduates of modern languages, especially English. The second group is a small group of graduates from translation courses offered at three Kurdish universities; however one of those universities closed its translation department in 2009. The third group consists of those who have learnt English through other mediums, such as living in English speaking countries for some time, or through English language institutions. In other words, they are self-taught

translators who have not received any formal training, either in linguistics, or in translation. The difference between these groups is that the first one has received a formal education in English linguistics and basic training in translation. The second group has received their translation training formally; however the third group has acquired their knowledge informally. Sometimes members of the third group attend language courses offered at foreign language institutions to learn English but these courses do not provide any kind of translation training, and their courses are short compared to foreign language courses offered at universities; moreover, they are not as extensive and comprehensive as university courses. Therefore, the first two groups have a greater chance to become translators than the third group because they have officially recognised degrees in English or translation and they account for a much greater proportion of the employed as well as self-employed translators.

Translation practice has a long history in Kurdistan which was mainly performed from Arabic because it was the dominant language in the region, and as such many literary and nonliterary works were translated from Arabic (Hasanpoor, 1999), as well as from other languages such as Persian and Turkish. In Iraqi Kurdistan, Arabic dominance has been long established for historical, political, cultural, social, and religious reasons. Hasanpoor explains that '[t]he Kurds came into contact with Arabs after the Islamic conquest in the seventh century, when they converted to Islam' (1999, p. 18). In addition to Arabic, Persian and Turkish had their share of dominance over Kurdish since the first division of Kurdistan in 1639 (ibid). Arabic was the language of instruction in schools until 1926 when the League of Nations required Baghdad to issue a law, which was called the Local Languages Law (McDowall, 2004, p. 287). According to that law, the Kurds were allowed to use Kurdish at the level of primary schools (Chaliand, 1993, p. 148) but that was limited and restricted to a small region (Hasanpoor, 1999, p. 18). By 1926, there were only 25 primary schools in the Kurdish areas, among those, 16 used both Arabic and Kurdish for instruction (Entessar, 1992,

p. 93). This was justified by the claim of the British mandate authorities who considered reliance on Arabic instruction even at Kurdish primary schools as necessary, claiming that Kurdish 'provided too narrow a basis for secondary and higher education' (ibid). In 1958 a new Iraqi republic was established and it recognised the Kurds as 'partners' of the Arabs (Kreyenbroek, 1992, p. 60). In 1959, Sorani Kurdish was officially recognised as the basis for a standard Iraqi Kurdish, consequently the Kurdish language was studied at the University of Baghdad and many Kurdish newspapers, magazines and books were published and Kurdish radio broadcasting was launched (ibid). For the first time Kurdish was used in the specialised fields of science, such as 'physics, optics, chemistry, trigonometry, geometry, solid geometry, algebra, botany, zoology, sociology, economics, and technology' (Abdulla, 1980, p. 168 quoted in Hasanpoor, 1999, p. 20).

However, the use of Kurdish remained restricted to primary schools until the 1970's Peace Accord between the Iraqi government and the Kurds (McDowall, 2004, p. 327). It recognised Kurdish as the second official language of Iraq and allowed Kurdish to be taught jointly with Arabic (Kreyenbroek, 1992, p. 60). Kurdish scholars at the time established a number of institutions, such as the Union of Kurdish Writers, the General Directorate for the Protection of Kurdish Culture, and the Kurdish Academy of Science (ibid, p. 61). The Kurdish Academy of Science aimed to work for the development of Kurdish but, due to various strategies of the Iraqi government, its influence remained restricted and it occupied a marginal and an ineffective position (Hassanpour, 1992, pp. 448-451 cited in Hasanpoor, 1999, p. 39). Another achievement for the Kurds was the use of Kurdish as the language of instruction at elementary and intermediate schools. In addition to that, a Kurdish university was established (Kreyenbroek, 1992) but the language of instruction was Arabic and English.

When Saddam rose to power in 1979, he made every possible effort to increase the influence of Arabic on Kurdish. Broadcasting Arabic programs, films, TV series, children's cartoons

and news were among the strategies the regime implemented. Media, press and scientific publications were mostly in Arabic. Although Kurdish publications, films, TV shows and radio programs were permitted at that time, they were on a very limited scale. In the absence of a language policy to protect and promote the use of Kurdish, Kurdish publications could not play as significant a role as Arabic publications. Moreover, Kurdish TV and radio programs and children's cartoons were limited to only a few hours a day. Exposure to Arabic programs, films, songs and TV series increased and became largely popular. The primary aim of the media and publications was to infuse a sense of Arabic nationalism into the minds of the Kurds. Moreover, the permitted Kurdish media and publications were directed towards glorifying the regime and its president and reinforcing Arabic nationalism and culture. Arabic became aspirational and prestigious through the Arabisation campaign that targeted every aspect of the Kurds' life until the Kurdish uprising in 1991. Even though it is not documented in the literature, anecdotal evidence suggests that the practice of Kurdish translation grew in the 1990s and in particular after 2003 when Saddam’s regime was removed and the Kurds were given more freedom to use their language in administration, media and education.

Nevertheless, specialised Kurdish translation has not been mentioned in the literature of written Kurdish, both during the Iraqi Monarchy and during the Iraqi Republic. Moreover, no academic study has been conducted to address the nature and status of specialised Kurdish in terms of medical writing and /or translation. My primary investigation of medical translation in Kurdish revealed that there is a discrepancy between non-specialised medical translation that is published in popular science magazines and websites and specialised medical translation that is performed at a specialist level. Evidence of translated published materials reveals that long before the establishment of the Kurdish government in 1992, Kurdish translators performed translation of medical texts from other languages, mainly from Arabic. A number of monthly magazines were issued before the 1990s, e.g. تەندروستی و کۆمەڵ

(Tendrusty u komeḷ) which published written and translated Kurdish medical texts, کاروان (Karwan), ڕۆشنبیری نوێ (Řošnbiri nwê) and بەیان (Beyan) which published various topics, such as in biology, medicine, psychology, philosophy and literary criticism (Hasanpoor, 1999, p. 72). Medical articles published in such magazines were addressing the general public, as such the language was not medically specialist, but they can be best placed under the category of 'language of medical journalism (popular medicine)' (Pilegaard, 1997, p. 156). They played a significant role in disseminating medical information among the Kurdish populations at the time. Since the 1990s and especially after 2003 there exists a large body of non-specialised translated medical articles, however there is a small number of specialised translated medical texts. An initial analysis indicated that these two types of translations cannot be compared because the language used in the first one is fairly simple and features less specialised terminology while the second one has a complex language and features highly specialised terminology. Furthermore, even though the three abovementioned groups of translators work in Kurdistan, I found that they translate non-specialised medical texts only but none is performing specialised translation, including specialised medical translation, because it is highly specialised type of translation that requires domain specific knowledge. As for specialised medical texts, they are translated by medical specialists either for their personal use, i.e. for research and study purposes, or for publication. Subject specific knowledge or competence plays a key role in a translator's translation competence (Neubert, 2000; Schäffner, 2000; Kastberg, 2007), and especially in relation to medical translation. Therefore, the three groups of translators were excluded from this study. Based on the results of the initial analysis, and since the ultimate aim of this study is to look at the role of translation competence in English-Kurdish medical translation, only the medical specialists who have performed specialised medical translation are considered in this investigation.

The main reason for the existence of a small number of specialised medical texts translated into Kurdish, both in the past and the present, is the use of English as the main and only language of medical education, training and specialised medical exchange in Iraq and Kurdistan. Due to the primacy of English in the medical domain, medical specialists do not use Kurdish unless to communicate medical information to medically less specialised and/ or non-specialised people. The absence of Kurdish in the specialist medical field has not given the opportunity to the Kurdish for Medical Purposes (KMP) to develop as the English for Medical Purposes (EMP). Although this view is not documented in the literature, anecdotal evidence suggests that KMP does not provide medical translators with specialised medical terminology to perform medical translation at a specialist level from other languages into Kurdish.

Another reason refers to the varying degrees of linguistic repression that Kurdish, including Kurdish LSP has been subjected to and thus, never had enough freedom to develop as an independent language (Hasanpoor, 1999, p. 1). As discussed above, the use of Kurdish as the language of instruction was very limited and it did not pass the level of secondary school. Even today, the use of Kurdish at the university level is limited as it is used in a few departments. Although the Kurds have their own government and Kurdish is the main language of administration in the region, both Arabic and English are still two major languages of instruction and training at Kurdish universities.

As established above, there exists a small number of specialised medical texts translated into Kurdish. These texts, in essence, are research abstracts translated from English. They are part of Higher Diploma and Master's dissertations and PhD theses conducted by postgraduate medical students and researchers in the School of Medicine at the University of Sulaimani in Iraqi Kurdistan. The dissertations and the theses are all written in English because, as stated before, English is the language of specialised medical training and publication in the region.

However, since 2005 the University requires all postgraduate students and researchers to translate their research abstracts into both Arabic and Kurdish since they are the two official languages of Iraq. The reason for selecting the research medical abstracts for this investigation is due to the fact that they are the only evidence of specialist medical translation and thus the only tool for looking at the role of translation competence of Kurdish medical specialists and also for looking at the status of Kurdish LSP.

The medical specialists are translators[2]of their own medical abstracts. This means that the translated medical abstracts are evidence of self-translation in Kurdish because they have been authored and translated by the same medical experts. Based on an initial assumption I hypothesised that the choice for the existence of these self-translated abstracts was driven by the medical specialists' lack of confidence in the quality of professional translations of medically non-specialist translators. However, personal communication with a number of medical specialists indicated that translators working in translation service providers are not willing to perform translations of medically specialist texts as such because they contain highly specialised terminology and register (Bowker and Pearson, 2002) which make them challenging in nature. It is not yet known if there is any other evidence of self-translated texts, whether literary or nonliterary, in Kurdish, mainly because research in relation to the practice of Kurdish translation is still very new. In this respect, this study is not only investigating the role of translation competence in specialised medical translation, but it also sheds light on the practice of self-translated texts in Kurdish.

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[2] The medical specialists are referred to as 'translators' here because they assume a temporary position of translators during the translation of their research abstracts, otherwise translation is not their profession. This is further discussed in section 2.2 in chapter two.

This study has grown out of my personal encounter as a proofreader with medical specialists who have self-translated their research abstracts. The impetus for carrying out this study is motivated by the widespread view among Kurdish linguists and translators (including myself because I was a translator as well as a proofreader of the self-translated medical abstracts) that medical specialists often focus on the terminological aspect of their translation and thus do not pay much attention to its syntactic, textual and stylistic aspects. They believe that that lack of attention is due to the medical specialists' lack of translation competence. It is also motivated by the common belief among Kurdish medical experts that specialised Kurdish has not sufficiently developed to be used in the medical specialist discourse, especially writing and translation. In order to investigate these views, I have compiled a corpus of translated medical abstracts from English into Kurdish on a specialist level from the period of 2007 to 2011. The significance of this period lies in the fact that the Iraqi Constitution began to officially recognise Kurdish as the second language of Iraq in 2005 and the Kurds were given more freedom to use their language in administration, education, publication and media. This gave rise to a new era in Kurdish history in relation to every aspect of public life including literary, academic, social and scientific activities.

There is another significant issue to discuss in this context because it is directly related to the use of Kurdish in medical translation, which is language standardisation. Kurdish is not a unified standard language but a discursive construct of languages spoken by ethnic Kurds, which refers to a group of speech varieties (Hassanpour, 1992). These varieties may not be mutually intelligible unless there has been considerable prior contact between their speakers. Such varieties include Kurmanji, Sorani, Gorani, Hawrami, and Zazaki. Although Sorani is the dialect used by the majority of the Kurds in Iraqi Kurdistan, and it represents the language of administration, instruction and the largest part of publication, it is still not recognised as the standard language in the region. This issue is ideologically, politically and geographically

motivated. However, among the Kurdish dialects, the present study only considers Sorani Kurdish because it is the chief dialect in Iraqi Kurdistan (Izady, 1992; Hassanpour, 1992; Kreyenbroek, 1992; McDowall, 2004) and is intelligible to other dialect speakers. Moreover, it is the dialect that is used in the translation of the research abstracts that we are investigating in this study.

The lack of a standardised language has also triggered the absence of language planning or language policy in Kurdistan. Anecdotal evidence shows that the effect of this lack is visible in translators' choices of terminology and structure. This is because there does not exist an officially authorised body to propose some sort of 'code of conduct' in relation to language use for translators to consider in their translations. Instead, translators tend to use the language according to their personal taste, what they judge is appropriate for the target readers in any given situation, or under the influence of the language used by popular writers as well as the language of the media. This is not to deny that every language is influenced, to some extent, by the mass media and influential writers, yet the need for a language-policy making body to regulate the use of languages is a necessity to preserve and develop the language in question. That said, the impact of the lack of a standard Kurdish and the absence of language policy on specialised medical translation is not established in the literature yet because the topic has not been investigated. However, the terminological, syntactic and textual investigation of the translated abstracts may provide an insight into any potential impact that may arise from the lack of a standardised Kurdish in specialised medical translation.

1.2 The rationale behind this study

As indicated in the previous section, professional translators do not perform specialised medical translation and such a task is only carried out by medical specialists. Translation of

the research abstracts by medical specialists can ensure that specialised terminology is accurately handled because the medical specialists have received extensive medical training at the university level. Although it can be argued that medicine is one of the fields of knowledge that is 'so highly compartmentalised' (O'Neill, 1998, p. 76) that it is not enough to be a medical graduate in order to master all of its various branches and understand all the terms that are pertinent to particular branches, each research abstract in this corpus has been self-translated by its author who is specialised in the particular branch that s/he has studied and written her/his thesis about. That established, translation of the medical abstracts is not all about terminology, but there are also syntactic, textual and stylistic aspects pertinent to LSP that should be considered (Bowker and Pearson, 2002, p. 193). At this point the concept of translation competence comes in which is the main element of this investigation. Translation competence does not consist of domain specific knowledge and the correct translation of terminology only, but there are other parameters that should be considered in order for translation competence to be achieved. Among the most important parameters of translation competence are linguistic competence and textual competence which will be discussed in detail in chapter two.

The medical specialists who have self-translated their abstracts are native Kurdish; as such they have background knowledge of Kurdish linguistics, particularly syntactic structures because they have received basic and general information on Kurdish language and literature at school. However, that information cannot be compared with the level of expertise that they (i.e. the medical specialists) have in the field of medicine. Furthermore, their medical training at university is provided in English except of a one-year course of Kurdish medical terminology, which only focuses on introducing them to some commonly used medical terminology in Kurdish without considering academic Kurdish writing conventions, syntax and textual properties that are used in medical discourse. Following from this, one of the

underlying assumptions of this study is that the translators' command of academic Kurdish, in particular specialised Kurdish writing is not high and this is likely to have an impact on the translated abstracts. With this assumption in mind and in order to investigate the linguistic and textual competence of the medical specialists, this study hypothesises, based on a commonly held view among Kurdish linguists, that specialised medical translation performed by medical specialists is likely to exhibit high incidence of syntactic and textual markedness, possibly due to their lack of linguistic and textual competence. Part of the syntactic and textual calques may occur due to the interference of source language (SL) elements, both syntactically and textually. However, Toury (1995/2012) has already proposed interference of SL elements in translated texts which is trigged by several factors (see section 2.5 in chapter two for Toury's law of interference). Unless intentional, SL interference can be minimised if the translator is competent and experienced, but the medical specialists that we consider here are not experienced translators, therefore this study assumes that their translated abstracts exhibit many incidences of syntactic and textual calques and markedness.

Perhaps the incidence of marked structures in the translated abstracts is not only caused by the lack of linguistic and/ or textual competence of the medical specialists, but it may also be linked to the status of Kurdish in the specialised medical domain. As stated before, English occupies a primary position in the medical field in Kurdistan, and we assume that this primacy has not given a chance for Kurdish to be equally used and developed. This primacy, in turn, may influence decisions and choices made by medical specialists during their translation and as a result, they may prefer to adhere to the structures of their English abstracts and thus transfer them to their translations. These assumptions are not only restricted to the syntactic and textual aspects of the translated abstracts, but they are extended to their terminological aspect and thus this study also hypothesises that medical specialists may prefer to use borrowing (including transliteration) and explicitation as two common

strategies for handling the translation of medical terminology. It assumes that the choice to do so could be related to a possible lexical gap in Kurdish LSP, or more specifically Kurdish specialist medical language.

According to the University regulations, every dissertation or thesis should be proofread and revised before it is submitted. For that purpose, linguists who are specialised in English and Kurdish are commissioned to proofread postgraduate dissertations and theses, including their translated abstracts. However, based on my personal experience, most of the linguists proofread the dissertations and theses but they ignore the translated abstracts, both Arabic and Kurdish. It follows that the majority of the translated abstracts are submitted without proofreading and thus editing. This implies that there is no quality assurance processes as regards the translated abstracts prior to their submission or publication. Based on this discussion, this study assumes that another factor for the assumed prevalence of syntactic and textual calques or markedness in the translated abstracts may partly refer to the lack of accurate and consistent proofreading and editing of the translations before they are submitted or published.

For testing the abovementioned hypotheses, we will investigate the self-translated abstracts in relation to terminology, syntax and textual conventions in order to establish the role of translation competence of medical experts performing specialised medical translation from English into Kurdish which is the main aim of this study. Analysis of the corpus should also give us an insight into how the decisions and choices that the medical experts made have shaped the translation of medical texts on a specialist level, i.e. the medical research abstracts self-translated by medical specialists to medical specialists. Moreover, another aim of this study is to identify what translational norms are operating in the self-translated abstracts. The hypotheses, thus, are tested throughout the present study with the aim to investigate any potential recurrent patterns or regularities of translational behaviour in English-Kurdish

medical translation on a specialist level, which may reveal translation norms operating in such practice. Translation norms as a range of 'options that translators in a given socio-historical context select on a regular basis' (Baker, 2011, p. 190) are realised through regularity of translation behaviour (Toury, 1995/ 2012). This study aims to see what regularities English-Kurdish medical translations manifest and as a result of that, what translation trends are most commonly followed in specialised medical translation. Any regularity established in the translated abstracts will then be the first attempt towards identifying and describing the nature of translational norms operating in self-translated medical texts in Kurdish. To achieve the stated aims, the study attempts to find answers to a number of questions triggered by our observations of the medical corpus.

As established before, the medical specialists are not translators and have not received any translation training, formally or informally, yet they have undertaken the translation of their abstracts because professional translators are not willing to engage in that activity. Yet, since the main objective of this study is to look at the translation competence of these medical specialists, it is essential to consider how and in which way they have established the relationship between the STs and the TTs. Therefore, the first question of this study is related to translation competence or more specifically LSP translation competence, which is a sub-competence of translation competence as will be discussed in chapter two. Thus the question is: What strategies are used to establish lexical, syntactic and textual equivalence in English-Kurdish specialised medical translation?

Another question is related to linguistic and textual competence of the medical experts, which asks: which factors trigger markedness and calque; a) medical experts' lack of competence in Kurdish syntactic structure and textual makeup, b) differences between English and Kurdish syntactic structure and textual features, c) the impact of SL grammatical structures and textual properties on the medical specialists during translation, d) lack of quality assurance

processes prior to publication, e.g. proofreading and editing, or e) a combination of the above?

The third question is concerned with the status of Kurdish LSP, or more specifically KMP in terms of specialised terminology and term creation within the specialised medical domain. It is: Can the existence of lexical gaps (medical terminology) in Kurdish be confirmed? To what extent are Kurdish medical neologisms coined, i.e. is there any systematic effort for creating new terms in Kurdish, e.g. by university departments, governmental bodies or language institutions? To what extent is a medical LSP in Kurdish under development? Do Kurdish translators unintentionally reinforce English lexical and grammatical patterns in terms of specialised medical translation? Is that a general norm pursued? Does the established use of English medical loanwords/naturalised loanwords impede implementation and use of newly developed Kurdish terms?

The following questions with regard to translation norms in English-Kurdish medical translation will be considered: what norms do medical experts follow in the translation of the research abstracts? Can the use of loanwords/ naturalised loanwords be confirmed as a norm specific to medical translation and medical specialists? Is such practice prevalent in the work of Kurdish medical experts?

This study attempts to find answers to the abovementioned questions with the aim to gain an insight into the role of translation competence of the medical specialists translating specialised medical texts from English into Kurdish. Each set of questions will be addressed in a chapter; however the answers will depend on the findings of the data analysis (see the next section for the distribution of the questions according to the chapters). Any potential outcome in relation to the role of the medical experts' translation competence in their self-translated abstracts will be the main contribution of the present study because research into this significant topic is lacking in Translation Studies. It will also provide the first academic

investigation towards introducing and thus establishing the presence of self-translated texts in Kurdish which, as stated above, is an absent subject in Kurdish literature. Further to these two points, another contribution of this study will be examining specialised medical translation from three different perspectives, namely: terminological, syntactic and textual. This is not to claim that research into medical translation, in other language pairs, has not considered any of these aspects, but the literature of Translation Studies does not feature any studies that investigate the three aspects together in specialised medical translation thus far.

1.3 Outline of the study

This study is comprised of seven chapters. The present chapter is an introductory chapter that sets out to present a general background about translation practice, translation of medical texts and more particularly medical translation into Kurdish. It provides a short overview of Kurdish as a language that has gone through various stages of linguistic repression and thus has not had enough opportunity to develop. The chapter explains the motivations for conducting this study and it, then, continues to contextualise and establish the background out of which a number of hypotheses, research questions and aims have grown. It ends with a summary of the chapters that the study covers.

Chapter two is the literature review. It reviews the previous work of translation and linguist scholars who have discussed translation competence, translation strategies, translation norms and translation universals. It demonstrates how various scholars and researchers view these topics and argues for and against their proposed opinions. In this respect, it points to the gap that exists within the existing literature in relation to the role that translation competence plays in specialised medical translation and in particular in relation to English-Kurdish medical translation on a specialist level. It discusses a number of different models of translation competence and considers their appropriateness in the context of specialised

medical translation with the aim of creating a model out of them which can be used as a criterion for analysing the translated abstracts. The concept of equivalence is discussed in the chapter because the study wants to see how equivalent relations are established between the STs and their respective TTs, furthermore it considers preserving the functional constancy between them due to the nature of the texts in questions. The chapter presents a detailed discussion on translation norms proposed by Toury and Chesterman because one of the study aims is to see what translational norms are operating in the translated abstracts. In line with translation norms, the chapter also covers Toury's laws of translation and the hypothesised translation universals proposed by Baker. The aim is to see if the translated abstracts reveal any patterns that may support the proposed laws and/or universals.

Chapter three presents a detailed description of the methodological steps and tools that are extracted from the literature review. In this respect, it considers Toury's three-phase methodology suitable for the establishing coupled pairs between the STs and their TTs. It also describes the corpus that is employed in this study in detail referring to the reasons for its selection, how it is designed and categorised. Moreover, the chapter describes the Excel spreadsheet that is used for the data analysis and gives reasons for the choice of that specific software and its usefulness for the analysis of the corpus study in terms of terminology, syntax and textuality.

Chapter four is about the terminological investigation of the study corpus. It begins with providing a general account about medical terminology and Kurdish medical terminology, term creation in Kurdish and the lack of an officially recognised body that is actively engaged in the creation of specialised terms in Kurdish. It then discusses the use of medical terminology in Kurdish specialised medical translation based on the findings of the data analysis, including medical terms, abbreviations, acronyms and eponyms. It observes the prevalence and use of various translation strategies that the medical experts have used in the

TTs in order to establish lexical equivalence between the STs and the TTs across five years (i.e. from 2007 to 2011) and how they are distributed in the TTs of that specific period. The final section of the chapter covers a detailed discussion of the findings of the terminological analysis within the context of translational norms, pointing to any interesting patterns or translational behaviours that are developed.

Chapter five focuses on the investigation of the syntactic aspects of the translated abstracts. It begins with a short overview of the general syntactic properties of Kurdish as an introduction in relation to the two dominant Kurdish dialects, namely Kurmanji and Sorani and how they are different in terms of those general syntactic features. The main syntactic elements considered in the chapter are: word order, agreement, verb tense, collocation, number and voice. Each of these elements is discussed in a separate section based on the findings of the syntactic analysis of the translated abstracts focusing on the incidence of syntactic markedness. The chapter, then, observes the distribution of incidences of syntactic markedness in the TTs during the period of five years (from 2007 to 2011) and points to any interesting patterns that this may reveal. Like chapter four, chapter five discusses the observations and findings of the syntactic analysis of the TTs within the context of translation norms and makes interpretations and discusses their potential effects in terms of specialised Kurdish and specialised Kurdish medical translation.

Chapter six is about the textual aspects of the translated abstracts. The chapter begins with introducing the common textual properties that characterise medical abstracts, however because no references are available in the literature on the textual properties of Kurdish medical abstracts, the chapter attempts to observe the translated abstracts and establish patterns based on their textual analysis. The TTs are analysed textually focusing on several elements including: format or layout, paragraphing, sentence length, word count, punctuation marks, thematisation, cohesion and coherence, as well as the role of editing and proofreading.

These elements are observed in the TTs in order to see what patterns are developed and how they have shaped the TTs. The occurrence of marked textual patterns and their distributions in the TTs of 2007 to 2011 are observed and discussed. The chapter then discussed the findings and the observations in the context of translational behaviours and norms and considers their potential impact on shaping the nature of specialised medical Kurdish.

Chapter seven is the final chapter of this study which summarises the study outcomes, their implications and contributions to the field of Translation Studies in general and Kurdish translation studies in particular. It also explains the elements that limited the investigation and it ends with offering some recommendations for further studies to be done in the future.

2 Review of Literature

2.1 Introduction

Translation, as an academic discipline, is considered fairly new. However, in terms of practice, it is long established (Munday, 2012, p. 10; Riccardi, 2002, p. 1) and reaches far back to the beginnings of recorded history (Schäffner, 2000, p. vii). It has played a pivotal role in the historical development of language (Delisle and Woodsworth, 2012, p. 21), literature (Dimitrova, 2005, p. 1) and the transfer of modern information (Fischbach, 1993, p. 89) as well as in the dissemination of knowledge and development of science and technology (Krein-Kühle, 2003, p. 10). Today the dramatic increase in translation practice is evident in literary and non-literary domains. This practice ranges from translating highly specialised texts that are aimed at a certain readership with specific expertise to non-specialised texts intended for the general public (Dimitrova, 2005, p. 1). The diversity of translation materials and their degree of specificity requires translators to be equipped with relevant knowledge and proficiency. It also makes translation a complex activity, which involves expertise in a number of areas and skills, to study and investigate for the scholars within the field of Translation Studies (Schäffner, 2000, p. viii). In this respect, translators are required to have a certain degree of competence and expertise to meet the demand of the ever-growing need of today's information society.

While translation competence is an essential requirement for all translators in any type of translation they perform, its need in specialised translation and particularly medical translation is even greater, and hence the subject of our study. The literature of Translation Studies shows abundant research in translation competence and the significant role of competence in translation training and any activity or process that involves translation as well as interpreting, including specialised translation (Schäffner and Adab, 2000, Kelly, 2000,

PACTE group, 2000, 2002, 2003, 2005, Beeby, 2000, Neubert, 2000, Presas, 2000; Dimitrova, 2005, Kastberg, 2007; etc.). Some studies have considered the role and significance of translation competence in medical translation and medical interpreting (Deborah and Carol, 2003; Ressurrecció and Davies, 2007; Ressurrecció *et al*., 2008; Jiménez and Navarrete, 2011; Karwacka, 2014; etc.), but the translation competence of medical experts performing specialist medical translation is a gap in the literature to this moment. Therefore, our study attempts to examine the translation competence of medical experts through looking at their translation of research abstracts into Kurdish. However, we need to look at the concept of competence within the field of translation and its various models within the literature in order to contextualise our study aims and questions and find the appropriate model that fits into the frame of our study.

2.2 Translation competence or translation expertise

The degree of one's competence in a certain domain is demonstrated in his/ her performance in the domain in question, in other words: '[i]n any professional environment, performance is judged according to certain clearly defined objectives and needs, which demand a specific type of competence' (Schäffner, 2000, p. xiv). The relationship between competence and performance, thus, has a complementary nature. One reinforces the other, because competence in translation by its own is an abstract concept, it can only be measured in performance (Beeby, 2000, p. 185), i.e. in the translation practice. In this respect, the translator who performs the translation plays a crucial role in shaping the translation product. This is because translation is a complex activity, as such it 'involves variable tasks that make specific demands on the cognitive system of the translator' (Neubert, 2000, p. 3). The multidisciplinary nature of translation requires translators to 'be specialists in all areas in which they have to operate as part of their professional work' (ibid). It is a translator's

competence and expertise that enable him/ her to handle the tasks that are pertinent to such a profession (translation). This applies equally to anyone who performs translations of any type, although different types of translation require translators to have competence in domains that are relevant to the text type they handle. Literary texts, for example, make different demands on the translator's competence parameters than a technical text or a legal text. It follows that not all text types can be translated effectively by all translators. If they do, their translation products may exhibit remarkable differences in terms of quality, among other things.

In the context of this study, we are considering one type of translators performing medical translation at a specialist level: they are medical experts. They consist of medical graduates from the Schools of Medicine, University of Sulaimani, in the region of Iraqi Kurdistan. These people are formally trained in the field of medicine and therefore they are competent in the conceptual aspects of the medical domain. These medical specialists are not translators, i.e. translation is not their profession, but they have performed translations for their own use, which includes the translation of their research abstracts into Kurdish as well as Arabic. The use of the term 'translator' in conjunction with these medical specialists is problematic in itself. One might argue that if the medical specialists are not translators, why is the term 'translator' attributed to them? The choice is based on the assumption that these specialists are assuming the position of a translator temporarily and they are acting accordingly to carry out a particular task and achieve a certain aim, i.e. translate their research abstracts for their own theses. Thus, they are self-translators as they are translating the work they have authored.

The level of translation competence or expertise of our medical translators (or medical experts which we will be using interchangeably henceforward) cannot be determined without situating them within the context of scholarly views on the two concepts of competence and expertise to see where they fit in as far as theoretical perspectives in relation to both concepts

are concerned. Moreover, considering the literature of competence and expertise is also needed in order to see if these concepts should be negotiated in a way that could be used to categorise the medical specialists as competent or experts both in terms of translation and medical knowledge.

With the complexity inherent in translation activity, translation competence has received a diversity of definitions within the field of Translation Studies. Competence is understood to lie at the heart of translation activity, but the mere concept of translation competence in itself is conceptualised differently (Cao, 1996; Ericsson and Charness, 1997; Shreve, 1997; Schäffner and Adab, 2000; Vienne, 2000; Neubert, 2000; Pym, 2003; Orozco and Hurtado Albir, 2002; Dimitrova, 2005). Some scholars refer to translation competence differently (Pym, 2003, p. 483), using terms such as: translation knowledge (Bell, 1991), translation competence (Schäffner and Adab, 2000; Vienne, 2000; Presas, 2000; Beeby, 2000; Dimitrova, 2005; Kastberg, 2007), translational skill (Lowe, 1987; Sim, 2000) and translational competence (Toury, 1995/2012; Chesterman, 1997; Neubert, 2000). As such, there does not exist a generally accepted definition of translation competence in the literature of Translation Studies. Some of the scholars do use the term, yet they do not provide any definition for it (Lowe, 1987; Nord, 1991; Lörscher, 1991; Toury, 1991/ 1995; Fraser, 1996; Hansen, 1997). Despite the multiplicity of competence definitions in the literature, we need to consider some of them and argue for and against their appropriateness to our context. The importance of defining translation competence lies in its usefulness as a criterion to categorise and contextualise the translation of our medical specialists within the scope of translation practice of specialised Kurdish as well as self-translation.

Translation competence was first introduced and discussed by the German scholar Wolfram Wilss in 1976. He contended then that translational competence as a 'uniform qualification for translational work is [...] nonexistent and probably nondefinable' (1976, p. 119 quoted in

Pym, 2003, p. 482). Koller defines translation competence as 'the ability to put together the linguistic competencies gained in two languages' (1979, p. 40). However, Koller's definition restricts translation competence to linguistic knowledge only, not considering other parameters required in conjunction with such knowledge to enable translators to translate. This definition views translation competence in a very narrow sense, especially in relation to medical translation, which needs something more than 'a sound knowledge of both languages' (Segura 1998, p. 43). Interestingly enough, we find Wilss changes his perspective regarding the indefinability of translation competence describing it as a summation of two language skills (1992, cited in Pym, 2003, p. 484). We do not need to go into the discussion about why Wilss shifted his view regarding his definition of competence, yet describing it as a construct of two parameters shows that Wilss, like Koller, restricts the scope of translation competence. This view, in effect, perceives competence as bilingualism and keeps translation within the premises of Applied Linguistics. Situating translation on the same scale of bilingualism is reflected in the view currently held in the Kurdish region where anyone with the ability to speak, read and write in two languages can translate and is regarded as a professional translator. This view does not permit translation studies and training to be treated as an independent discipline. The negative by-product of this popular view is relatively prevalent in the practice of Kurdish medical translation[3] such that anyone with knowledge of English and Kurdish performs medical translation whether they are medically knowledgeable or not. This view discourages educational institutes to make any serious attempt to offer specialised education and/or training in translation. Based on this discussion, defining translation

[3] The reference here is to non-specialist medical translation, not specialist or semi-specialist because these two latter types are only performed by medical specialists.

competence to be a construct of linguistic competence does not work in our context and therefore does not serve the purpose of our study. Otherwise, it would be assumed that all medical translations carried out in Kurdish represent high quality and their translators are, in turn, competent translators because they all know English and Kurdish. Since this assumption does not reflect the current trend of medical translation qualitatively, nor does it represent active translators handling medical translation, our investigation requires a wider definition of translation competence. In this perspective, Bell (1991, p. 43) defines translation competence as 'the knowledge and skills the translator must possess in order to translate'. As for Hurtado Albir (1996, p. 48 cited in Orozco and Hurtado Albir, 2002, p. 376), it is 'the ability of knowing how to translate'. According to PACTE, a group formed in 1997 to investigate the acquisition of translation competence, translation competence is 'the underlying system of knowledge and skills needed to be able to translate' (2003, p. 45). According to the European Master's in Translation (EMT), translation competence is defined as 'the combination of aptitudes, knowledge, behaviour and know how necessary to carry out a given task under given conditions' (Gambier, 2009, p. 3). The common feature of these definitions is that they all consider competence to consist of knowledge and skills needed in order to translate. The knowledge that makes up translation competence is divided into two types: declarative and procedural (PACTE, 2003, p. 45; Anderson, 1982 cited in Shreve, 2002, p. 163).

Declarative knowledge (knowing what), is easily verbalised and it is acquired by being exposed to information and its use is controlled, whereas procedural knowledge (knowing how) is difficult to verbalise, acquired through practice and its use is automatic (PACTE, 2003, p. 45). The latter type refers to learned methods for performing tasks and solving problems (Shreve, 2002, p. 163). The predominant type in translation, which is procedural, plays a key role, since it activates the knowledge that is gained and evolved over the course of a long period of translation practice and experience. The relevance of procedural

knowledge to medical translation lies in the fact that it converts the information gained through education and training about the medical domain and/ or translation (declarative knowledge) into actual products (i.e. translations). In other words, it is procedural knowledge that converts declarative knowledge through applying it in problem-solving and decision-making processes during translation. For example, the declarative knowledge allows the translator to identify terms in a medical abstract that do not have ready equivalents in Kurdish. The procedural knowledge guides him/her to consider possible translation strategies/ procedures that can be used to handle those non-equivalent cases and thus apply the best one. The two types of knowledge complete each other; any procedural knowledge starts with declarative knowledge (Johnson, 2003). Based on this, what translators know about translation activity represents their declarative knowledge. Then, retrieval of their translational knowledge (including linguistic as well as domain specific knowledge) and performing actual translations through the process of translation represent their procedural knowledge. As such, procedural knowledge underlies the performance of actions (Berry and Dienes, 1993, p. 153), i.e. translating.

Although the role of these types of knowledge is of paramount importance to evaluate translations performed by medical experts, the amount of declarative knowledge that they have cannot be accessed because such knowledge is implicit, the only indicative method will be to examine choices and decisions they make in their translations. Consequently, their translation products can be taken as a criterion to measure their declarative knowledge. However, it can be argued that the decisions and choices of medical experts (procedural knowledge) who are assuming a position of translators temporarily may not fully represent their declarative knowledge (what they know about translation). This is because a significant part of setting *what they as translators know* into motion depends on *how effectively* they can retrieve that information and apply it. There may be translators who have the knowledge, but

they may not be able to put it into action, i.e. their performance might not fully represent their competence. This is, in essence, related to the translator's experience which allows him/her to convert the declarative knowledge to procedural knowledge via proceduralisation[4].

Both declarative and procedural knowledge constitute essential elements of competence and expertise because translation competence and expertise are primarily procedural knowledge (PACTE, 2003, p. 47), but with greater degree in the latter (i.e. expertise). Thus, the distinction should be drawn between the two concepts of competence and expertise and define their usage within the context of this study. Their definition is also crucial in order to see which concept fits to be used in relation to the medical experts who perform medical translation into Kurdish and to justify our choice accordingly.

While there is a large literature regarding competence and expertise, there does not exist a clear definition for expertise to distinguish it from competence. This is possibly because competence and expertise are closely related. For example, for the PACTE group (2003, p. 48-50) translation competence is 'an expert knowledge' and its acquisition is perceived as '[a] dynamic, spiral process that [...] evolves from a novice knowledge (pre-translation competence) to expert knowledge (translation competence)'. In their definition and description of translation competence and its relation to expertise, one may understand that PACTE use the two concepts 'competence' and 'expertise' separately. They refer to expertise as the final stage (ibid, p. 45) of the knowledge acquisition process (cf. Chesterman, 1997, p. 77-78). However, the group tends to describe translation competence, in some other situations, as expert knowledge (PACTE, 2003, p. 48). Following from these two different

[4] Proceduralisation is defined as a process where the declarative knowledge of a domain is converted to production rules (Shreve, 2002, p. 163).

descriptions, it can be understood that expert and expertise in translation are used by the group as an advanced stage of translation competence. Similarly, Dimitrova (2005, p. 16) notes that expertise in translation is assumed to be a sub-category of translator competence, and maintains that not all who have translator competence are experts in translation. She also contends that translation expertise is a developed stage of translation competence (ibid, p. 19).

In other domains, however, scholars go further in describing expertise and view it as a superior stage. Ericsson and Charness define expert performance as 'consistently superior performance on a specified set of *representative tasks* for the domain that can be administered to any subject' (1997, p. 6, italics in original). The idea of superiority in performance is also perceived by Sternberg (1997 cited in Dimitrova 2005, p. 16-17) who considers expertise to be a construct of a number of components: quantity of knowledge, organization of knowledge, superior analytical ability, superior creative ability, superior automatisation of processing, and a superior practical ability. The components set by Sternberg are a 'purely prototypical form' as they represent high standards; thus reaching the level of expertise, especially with regard to the field of translation, would be almost an impossible goal to attempt, alternatively, expertise can be considered in its socially determined aspect (Sternberg, 1997, p. 159-160 cited in Dimitrova, 2005, p. 17). For example, in a region like Kurdistan, doctors are viewed as experts in their respective field regardless of whether they are actually competent or not. Individuals who speak two languages and perform translations are designated as expert translators, regardless of what quality of translations they produce. Therefore, there exists a shared conception of what constitutes a socially determined expertise in a certain domain (Dimitrova, 2005, p. 17). In other words, the term 'expert' is used as an attribute, which is applied to people working in certain domains, whether or not they consider themselves to be experts (Pym, 1998).

The common view held within the Kurdish community as regards expertise stems from the misconception that whoever received an academic education or a formal training in a certain domain, in effect, becomes an expert in the domain in question, including medicine and translation. However, as Shreve (2002, p. 153-155) argues, academic training may make one a graduate from a certain field of study, a professional, a consultant or a specialist, however none of these titles is sufficient to make one an expert. Instead deliberate practice in the domain in question is the primary means and requisite for acquiring and thus developing expertise (Ericsson and Charness, 1997). Deliberate practice is the key concept in current approaches to explaining expertise (Shreve, 2002, p. 157). It is defined as the 'engagement in regular activities that are specially designed to improve performance' (ibid). Shreve explains that deliberate practice in translation is not the same as being a professional translator who translates for a living (ibid). This is because deliberate practice occurs when four conditions are met, including: 1) there is a well-defined task, 2) the task is of appropriate difficulty for the individual, 3) there is informative feedback, and finally 4) there are opportunities for repetition and for error corrections (Erricsson, 1996, p. 21 quoted in Shreve, 2002, p. 157-158). These conditions are not usually met for a translator who translates for a living, because as for the first condition, the availability of 'a well-defined task' in itself is problematic due to the complexity of translation activity as such. Very few publishing houses in Kurdistan tend to provide translation briefs for translators (e.g. Serdam Publishing House), otherwise translators have to rely on their own intuition.

The second condition implies that the translation task should be of certain difficulty to translate. For translators who translate to earn their living, they do not seek challenging texts, instead their career is driven by the demand of the client. They do not 'deliberately push' at the boundaries of their skills (Shreve, 2002, p. 158). Although translators may be presented with difficult texts to translate in the course of their career, they do not intentionally seek

challenging translation tasks. Concerning informative feedback, it is not usually provided for translators translating for a living unless they ask for it. Even if the feedback is given, it 'does not quantify as the type of coaching given, for instance, to an athlete' (Dimitrova, 2005, p. 18). Translators are expected to account for certain quality measures when they translate and ensure that their work meets certain criteria set by quality assurance authorities. However, such criteria may be generalised and thus cover all types of translations, not focusing on specific text types and genres, such as medical abstracts. Thus, the significance of feedback outweighs that of quality assurance. This is because when translators receive feedback on their translations, they can integrate it 'into an effortful attempt to improve performance' (Shreve, 2002, p. 159).

As for the fourth condition, it implies that when the translator performs translations of repeated materials with repetition of linguistic, textual and conceptual patterns, s/he develops the ability to recognise, analyse and improve his/her performance. However, the materials given to a translator translating for a living, quite often tend to vary and therefore, his/her chances to develop his/her expertise is very limited.

As we established above, the medical experts of our study do not pursue translation as a profession, most of them may only translate once. While the translation they are performing is a well-defined task since their translation brief is provided, i.e. they know what is required, what they are translating and why, they do not seek challenging translation tasks, they do not have a chance for improvement and receiving feedback on how to improve their work.

This discussion implies, with the picture drawn of the translation practice by medical specialists, that it would not be possible to attribute the concept of expertise, as defined by Ericsson and Charness (1997), Sternberg (1997), Shreve (2002) and Dimitrova (2005) to our medical specialists performing self-translation. As regards their medical knowledge, however, expertise seems to be a socially determined concept in the Kurdish region, i.e.

referring to the way in which the Kurdish community's perception of expertise is determined or influenced by players in the domain of medicine. Doctors, in essence, are considered to be performing a social role within a particular community to achieve a certain goal. They are believed to have knowledge and skills required to achieve their goals and as such, they are designated experts in their respective field of knowledge. This choice provides us with a simpler sense of expertise such that it can accommodate our medical specialists that translate their research abstracts into Kurdish. Following from this choice, the hotly disputed concept of expertise that we discussed before is dismissed and as such, instead the term is used to refer to the group of medical specialists whose translations we investigate in this study. Therefore, we call them *medical experts*, yet we do not refer to them as translation experts for the reasons we discussed above.

2.2.1 Translation competence

Translation scholars do not consider translation competence as translation expertise because competence is not viewed as a superior performance. Achieving a level of competence is not as hard as a level of expertise. Most scholars agree that translation competence can 'most effectively' be developed at academic institutions (Schäffner and Adab, 2000, p. x), which can eventually lead to professional qualification[5]. The contribution that academic training makes to the development of translation competence is undeniable, but the translators (i.e. the medical specialists) whose translations we investigate have not received such training or any

[5] Professional qualification is used in this context to refer to a degree or certificate that one earns from a recognised academic body. It assures that a person can perform a certain task or job.

other type of translation training most probably due to two main factors: first, they did not intend to become translators and thus translation was not their goal; and second, even if they were interested in career in translation, there was a lack of institutions offering translation studies as an independent discipline. In most European countries people have the opportunity to take translation courses regardless of their primary expertise or any other degree they already have. However, the same opportunity was not provided in Kurdistan because universities or academic institutions did not offer translation courses. Although today a few universities offer translation courses, they only accept applications of students who have finished secondary school and wish to study translation. The main reason is that the number of secondary graduates who apply for translation courses is too high that it would be beyond their (the universities) capacity to accept applicants who already have another university degree. This is mainly because the number of universities and the places are not enough for the number of applicants which grows annually, and further because there is a discrepancy between the number of undergraduate applicants and the teaching staff. Perhaps the main reason for the lack of translation courses in Kurdistan is lack of a teaching staff specialised in translation. In addition to these reasons, my personal communication with many medical specialists suggested that their career in the medical field is financially more beneficial to them so that they are not keen to apply for translation training courses.

Moreover, academic training is not the only medium for developing translation competence. Some people tend to develop translational competence through experience, i.e. translating various types of materials over a long period of time gradually contributes to improve their performance, which reflects their translational competence. The translator's performance, represented in translation products, can be considered as a tool to measure and assess translator's translation competence. Translation competence comprises a complex combination of a number of parameters that may not develop evenly among translators.

Parameter, as a term, is defined as 'the (different) degrees to which individual translators have developed their respective competences' (Neubert, 2000, p. 6). And translators may have varying degrees of the parameters of translation competence and they still do their job, yet if they lack any of the parameters, they cannot translate effectively (ibid). The number of parameters that a competent translator should have differs according to the various models of competence proposed by translation scholars. Translation scholars do not agree on one single model that would cover all the parameters which can achieve translation competence. As a result, the literature of Translation Studies offers a variety of models. They all include some parameters that are considered as essential to fulfil translation competence, whereas some models add other parameters, and that is where the models diverge.

2.2.1.1 Models of translation competence

As we established in the previous section, translation scholars do not agree on one model of translation competence, as such we find a varying models in the literature. A number of models are proposed by Hewson and Martin (1991), Nord (1991), Bell (1991), Hönig (1991), Hatim and Mason (1997), Shreve (1997), Neubert (2000), Risku (1998), Beeby (2000), Schäffner and Adab (2000), Orozco and Hurtado Albir (2002), Pym (2003), PACTE (2003), Kastberg (2007), the EMT (Gambier, 2009), etc. The essential competences that most scholars agree constitute translation competence are: linguistic competence (language competence in the SL and the TL), textual competence (identifying textual features and text production), domain/ subject competence (knowledge of the area a translation is about), transfer competence (knowledge of the strategies and procedures of converting the SL text to the TL text), and cultural competence (knowledge of the SL culture and the TL culture). In addition to these competences, some scholars propose other competences. For Schäffner (2000, p. 146), the model includes (re)search competence as well, which implies the general

strategy competence that enables the translator to resolve problems in relation to the cross-cultural transfer of texts. In her model, the other competences are considered declarative knowledge, which are then activated by research competence, which acts as the procedural knowledge. As such, the interaction among these competences enables the translator to make decisions and choices and translate effectively.This latter competence is the only parameter that distinguishes Schäffner's model from Neubert's, who includes five competences only. For the PACTE group (2003), knowledge about translation (what translation is and aspects about the profession), instrumental competence (use of documentation sources, information and communication technologies), and psycho-physiological components (cognitive and attitudinal components and psycho-motor mechanisms) are also vital in order to achieve translation competence.

We do not attempt to argue and deny the usefulness of these competences in translation, yet they are a very detailed description of the types of knowledge that translators need to have. If other competences were added from other models, translation competence would ultimately become almost an impossible level to achieve. For example, a very detailed and well-defined model is proposed by the EMT. EMT is a partnership project between the European Commission and higher education institutions offering programmes of master's level in translation. The EMT aims at improving the quality of translator training in order to prepare highly skilled translators to work in the European Union (http://ec.europa.eu/emt). The model comprises both language and intercultural competences like the other models, but it also includes other competences, such as: translation service provision competence (knowledge of the interpersonal dimension of translation and its production), information mining competence (information and documentation requirements, information extracting and processing, etc.), thematic competence (search for relevant information and specialised knowledge, etc.), and technological competence (use of technological tools for translation).

These competences, in essence, cover parameters that constitute the other models of translation competence we mentioned before, but these are categorised differently and more comprehensively. While the role of these competences is unquestionable in all types of translation; it may be argued that they do not equally apply to translators performing translations in Iraqi Kurdistan, particularly medical experts. The argument, on the one hand, may be largely based on the lack of independent institutions that offer systematic training courses aimed at preparing translators for the market. On the other hand, it may be based on the fact that the absence of a quality assurance establishment has resulted in the lack of similar models to the EMT to improve quality of translation in the region. This has triggered a chaotic situation where every translator works according to his/ her personal taste and choice, without having any code of conduct that can guide and thus regulate the practice as well as the quality of translations. Although both the argument and the reasons on which it is based are valid, it can also be argued that Kurdish translators, including the medical self-translators that we are considering in this study, may have developed some types of competencies even without receiving explicit translation training or teaching. The analysis of the translated abstracts can be a useful tool on the basis of which we can identify if any patterns develop and which can indicate whether or not the medical experts have any sub-competences that are suggested by the abovementioned translation scholars.

However, in the absence of a model of translation competence in the Kurdish region, and the multiplicity of the models already proposed within the field of Translation Studies and outside the field in the West, it is well justified to create a model that would comprise the competences essential for medical translators. The aim for creating a model within the context of this study is two-fold. First, it is aimed to function as a useful criterion that we can use to assess potential findings of the data analysis on the basis of which, then, we can make interpretations and establish the role of translation competence of the medical experts.

Second, it is aimed to represent a model that considers the current practice and quality of specialised English-Kurdish medical translation in Kurdistan, where the number of competences should be kept to a minimum of fundamental elements so that translation competence would not represent too high a level to achieve. The model should be proposed in a form that would appear realistic to function as the preliminary attempt towards improving translation competence in the region. Based on the outcomes of that model, more advanced and detailed models can be proposed to achieve higher levels of translation competence and quality in the future. Thus, while the first aim is related to immediate context of our study, the second one has a long-term target as it is a call for action and also a recommendation for further research in relation to the need for translation training in the region of Iraqi Kurdistan.

2.2.1.2 Modelling translation competence

Following from the discussion presented in the section above, a model proposed by Kastberg (2007), specifically designed to fit specialised translation competence, seems to be an appropriate model to take as guidance for creating our model to examine our translated corpus and look into the translation competence of our medical experts. As already indicated in the previous section, the aim of creating a model of translation competence is to use it as a criterion for testing the translation competence of the medical experts through their self-translated abstracts. Although the model originates from and thus maps onto other basic models of translation competence, the specificity lies in its focus on specialised translation, differentiating it from other types of translation. This does not mean that the other models are not useful, because all the models are, in essence, formed to identify the elements or parameters that enable translators to translate effectively. Kastberg's model is ultimately drawn from the more generalised models, but it specifically addresses the question of competence in specialised translation. Like the other models, it considers language

competence to be a key component of translation competence, but it separates language competence into two competences: general language competence and specialised language competence (LSP competence), thus giving it particular significance of its own. This categorisation of language/ linguistic competence is not indicated in the other models. Moreover, the model refers to transfer or strategic competence as LSP translation competence. It explicitly indicates that translators are required to have knowledge that enables them to handle specialised texts. As such, the two parameters that make the model appealing to our investigation are LSP competence and LSP translation competence, because the rest of the parameters are included in the other models. Kastberg's model consists of the following competences:

1. General language competence L1 + L2: it concerns the knowledge in the two languages involved in the translation activity.

2. LSP competence L1 + L2: it refers to the translator's knowledge in languages for specific purposes, both of the SL and the TL.

3. Knowledge of the relevant domain: it is related to the translator's knowledge in the subject area that the translation is about; be it literary or non-literary.

4. LSP translation competence L1 <–> L2: it refers to the familiarity with specialised translation.

5. Cultural competence L1 + L2: it refers to the translator's knowledge of source text culture and target text culture. It enables the translator to recognise cultural issues inherent in specialised texts, including: technical concepts, disciplines, genre conventions, etc.

The model includes all the basic competences that play a key role in specialised translation; except for textual competence which the model does not consider. Textual competence is as significant as the other parameters of translation competence because it enables translators to identify textual features of the languages in question. It allows translators to recognise 'that

words and structures [...] follow significant patterns when they feature in texts or rather, in types or genres of text' (Neubert, 2000, p. 8). That said, part of textual competence which is genre conventions, can also be covered under cultural competence. However, textual competence plays a crucial role in medical translation as it enables the translator to internalise the specific patterns that characterise medical language and translation in the target language. Therefore, we add textual competence into our model of translation competence that we create based on Kastberg's model. The following sections explain and discuss each competence of the model in detail.

2.2.1.2.1 General language competence

General language competence refers to the translator's knowledge in the source text language and target text language. It includes awareness of linguistic structures and communicative use of both languages (Schäffner, 2000, p. 147). Such awareness should enable the translator 'to transact with and effectively comprehend texts' both in the source language and target language (Fox, 2000, p. 116). Language competence holds a primary position in translation competence because translators' linguistic knowledge significantly impacts their semantic, syntactic, textual as well as stylistic choices during translation.

Lack of linguistic knowledge prevents translators from recognising how propositional meanings (Baker, 1992, p. 13) are structured within the text, how clauses and sentences can be synthesised to carry propositional meaning and analysed to retrieve the meaning embedded in them, and how the clauses can be understood as 'information-bearing text' (Bell, 1991, p. 36-37). In other words, translators need to be competent in the three essential parameters of linguistics, namely semantics, syntax and pragmatics. These parameters enable translators to reproduce the source text message in a functionally coherent target text, bearing the intended communicative value for the target readership. The realisation of these three

elements affects meaning and content transfer from a language to another. This is particularly important in medical translation because the primary purpose of medical translation, as informative texts, is 'transmitting factual content and terminology' rather than 'stylistic niceties' (Reiss, 1977/1989 quoted in Munday, 2012, p. 114).

Language or linguistic knowledge of the translator is reflected in the choices s/he makes in sentence structures, word ordering, parameters such as voice, tense, mode, number, etc. in the target text. Lack of syntactic knowledge of the SL and the TL often results in the occurrence of SL syntactic patterns in the TL text. This type of syntactic interference from the SL is relatively common in English-Kurdish translations, including medical, an issue rarely studied (e.g. Aziz, 2005). Thus, this study attempts to reveal whether syntactic calque or interference is a prevalent feature of the translations performed by medical experts performing medical translation. Further, it identifies the language/ linguistic awareness of medical experts in relation to English and Kurdish on the basis of SL interference in the target text.

We assume the translated abstracts exhibit incidences of syntactic and textual calque or ST interference because the medical experts are not linguistically trained. Although it can be argued that exposure to formal linguistic education or training is not the only medium to gain linguistic knowledge. Like everyone else, medical experts have received some background information about Kurdish and English grammatical and textual structures in school. When they go to medical school, they have a two-hour class of Kurdish per week for one year, but the module covers general information on Kurdish language, and does not focus on detailed linguistic and textual parameters of Kurdish. This type of education does not actually make one competent in language and linguistics. Thus it implies that our medical experts may lack linguistic competence if they have not sought to improve their linguistic expertise through other informal mediums. Nevertheless, we cannot establish the lack of their linguistic competence unless we analyse their translations in terms of linguistic structures.

2.2.1.3 2. LSP competence

There is a sliding scale that leads from general language knowledge to LSP knowledge. In essence, language for specific purposes (LSP) is the branch of applied linguistics that deals with a variety of language used for a particular subject field. It is considered the language 'related in content (i.e. in its themes and topics) to particular disciplines, occupations and activities' (Strevens, 1988, p. 1 cited in Dudley-Evans, 1998, p. 59). This language is used in specialised fields of knowledge in order to facilitate communication between people who discuss specialised subjects (Bowker and Pearson 2002: 25-27). Correct and successful communication in a specialised domain is not possible without specialised terminology and correctly understood concepts (Thelen and Steurs, 2010, p. 3). In contrast to LSP, there is the language for general purposes (LGP), the language that is used 'to talk about ordinary things in a variety of common situations' (Bowker and Pearson, 2002, p. 25). Some degree of overlap may exist between LSP and LGP, and every LSP can greatly overlap with at least one LGP and is free to use any parts of the latter without justification (Beaugrande, 1989, p. 6). Special terms of a specific domain may also be used in LGP by “ordinary people”, either through the mass media or through direct impact (Bowker and Pearson, 2002, p. 26), in a process known as de-terminologisation (Meyer and Mackintosh, 2000 cited in Bowker and Pearson, 2002, p. 26). This use, nevertheless, by no means proves that the speaker's understanding of such terms is as deep as an expert’s (Bowker and Pearson, 2002, p. 26). LSP is usually characterised by its complicated vocabulary and heavy grammatical constructions (Nida and Taber, 1969, p. 128), as well as technical terms, and it would be, as Halliday and Martin rightly note, impossible to create a discourse of original knowledge without them (1993, p. 4).

Concerning Kurdish LSP, Hassanpour (1992) maintains that new registers of administration, law, elementary science, the humanities, and social sciences developed after 1918 due to

officialising Kurdish and its use in education, administration and the mass media. Such terms rested heavily on borrowings from Arabic, Persian and Turkish, but they were gradually replaced with newly coined Kurdish terms. Tofiq Wahby, a Kurdish language reformer, believes that Kurdish is not a "handicapped" language as far as general lexical items are concerned, yet its vocabulary cannot meet the demands of modern science, art and technology (cited in Hassanpour, 1992). According to Hassanpour, 'one outlet for terminological creation and usage in the 1980s was the popular scientific articles written and/or translated in the Iraqi journals *Řošinbiri Nwê* and *Karwan*' (ibid). Despite the creation of new terms, Hasanpoor admits that their usage was largely determined by extralinguistic factors (ibid), such as politics and ideology which encouraged the use of Arabic terms rather than the Kurdish ones.

The literature of Kurdish lexicography features one authoritative body that has been established to work on term creation, among other objectives, and to deal with non-equivalence in Kurdish as well as to protect the language from its heavy reliance on foreign borrowings. It is the Kurdish Academy, formerly called the Kurdish Scientific Society (Hassanpour, 1992; Aziz, 2005; Muhammad, 2011; Sidiq, 2011). Although the Academy coined Kurdish terms for various fields of administration, media, and education, it is criticised for not being effectively engaged in improving Kurdish (Omer, 2011, p. 63; Qazi, 2011, p. 159-172). It is unfortunate that the Academy is influenced by political ideology as well as geographical affiliations[6]. It follows that although the Academy is theoretically an

[6] Members of the Kurdish Academy support different political parties and different dialects. This, in turn, negatively impacts their decisions in relation to language development strategies.

authoritative establishment, that authority is not exerted across the Kurdish region. This, in effect, has created a vacuum in relation to term creation in Kurdish.

As a result, the majority of Kurdish terminological coinages in specialised domains are the product of individual attempts within their specific domains. Nevertheless, individual attempts often become unproductive possibly because they are domain experts with little knowledge in Kurdish language and linguistics. According to Massoud Muhammad (2011, p. 23-24), term creation requires two major conditions: a) searching, and b) knowing which words are suitable for term creation, i.e. rules that allow certain coining, suffixes and prefixes, etc. in the language in question. This implies that although domain expertise is a requisite for term creation, especially in specialised domains, such expertise calls for rudimentary linguistic knowledge to be incorporated in the process of term creation. For example, a number of medical terms have been created by Dr Hiwa Omer since 2003, a lecturer in the medical school at the University of Sulaimani. His attempt came as an initiative in the medical community, yet based on personal communication with a number of Kurdish linguists, part of his terminology is criticised for not being linguistically driven. Some Kurdish linguists consider his terminologies not conforming to the rules of term creation in Kurdish. Some other medical experts follow the path of Dr Omer and create new medical terms to resolve the issue of non-equivalence in Kurdish medical language. These attempts do not stem from and thus are not represented in an official establishment that is engaged in term creating projects in collaboration with Kurdish linguists. However, considering the vacuum we discussed above, such attempts may represent the only existing options for medical experts and medical translators.

Another factor for limited medical terms in Kurdish is ineffective policies of dissemination. Most newly coined terms are not used in their respective domains, and/or are not widely publicised, thus they remain unknown to the language user (including LSP user). Muhammad

(2011, p. 44) rightly contends that every new term sounds unfamiliar and strange in every language, but people would gradually get used to them and they become part of their language. It follows that introducing newly created terms to the potential language user is as significant as creating the term. For example, the English word *clinic* has its ready Kurdish equivalence نۆرینگە[7](BT: clinic), but it is rarely used within the medical domain, instead it is transliterated from English as کلینیک (BT: clinic) and today it is widely used. As a result, the Kurdish word remains unknown to most language users within the domain as well as in public.

This situation is further triggered by the absence of a language planning body as well as the lack of a standardised language. The situation requires collaborative attempts from both lexicographers and linguists to reflect on best strategies to introduce and thus familiarise people with newly coined terms and encourage their usage in their pertinent domains.

One of the striking features of a large number of scientific terms, including medical, created by individuals in their respective domains is that they are mere translations of the English terms into Kurdish, or the English terms are translated into Arabic and the Kurdish translation is taken from the Arabic translation. According to Muhammad (2011, p. 45), that is not considered term creation; otherwise the task of a term creator/ lexicographer would be similar to that of a translator. For example, *giardiasis* is translated into Arabic as دەردە جیاردیا (BT: the disease of giardia), using two translation procedures: transliteration and addition, the English term is transliterated adding the word 'disease' to it. Interestingly, since the sound [g] does not exist in Arabic, [dʒ] is used in the translation, thus the term is pronounced [dʒja:rdja:].

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[7] This word consists of the stem نۆرین (to look at) and the suffix گە, which indicates place. Together they refer to a place where doctors look at patients to examine them, i.e. the clinic.

Although Kurdish, unlike Arabic, has a [g] sound and letter, the term is translated following the Arabic translation rather than the original English. Thus, it has become دەردە جیاردیا (BT: the disease of giardia).

Familiarity with English LSP and Kurdish LSP is significant for Kurdish medical translators. This familiarity usually comes naturally to medical experts, i.e. in line with the expert knowledge they acquire. However, for non-experts, such as specialised writers or translators, learning LSP is by reading (Bowker and Pearson 2002, p. 28) and researching. LSP knowledge does not only lie in understanding and identifying specialised concepts, it also includes necessary information about how to properly use them (Bowker, 2000, p. 85). This implies that LSP competence is not restricted to terminology and their underlying concepts, it also covers recognising the lexicogrammar (the 'wording') of specialised texts (Halliday and Martin, 1993, p. 4). In this respect, medical experts need to know how to use the LSP, because knowing a certain subject is not the same as knowing the language that is used to describe and discuss that subject (Bowker and Pearson, 2002, p. 28). A medical expert may know almost everything about neurology, and may very well perform neurological surgery, but may not be able to explain it. As such, knowing how to do something and knowing how to communicate effectively the knowledge of the same thing are two separate but complementary things (ibid, p. 29). LSP communicative competence is equally important both for domain experts and non-experts, but experts may find it easier to acquire.

In contrast to English LSP, Kurdish LSP is not clearly defined and established, and as such, its relevant features are not distinctively identified as opposed to Kurdish LGP. Based on anecdotal evidence, Kurdish LSP is considered to exhibit more recurrent overlap with LGP because LSP does not have its recognised conventions. It is unfortunate that the existing literature does not provide any studies to support this claim. In the absence of well-defined conventions specific to specialised texts, Kurdish specialised translations may display

characteristics of English LSP under the influence of the English source texts. This practice, in turn, may account for one of the reasons that trigger elements of foreign interference and unfamiliar structures in Kurdish.

As a branch of LSP and a special type of discourse, medical language has its own variety of register exhibiting certain features lying in its 'technicality, formality, and channel of communication' (Pilegaard, 1997, p. 159). Medical language is a construct of idiosyncratic phrases, specific terminology, acronyms, eponyms, abbreviations, and medical phraseology (Lee-Jahnke, 1998, p. 85-88). Most medical terminology has Greek and Latin origins, prefixes and suffixes (Talavan Zanon, 2011, p. 22). Greek and Latin are still the core of scientific terminology and the basis for medical language studies (McMorrow, 1998, p. 14). Dirckx notes that the majority of medical terms originate from “Latin and Latinised Greek” (2005, p. 1). These terms ‘date back to the founding of modern medicine by the Greeks and the influence of Latin when it was the universal language in the Western world’ (Willis, 2008, p. 1). However, according to McMorrow (1998, p. 14), the trend has changed now: there are many new terms derived from English (Willis, 2008, p. 1). Today English has become the international language of science and technology and as such, it 'has replaced Latin as the language of international communication' (Pilegaard, 1997, p. 162). In addition to English, many languages have created their own medical terms and / or borrowed foreign terms and nativisied them. Similarly, Kurdish medical language created its own terms as well as borrowed from other languages, such as Arabic and English. Nevertheless, it did not have the opportunity to develop compared to other medical languages because it has been subjected to linguistic repression (Hasanpoor, 1999, p. 18). This usually happens when two languages coexist and one of them takes dominance over the other, and the other becomes subordinate. The relationship between the dominant language and the subordinate one becomes, according to McMorrow (1998, p. 13), one of 'push (imposition)' and 'pull

(borrowing)' because 'whoever leads the field gets to create the words that capture the emerging concepts and products' (ibid). Elements of 'push' and 'pull' may be predominant in Kurdish medical language because the language used in medical education is English. Although Arabic and Kurdish are the two officially recognised languages in the region, neither is used in teaching and studying medicine. This is also true for other branches of science, such as engineering, biology, chemistry, physics, etc. Thus, medical students acquire their specialised knowledge in English, which is not their native language. One of the negative by-products of acquiring specialised knowledge in English, including medicine, is that graduates may not have the ability to express such knowledge in their native language (c.f. O'Neill, 1998, p. 73). Perhaps this becomes especially apparent when they are writing in and/or translating to Kurdish.

Medical Kurdish, like other languages, includes specialised terms with Greek and Latin origins. While many of those terms are transliterated, others are translated. Moreover, medical Kurdish has its stock of Kurdish specialised terms, which are used in medical writing and translation. However, anecdotal evidence suggests that the stock is not rich enough to meet the growing development in the medical domain in today's world, a state that we will investigate in our data. The language needs to be developed and updated accordingly; otherwise, it displays cases of non-equivalence. This discussion implies that the user of Kurdish medical language may need to resort to borrowing to deal with non-equivalence instead of attempting to create Kurdish terms. This is probably a more visible strategy in medical translation in particular, therefore it is further discussed in the next sections. With English being the dominant language in the medical field, and with the reflection of its predominant status in medical publication, particularly medical research, there is a danger that this may lead to an impoverishment of Kurdish medical register. This trend may be further enhanced by the fact that Kurdish medical graduates tend to publish their research in

English, especially to make their contributions internationally recognisable (Ammon, 1998 cited in Krein-Kühle, 2003, p. 13).

2.2.1.3.3 Textual competence

Textual competence is closely linked to language competence. It refers to knowledge of regularities and conventions of texts, genres and text types (Schäffner, 2000, p. 146). Recognising and conforming to conventions as well as the recurring patterns that are specific to specialised domains are of paramount importance in translation. In terms of medical translation, textual competence lies in identifying textual and linguistic features pertinent to medical discourse. English medical texts manifest some striking characteristics both on syntactic and textual levels. These are achieved by applying certain strategies such as: nominalisation, modality (Palmer, 2001), passivisation (Baker, 1992, p. 103), impersonal constructions (Beaugrande, 1987 cited in Kulesza, 1989 p. 34), and great repetition of terms, phrases, and sentences since their primary function is transmission of knowledge (Faber, 2012, p. 3). In terms of stylistics, LSP presents information in a way that is economic, precise, organised and as clear as possible (Herman, 1993, p. 11; Grego, 2010, p. 69-72). Anderson (2002, p. 137 cited in Schmitz, 2007, p. 49) also points out that 'precision' is considered as a leitmotif in LSP, whereas the opposite concept, i.e. 'vagueness, has been regarded as an unwanted deficiency to be avoided'. Nevertheless, the features and parameters mentioned above may vary depending on text type and genre (Krein-Kühle, 2003, p. 11; Olohan, 2011, p. 247). This is supported by Maglie's study (2009) on English for Medical Purposes (EMP), Maglie has observed that sentence length is a feature of medical language and a habit of medical writers 'due to the need to include a number of elements so as not to create an information gap or ambiguity' (ibid, p. 36). However, other types or genres of LSP texts may show different preferences for sentence length.

In contrast, textual features of Kurdish medical texts are not defined as clearly as English. As mentioned before (see 2.2.1.3.2), because although LSP and more specifically medical language are used in Kurdish, they have not been studied in terms of their semantic, syntactic, textual and stylistic features, and as such textual features and patterns of Kurdish LSP are not established yet. Thus, in the absence of well-defined conventions and textual patterns pertinent to medical texts in Kurdish, textual patterns and stylistic features of English medical texts may find their way into translated medical texts and cause interference. Sometimes transferring English textual patterns may not work in Kurdish. Inability to recognise certain textual characteristics and preferences may pose problems in translation, medical in this context. Therefore, textual competence plays an important role in the recognition of rules and structures that characterise the textual make up of both the source language and the target language. Considering the genre that we have chosen for our investigation, which is the research abstract, it is one of the well-defined genres in English, but not in Kurdish. It is important to identify and describe the textual conventions of research abstracts here in the light of which, then, we can identify textual conventions of the translated abstracts into Kurdish.

2.2.1.3.3.1 Text type conventions

Identifying the conventionalised features of the text types and more specifically the genre that we are investigating in this study is very important in order to see what we look for and why it matters.

Not all texts are similar, texts can have various types and within the same text types, we may see different genres. Different text types and genres exhibit different textual features and conventions. Text type is defined as ‘a specific linguistic pattern in which formal/structural characteristics have been conventionalised in a specific culture for certain well-defined and

standardised uses of language' (Görlach, 2004, p. 105). The conventionalised linguistic patterns enable the writer or reader of a written text to judge the correct usage of linguistic features which are obligatory or expected in particular text types, the correct use of formulas in relation to topic, situation, readership, medium, register, etc., identifying intentionally mixed types or misuse and identifying the text types (ibid). Genre, on the other hand, is defined as 'the text categories readily distinguished by mature speakers of a language. Texts used in a particular situation for a particular purpose may be classified using everyday labels such as a guidebook, a nursery rhyme, a poem, a business letter, etc.' (Trosborg, 1997, p. 6). What guides the writer or reader, or the translator in our context, to realise the conventional features of a specific text type and genre is his/her textual competence as discussed in the previous section. Trosborg distinguishes genre from text type noting that the concept of genre refers to 'completed texts, whereas text type 'cut across genres' because 'linguistically distinct texts within a genre may represent different text types, while linguistically similar texts from different genres may represent a single text type' (ibid, p. 12).

Based on this distinction, the corpus of our study consists of a specific genre, which is the medical research abstract and its text type is informative featuring narrative and descriptive elements, as 'any useful typology of texts will have to accommodate' multifunctionality (Hatim and Mason, 1990, p. 138). Much is written about research abstracts in the literature and they have been investigated from different perspectives for the important role they play in research communities. Cleveland (1983, p. 104 quoted in Orasan, 2001, p. 433) defines an abstract as summarising 'the essential contents of a particular knowledge record [which] is a true surrogate of the document'. Abstracts constitute a significant part of a research paper, a thesis, a dissertation, because they tell readers if the full thesis or dissertation deserves purchasing and reading. Abstracts are written in different layouts and formats, but Bhatia (1993/2013, p. 148-149) notes that abstracts should include four sections or moves, which

are: introducing the purpose, describing the method, summarising the results, and presenting the conclusions. A section or move is referred to as a 'discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse' (Swales, 2004, p. 228-229).

Apart from Bhatia, both Santos (1996) and Swales and Feak (2009) propose five-move models for abstracts: background, aim, method, results, and conclusion. Hyland (2000) also proposes a five-move model, and although he uses different terms, they refer to the same communicative purpose as the former. The moves are: introduction, purpose, method, product, and conclusion. In addition to these proposed models, journals may have different preferences and thus propose their own models for researchers who wish to publish their papers. In this respect, Swales (2004, p. 228-229) posits that moves may be used differently across disciplines. For example some medical journals have proposed abstracts of sections up to 10 (Guimarães, 2006, p. 263-267). However, Pecorari (2006) suggests that the best way for learning how to write an abstract for novice researchers is to refer to published abstracts in their respective domain. This is because research (e.g. Hyland, 2000; Santos, 1996, Orasan, 2001) has shown that professional researchers do not fully adhere to the instructions given in the manual of abstract writing.

Structure is another textual feature of abstracts, but while some abstracts are written in a structured style, other are not. Unlike structured abstracts which are formally divided into separate sections or moves, unstructured abstracts do not have separate sections, yet they address the sections in a free style. Structured abstracts were introduced into medical journals in the mid-1980s (Hartley, 1999, p. 535 cited in Hartley 2004, p. 368) and since then they are common in 'all serious medical research journals' (Hartley, 2004, p. 368). The structure of research abstracts was investigated (Hartley, 2004; Guimarães, 2006) and it was found that structured abstracts are more informative and easier to understand because they are written in

shorter paragraphs. Structured abstracts are seen in American, Australian, European, Japanese and Chinese journals (Hartley, 2004, p. 368), however we did not find any reference to the preferred structure of abstract writing in Kurdish in the literature, therefore we will attempt to look into the structure of the translated abstracts on the basis of which, then, we might be able to identify the preferred structure.

Research has also focused on the use of verb tense in research abstracts (Biber, 1990; Orasan 2001; Tseng, 2011; Alhubqani, 2013) and the distribution of verb tense (Salager-Meyer, 1991; Swales and Feak, 2004). Conventionally, both past and present tenses are used in abstract writing. Since the background section often provides established facts and the conclusion section makes generalisations, they are usually written in the present tense (Fraser et al., 2009, p. 21). Sections stating aims or objectives are written either in the present or past tense (ibid). However, sections of methods and results are reported in the past tense (Fraser et al., 2009, p. 21; Day and Gastel, 2011, p. 198). Salager-Meyer (1991) investigated research abstracts of medical researchers and found that they used past tense for the three sections of purpose, method and results, and present tense for the conclusion section. Swales and Feak (2004) maintain that tense use is a complex matter in abstract writing. This view might imply that such complexity arises from the inconsistency of verb use in abstract writing within one discipline and across different disciplines.

Abstracts have different length and word count. The length of abstracts is usually determined by the journal which publishes them. Orasan (2011) has looked at the length of abstracts of journal articles in contrast to abstracts of conference papers and found that, overall, abstracts of journal articles are longer than the abstracts of conference proceedings (ibid, p. 435). Hartley also considered length of medical abstracts and found that structured abstracts are longer since they contain more information (2004, p. 370). In addition to the above features, abstracts can be examined in terms of the occurrence of simple and complex sentences, or

short and long sentences and paragraphing. Therefore, our study attempts to look at these textual properties in the translated abstracts as compared to their respective originals in order to see if any interesting patterns develop.

2.2.1.3.4 Subject specific competence

Subject specific competence refers to the familiarity with the specific domain that a translation is about. It is part of the translator's task to access necessary relevant knowledge in order to understand and convey the message of the source text to the target text. Understanding is achieved through acquiring knowledge of the specialised domain in question, the concepts within it, the propositional relations within the text, as well as the conceptual relations between concepts and within that domain (Faber, 2012, p. 3). Knowledge transmission tends to be more difficult in highly specialised texts, because such texts depend heavily on content rather than other elements, such as form and style. As such, translating them requires competence in handling the elements that carry the conceptual meaning of the text. In relation to the object of our study, subject knowledge plays a key role. Medical knowledge does not come naturally to non-experts because it does not constitute part of their systematic education or training as it does for medical experts. Instead they have to acquire such knowledge by familiarising themselves with the concepts in the medical domain as well as the language used to describe them (Bowker and Pearson, 2002, p. 30). This implies that translators who are not medically trained should be in a constant process of learning and searching for medical information, because it is not 'active knowledge to them' (Neubert, 2000, p. 9). Where and how to access and acquire necessary information is, in effect, a challenging task for the non-expert and time consuming, as well. For example the use of acronyms and abbreviations is very common in English and especially in medical language (van Hoof, 1998, p. 58-59). They can have different meanings depending on the

specialty involved. Although most medical abbreviations and acronyms are known by subject specialists, some of them could be author-specific, i.e. they are created by a certain author in a particular context.

While abbreviations and acronyms are not absent in Kurdish, they are not as common as in English, especially in medical language. Anecdotal evidence shows that they are most commonly used in Kurdish political language, although research is needed to confirm that. Recognising medically specific abbreviations and acronyms does not usually pose problems for medical experts during translation because they learn them through continuous use and exposure. Yet, since the language of medicine is not standardised and regulated in Kurdish, medical experts may give various translations for abbreviations and acronyms. Therefore, our investigation will look into the translation of ST abbreviations and acronyms to see how they have been handled and whether they develop any regularity or pattern.

2.2.1.3.5 Cultural competence

Although the translator's familiarity with the source culture and target culture is indicated as a crucial parameter in almost all the models of translation competence, some may question the relevance of cultural competence to specialised translation. Cultural embedding as a feature of specialised texts (scientific and technical) is questioned and dismissed from the theoretical analysis (Stolze, 2009, p. 124) because they are viewed as exact sciences. It is believed that, notes Kastberg (2007, p. 194), laws of the sciences from which technical fields originate, i.e. the laws of physical sciences, are above the constraints of any one *national* culture. He argues that although that belief is true, it does not mean that sciences are acultural, they are artifacts of a *professional* culture (Kastberg, 2002b cited in Kastberg, 2007, p. 149 emphasis in the original). In this respect, specialised texts, having a communicative function, carry a specific message. Messages that specialised texts carry include 'both domain-relevant information and

some implicit references to the cultural background' (Stolze, 2009, p. 124) of the text producer. This implicit reference quite often lies in domain-specific terminologies that may seem 'superficially identical from technical culture to culture' (Neubert, 2000, p. 9). Technical genres and object conceptualisations do differ from culture to culture (Kastberg, 2007, p. 104-109; Kussmaul, 1997, p. 69). Thus, the translator's familiarity with both respective cultures plays a significant role in realising those differences and considering them during the translation of specialised texts. Perhaps many medical terms, expressions and phraseology used within the medical community are standardised internationally and as such no cultural embedding is involved. However, there are other medical terms, expressions, phraseology and jargons that cannot be easily replaced with equivalents because the concepts they designate are different for cultural reasons (Stolze, 2009, p. 126). For example a nurse in a UK hospital is not equivalent to a nurse in a Kurdistan hospital. Although the word in English is readily translated to its equivalence پەرستار (BT: nurse) in Kurdish, the duties that a UK nurse performs are not the same as a Kurdish nurse performs. There is other staff in Kurdish hospitals that do the same job as UK nurses, but they are not nurses, they are called سستەر[8] (BT: sister). Thus, the translator's awareness of these cultural differences is very crucial in cases like these in order to avoid cultural confusion when translating medical texts.

[8] These 'sisters' are trained in medical schools for three years to work in hospitals, but medical schools in Kurdistan are not equivalent to university education, they are at the level of secondary schools. As for Kurdish nurses, they are educated and trained for four years at university and as such they are more knowledgeable in medical practice than the 'sisters'.

2.2.1.3.6 LSP translation competence

Competence in specialised translation is, in essence, what other models refer to as transfer competence (Neubert, 2000, p. 10; Schäffner, 2000, p. 146-148; Beeby, 2000, p. 186) or strategic sub-competence (PACTE, 2003, p. 59). However, what distinguishes this parameter from 'transfer competence' and 'strategic competence' is that it fits into the model of competence specifically designed for LSP translation. It is this parameter that brings all the other competences together and integrates them. It 'affects all the other' competences and 'causes inter-relations amongst them because it controls the translation process' (ibid). LSP translation competence enables the translator to produce translations that 'satisfy the demands of the translation task' (Schäffner, 2000, p. 148). The role of this competence is of paramount importance because it is the procedural knowledge that activates the other competences in the process of translation. It follows that the other competences covered before are static knowledge, i.e. they do not operate individually (as far as translation activity is concerned), and it is the dynamic knowledge underlying translation competence that puts them into motion to achieve a certain translation task. LSP translation competence involves the translation strategies and procedures used by translators to convert the source language text into target language text (Neubert, 2000, p. 10). It enables translators to plan and perform the translation activity using the most appropriate methods. It also helps them to identify translation problems in the source text and to find the best strategies and/ or procedures that solve them.

Acquiring LSP translation competence for medical experts who perform medical translation depends on the existence as well as the level of the other competences. This is because they are interdependent and complementary. Medical experts may not equally develop these competences, each individual may have more knowledge in certain competences, and less knowledge in others. When it comes to the actual act of translation, their various

competences come into play: as the first step, they should recognise conceptual, linguistic and textual patterns of the source text, identify any pattern which represents a translation problem, find a solution, and as the last step, try to apply the solution (Shreve, 2002, p. 162). These steps indicate three things for the translator: knowing *what*, knowing *what to do*, and knowing *how to do it* (ibid, emphasis in the original).

2.3 Equivalence

Following from the discussion on translation competence and its essential components in the previous sections, we emphasised that translators need a certain level of competence enabling them to realise linguistic and cultural properties of both languages involved in the translation activity in order to perform their task successfully. However, it is not enough for a medical translation to be linguistically correct, textually coherent and conceptually meaningful in relation to the medical domain, which is our topic, or any other domain. It should have a kind of *equivalence relation* with its original source (Neubert, 2000, p. 11, emphasis in the original). Equivalence is a central concept in translation theory, but at the same time a controversial one (Chesterman, 1997, p. 9; Kenny, 2011, p. 96; House, 2009, p. 32). The literature of Translation Studies includes various views on equivalence, some consider it as a necessary condition for translation, some see it as an obstacle, while others regard it as a useful category for describing translations (Kenny, 2011, p. 96). Among these different views, our investigation is using equivalence as a tool to identify and describe the types of relationship which exist between the medical abstracts and their translated versions. This aim is to see how medical experts achieved the equivalence relation between the two texts, but before we do so, we need to establish how we define and use the concept of equivalence.

According to House (2009, p. 31), equivalence is relative and such relativity should be controlled by recognising the 'invariance'. Invariance is defined as those elements that remain

unchanged in translation (Bakker, *et al*., 2011, p. 269) and are essential to be conveyed to the target text (House, 2009, p. 31). Identification of the invariance depends on what is considered to be the 'essential content, point, or purpose of the original text or of the translation' (ibid). Medical language (and texts) rests mainly on terminology (Van Hoof, 1998, p. 49), which carries the main message of individual sentences, thus they need to be kept invariant upon transfer from source text to the target text. In a medical research abstract about *otomycosis*, the entire abstract depends on the meaning that the term *otomycosis* carries. If the translator failed to convey its meaning, the whole textual message would be affected. Following from this example, it can be noticed that equivalence plays an important role in message transference from one language to another. However, what allows the translator to achieve equivalence is the parameters of translation competence and the interaction that occurs among them. The more developed the competence parameters, the more effectively and efficiently they are put into play to transfer the message and achieve equivalence (Neubert, 2000, p. 11). According to Neubert, this means that equivalence in translation is not ‘an isolated, quasi objective quality, it is a *functional* concept that has to, and can, be attributed to any particular translational situation’ (2000, p. 11 emphasis in the original).

Based on Neubert’s view, while terminology and preserving terminological connotations in medical translation, as stated before, are considered crucial, it should be pointed out here that successful medical translation is not only a matter of using the 'correct terminology', and that equivalence in the sense of one-to-one correspondence at the terminological level cannot be

taken for granted[9]. This is because reliance on strict linguistic correspondence is what has made equivalence a controversial concept and criticised by many translation scholars. Moreover, while seeking linguistic correspondence in translation includes the first parameter of translation competence, namely linguistic competence/ language competence, it nevertheless excludes the other parameters of textual competence, LSP competence, LSP translation competence, subject competence and cultural competence, which are very essential components. That said, we should consider that given that our genre is research abstracts which has an informative function, therefore retaining the same informative function is of paramount importance in the target texts. Function is 'the application or use which the text has in the particular context of a situation' (House, 1997, p. 37). In this respect, establishing equivalence relationship is not sufficient in itself, for we need to give priority to the function that the target text is intended to perform in the target language and culture. Following the Skopos and functional approach to translation, which understands meaning in terms of function in context, it is the intended purpose of the target text, i.e. the skopos, which determines the function (Vermeer, 1978, p. 100 cited in Schäffner, 2011, p. 117). It implies that the function of the source text may change according to the target text skopos specified in the translation brief by the commissioner. Translators may translate as a matter of deliberate choice, without being required to do so. In other words, they translate based on their own initiative and then send it for publication. This is partly true for medical translation, among other types of translation: literary and non-literary. However, the translation of

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9 This view is discussed by Krein-Kühle (2003, p. 3) in relation to scientific and technical translations. The view is taken here in the context of medical translation since medical translation is a branch of scientific and technical translation.

medical research abstracts into Kurdish is required by the Department of Higher Education, School of Medicine at the University of Sulaimani in Kurdistan. The commission, which is defined as the instruction given by oneself or by someone else to perform a translation (Vermeer, 1989/2004, p. 235), is given explicitly. Even if it is not defined explicitly as such, the specification of purpose and the target readership is usually apparent from the commission situation itself, unless otherwise indicated (ibid). Following from this, the medical abstracts are expected to be translated maintaining the same informative function that the English research abstracts have. Thus, the skopos is explicitly determined. However, if the purpose and function (i.e. brief) of a certain translation is not identified by the commissioner, the translator is assumed to realise the 'implicit' or 'implied' skopos (ibid). This, in turn, can be associated with the translator's translation competence which enables him/her to realise any implicit or implied skopos according to which a certain text is translated. Following Reiss (1971/2004, p. 170-174), informative texts should transmit full referential or conceptual content of the original. This, in effect, implies the idea of functional constancy, i.e. the translated text serves the same intended purpose of the source text.

Following from the idea of replicating the source text function in the target text, and with equivalence as the potential relation to preserve this function, we consider Koller's typology of equivalence (1995). Koller differentiates between five types of equivalence which are: denotative equivalence, connotative equivalence, text-normative equivalence, pragmatic equivalence, and formal equivalence. Regarding these types of equivalence, House notes that not all of them can be achieved in any specific case (2009, p. 32). Moreover, producing equivalence relations between source texts and their target texts follows a hierarchical order; that is if one type is not deemed attainable, another type is sought, and so forth. This is trigged by the translator's decision-making process in relation to text type and the purpose of translation as well as the intended target readership. Drawing on this model or hierarchy of

equivalence by Koller, Toury argues that actual studies of translation should not be much concerned with whether two texts (the source and target texts) are equivalents, but 'what type and degree of translation equivalence they reveal' (1980, p. 47 quoted in Kenny, 2011, p. 99). This is understood to be the major conceptual agreement between linguistically-conceptually oriented Koller (1995) and descriptive oriented Toury (1995/2012). This agreement is further reflected in Toury's perspective on equivalence that 'rather than being a single relationship, denoting a recurring type of invariant, it comes to refer to *any relation* which is found to have characterised translation under a specified set of circumstances' (2012, p. 85 my emphasis). We provide a brief definition of each type of Koller's equivalence below and discuss its relevance in relation to specialist medical translation:

Denotative equivalence refers to 'the extralinguistic content transmitted by a text' (Koller, 1989, p. 100). It is also called 'referential meaning' (Fawcett, 1997, p. 53). This implies that the denotative meaning of a source text item is rendered in the target text. Examples of this type of equivalence are commonly produced in medical translation, where the target language has a ready-made equivalence for a source text item. Based on the definition, one-to-one equivalence may not always be feasible in the target language and thus the translator may resort to certain strategies to achieve equivalence, such as borrowing and transliterating the source text item, or translation plus explanation or paraphrasing, in order to give the denotative meaning of the source text item in the target text. Achievement of this type of equivalence is of interest to our study because it is a useful tool to identify what translation strategies the medical experts use to establish equivalent relations and preserve functionality in their translated abstracts.

Connotative equivalence is defined by Koller as the 'most difficult problems of translations, and in practice is often only approximate' (1989, p. 198 quoted in Munday, 2012, p. 75). It refers to the associations evoked by a certain lexis or term. The focus here is on lexical

choices, especially near synonyms. In medical translation, which rests heavily on specialised terminology, connotative equivalence refers to the reproduction of the same concept of the source text term or phrase in the target text. The task is not easy because the transfer of full connotative meaning may not always be achieved. Moreover, there is a range of additional dimensions embedded in connotative equivalence, such as: language level (poetic, formal, normal, slang, elevated, familiar, colloquial, vulgar), sociolect (the 'jargon' of different social groups such as soldiers, students, etc.), dialect (the language of a particular region), medium (written versus spoken), style (old-fashioned, trendy, etc.), frequency (common words or rare ones), domain (literary, scientific, technical, etc.), value (positive or negative), and emotional tone (neutral, cold, warm, etc.) (Fawcett, 1997, p. 53; Munday, 2012, p. 75).

The above dimensions can exist and be identified in any type of translation, including medical. As such, preserving those elements which are pertinent of medical texts is highly significant in medical translation, because they make up the distinctive properties of such texts. For example features such as formality in highly specialised texts, jargons which are specific to medical practitioners, or the use of Sorani Kurdish rather than Kurmanji. Recognising these features, knowing which ones are appropriate for use in medical contexts and realising how they shape medical translation are part of the subject competence and textual competence. The interplay of these two competences largely and equally affects achievement of connotative equivalence in the translation of research abstracts which have a range of specific properties distinguishing it from other genres of medical texts (see section 2.2.1.3.3.1).

As regards the third type, namely text-normative equivalence, it is referred to as 'the text and language norms (usage norms) for given text types' (Kollar, 1989, p. 100). In other words, it refers to the kind of language that is typical to a certain text type or genre (Fawcett, 1997, p. 53), or textual features. According to Munday (2012, p. 75), text-normative equivalence can

be attained by describing and correlating patterns of usage between languages using functional text analysis. As such, the achievement of this type depends on the linguistic and textual norms of usage that characterise a certain text type (House, 1997, p. 25). Medical texts, especially research abstracts tend to display particular textual features, which distinguish them from other text types and genres (see section 2.2.1.3.3.1). The translator's linguistic as well as textual knowledge of both the source text and the target text helps him/her to recognise those features. Such knowledge, in conjunction with the other parameters of translation competence (see section 2.2.1.1), will be put into motion (Neubert, 2000, p. 11) and enables the translator to reproduce the distinctive features in the target text. When the distinctive features, or what Koller refers to as correlations, of a certain text type or genre are recognised and identified, they allow the translator to make choices and decisions, and as a result text-normative equivalence will be achieved.

Pragmatic equivalence is another type of equivalence proposed by Koller. It is oriented towards the readership of the target text message and the focus is to fulfil the special communicative function for the intended readership. This type, according to Munday (2012, p. 75) overrides the requirements of other equivalences. This suggests that the achievement of pragmatic equivalence is not preconditioned like the other types of equivalence; instead it is tailored and tuned according to the function of the target text and the need of the target readership. This, in turn, relates to the functional approach developed by Vermeer and Reiss (1984) and further developed and detailed by Nord (1997). As discussed above, 'the prospective function or purpose of the target text' is determined by the initiator's needs (Schäffner, 2011, p. 116). This functional variance in translation has 'made equivalence into a fluid and relative concept' (Van den Broeck, 1991, p. 157). In other words, the functional variance/ skopos of the target text determines the function of the target text, and this, in turn, determines what type of equivalence is sought.

Cases of pragmatic equivalence can be identified in medical translation, in situations where a highly specialist term or medical phrase is simplified for a non-specialist/ medically non-expert readership, i.e. when the need of the target readership changes. This does not mean that the achievement of this equivalence type is easy; on the contrary the task may prove quite challenging for a translator who is not competent to recognise the linguistic choices that suit a non-specialist readership within the domain of medicine. In medical research abstracts, where the communicative function is informative, translators' competence plays a key role in preserving that function to the target text in order to meet the need of the prospective readership, an aspect that we will investigate in the coming chapters.

Formal equivalence is the last type in Koller's typology (1989, p. 101). This refers to the form and the aesthetics of the source text, including wordplay, rhymes, and other stylistic features and maintaining them in the target text. This type is not very common in medical translation, particularly in relation to our study corpus and as such, we do not go into detail in this regard.

In addition to the above typologies of equivalence, there are a number of other strategies that can establish equivalence relations between a source text and its translation. Interestingly enough, the term 'strategy' is used differently within Translation Studies. For Vinay and Darbelnet (1958/1995/2004) and van Doorslaer (2007), 'strategy' denotes 'the overall orientation of a translated text' (Munday, 2012, p. 22) whether the translator opts for a free or a literal translation. However, Baker (1992) and Chesterman (1997), among others, use 'strategy' to refer to a specific technique that translators use at a given point in a text, for example borrowing, omission, addition, etc. The latter sense of 'strategy' is what is termed procedure by Vinay and Darbelnet (1958/1995/2004), Newmark (1988) and van Doorslaer (2007). Other translation scholars as well as translators refer to strategies and procedures interchangeably and sometimes this usage results in 'considerable terminological confusion' (Chesterman, 1997, p. 87). However, we prefer to choose the term 'strategy' to refer to those

translational techniques that are used during translation at a given point in a text. While translation scholars propose and define a wide range of translation strategies, our initial data analysis has revealed that only a few of them have been used by the medical experts in the translation of their research abstracts. On the basis of that, then, we give a brief definition of each of those relevant strategies and discuss their appropriateness:

1. Borrowing

Borrowing denotes that the source language word is transferred to and thus used in the target language. It involves a deliberate choice, 'not the unconscious influence of undesired interference' (Chesterman, 1997, p. 94). This strategy is often used to 'fill a semantic gap' in the target language, or to 'add a local colour' (Vinay and Darbelnet, 1958/1995/2004, p. 129; Munday 2012, p. 86; Newmark, 1988, p. 82). The literature of Translation Studies features three different terms used in relation to borrowing, these are: borrowing, calque and loan. Chesterman (1997, p. 94) does not differentiate between calque and loan and as such he uses them under the same definition. However, Vinay and Darbelnet (1958/1995/2004, p. 129) refer to calque as a 'special kind of borrowing' (ibid) which involves the literal translation of a source language expression to the target language. According to them, calques result in either a lexical calque which preserves the syntactic structure of the target language but introduces a new mode of expression, or a structural calque which ‘introduces a new construction into the target language (ibid). Sager (1990, p. 90) refers to direct loan defining it as a strategy that involves taking over a source language term into the target language without changing its morphological structure. Baker (1992, p. 34) proposes borrowing strategy; however she notes that the borrowing sometimes requires a certain degree of explanation by the translator. As for the context of this study, the term borrowing is used throughout loosely to cover calques and (direct) loans, i.e. this study identifies any term transferred from the English abstracts and

used in the translated abstracts as borrowing whether it is direct loan, calque or has undergone changes in its morphological or phonological structure.

Sometimes borrowing represents a 'double presentation' (Pym, 1992, p. 76 cited in Chesterman, 1997, p. 95) or 'couplet' (Newmark, 1988, p. 81). This refers to the situation where both source language and target language versions of the word or expression appear in the target text, 'so that one acts as a gloss of the other' (Pym, 1992, p. 76 cited in Chesterman, 1997, p. 95). According to Pym, this involves an ideological implication; the source language form is given a higher value, which is 'inherent in the source language words themselves' (ibid). This strategy is widely practiced in English-Kurdish medical translation. For example, triglycerides is once translated to its Kurdish equivalents چەوری سیانی (BT: triglycerides), and once it is transliterated.

Apart from the 'double presentation' variant, borrowing tends to introduce a 'loan-based neologism as a translation solution' (Chesterman, 1997, p. 95). When the loan word or expression is mentioned for the first time in the target text, it represents, in effect, a neologism in the language in question. It may also trigger the creation of new terms in that language. Moreover, some loan terms or expressions become so well-established through wide usage that they are no longer treated as foreign and as such 'become part of the respective TL' (Vinay and Darbelnet, 1958/1995/2004, p. 129). Kurdish medical language exhibits some borrowed specialised terms, or expressions associated with medical practice, but due to their wide usage over a long period of time, they are now considered part of Kurdish. The term emergency hospital is translated as نەخۆشخانەی ئیمێرجنسی (BT: the emergency hospital) and is widely used by medical practitioners as well as the general public as such; the word hospital is translated to Kurdish, but emergency is borrowed and transliterated. The use of emergency is no longer treated as foreign in Kurdish. One possible factor for the common use of borrowing in English-Kurdish medical translation may be

because many medical terms are not lexicalised in Kurdish, as such translators tend to rely on loan terms to deal with non-equivalence, yet this is one of our study hypotheses and therefore we need to carry out detailed data analysis to confirm it.

Borrowings and calques may become 'fully integrated' into the target language, which sometimes involve some semantic change that may turn them into false friends (Vinay and Darbelnet, 1958/1995/2004, p. 129). Names of international organisations are the most obvious examples of calque strategy, and they are often known by their acronyms (Newmark, 1988, p. 84). Medical language features many names of diseases, medical devices, procedures, etc. which are standardised and universally known in the medical domain. Most of these are often kept in English during translation, and some translators may provide a translation for it in the target language for the first time mentioned in the text, then they keep the English acronym thereafter. For example, Kurdish translators tend to translate WHO fully into Kurdish as ڕێکخراوی تەندروستی جیهانی (BT: World Health Organisation) but they keep the English acronym. Newmark (ibid) notes that this translation strategy should be used only for acronyms, names, etc. which are already recognised in the target culture.

2. Explicitation

Explicitation involves explicit rendition of implicit information of the source text in the target text (Vinay and Darbelnet, 1958/1995/2004). Explicitation may occur at various levels, including syntax, semantics or pragmatics, which can be obligatory and non-obligatory. Obligatory explicitation is caused by the syntactic and semantic differences that exist between the two languages involved in the translation (Barkhudarov, 1975; Vaseva, 1980; Klaudy, 1993 cited in Klaudy, 2011; Dimitrova, 2005). Klaudy (2011, p. 106) maintains that the most obvious cases of obligatory explicitation are triggered by ‘the so-called missing categories’. Non-obligatory or optional explicitation, in contrast, is caused by differences in text-building strategies as well as stylistic preferences between the SL and TL (Klaudy, 2011,

p. 106). There are other types of explicitation such as pragmatic explicitation and translation-inherent explicitation but we will discuss them in section 2.6.

Explicitation has received much attention in the literature because it is considered as one of the universal features of translation (Baker, 1993, 1996; Olohan and Baker, 2000; Pápai, 2004; Klaudy, 2011; Munday, 2012), a topic that we will cover in section 2.6 within a broader discussion of translation universals.

3. Omission

This strategy involves omitting words or expressions in some contexts that do not affect the meaning (Baker, 1992/2011, p. 42). The use of this strategy is justified when 'the meaning conveyed by a particular item or expression is not vital enough to the development of the text' (ibid). However, the strategy may sometimes involve the omission of words, expressions, or even sentences and paragraphs due to various reasons, such as translators' lack of translation competence, the function of the target text, ideology, text type or genre constraints, etc. Given that our study corpus consists of research abstracts, it has a number of recognised textual features (see section 2.2.1.3.3.1), yet keeping such features during translation demands the translator to have a certain degree of linguistic and textual competence in both the source language and the target language in order to recognise them. Therefore, identifying omission strategies in the translated abstracts and examining their effect on the textual and linguistic as well as terminological aspects may be another useful tool to have an insight into the translational competence of the medical experts.

4. Addition

This strategy is considered by some as a concept subsumed under explicitation strategy (Séguinot, 1988; Schjoldager, 1995 cited in Klaudy, 2011, p. 104), whereas for others it is synonymously used with explicitation (Dimitrova, 2005). The strategy involves adding a word or expression in the target text to specify or clarify the meaning of a source text item.

The strategy, in essence, entails the same procedure of explicitation because the aim is to make implicit meaning of a source text item explicit in the target text. However, if a target text features a word, expression, phrase, sentence, or a paragraph that does not have its correspondence in the source text, we identify it as an addition. This is because the purpose may not be clarification or explicitation but adding items that offer extra information to the target readership that the source text does not offer.

These translation strategies are, in essence, 'ways in which translators seek to conform to norms ... not to achieve equivalence, but simply to arrive at the best version they can think of' (Chesterman, 1997, p. 88). Therefore, they are used in the context of this study to carry out the textual analysis process at the micro level to compare the source texts (English abstracts) and the target texts (Kurdish abstracts). The aim is to identify what relationship these translation strategies achieve between the corresponding segments in the two respective texts. The comparative analysis may allow us to establish regularities of translation behaviour. Ultimately, generalisations about the regular patterns are hoped to reveal what translational norms are operating in English-Kurdish medical translations. Based on these, we will be able to identify the role of medical experts and translation experts in medical translation for both research abstracts and journal articles.

2.4 Self-translation

This section discusses possible factors that make specialists self-translate their written work into another language and identifies the features that characterise self-translated texts. The aim is to see if any of the potential factors or features documented in the literature are relevant to the self-translated medical abstracts that we investigate.

According to the existing literature on self-translation, authors choose to undertake the translation of their own work for one of these reasons: promoting literary works within

minority literatures (Grutman, 2011, p. 258), gaining access to a new audience, in particular for bicultural writers with native or near-native access to a more widespread language with the aim of individual self-promoting, marketing existing material for new audiences and refashioning one's identity for writers forced into exile by wars, revolutions, or economic hardships, or dissatisfaction with the work of professional translators (Grutman and Bolderen, 2014, p. 325-326). However, none of these reasons comply with the reason that has caused the Kurdish medical specialists to self-translate their abstracts, because as established in chapter one, it is the University regulations that require the translation of the research abstracts. As such, the choice to self-translate them is not personal, but it is a response to the official regulations of an academic institution: University of Sulaimani.

According to Grutman and Bolderen, self-translation, as a process, has two distinguished features: bidirectionality and simultaneity (2014, p. 327). As regards bidirectionality, they maintain that while many self-translators produce a second version of their work in their acquired language, the choice of direction is not always that consistent but changes according to the text in question (ibid). However, the direction of text transfer is fixed with the Kurdish medical specialists: it is always from their language of profession (English) into their native language (Kurdish). Simultaneity, on the other hand, is related to the 'variable gap of time' between an original text and its self-translated version (ibid). In this respect, the process of self-translation can either be 'simultaneous self-translation' which means that the process of text transfer begins while the original version is still in progress, or it can be 'delayed' or 'consecutive self-translation' which means that the text transfer begins after completion and even publication of the original version (ibid). Within this categorisation, the translated abstracts can be labelled as consecutive self-translated texts, although it is true that they are published simultaneously with their original versions, the process of their transfer from English into Kurdish only begins when the English version is complete.

As a product, self-translated texts are perceived to allow more freedom to the self-translator to be creative because s/he ‘legally, intellectually and morally owns’ the ST and thus ‘is less bound by it than another translator’, yet the amount of freedom given is not infinite (ibid, p. 329). It can be argued that this feature may apply perfectly well to self-translated literary texts because literary texts, by their very nature, allow more room for creativity. The case is nevertheless different with technical and scientific texts. This is especially so if the ST is a research abstract which has a defined function (i.e. informative) as well as a defined translation brief[10]. Although the medical specialists are not given explicit guidelines on how to (self-) translate their research abstracts, they are given verbal instructions by their supervisors to preserve the functional constancy of their original abstracts in the translated versions. This verbal instruction, in effect, may restrict the extent to which the medical specialists are allowed to make changes in their translated abstracts and prove their creativity. That argues, it is not possible to establish yet whether that is the case unless we carry out the three-stage analysis of the study corpus, on the basis of which then we can see if any interesting patterns are revealed in relation to potential creativity.

2.5 Translational norms

Norms is one of the concepts that is often discussed and debated within the realm of Translation Studies in general and descriptive translation studies (DTS) in particular. It is looked at by different scholars within the discipline differently and each defines it from a different perspective assigning it different values (Schäffner, 1999, p. 1). Bartsch (1987, p. xii, cited in Schäffner, 1999, p. 1) defines norms as 'the social reality of correctness notions',

[10] The reference here is to the implied translation brief in relation to the translated abstracts which is discussed in section 2.3 in this chapter.

while Toury defines it as 'the translation of general values or ideas shared by a community - as to what is right or wrong, adequate or inadequate - into performance instructions appropriate for and applicable to particular situations' (Toury, 1995/2012, p. 63). As such, the idea of the concept is what is considered appropriate or socially acceptable within a community as well as what is regarded inappropriate and refused according to that community's social principles and values.

Norms underlie a key concept in Toury's descriptive analyses of translated texts. For Toury, the concept of norms is adopted within DTS with the aim of searching for a methodology to analyse and study translations. As a starting point, Toury employed the hypothesis developed by Even-Zohar (1978) who tried to examine and study the position of literary translation within the literary and historical system of the target culture using 'polysystem theory' (Munday, 2012, p. 167-168). Based on this idea, Toury's endeavour was to establish a framework to analyse translations in a way that is oriented towards the target text and combine linguistic comparison of source texts and target texts to study the culture of the target text. Moreover, his main aim was to distinguish trends of translation behaviour and then make generalisations about decisions made by translators. Translational norms are used as a tool to describe translations as they are produced, without prescribing how they should be produced; this descriptive approach has 'liberated the study of translation' (Hermans, 1995, p. 215), i.e. liberated it from prescriptivism regarding dos and don'ts in translation. Nevertheless, Pym perceives the concept of norms to be a 'back door' through which some kind of prescriptivism is allowed to be established in descriptive studies (2010, p. 75), thus norms influence, and control translators' decision-making (Hermans, 1996, p. 28). They direct translators to how they ought to behave because that type of behaviour is accepted and considered appropriate and correct by the community in question. As such, they represent a set of constraints that control the translators' behaviours as to what is best to choose among a

range of possible alternatives (ibid). Gentzler (1993, p. 129-130) explains that the ultimate objective of Toury's norms is to establish a hierarchy of interrelated constraints which govern translation products, whereas Hermans criticises Toury for not trying to further explore the theoretical side of the concept of norms, considering the concept from the translator's perspective (1999, p. 79). He maintains that Toury regards norms as constraints and ignores their role as ready 'templates' for solving the problematic cases that the translators encounter in their translations (ibid).

The concept of norms is defined by Hermans as psychological and social entities, which represent a significant factor for the interaction between people, and hence are part of every socialisation event (1996, p. 26). He maintains that translation, which was considered basically to be an activity that establishes a relation between two texts or two language systems, is now perceived as a complex transaction happening 'in a communicative, socio-cultural context' (ibid). Thus, the various parties involved in that transaction are engaged with choices, alternatives, decisions, strategies and objectives. To Hermans, norms play a great role in 'the entire transfer operation, not just the actual process of translation' (ibid) because for every translation process to take place, a number of prior decisions are involved which need to be considered and made. Thus, norms facilitate the process of decision-making in translation and they function inside the translators' head, which means they are hidden and not directly accessible, but can be speculated about (ibid, p. 27).

Medical translation, as an ultimate product of a complex process, displays norms that have resulted from decisions made by the translator. Any translation method, strategy or procedure translators opt for during their translation activity works under the impact of norms. In this context, the decision-making process of our group of translators (i.e. the medical experts) is governed and influenced by norms. Norms that exist within the field of medical translation are, in turn, influenced by the translators' decision-making. The entire relationship, therefore,

seems to be a turn taking between the translators' decision-making and norms, i.e. they reinforce each other. For example, if translators borrow a source text item that does not have a ready-made equivalence in the target language rather than creating a new term, such a trend may become a norm among those performing medical translation. If accepted, subsequently, any other translator, who newly begins to translate medical texts, may follow the norm and seek foreign borrowing to handle non-equivalence. Sometimes cases of deviation from the operating norms do occur, but even those happen for certain reasons.

While the norms operating in English-Kurdish medical translation cannot be simply discussed in this chapter unless detailed data analysis is carried out, the discussion here is provided as an attempt to contextualise the concept of norms and establish its relevance to English-Kurdish medical translation. The significance of norms (in all types of translation, medical in particular) lies in their usability as an important tool to identify, examine and explain the choices and decisions made by the medical experts that we investigate. Norms constitute 'part of the answer to the question why translators tend to make certain decisions rather than others' (Hermans, 1999, p. 74-79). However, the question that arises here is how can norms be identified and accounted for in actual translations? Hermans (ibid, p. 85) considers the task to be challenging because norms cannot be directly observed. It may not be easy to identify and distinguish discrepant behaviours from 'conformism' (ibid). Also, the 'socio-cultural specificity of norms and their potential instability' (Toury, 1995/2012, p. 86) may present another difficulty to account for (translational) norms, as well as their diversity and multiplicity (Hermans, 1999, p. 85).

In order to better contextualise the discussion of norms and linking it with the prevailing norms in Kurdish, Hasanpoor (1999, p. 62) maintains that as the majority of Kurdish writers are educated in Persian, Turkish and Arabic they usually tend to translate from these languages into Kurdish, and for those works, which are written in European languages, they

have often retranslated them from Persian, Arabic and Turkish. The translated works contain various types and genres, including medical (although not specialist). This practice was a prevalent norm for a long period, but anecdotal evidence shows that the trend has changed, particularly since the 2000s. It was when the socio-political situation of the region changed, and the prestige of using English largely outweighed that of Arabic, Persian and Turkish. As a result, the use of English borrowing, in terms of terminology and structure, prevailed in translations from English. This state of the translation practice in Kurdistan and its practised norms witnessed a shift when the socio-political state changed, and this reflects the 'instability' of norms that Toury refers to (1995/2012, p. 86). Although this discussion is provided to describe how norms are affected by changes in political, sociological and cultural conditions, it goes without saying that change of translational norms is a significant topic that is not investigated in Kurdish translation and as such, our discussion remains hypothetical in nature until otherwise proved through our data analysis. However, since the translations we have employed for the analysis are dated from 2007 to 2011, any translational norms or change in them that we may observe refer to that specific period of time, not earlier. This suggests that a more comprehensive study is required in order to look for any translational norms that may have operated before 2007 and after it so that changes, if any, can be identified.

Nevertheless, in order to identify the types of norms that are relevant to our study aims and time period, we need to consider the types of translational norms proposed by Toury and Chesterman and discuss their applicability to our investigation. Toury distinguishes between two large groups of norms applicable to translation: preliminary norms and operational norms (1995/2012, p. 82). Preliminary norms consider two aspects of translation, namely translation policy and directness of translation, while operational norms consider the presentation and

linguistic aspects of the target text through matricial norms and textual-linguistic norms (ibid). The following figure shows the relation of these norms to the initial norm:

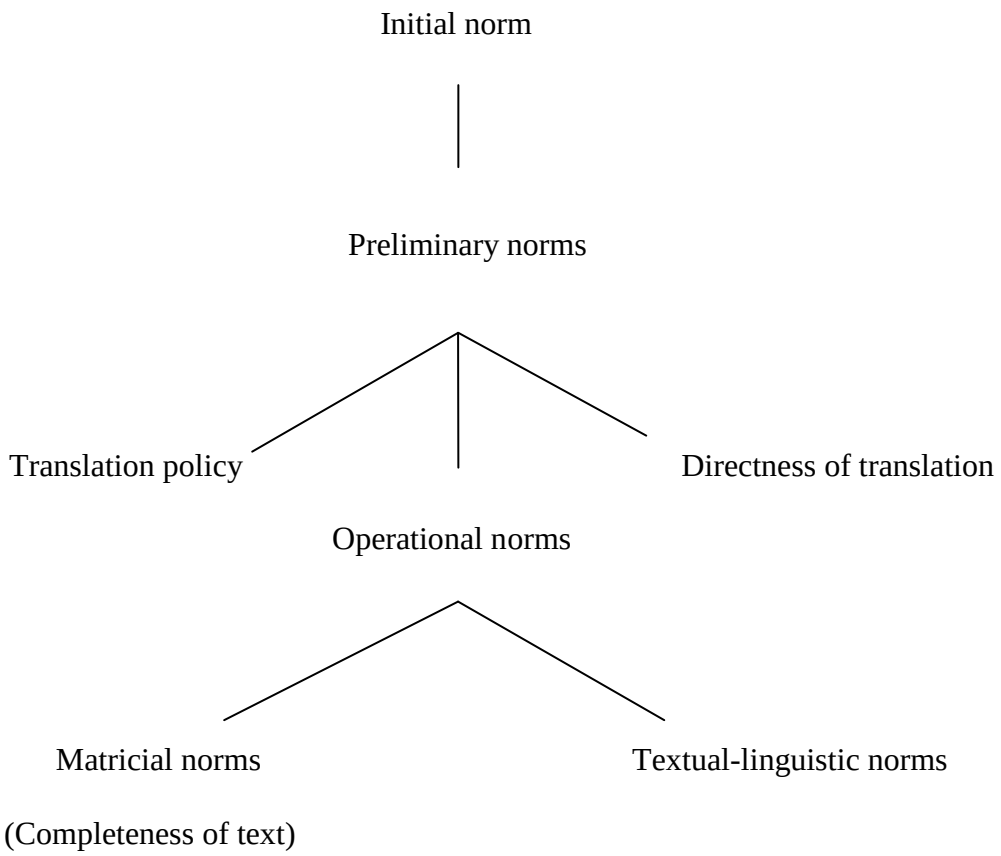

Figure 2.1 Initial, **preliminary and operational norms (from Munday, 2012, p. 174)**

Translation policy concerns factors that determine the selection of texts to be translated in a certain language and culture at a specific time. Toury (1995/2012, p. 82) maintains that this policy is applicable as long as the text selection is not a random procedure. The policy applies to text types of the selected texts for translation, either literary or non-literary, as well as publication houses and agents, which tend to publish the translated texts (ibid). In this respect, the corpus of our investigation, i.e. the research abstracts, can be subsumed under the norm of translation policy. As we mentioned earlier, the medical research abstracts are required by the School of Medicine to be translated into Kurdish before they are published and as such, their selection is not random but systematic. In other words, every postgraduate

or research student knows beforehand that they should translate their research abstract. Based on this, we can establish that the translation of the research abstracts is governed by the norm of translation policy enforced by the School and their researchers. Interestingly enough, translation of research abstracts into Kurdish was not a requirement before the formation of the Kurdish government and the trend emerged after the collapse of Saddam's regime after 2003, probably as an initiative into translating specialist medical texts into Kurdish, which did not exist before. Investigating the impact of this initiative on the development of medical Kurdish is one of the aims that our study attempts to achieve, because much is said about the under-developed state of medical Kurdish and its lack of medically specialised terminology. This study, is hoped, will give us an insight into the state of specialised Kurdish through investigating specialist medical Kurdish.

Directness of translation refers to the tolerance for translating a text through an intermediate language, rather than the ultimate source language (ibid). Kurdish is a language that permits and tolerates translations from intermediate languages, such as Arabic, Persian and Turkish. This trend was mainly common before the twentieth century, when most Kurdish writers were educated in those languages (Hasanpoor, 1999, p. 62). As such, they translated works from Arabic, Persian and Turkish while the language of the original work was either English or one of the other European languages. However, the majority of translated works from intermediate languages come from literary domains. The trend of translating from intermediate languages has dramatically declined with English becoming the dominant language and more people being educated in English. Therefore translators tend to translate from English, rather than resorting to intermediate languages, however this does not mean that translating from other languages or intermediate languages is not practised anymore. Direct translation from English into Kurdish is specifically prevalent in specialised domains,

including medicine. As such, the translations we consider in this work do not involve any intermediate language.

Operational norms direct 'the decisions made during the act of translation itself' (1995/2012, p. 82). These norms influence the matrix of the text and its textual make up and verbal formulation (ibid). The relation that is built between the source text and the target text during the translation process is governed by these norms, which ultimately reveal what is gained, missed, or changed during such activity. The relation is described through matricial norms on the one hand, and textual-linguistic norms on the other. Matricial norms refer to the completeness of the target text by considering cases of omission, relocation of sentences, paragraphs, passages, addition, textual segmentation or manipulation, etc.

Textual-linguistic norms determine the selection of linguistic material to formulate the target text (ibid, p. 59) which includes: lexical items, phrases and stylistic features (Munday, 2012, p. 174). These norms are either general, which means they apply to all translations, or they are partial, i.e. they apply to a certain text type and/ or mode of translation only (Toury, 1995/2012, p. 83). Regarding preliminary and operational norms, Toury posits that there is a mutual influence and fixed relationship between them, and that they constitute 'an inseparable part of any translation study as a norm-governed activity' (ibid). Unlike directness of translation, translation policy and operational norms as well as their sub-categories are relevant to our study. They allow us to identify translation strategies, such as omissions, additions, and any compensation carried out by the medical experts.

In line with these types of norms distinguished by Toury, Chesterman proposes a set of norms, which concerns the area covered by Toury's operational and initial norms (Chesterman, 1997, p. 64); however it is doing so from a different angle. The set consists of two kinds of translational norms, which are: 1) product or expectancy norms, and 2) process or professional norms. As for expectancy norms, they are 'established by the expectations of

readers of a translation (of a given type) concerning what a translation (of this type) should be like' (ibid). These norms are governed by a number of factors including the predominant translation tradition in the target culture, the form of similar target language genres, economic or ideological factors, power relations, etc. They reflect the expectations of the target text readership as to what is appropriate or acceptable. Thus, translators may be expected to abide by syntactic structure, style, register, punctuation of the target language. The use of expectancy norms helps to evaluate our medical abstracts and identify those which conform to the target readership's expectations as appropriate or acceptable. According to Hermans, expectancy norms could also be considered as 'constitutive norms' because if translators follow the norms, their work will be regarded as genuine translations, however if they break them, their products will be labelled as something else (1999, p. 78). This type can be a useful tool to distinguish between the patterns that shape Kurdish medical translation at a specialist level and also reflect on the impact of the translation competence, particularly linguistic, textual and cultural competence of the medical experts in making their choices and thus shaping their translations.

Professional norms or process norms tend to 'regulate the translation process itself' (Chesterman, 1997, p. 67). They operate at a lower level than expectancy norms (Hermans, 1999, p. 78) and are determined by them, but Chesterman maintains that these norms are not formulated to be taken prescriptively. They are hypothesised to exist in the target culture and aid in identifying the translational behaviours. Nevertheless, he does admit that norms tend to 'exert a prescriptive pressure' (ibid, p. 68). Three groups of norms are subsumed under professional norms, which are:

A) The accountability norm, which is an ethical norm, is about professional standards of integrity and thoroughness. Translators show their responsibility for the translation they perform regarding source text writers, commissioners and readers. However in Kurdistan it is

unfortunate that the absence of official translation service providers has resulted in the absence of official bodies that could introduce those elements underlying the accountability norms. In the context of the present study, translator's responsibility in relation to their work can only be assessed through looking at their translation products because that is the only resource that we have in hand.

B) The communication norm is a social norm and concerns the role of the translator as a communication expert between all the parties related to the translation in question. The suitability of this norm to our context lies in determining to what extent medical experts are successful in playing the role of a communicative expert. Further, it can also identify how their translation competence allows them to construct such a communicative role and what impact that could have on the translations they perform.

C) The relation norm is a linguistic norm and refers to the relation that exists between the source text and the target text. This norm can be best investigated through equivalence relations, especially through text-normative equivalence, where the equivalence is assumed depending on the correlations that are established between the source text and its translation.

Having discussed equivalence typology as well as types of translational norms, and having identified the usability and appropriateness of the types that serve the purpose of this study, it is necessary to consider the translation strategies/ procedures that achieve equivalence relations and, ultimately lead to norms.

2.6 Translation universals

Closely related to translation strategies that translators use is the hypothesised and most controversial concept of universals of translation because it is the decisions and choices of translators and the strategies that they employ which develop patterns and reveal recurrent translation behaviour. Translation universals are defined as ‘the linguistic features which

typically occur in translated rather than original texts' (Baker, 1993, p. 243 quoted in Laviosa, 2011, p. 306). When recurrent behaviours and regularities are observed in translated texts, translation scholars try to find a common formula in order to define the nature of the relationship which includes them all. In this respect, translation scholars propose different concepts and have different views and the very existence of translation universals remains a controversial issue among them. For example for Toury universals of translation seem to be 'conditioned and probabilistic regularities in translation' (Laviosa, 2011, p. 306). He prefers the term 'laws' and in this regard proposes two laws, which are the law of growing standardisation and the law of interference (Toury, 1995/2012, p. 303-310). According to Toury, the law of growing standardisation postulates that in the process of translation, source text textemes tend to be converted into target language repertoremes (1995/2012, p. 303). In other words, the textual relations pertaining to the source text tend to be modified during translation in favour of typical options pertaining to the target language.

The law of interference, however, states that during the process of translation phenomena pertaining to the structure of the source text tend to influence translators and be transferred to the target text (ibid, p. 310). Although Toury suggests these two laws, he maintains that the knowledge and experience of the translator may influence the operation of the law of the growing standardisation, and that the more experienced the translator, the less s/he allows elements of the source text make their way into the target text.

Chesterman is another scholar who perceives that the search for universals is one way in which descriptive scholars suggest and look for generalisations in translation. He proposes two different types of universals, i.e. S-universals, which postulates universal differences between translations and their originals, and T-universals, which postulates universal differences between translations and comparable non-translated texts (Chesterman, 2004, p. 39).

In addition to Toury and Chesterman, other translation scholars explored and identified universals features in translated texts, among those features are: simplification (Baker, 1996; Laviosa, 1998), normalisation (Baker, 1996), explicitation (Øverås, 1996; Baker, 1996; Baker and Olohan, 2000) and levelling out (Baker, 1996). The simplification hypothesis which was primarily suggested by Blum-Kulka and Levenston (1983, p. 119 cited in Laviosa, 2011, p. 308) was confirmed by Laviosa's investigation on a corpus of translated and non-translated narrative and newspaper texts (1998). She revealed that translated texts have relatively lower lexical density, translated texts exhibit relatively higher proportion of high frequency words versus lower frequency words, the most frequent words are repeated more often in translated texts and the list head of translated texts contains fewer lemmas. Thus, Laviosa's study confirmed lexical simplification in translated texts. In another study, Corpas *et al*. (2008) examined pairs of corpora consisting of medical and technical translated texts. Their medical translations were performed by two groups; professional translators and students. Their study revealed that the translated texts exhibit significantly lower lexical density and richness, smaller proportions of short sentences, and features of simplification are more visible in the technical translation corpus, and to a lesser degree in the professionally translated medical texts, however simplification was not found in the medical translations performed by the students (ibid, p. 80).

As for the explicitation hypothesis, it postulates that translated texts tend to exhibit a rise in cohesive explicitness compared to their originals (Blum-Kulka, 1986, p. 19 cited in Laviosa, 2011, p. 308). For Baker, however, explicitation refers to 'an overall tendency to spell things out rather than leave them implicit in translation' (Baker, 1996, p. 180). Normalisation is another translation universal that Baker (1996, p. 183) defines as 'the tendency to conform to the patterns and practices which are typical of the target language, even to the point of exaggerating them' (ibid). In this respect, Kenny (2001) investigated a corpus of

contemporary German literary texts and their English translations and found that the translated texts exhibit lexical normalisation and identified evidence of lexical creativity. Øverås (1998) has also found evidence of normalisation showing that there is a tendency in the translated texts for typical rather than unusual collocations and to neutralise metaphorical expressions (ibid, cited in Laviosa, 2011, p. 308).

Baker (1996, p. 184) suggests another feature of translated texts which is levelling out or equalizing, indicating that they show the tendency to gravitate towards the centre of a continuum. She explains that this feature is not dependent on the source text or the target text, instead it 'involves steering a middle course between any two extremes, converging towards the centre, with the notions of centre and periphery being defined from within the translation corpus itself' (ibid). According to Pym (2008) Baker's four features of universals, in fact, seem to be talking about the same feature, i.e. they are similar in their conceptual perspective, and also they seem to elaborate the law of growing standardisation that Toury has proposed, but she does not touch the law of interference (ibid, p. 318).

Pym notes that the three propositions of simplification, explicitation and normalisation overlap in terms of Baker's explanation and in terms of the findings of previous studies which have been carried out in that regard (2010, p. 81), an admission that Baker herself has made.

If the three universals of simplification, explicitation and normalisation exhibit themselves in all translations, then they probably tend to 'gravitate towards the centre of a continuum' which is the fourth universal: levelling out (ibid). More interestingly, Baker's universals, upon reflection, seem to be contradicting each other. Based on the study findings she presents, Baker explains that simplification includes the shortening of sentences, but that contradicts explicitation because it makes sentences longer, or normalisation which entails finishing incomplete sentences (c.f. Pym, 2008, p. 319).

Although Toury's explanation of the laws are not as simple and straightforward as Baker's universals, and as such they require a longer time from the reader to understand them, Toury's law are more comprehensive in accounting for what happens in translation (ibid, p. 317). Following Pym (2008), we realise that Toury's laws are not solely based on the observation of linguistic variables, but they are also subject to extralinguistic factors such as sociocultural factors and the social conditions of the two languages that are involved in the translation process. The sociocultural factors, then, mean that there are a number of conditioning factors which can play a role in operationalising the two laws. One of those factors is the position of the target language as opposed to the source language. For example, Kurdish translations from English often permit interference of English elements, be it terminological, syntactic, textual, etc. The conditioning factor for the interference is the matter of prestige, because English is considered a prestigious language in relation to Kurdish[11]. The extent to which English produces interference in Kurdish translation and on what level is an aspect that has not been studied yet, thus our study attempts to examine the translated abstracts to see if they exhibit any evidence of English interference and also to identify any other potential conditioning factors that may produce such interference.

Another conditioning factor is the position of the translated texts within the receiving culture. Toury (1995/2012, p. 307) posits that 'the more [the status of the translation], the more translation will accommodate itself to established models and repertoires'. This implies that the law of growing standardisation happens when the translation product occupies a peripheral position within the target language and culture and is of minor importance (Pym, 2008, p. 320). Considering this proposition with the study corpus that we are investigating,

[11] See sections 1.3, 1.4 and 1.5 in chapter one.

we have already discussed that although the translated abstracts are specialised medical texts that are intended for a specialist medical readership, the Kurdish specialised medical community does not need them in Kurdish because they are reading the originals. In other words, the translated abstracts do not have the major significance that their originals have, and as such they hold a peripheral position. However, the extent to which the translated abstracts accommodate themselves to 'established models and repertoires' of Kurdish needs to be investigated in order to see if the law of growing standardisation is valid in them. That said, anecdotal evidence suggests that Kurdish does not have established models for medical abstracts, medical researchers tend to follow the English models. However, syntactic and textual analysis of the translated abstracts as well as their originals can help us to capture any patterns that may indicate any potential models that the translated abstracts exhibit.

Another hypothesis in relation to the universals of translation is proposed by Tirkkonen-Condit (2004) which is called *Unique Items Hypothesis*. According to the hypothesis elements which are specific to the target language and do not have equivalents tend to be under-represented in translated texts (ibid, p. 177). Malmkjær (2008, p.56) thinks that the finding that this hypothesis has entailed 'is among the most interesting findings to have arisen out of the search for translation universals to date.' Based on this hypothesis, Kurdish has morphemes that do not have equivalents in English, which are called enclitics. These enclitics have syntactic characteristics of a word and are always attached to the end of their host including nouns, verbs, prepositions, adverbs, etc. They play a cohesive role in texts, and while their absence does not make a text incorrect, their omission makes the text seem marked. Examples of enclitics may occur in the translated abstracts which we have employed for our investigation and this hypothesis can be a useful tool to identify and explain the occurrence of enclitics in the TTs and their absence in their respective STs.

Chesterman notes that the question about potential translation universals is not establishing whether they exist or not and under which conditions, but it is also about providing explanations for them (2010, p. 42). He maintains that one way of doing so can be through assuming a cognitive cause. For this, he points to Halverson's hypothesis of gravitational pull (Halverson, 2003 and 2007 cited in Chesterman, 2010, p. 43). According to Halverson, the hypothesis assumes that target language prototypical or highly salient forms would exert a pull on decision-making processes, and thus lead to over-representation (Marco, 2015, p. 65) of some of T-universals such as simplification (Chesterman, 2010, p. 43). In the same way, the forms of the source text would also exert a pull, leading to over-representation too, as some prototypical elements of the SL may impact choice in the TL (Marco, 2015, p. 65) and thus cause interference, for example (Chesterman, 2010, p. 43).

To Pym there is another potential explanation for some translation laws or universals. He explains that both laws proposed by Toury are significant for translators in order to 'reduce their risk burdens'. He gives an example of how translation memories work and how translations performed by such memories exhibit both standardisation and interference (Pym, 2008, p. 323). He reaches the conclusion that translators opt for standardising language or channel interference for the sake of reducing communicative risk (ibid, p. 325).

In view of the above discussion around assumed translation universals, Chesterman (2010, p. 44) contends that the term 'universals' has been roundly criticised and that some scholars prefer to use other terms such as general tendencies, patterns, or simply generalisations. With this view in mind, however, we tend to use universals along Toury's laws as useful tools in order to look for generalisations and then decide whether or not any potentially identified generalisations are conditioned: for the specific text type self-translated by medical experts from English into Kurdish to satisfy official requirements during the certain period of time (from 2007 to 2011) in the Kurdish culture, (c.f. Chesterman, 2010, p. 45).

Therefore, the above discussion of translation universals and laws is necessary in this context in order to argue for and against their usefulness for the purpose of our investigation. In fact, based on Pym's views on Baker's universals and their contradictory nature on the one hand, and her disregard of Toury's law of interference and proposing no alternative for addressing that aspect on the other hand, we prefer to consider Toury's laws of translation in our study and thus look for their existence in the translated abstracts and identify any conditioning factors that may have triggered their production. The reason for choosing Toury's laws is due to their broadness and comprehensive nature of all the aspects that are happening during the process of translation. That said, we may also refer to Baker's hypothesised universals during our investigation if evidence of any one of them prevails in the course of analysing the translated abstracts. The universals can be referred to as useful tools in order to identify and explain any potential recurrent behaviours or regularities that may be observed in the translated abstracts, on the basis of which, then, we may establish potential correlations between assumed universals of Kurdish medical translation and medical translations of other language pairs. Any potential finding in terms of translation universals can indicate whether medical translation exhibits universals observed in other types of translation or it has different universals that contradict them.

3 Methodology and corpus design

3.1 Introduction

The first chapter of this study presented a general account on the socio-political aspect of Kurdish as a language used by the largest stateless nation in the world. It also gave an overview of translation and translation practice into Kurdish and pointed to the fact that translation, specialised translation in particular, has received no attention such far. This study is an initiative to scientifically investigate translation competence of medical experts who perform specialist medical translation in Kurdish, and the status of specialised translation from English into Kurdish through special focus on medical translation, as a branch of specialised translation. Looking into translations of medical texts requires considering the role of translators who perform this type of translations, and as such the study (originally) aimed to examine the role of two groups of translators in relation to medical translation. The first group consisted of linguistically knowledgeable translators, whereas the second group consisted of medically knowledgeable translators. Based on anecdotal evidence, preliminary hypotheses suggested that medical translations handled by linguistically knowledgeable translators may exhibit inaccurate rendering in terms of conceptual knowledge since they may lack domain specific competence, i.e. medical knowledge. They also suggested that medical translations performed by medically knowledgeable translators may exhibit linguistic and stylistic inaccuracy because they may lack linguistic competence. The hypotheses further assumed that Kurdish might not be a developed language to be used in specialised domains such as medicine and, in turn, in medical translation.

The three hypotheses were to be tested in order to achieve the study aims, which were: 1) investigating the role of medical expertise and translation expertise in medical translation of the two groups of translators in order to reveal regularities of translation behaviour; 2)

examining the quality of English-Kurdish medical translation; and 3) assessing the status of Kurdish as a specialised language.

The initial corpus was to consist of translated texts of three different levels of speciality: highly specialised abstracts, semi-specialised articles, and non-specialised articles. Preliminary investigation revealed that specialised and semi-specialised translations are performed by medical experts, while non-specialised translations are translated by translation experts. It indicated that while specialist translations exhibit a large proportion of medical terminology, semi-specialist and non-specialist translations exhibit very little medical terminology, which is often simplified for the sake of accessibility to the target readership. Preliminary analysis also showed that the syntactic as well as the textual make up of specialist translations are substantively different from those of semi-specialist and non-specialist translations in terms of structure, style and text type conventions. These differences indicated that these various text genres may not give us logical outcomes if compared and because of the different features of each, the results may be compromised. Thus, based on the outcomes of the initial data analysis, the study hypotheses, aims and questions were revised and modified.

The study focus, then, shifted onto investigating translation competence of medical experts performing specialist medical translations only. Following from this, the study corpus consists of medical research abstracts written and self-translated by medical experts. Detailed description of the corpus compilation, corpus features and design is given in section 3.3 below. To investigate this corpus, the study hypothesises that 1) Borrowing (including transliteration) and explicitation are two preferred translation strategies in medical translation caused by lexical/ terminological gaps in Kurdish; 2) specialised medical translations performed by self-translators (medical specialists in this study) exhibit high incidence of syntactic and textual calques, possibly due to the lack of linguistic and textual competence;

and 3) Kurdish for specific purposes is not as developed as English for specific purposes, specifically medical Kurdish. These hypotheses are tested on the corpus in order to achieve three aims: 1) investigating the role of translation competence of medical experts performing specialised medical translation from English into Kurdish. 2) investigating regularities of translation behaviour in English-Kurdish medical translation, which may reveal translation norms operating in this practice; 3) investigating and thus describing the nature and the features of Kurdish specialised translation, through a special focus on Kurdish medical translation, which may give us an insight into the characteristics of Kurdish for specific purposes.

3.2 Methodology

This section demonstrates the theoretical approach that our study employs as well as the methodological steps that are followed in analysing the corpus. The study adopts the descriptive approach to translation studies which looks at what translations are actually like (Chesterman, 1997, p. 37). The appropriateness of this approach to our study lies not only in its focus on describing how specialised medical texts are translated, but also in describing what translators do about handling specialised terminology, grammatical and textual structures, which are, in effect, the aims of this study (see section 3.1). Following the methodology proposed by Toury, the descriptive approach is made up of a three-phase methodology (Toury, 1995/2012, p. 117), which is:

First, the TTs are situated within the target culture system in order to look at their significance or acceptability. The study corpus[12] consists of medical abstracts that have been

[12] See section 3.3 for the full description of the corpus.

produced as well as translated within the Kurdish culture. The TTs are significant Kurdish (translated) medical texts because they are accepted as translations of the STs by an official academic establishment, i.e. the School of Medicine, University of Sulaimani in the Iraqi Kurdistan. In addition to translation of the content of the English abstracts, the TTs include the translation of the front page of each research paper, including main titles, subtitles, names, address and date of publication, but we do not include them in the data analysis.

Second, a comparative textual analysis is carried out of the STs and the TTs in order to identify relationships between corresponding segments in both STs and TTs. The textual comparative analysis allows us to do ST and TT segmentation and establish coupled pairs between certain ST units and their corresponding units in the TTs. The units that interest our study are terminological, syntactic and textual. Coupled pairs established on terminological, syntactic and textual levels, however, are identified by employing two different methods, as follows:

On the terminological level: the ST segments, i.e. English medical terms, are identified and then mapped onto their TT correspondence, i.e. Kurdish translation of respective medical terms; this process results in the establishment of a series of coupled pairs (Toury, 1995/2012, p. 103-107). However, medical terms in the ST may not have one-to-one equivalence in the respective TT, i.e. they may have non-terminological equivalents, and instead they may be paraphrased in the corresponding TT. Coupled pairs are established on the basis of medically specific terminological units or any other (conceptual) terms associated with the medical domain, and that means that any other non-medical terminological units are excluded from the segmentation process. The aim of establishing coupled pairs on this level is to identify which translation strategy is used by medical experts. Although translators usually use various strategies to render ST meaning in the TT, a preliminary data analysis has been carried out in order to identify translation strategies used in the translation of the medical

abstracts. The analysis has revealed that the strategies used to render terminological meaning include: equivalence, borrowing, transliteration (which is a typology of borrowing), explicitation, omission, and addition (Vinay and Darbelnet, 1958/1995/2004; Newmark, 1988; Baker, 1991; Chesterman, 2005). The initial analysis has also indicated that the TTs exhibit cases of mistranslation or translation errors (Nord, 2005, p. 186-187). These cases, as discussed in chapter two, are cases where translators fail to achieve functional constancy in the TT. The element of function is crucial in relation to our investigation and also to the text type and genre of our study corpus because the skopos of both STs and TTs is information transfer, i.e. they have an informative purpose. Given that the STs and TTs are abstracts, the majority of their terminology functions as key words, as such maintaining their informative function has its own impact on the overall textual meaning. Following on from the outcomes of the preliminary data analysis, the abovementioned translation strategies are all considered in the comparative data analysis in order to give us an insight into translation behaviours practised by medical experts. They can also help us test the first hypothesis to see if borrowing and explicitation are the most common strategies, and also to see if there exists any correlation between the predominance of those strategies and lexical gaps in medical Kurdish.

On the syntactic level: this method is different from the method used for the segmentation of terminological units. This time the direction is from the TTs to the STs, i.e. the TT segments are identified on the basis of grammatical markedness or errors in the TTs, and then they are mapped onto the ST segments. However, given the fact that the STs are produced by non-native English speakers, i.e. Kurdish medical experts whose first language is Kurdish, grammatical errors might occur. Thus, cases of grammatical errors in the STs are excluded from the data analysis. Grammatical elements in the TTs, which are considered for the analysis, may include tense (past, present, and future), number (singular and plural),

agreement (subject-verb, object-verb and subject-object), voice (active and passive), word order and collocation. The choice of these syntactic aspects is triggered by the findings of the initial data analysis. The findings have shown that some medical specialists tend to conform to SL rules in terms of tense, number, agreement, voice and word order rather than following the TL rules. Frequency or infrequency of syntactic calques can help us test the second hypothesis to see if there exists any correlation between the incidence of syntactic calques and the lack of linguistic competence of the medical experts.

On the textual level: similar to the syntactic analysis, the direction is from the TTs to the STs. TT textual segments are identified and then they are mapped onto their correspondents in the STs, which can identify elements of similarities and differences between the two languages, and it can also identify marked cases or errors in the TTs. Textual elements considered for the analysis in the TTs cover: format/ layout, subheading, sentencing, paragraphing, word count, cohesion, coherence, punctuation marks, word order and thematisation. Incidence of textual markedness can help us see if any interesting correlation can be established between the rendition of the textual structure of the TTs and the (lack of) textual competence of the medical experts.

Third, this phase follows the comparative analysis process on the basis of which recurrent patterns and trends are identified and established, and generalisations are drawn. Observations made on the basis of the data analysis on the terminological level will indicate if prevalence of foreign borrowing and explicitation are triggered by the existence of a lexical gap in Kurdish medical terminology, or if such prevalence is a general norm pursued among medical specialists who handle the translation of medical abstracts. Thus, the outcome of the data analysis on the terminological level is significant because it can be a yardstick by which we can determine if lexical gaps in medical Kurdish can be confirmed. This is one of the main questions that this study attempts to answer. Recurrent patterns established by the data

analysis on the syntactic and textual levels are similarly significant because they can indicate if the incidence of syntactic and textual calques is triggered by the lack of linguistic and textual competence of the medical experts. Any patterns that develop as a result of the comparative analysis can be indicative of translation behaviours of medical experts, on the basis of which translation norms that are operating in the practice of English-Kurdish specialist medical translation can be revealed. This, ultimately, helps us to identify which types of norms are operating there and discuss reasons for their existence and dominance in specialised medical translation in Kurdish. This aim justifies the selection of the text type and genre of this study, i.e. the medical abstracts which are specialist-to-specialist translations. The following section gives a detailed description of the corpus employed in our study.

3.3 Corpus

This section and its following sub-sections consist of a systematic description of the corpus that is used in this study, its features, its design criteria including size, length, medium, subject matter, text type, authorship, language combination, publication date, and its categorisation criteria.

Scholars in the field of Translation Studies agree that translation corpora are not widely available (Saldanha and O'Brien, 2013, p. 70), a reason that makes researchers build their own corpora. This statement likewise applies to our study because it needs an English-Kurdish medical corpus at a specialist level, however, such a corpus does not exist. Corpora, corpus compilation and corpus-based studies are rather new in Kurdish and as such they have received little attention compared to other languages, e.g. English. Following from this, this investigation requires us to build a corpus and design it in such a way that it meets the needs of our study. This investigation will look into translation competence of Kurdish medical experts performing specialised medical translation. To do so, it will attempt to take a product

perspective approach. This means that the investigation will focus on translations produced by the medical experts. It will examine the translations terminologically, syntactically and textually. For this purpose, it needs a corpus that is a construct of terminologically rich texts, and that should include medically specific texts produced at the specialist-to-specialist level, i.e. texts that medical experts write and/ or publish for a medical specialist readership. The only translated texts that meet this criterion in Kurdish are research abstracts produced by medical experts.

The research abstracts constitute an integral part of research papers written by medical specialists at the Medical School of the University of Sulaimani, Iraqi Kurdistan. The research papers are available in the School library, which indicates that they can be accessed by the medical and academic community at the University. The STs of this corpus have been written in English by Kurdish medical experts because English is the main language of medical education in Iraq and as such, all academic research in the domain is written and published in English. The TTs have been self-translated by medical experts as it is a requirement that research abstracts should be translated both into Arabic and Kurdish (the two official languages of Iraq). In addition to the fact that these abstracts feature a considerable range of medical terms, they also serve another need of our study, i.e. looking for significant incidences of syntactic calques and textual properties in specialist-to-specialist translations. As a result, it can be used to investigate any correlation between syntactic and textual calques and a lack of linguistic and textual competence hypothesised for medical expert self-translators. Thus, the abstracts prove to be appropriate for our investigation considering the abovementioned significant features and as such, they are the only text type and genre included in the study corpus.

3.3.1 Corpus design criteria

The corpus of this study is built and designed on the assumption that it can be 'used as a representative sample' (Bowker and Pearson, 2002, p. 9) of Kurdish medical translation at the level of specialist-to-specialist communication. The translated medical abstracts are the only highly specialist medical translations performed by medical experts from English into Kurdish and as such, they are the only sample that can represent the (written) language register (of Kurdish) used among medical specialists. The corpus consists of texts that are authentic, i.e. they are all produced by medical experts. The ST producers are individuals with an appropriate educational as well as professional background in the medical domain. The significance of this element in relation to our investigation is that it indicates that authors have medical knowledge enabling them to write and/ or publish in the medical domain. This, in turn, indicates that authors are using correct medical terminology, phraseology and expressions. With regard to the translated texts in the corpus, they have been self-translated by the ST producers. It follows that the authors' expertise also applies to the TTs in terms of medical knowledge, but not necessarily in terms of linguistic, textual or translational knowledge, which is one of the hypotheses that this study tests.

Corpus size is an important criterion to consider in corpus design in order to achieve its representativeness. This corpus consists of 65 English abstracts (STs) plus 65 of their Kurdish translations (TTs). The size, however, is determined on the basis of three main factors (Bowker and Pearsons, 2002, p. 45):

1) The needs of the investigation, which are closely linked to the study aims and hypotheses (see section 3.2) and to what the corpus tries to represent (Saldanha and O'Brien, 2013, p. 73), i.e. the (written) register used in specialist-to-specialist communication. The texts included are multi-authors as well as multi-translators to ensure diversity of terminology and

also to maximise the element of corpus representativeness. This can provide more specialised terms for the comparative analysis through which preferred translation strategies can be revealed. ST terms may not necessarily have one to one TT equivalents, they could be rendered in conjunction with or by other strategies including borrowing, transliteration, explicitation, etc. The purpose here is to have TTs that exhibit a wide range of medical terminology for analysis based on their respective STs .

2) The availability of data, which was a frustrating and time-consuming task in corpus compilation for this investigation. Highly specialised English-Kurdish medical translations are performed on a limited scale today because medical experts, who are educated and trained in English, read specialist medical literature in English. This, in effect, largely limits the volume of specialised medical literature translated into Kurdish. Moreover, translation of specialised medical texts is a challenging task, very few people tend to engage in that practice unless they have to do so, such as the case of Kurdish medical researchers who have to translate their abstracts as part of their research papers. Some medical experts are engaged in translating medical articles for journals but those articles are intended for the general public and as such, the language is fairly simple for the sake of accessibility to the target readership. Another issue that limits the corpus is selecting appropriate abstracts that would meet the need of our study in terms of syntactically correct STs and recent publication dates. Inclusion of syntactically correct STs in the corpus is an important criterion in relation to our investigation because one of the aspects it considers is syntactic calques in the TTs. The incidence of syntactic inaccuracy in the STs might have an impact on the syntactic structure of the TTs, because the preliminary data analysis has indicated that sometimes medical translators tend to follow the syntactic structure of the STs. Therefore, STs that exhibit a significant number of syntactic errors have been excluded from the corpus, although some cases might still exist, but on a very limited scale.

Age of the STs and the TTs is also an important criterion for our corpus, because the study aims to investigate the current trend of English-Kurdish medical translation. The STs and their TTs are dated from 2007-2011. This time period is significant because the medical domain in Kurdistan in 2007 onwards witnessed a large influx of medical specialists engaged in medical studies and research, and that, in turn encouraged some medical experts to initiate term creation in the domain. Attempts were made to replace Arabic medical terms with newly coined Kurdish medical terms. Although such attempts mainly started from 2003 when the Iraqi constitution recognised Kurdish as the second official language of Iraq alongside Arabic, replacing Arabic terminology by newly coined Kurdish terminology did not happen overnight. Time was needed in order for the new terms to be created, publicised and used in their respective disciplines so that people could become familiarised with them. Following from that discussion, only STs and TTs from 2007 onwards are included in the corpus so that it can represent the current practice of Kurdish medical translation. However, it was not possible to include abstracts beyond 2011 because they were not available at the time of the corpus compilation process.

3) The amount of time that the researcher has is another crucial criterion for determining the size of this corpus, because the time period given to conduct this investigation is restricted. Unavailability of a ready-made corpus required us to build a specifically designed corpus for our study (see section 3.3). Moreover, limited availability of specialised medical translations in Kurdish (see point 2 above) negatively influenced the process of corpus compilation in terms of time period. Attempts were made to collect a larger translated specialist medical corpus that would include other text genres through personal contact with a large number of medical experts. However, the attempts were unsuccessful because the medical experts contacted confirmed that specialist medical translations are very few and as such they saw the

translated medical abstracts as the only officially acknowledged translated corpus. These factors had an impact on determining the corpus size of this study.

Medium is another criterion for corpus design. This corpus is originally a construct of written texts, which are all in electronic form. Although the texts are electronic, they are segmented and analysed manually because software and other programmes created and designed for corpus analyses do not suit the need of our investigation. This study does not investigate word frequency or how words collocate for example, it looks for the occurrence of certain translation strategies and their dominance on the one hand, and on the other hand it looks for the incidence of syntactic and textual calques. These cases require a specifically designed programme and therefore, three Excel spreadsheets are designed for the analysis of the corpus. The rationale for the use of Excel program and a detailed description of the Excel spreadsheets are given in section 3.3.2 .

Another important criterion in designing this corpus is the length of the texts. The decision whether to include text extracts or full texts is made depending on the need of our investigation, i.e. the study hypotheses and aims (see section 3.2). The corpus consists of full texts because 'it is unsafe to assume that any part of a text is representative of the whole' (Sinclair, 2005 cited in Saldanha and O'Brien, 2013, p. 74). There might be concepts or terms that could appear in any part of the text (Bowker and Pearsons, 2002, p. 49). Although medical acronyms and abbreviations mostly tend to be written in full or introduced at the beginning of a text, new terms may occur in other parts of it. If an extract of a text is randomly selected, a term or a concept might be accidentally eliminated which can be relevant and interesting to the study in question (ibid). In addition to investigating the translation of medical terms, this study looks for syntactic calques and textual properties of the translated abstracts which require full length text analysis. More importantly, the fact that this corpus is constituted of abstracts only means that the STs and their TTs are, by default,

short texts; if an excerpt is taken from each, the STs and the TTs would be very short texts for the analysis and that may not serve our study needs.

3.3.2 Corpus categorisation

This subsection describes how the study corpus is categorised, how the categories are recruited and managed, and it provides the rationale for regarding certain categories and disregarding others. It also explains the choice of Excel program as well as manual categorisation and segmentation of the corpus.

This corpus is categorised on the basis of what the investigation tries to test and for what purpose. As discussed in section 3.1, this investigation attempts to test three hypotheses in order to achieve three aims. This, in turn, indicates that the study aims determine the categorisation of the corpus. The categories are selected on the basis of certain criteria, some of which are external while others are internal. External criteria are situationally defined and include ST author, ST date of publication, TT translator, TT date of publication, etc. Internal criteria are linguistically defined and include terminology, collocations, syntactic features, textual properties, etc. Following from this, the external categories used in the analysis of this study corpus include: text number, ST and TT dates of publication, ST title, and TT title. The internal categories include: ST segments, TT segments, back translation (BT), translation strategy, syntactic markedness, textual markedness, comments, ST and TT sentence length, and ST and TT word counts. This range of categories are selected and considered in the comparative analysis because each represents an element in the analysis and therefore provides more descriptive information regarding the corpus. The number of texts included in the corpus and therefore used in the comparative analysis is significant because the ST and the TT producers and translators are anonymised, and given that only one ST and one TT per author/ translator is included in the analysis, each number is used as a unique reference to a

specific text each time the text in question is referred to in the discussion of the data analysis. Dates of publication both of the STs and the TTs are referred to in the description of the corpus design, and reasons for their selection are provided (see section 3.3.1). It is also explained that given that each ST and its respective TT constitute an integral part of the same research paper, they are published at the same time. The publication date of each ST and its respective TT is included in the comparative data analysis because given that Kurdish term creation in the medical domain is in its infancy, the age of individual abstracts may reveal some development over the five years that this study corpus covers. The age can also be a significant indicative factor for the translational behaviour of the medical experts over the period of five years during which we may be able to see if any interesting changes happen. Therefore, the date of publication, as an external criterion of corpus categorisation is considered in the data analysis as a further important element of analysis.

Titles of the STs and the TTs are important because they are the element that defines the subject matter of each abstract, both in the SL and the TL. ST segments and TT segments refer to the selected units in the STs and their respective TTs that are mapped onto each other and form coupled pairs. They are the most important elements in the comparative analysis because they identify translation strategies, syntactic and textual markedness, which, ultimately, establish patterns and indicate translation behaviours and translation competence of the medical experts. Back translation provides literal translation of the TT segment in question for the reader who does not know the TL (i.e. Kurdish). Translation strategy is another essential category because it identifies which translation strategy is opted for in the translation of each ST segment. Syntactic markedness indicates cases of grammatical renditions that occur in the TT and are considered marked in Kurdish, including tense, voice, number, agreement, collocation, and word order. Textual markedness indicate textual properties of the TTs including format, subheadings, sentencing, paragraphing, word count,

cohesive devices, punctuation marks and spelling errors. The last category is comments, which provides explanations to any observations made on the other categories included in the analysis.

There are other external criteria for the corpus categorisation such as ST authors and TT translators. However, these criteria are excluded from the comparative data analysis, because they do not contribute any extra information in relation to individual STs and TTs since we aim to anonymise names of individual ST and TT producers. This is because information about ST and TT producers is provided in the description of the corpus; producers of the STs are all medical specialists with acknowledged subject-field expertise in medical domain. The same description applies to the TT producers because the TTs have been self-translated by the ST producers. This description applies to all the 130 texts (65 STs and 65 TTs) included in the comparative data analysis, reference to the name of individual ST and TT producers does not add any new information to the process, and therefore does not have any effect on the ultimate outcome of the analysis. It follows that names of individual ST and TT producers are not relevant to our study objectives.

The corpus study is segmented manually with special focus on three units, which are terminological, syntactic and textual. Terminological units are identified both in the STs and the TTs in order to see which translation strategy is used for their translation. Marked grammatical cases are identified in the TTs to see if any significant pattern would be established. Further, textual features of the TTs are identified in order to see what textual properties characterise the translations and what patterns can be established. These three aspects indicate that our investigation does not look for specific equivalent words, how certain words collocate, wordlists, or frequency of pre-identified lexis, but it looks for the translation of medical terms, which may not be limited to one-to-one equivalents, for translators often resort to strategies such as explicitation, addition, etc. Identifying cases

where a single medical term is rendered by the use of more than one word or sometimes by a phrase or a sentence would not be easy to manage by the use of corpus analysis programs or software. Similarly, corpus analysis software is also not practical for the identification of syntactic markedness, because the syntactic cases that this investigation looks for require one to one identification and segmentation (see section 3.2). As for the textual features of the TTs, they require manual identification and segmentation in order to see where they match or differ from the ST textual features. Therefore, processes of categorisation and segmentation are manually carried out using Excel spreadsheets. The usability of Excel is not only that it allows manual categorisation, but it also allows the user to manipulate it according to the needs of the investigation in question. It allows data (terms, verbs, nouns, phrases, expressions, cohesive devices, etc.) to be inserted into individual cells and columns so that it can be sorted, filtered, and displayed in charts and graphs. These features give meaning to the stored data and can present information to establish patterns and trends. Given the fact that this investigation aims to see what patterns and trends develop from the data analysis, Excel spreadsheet is a useful program to use for analysing the data.

4 Terminological aspects of Kurdish specialist medical translation

4.1 Introduction

The previous chapter offered a thorough description of the corpus used in this study and it also outlined the methodological procedures adopted in this investigation for the analysis of the corpus. The chapter discussed the program for the data analysis and justified the choice of that specific program among other analytical tools and software. Having covered those aspects of the study, this chapter presents an overview of Kurdish terminology, in particular Kurdish medical terminology, their components, their features, and their typology. It then discusses translation of medical terminology and a range of translation strategies that Kurdish medical experts used for translating medical terms in the corpus.

In addition to medical terms, the chapter also discusses other lexical choices in medical writing, including abbreviations, acronyms, eponyms, and phraseology, which are all subsumed under medical terminology. It focuses on the role of medical experts and the way they handle medical terminology when translating from English into Kurdish. Based on the findings of the contrastive data analysis, the chapter aims to identify the predominant translation strategies and argue for and against their predominance in the translation of specialist-to-specialist medical texts (see chapter two for the corpus description). It further discusses any prevailing translational norms observed on the basis of translation strategies adopted in the corpus. The overall findings of the terminological analysis will be used as an assessing criterion of the translation competence of the medical experts in handling medical terminology in their translated abstracts.

4.2 Terminology and Kurdish terminology

This section describes terminology as a discipline and its theoretical aspects. This step is justified by the study's hypothetical view which assumes that the existing Kurdish medical terminology does not fulfil the needs of medical translation into Kurdish, and that there exists a lexical gap between English and Kurdish in relation to Kurdish medical terminology. Thus, it aims to give an overview of terminology in general and then lead the discussion towards exploring Kurdish terminology and the status of terminological developments in Kurdistan.

Terminology is defined as 'the process of compiling, describing, processing and presenting the terms of special subject fields in one or more languages' (Cabré, 1999, p. 10). It is the discipline that studies terms, their concepts, their conceptual systems and their use in their respective domains. According to Cabré (1999, p. 1), systematic developments of terminology date back to recent decades, but as a field of study it dates from much earlier. It was from the late nineteenth century onwards that naming of concepts and principles of specialised fields began developing, for example in chemistry, botany, mathematics, medicine, and zoology (Sonneveld and Loening, 1993, p. 2). The industrial revolution and the industrialisation period triggered primary attempts in the discipline of terminology, and particularly standardisation of technical terminology and regulation of scientific terminology (ibid), with the aim to facilitate communication between different countries. The founder of modern terminology was Eugen Wüster (Cabré, 1999, p. 2). Many of the terminological methods and principles he developed still constitute part of the basis of terminology theory and practice of today (Sonneveld and Loening, 1993, p. 2). Cabré (1999, p. 2) maintains that during the first half of the 20th century linguists and social scientists showed little interest in terminology, but from the 1950s onwards they began paying attention to the field. We do not aim to give the historical background of terminology here because that is neither the focus of

our study nor the aim of this chapter. This brief account is provided, however, to indicate that the field of terminology and terminological studies are, in essence, not very old, a topic which will be linked to the limited development of Kurdish terminology, in particular specialised terminology.

If terminology in the developed countries, as a discipline, has a recent history, it is still in its infancy in Kurdistan. Kurdish terminological developments only began from 1958 onwards (Abdullah, 2007, p. 15). It was the time when Kurdish replaced Arabic as the language of instruction in the majority of schools in Kurdistan (see section 1.3 in chapter one). The Kurdification[13] of school textbooks required creation of new terminology in economic, cultural, social and scientific domains. Educational authorities at the time formed several committees which engaged in term creation activities and then published them in *Rozhi Nwe* magazine. In 1970 textbooks of primary and secondary schools were translated into Kurdish (Abdul, 2008, p. 8). Such attempts were followed by the establishment of the Kurdish Scientific Committee which primarily engaged in the compilation, processing and creation of literary and scientific terms in Kurdish. In addition to these, many individual and group efforts were undertaken to publish a number of monolingual; and bilingual, general and

[13]To Kurdify or Kurdification, in essence, is a concept that denotes a cultural change in which something that is ethnically not Kurdish is changed into Kurdish. The concept is usually used in contexts of post-Saddam Iraq, particularly in relation to minorities of Assyrian Christians and Iraqi Turkmen (http://en.wikipedia.org/wiki/Kurdification). However, the connotation in this context is different as it indicates the change of non-Kurdish terms into Kurdish, either by translating them or by replacing them with newly created Kurdish terms.

specialised Kurdish dictionaries (ibid, p. 8-9)[14]. From 1991 onwards Kurdish term creation witnessed a new era of revival thanks to the semi-autonomous Kurdish administration in the Kurdish region of Iraq. Since then, and in particular from 2003, the Kurdish region witnessed an unprecedented knowledge expansion and growth of scientific and technological orientations. People began to show their interest in the vast scientific and technological developments of the developed countries. The medium transferring world technological developments to the Kurdish people was the mass media. Radios, TVs, newspapers, magazines and books were the primary tools that bridged world scientific and technological developments into the Kurdish community. This, in turn, increased the demand for specialised terminology in order to enable knowledge transference and communication. Since then, many new terms have entered the stock of Kurdish terminology. Despite the development of Kurdish terminology, the discipline still largely functions on an individual basis and on a limited scale.

Terminology is mainly used by two groups, direct users, and intermediaries, as a tool to facilitate communication among themselves and with others (Cabré, 1999, p. 11). The direct users consist of domain specialists, who use terminology as an essential tool for communication within their respective domain, and as an important element for conceptualising their own speciality. Terminology intermediaries, however, are language professionals including: translators, technical writers, and interpreters who need terminology as an integral part of their profession (ibid). Terminology users focused on in our study, interestingly enough, fall under both categories, because they are medical specialists, and at

[14] It is not necessary to give the historical overview of the terminological developments that Kurdish terminology made since such account is given in the literature review in chapter two.

the same time translators (though not professional). As direct users, they use English medical terminology, as an important element in their medical profession and within their medical environment. They also use Kurdish medical terminology, as an essential tool, for translating their English texts into Kurdish, this, in turn, labels them as intermediary users of terminology. Their role as intermediaries is substantively more significant than their other role as a direct user in relation to the dissemination, the development, and the application of Kurdish medical terminology. This is further discussed in section 4.2.1.

It is commonly believed that given the fact that Kurdish specialists in the fields of science and technology read their respective literature in English and publish in English restricts the development of Kurdish scientific and technical terminology (Qaftan, personal communication, 20 August 2014). University education and training in English negatively impacts the specialists' knowledge of and familiarity with Kurdish specialised terminology. Based on the language they acquire through their education and training, specialists tend to communicate using English terminology. This does not always imply that specialists prefer to communicate in English among themselves, but simply because they may not know the Kurdish equivalents of many medical terms, or because the terms in question do not have Kurdish equivalents. According to Abdul (2008, p. 9), development of Kurdish specialised terminology demands Kurdification of terminologies used in scientific and technical domains. Kurdifying terminology, in particular scientific and technical terminology, largely depends on Kurdifying the language of instruction not only in schools, but at university level in most of the sciences[15]. Terminologies covered in four- year university courses (dentistry

[15] The fact that English is the main language of instruction of the majority of undergraduate courses offered at the universities in Kurdistan is stated both in chapter one and two of the

and pharmacy five years and medicine six years) enable students to acquire them in English only, although sometimes Kurdish equivalents or explanations of their meaning may be provided, but it is not officially required.

4.2.1 Kurdish medical terminology

This section aims to describe the current state of Kurdish medical terminology. It considers terminological developments in medical domain in relation to the findings and observations of the contrastive data analysis on the terminological level.

English is the main language used in medical domain. It is the language used for medical education and training as well as for academic and research publications. Medical specialists often use English medical terminology to communicate among themselves and as such, they do not need Kurdish medical terms. They usually know the simplified language which they use to explain various medical conditions and cases for their patients in Kurdish, a strategy they learn during their university training. They also take a compulsory module of Kurdish medical terminology in the first year of their medical education. This course was introduced to the first-year medical curriculum in 2007 and it mostly covers general medical terminology, i.e. terms that medical specialists use on a general basis, e.g. names of common diseases, parts of human body and most common suffixes and prefixes of medical terminology. Thus, the range of Kurdish medical terminology medical students learn during the year is limited in comparison with the vast terminology that exists and is therefore used in the domain. Medical specialists see no need to develop expertise in specialised medical

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present study. The courses include: biology, chemistry, physics, engineering, computer science, mathematics, geology, dentistry, pharmacy, veterinary, nursing, and medicine.

terminology in Kurdish because they can use English terminology to communicate, read and write on a specialist level.

Today medical publication in Kurdish for the general public is gradually increasing. It mainly consists of layman publications or non-specialist medical articles published in popular scientific magazines and websites. However, Kurdish medical publication for a specialist readership does not exist except for the research abstracts that are self-translated and published by universities. In recent years, some Kurdish books were published using a semi-specialised Kurdish in psychology, human physiology, and biology. Medical specialists claim that Kurdish does not have a highly specialised medical language for use among medical specialists (Abdul and Qaftan, personal communication, 21 August, 2014). Given the fact that medical specialists have not attempted publishing highly specialised medical texts in Kurdish, the medical specialists' claim remains hypothetical so far.

4.2.2 Translation of medical terminology and phraseology

This subsection discusses the translation strategies used by Kurdish medical experts to translate English medical terminology into Kurdish in the corpus. The strategies used are: addition, borrowing, equivalence, explicitation, omission and transliteration (a type of borrowing). This study hypothesised that borrowing and explicitation are the two predominant translation strategies that Kurdish medical experts use in order to render the meaning of ST terminology in the TTs (see chapter one and three). The aim is to find out if Kurdish has a lexical gap in medical terminology, to establish what translation behaviour prevails in English-Kurdish specialist medical translations, and what translational norms operate in that practice.

The corpus was analysed on the terminological level to see the most prevailing translation strategies used for the translation of medical terms. The ST terms were mapped onto their

respective TT corresponding items and on the basis of that, the translation strategies were identified. Strategies used for translating medical terminology include, in the order of their frequency in the TTs, equivalence (54%), omission (17%), transliteration (11%), borrowing (9%), explicitation (7%), and addition (1%). The total number of translated terms is 1022. Table 4.1 and chart 4.1 show the frequency of the translation strategies as well as their percentages. As the table shows, equivalence has the highest frequency (54%), while addition has the lowest frequency (1%).

Translation strategy	**Frequency of translation strategies**	**Percentage of translation strategies**
Equivalence	551	54%
Omission	174	17%
Transliteration	108	11%
Borrowing	94	9%
Explicitation/paraphrasing	68	7%
Mistranslation	17	2%
Addition	10	1%
Total	1022	100%

Table 4.1 Frequency and percentage of translation strategies in the TTs

The table and the chart show that equivalence has the highest frequency among the strategies used in the translation of medical terminology in the TTs as it accounts for 54% of the cases. However, they also show that nearly half of the medical terminology in the TTs is handled by the use of translation strategies other than equivalence, including addition, borrowing, explicitation, transliteration, and omission. In addition to these, 2% of the translated cases are marked as translated errors (mistranslation). The 54% of the translated cases that involve the use of equivalence are not exclusively medical terms, for they cover translation of abbreviations, acronyms and eponyms as well. Of the total 54% of the equivalent cases, 49% represents the use of equivalence as a strategy for translating medical terms and phrases into

Kurdish as shown in table 4.2. The remaining cases represent the use of equivalence in translating abbreviation and acronyms (3%) as well as eponyms (1%).

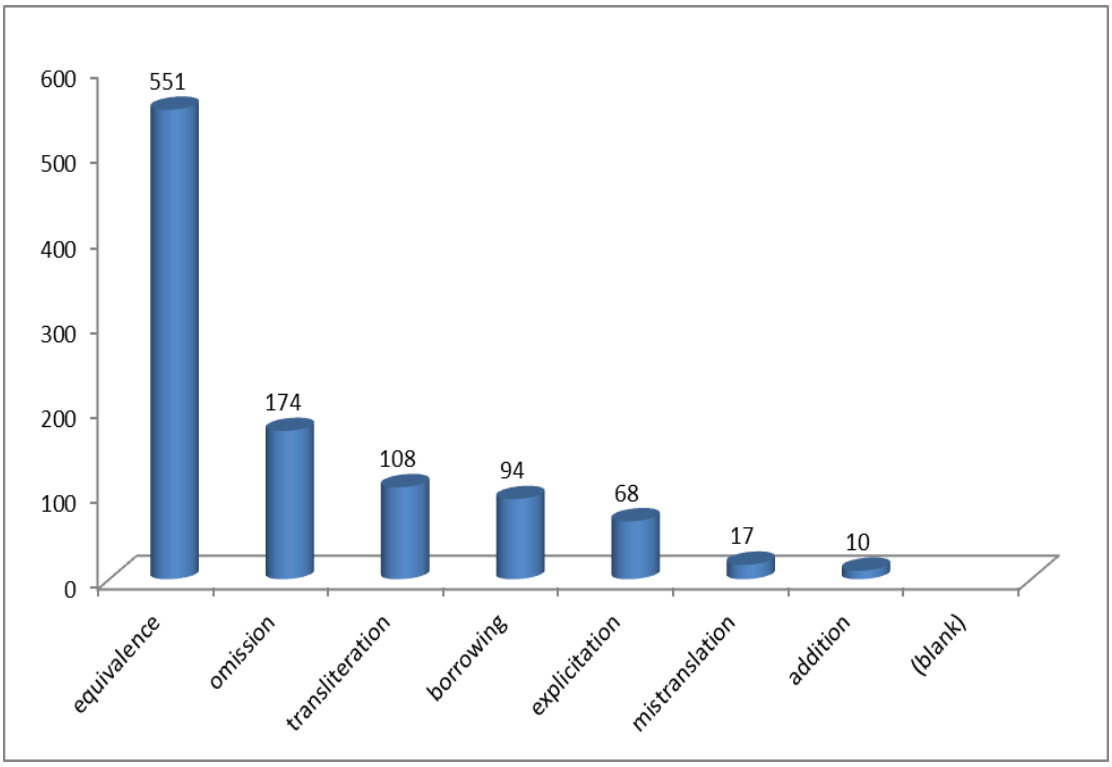

Chart 4.1 Frequency of translation strategies in the TTs

Equivalence strategy	**Frequency**	**Percentage**
Terms and phrases	501	49%
Acronyms and abbreviations	35	3%
Eponyms	15	1%
Total	551	53%

Table 4.2 Frequency and percentage of equivalence cases in the TTs

The predominance of equivalence, in fact, does not always reflect the use of one to one correspondence between ST and TT terms, for 8% of the cases in the TTs involve an element of omission strategy. These consist of cases that involve the translation of medical phraseology where the propositional meaning of the ST item is translated into its equivalent item in the TT, while some elements are left out which entails some loss of meaning. In other words, the translation of 8% of the cases is partial equivalence, not complete, thus resulting in 'a relative lack of specificity' (Baker, 1992, p. 28) in the TT terms by adopting a more generalised translation. For example, *chronic non-specific laryngitis* is translated as هەوکردنی درێژخایەنی قوڕگ (BT: chronic laryngitis), omitting *non-specific*. Another example is the translation of *initial aural toileting* into گوێ شتن (BT: aural toileting), leaving out *initial*. It can be argued that given that abstracts present a condensed summary of their respective elaborated papers (Gläser, 1995, p. 97), the information they provide to the reader covers the major elements of the paper. Any information given in an abstract is therefore significant and should be maintained in their translations.

However, the choice to omit some element of a medical phrase or term in the translation may relate to the textual conventions of abstracts and the word limit pertinent to this genre. The journal of *Zankoy Sulaimani* indicates that the word limit of abstracts should be between 200 to 300 words[16]. The literature of Translation Studies extensively demonstrates that translations often tend to be longer than their original versions (Blum-Kulka, 1986; Olohan and Baker, 2000; Dimitrova, 2005). The textual analysis has revealed that a small number of the translated abstracts are longer than their originals. This might be one of the reasons that makes medical specialists omit some elements during translation, where omission does not

[16] http://univsul.edu.iq/JournalsAbout.aspx?Jimare=17&main=13 retrieved on 26/11/2014.

affect the overall textual message transfer from the ST to the TT. In addition to this, the number of cases that involve the use of equivalence with some element of omission is relatively very low compared to the high percentage of equivalence used throughout the whole TT corpus.

Another 16% of the cases showing the use of equivalence involve an element of transliteration. These cases are partly equivalence and partly transcribed. The transcribed parts, interestingly, exhibit three different patterns: First, the transcribed part is not lexicalised in medical Kurdish and the use of its transcribed form is established in Kurdish. For example, *prothrombin time* is partly translated as کاتی پرۆثرۆمبین (BT: time of prothrombin) but *prothrombin* is transcribed because it is not lexicalised in Kurdish, or *violet cytoplasmic granules* is translated as دەنکۆڵەی مۆری سایتۆپلازمی, thus *violet granules* is translated, but *cytoplasmic* is transcribed because it is not lexicalised. This practice is established in Kurdish for translating terms that denote names of chemical substances, bacteria and viruses which are standard in the scientific domain (Abdul, personal communication, 29 November 2014). The half equivalence, half transcribed cases exhibited by the data analysis partly feature this practice in medical Kurdish.

Second, the transcribed part has its equivalence but the use of the transcribed form is established and therefore it is more common in medical Kurdish than the equivalence. For example, in translating *molecular and genetic methods*, *genetic* is transcribed although it has a Kurdish equivalence, or in *genetic alteration*, again *genetic* is transcribed. Third, the transcribed term is given between parentheses after its equivalence is provided. This resembles the double presentation strategy that Pym describes (1992, p. 76 cited in Chesterman, 2000, p. 95), although what he refers to is the use of an equivalent term with its borrowed ST between parentheses (see below for more details on double presentation).

The three patterns developed by the use of equivalence involving an element of transliteration, in essence, do not affect the functionality of the TT terms for two reasons. Firstly, the fact that the use of the transcribed forms are established and commonly used in Kurdish, and considering the implicit translation brief[17] justify their usage and ensure their acceptability in the target culture because they conform to the norms of the target culture. Secondly, considering the target readers' profile, partial and/ or complete transcription of medical terms do not limit the accessibility of the ST message transfer.

Medical terms, as explained in chapter two, mostly originate form Greek and Latin, a fact extensively covered in the literature of medicine. Examples of common Greek and Latin prefixes and suffixes (Lee-Jahnke, 1998, p. 85) are: dys-, hyper-, hypo- oligo-, -ectomy, -itis, -aliga, -ome, -ectasia, poly-, tachy-, -sis etc. The meaning of these prefixes and suffixes is usually familiar to medical experts, including Kurdish medical specialists, who know both their English and Kurdish meanings. However, when medical experts translate medical terms that feature similar prefixes or suffixes, they may not follow a standardised pattern. A range of terms in the STs share suffixes like *–sis*, *-osis* and *-asis*, which are Greek denoting state, condition, process, pathological condition, or indicating a disease condition[18]. In *tuberculosis* and *psoriasis*, *otomycosis*, *seborrheic keratosis* and *thrombosis*, the suffixes *–osis* and *–asis* indicate pathological conditions. In the TTs, *tuberculosis* and *psoriasis* are translated into their equivalents and their suffixes are explicitly translated into Kurdish as نەخۆشی دەردەباریکە (BT: the disease of tuberculosis) and نەخۆشی سەدەفی پێست (BT: the disease of psoriasis).

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[17] See section 2.3 in chapter two for more details about the implicit translation brief referred to in this context.

[18] Available online at: http://medical-dictionary.thefreedictionary.com/-asis retrieved on 26/11/2014.

However, each of *otomycosis*, *seborrheic keratosis* and *thrombosis* are translated into their equivalences but their suffixes are kept implicit in the TTs as in the STs.

The choice of implicit or explicit rendering of the suffixes in the examples above indicates variations as well as non-standardised strategies practiced in the translation of prefixes and suffixes of medical terminology in Kurdish. The choice, in essence, is non-obligatory, because the meaning that prefixes and suffixes imply in medical terminology are, as stated before, well-known to medical experts. However, explicit rendition of prefixes and suffixes may be stylistically motivated in the TTs. Although it is not yet established in the literature, Kurdish is a language that has a tendency towards explicitness, and sometimes unjustified elaboration, in writing as well as in translation. The data analysis shows that 2% of the translated cases involve an element of addition. These cases are handled by one of the translation strategies, and then some other elements are added to them for the sake of explicitness in the TTs. For example, in the examples above, if tuberculosis is translated into its equivalence without adding the translation of the suffix separately as *the disease of tuberculosis*, the reader still knows that *tuberculosis* is a disease. This case exemplifies the preference for explicitness in Kurdish, even though the concept of explicitness in this context does not necessarily denote clarity or concision, but rather implies redundancy. The TTs show other examples of this feature: *oxytocin* and *isotretinoin* are translated as دەرمانی ئۆکسیتۆسین(BT: the drug of oxytocin) and دەرمانی ئایزۆترینتۆین (BT: the drug of isotretinoin).

Medical terminology has a wide range of synonym proliferation. Many notions and conditions ‘go under several names which are basically equivalent but differ according to whether they derive from anatomical, pathogenic, toponymic, historical, or simply descriptive considerations’ (Van Hoof, 1998, p. 56). Although synonym proliferation is not established in Kurdish medical literature, the terminological analysis of this study corpus exhibits evidence of the presence of synonymous terms in medical Kurdish. For example, *cardiovascular*

system has been translated in two different ways: کۆئەندامی سوڕان (BT: circulatory system) and کۆئەندامی دڵ و بۆریەکانی خوێن (BT: cardiovascular system). Another example is the translation of the phrase *morbidity and mortality*, which is repeated in six English abstracts, but it is translated into Kurdish differently. In the translated abstracts it appears as: کەمئەندامی و مردن (BT: disability and mortality) and مردن و خراپبوونی باری تەندروستی (BT: mortality and health deterioration). The Kurdish translations of the ST terms, in essence, have the same propositional meaning, i.e. they describe the same medical concepts in their respective TTs and have achieved functional constancy, but they have been expressed in Kurdish using different terms and phrases, establishing the existence of synonyms in Kurdish medical terminology.

However, the terminological analysis shows other examples that may suggest synonymous medical notions, but in fact they indicate incidence of inconsistency in the translation of medical terminology in Kurdish medical translation. For example, *thyroid* has three different translations in the TTs: 1) ڕژێنی دەرەقی (BT: thyroid gland); 2) غودەی دەرەقی (BT: thyroid gland); and 3) ڕژێنی پەریزادە (BT: perizade gland). The first two translations are commonly used in Kurdish medical domain, but the third translation has been recently coined and introduced by a medical expert. It is interesting to notice that among the Kurdish abstracts included in the corpus, [19]پەریزادە (BT: perizade) has been used as the translation of the *thyroid* in only two translated abstracts, and those abstracts are part of two papers supervised by the

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[19] *Perizade*, in essence, is a compound word consisting of the root پەری (BT: fairy) and a suffix زادە (BT: born from or originates from), together meaning someone or something that originates from a fairy or born from a fairy. It is commonly used as a female name in Kurdish culture.

medical expert who originally created that Kurdish term. This newly coined Kurdish equivalence for *thyroid*, i.e. پەریزادە (BT: perizade), is not commonly recognised in the Kurdish medical domain, because the term is not seen to have any medical denotation or connotation and as such it does not underlie any medical concept (Abdul, personal communication, 29 November 2014). The inconsistency in translating medical terminology is supported by Yin *et al*. (2013, p. 83) who have investigated terminology translation consistency in scientific and technical literature between English and Chinese. They maintain that the lack of a common translation basis for similar terminology among different translators is one reason for translation inconsistency of terminology. Another reason may be the lack of a standardised medical language, at least as far as Kurdish is concerned. Medical terminology can be standardised and established within the context of a standardised medical language, which can, consequently, create uniformity and facilitate healthcare information communication (cf. Jones and Bartlett Publishers[20]).

Kurdish does not have a standardised medical terminology categorised into nomenclatures in order to systematically classify and name diseases as well as medical notions. Medical experts, thus, do not have an officially acknowledged reference to consult when they want to write in and/ or translate into Kurdish. When they need Kurdish terms, they tend to seek their peers' advice or they refer to a small number of recently published medical dictionaries (2005 onwards). Kurdish medical dictionaries can be a useful resource for medical specialists, but they do not represent standardised medical Kurdish. According to Lee-Jahnke (1998, p. 86), scientific dictionaries 'are all too soon out of date. They often need revision the very moment

[20] http://www.jblearning.com/samples/0763746878/46878_ch05_pass1.pdf, accessed on 25/10/2014

they are published'. Moreover, all Kurdish medical dictionaries are products of individual efforts, a fact indicating the lack of an officially recognised medical institutional body in Kurdistan that can compile, create, standardise, disseminate and update Kurdish medical terminology (see chapter one and two for more details). Therefore, lacking a recognised language institution, medical experts sometimes try to create terms in order to handle non-equivalence. This usually happens in translating medical texts from English into Kurdish as that is the only time medical specialists need Kurdish terminology. Individual attempts at creating medical terminology in Kurdish, thus, result in producing a wide range of lexical variety in medical Kurdish. One might consider these attempts an effective mechanism to enrich Kurdish medical terminology. While this argument is partly true, such attempts can largely trigger inconsistency and chaos in terminological use in medical Kurdish.

However, medical experts may not always have the skill and/ or the inclination to create medical terminology when they need it during translation; instead they may prefer to resort to other strategies to deal with non-equivalence. The contrastive data analysis indicates that medical experts have a small tendency to borrow English terms and use them in their translations. The borrowed medical terms are directly transferred as they are without change, or transliterated/ transcribed. Transliteration/ transcription, a typology of borrowing, which involves 'preserving the phonetic form of the original' (Levý, 2011, p. 87), accounts for 11% of the cases that involve the use of this strategy. However, the 11% does not exclusively represent cases of transcribing medical terms, for only 9% of the transcribed cases are medical terms and phrases, 1% represents transcribed cases of abbreviations and acronyms in the TTs. Table 4.3 illustrates the frequency and percentages of the transcribed cases in the translated abstracts. As the table shows, the majority of the transcribed cases in the TTs are medical terms (9%). The results indicate that transliteration is not a predominant translation strategy for translating medical terms compared to equivalence (see table 4.2). This finding is

interesting when one considers that medical experts read medical literature in English, and therefore understand medical terms if they are transcribed in the TTs; one would expect transcription to be a preferred translation strategy in the translated abstracts.

Transliterated cases	**Frequency**	**Percentage**
Terms and phrases	94	9%
Acronyms and abbreviations	11	1%
Eponyms	3	0%
Total	108	11%

Table 4.3 Frequency and percentage of transliterated cases in the TTs

When one compares medical translation into other languages of similar terminological development as Kurdish, for example Xitsonga, a language spoken in southern Africa by the Tsonga people, one finds that transliteration is the most frequently used translation strategy in translating medical terms (Abigal, 2005, p. 16). The majority of the transliterated cases (7%) in the TTs included in our study corpus consist of names of diseases, viruses, bacteria, drugs, chemical substances and medical tools as well as chemical elements used in the medical domain. The choice can be justified by the fact that names of viruses, bacteria, drugs, etc. do not originate from Kurdish, and as such they are mostly transcribed or transferred. For example, *astigmatism*, *forceps*, *rotavirus and adenovirus*, etc. are all cases of transcribed terms in the TTs. The other translated cases (2%) are terms which have their equivalence but they are transcribed. For example, *triglyceride*, *cholesterol*, *transitional cell carcinoma*, etc. However, the use of transcribed forms of the cases occurring in the corpus is quite common

in medical Kurdish and therefore, their usage in the TTs does not have any impact on their acceptability.

In the order of frequency of usage, direct loans come fourth among the translation strategies used in the TTs. They consist of direct loans of the ST medical terms to the TTs without changing their morphological structure, and appearing in the TTs as they are (Sager, 1990, p. 90). The findings of the data analysis show that ST term borrowings account for 6% of the total borrowing cases in the TTs as shown in the following table:

ST loans	**Frequency**	**Percentage**
Terms	61	6%
Acronyms and abbreviations	31	3%
Eponyms	2	0%
Total	94	9%

Table 4.4 Frequency and percentage of ST borrowed cases in the TTs

According to the table, borrowing constitutes a very small percentage of the total cases of translation strategies used for handling medical terminology in the TTs. This result is also revealed in an English-Romanian medical translation study conducted by Stiegelbauer *et al.* (2012, p. 193-196), which indicates that Romanian medical language has borrowed many terms and expressions form English medical terminology, however, it does not provide any specific percentages. A study conducted by Abigail (2005, p. 29) reports a small percentage of borrowed cases (3.1%). Other studies report borrowing medical terms from English, including Spanish medical language (Rosendo, 2008, p. 231-246). Kurdish in line with these languages, exhibits a large number of borrowed terms from English as well as other

languages like Arabic, Persian and Turkish (Hasanpoor, 1999) in various disciplines. However, as the practice of foreign borrowing is not studied in Kurdish medical literature, this study tries to establish whether or not foreign borrowing is a feature of medical Kurdish.

The findings of our data analysis in relation to borrowing, on the one hand, is not significant because the percentage is very small and it should not be surprising to find a number of loans in translations performed on a specialist-to-specialist level. Foreign borrowing in the Kurdish translated abstracts, in essence, does not limit the accessibility of the translations to the target readership, i.e. Kurdish medical specialists, because, as stated in the literature, they have received their medical training in English. Thus, English medical loans are as comprehensible to them as the Kurdish medical terms, or even more. Given that Kurdish medical specialists are trained in English, their knowledge in English medical terminology surpasses their knowledge in Kurdish medical terminology[21]. Following from this, the use of borrowed English terms in their translations for them, considering their target readership, may represent a reasonable choice. The choice might have changed if the target readership were medically less knowledgeable, which would then have required them to consider other translation strategies, or to consider providing explanations with the borrowed terms for the sake of intelligibility. However, this is another interesting area that requires further research.

On the other hand, the finding is interesting because it refutes one of the hypotheses of this study, which assumed that borrowing and explicitation are two preferred translation strategies in English-Kurdish medical translations performed by medical experts. The data analysis indicates that explicitation/ paraphrasing, like borrowing, is not a favoured translation strategy in the TTs. Cases that involve the use of explicitation account for 6% of the total

[21]See chapter one and two for more details on medical education in Kurdistan.

translated cases in the TTs (see table 4.5). Similar to the cases of borrowing, this is also a very small percentage. It is especially used for translating highly specialised medical terms that do not have highly specialised equivalents in Kurdish. They are mostly translated using less specialised terms or more general words. For example, *cryotherapy* is translated as چارەسەرکردن بەساردکردنەوە (BT: treatment by cooling), or *in situ carcinoma* is translated as شێرپەنجەی ناو شانەی ئامێری بەرهەمهێنانی شیر (BT: cancer in the tissues of the milk producing device).

Explicitation	**Frequency**	**Percentage**
Terms	61	6%
Acronyms and abbreviations	4	0%
Eponyms	3	0%
Total	68	7%

Table 4.5 Frequency and percentage of explicitation cases in the TTs

The use of explicitation or paraphrasing in this study is different from the findings of the study conducted on Xitsona-English medical translations (Abigail, 2005, p. 28). Unlike our study, Abigail's study reveals that paraphrasing is the most frequently used strategy by medical specialists occurring in 62.5% of the cases.

However, incorporating loan words into medical terminology is one of the strategies that every language has at its disposal to enrich its terminology. Medical Kurdish is not exceptional from that practice. Therefore, the occurrence of medical loan words in medical Kurdish and particularly at expert-to-expert level communication, to the extent revealed from the terminological analysis (6%), does not indicate a lexical gap in medical Kurdish.

In addition to these strategies, the use of borrowing with equivalence is an interesting strategy in the TTs. The use of two translation strategies combined together for handling the translation of a single term is referred to as a ‘couplet’ (Newmark, 1988, p. 91), which is often used for translating cultural words and expressions. Couplets can be a combination of any two translation strategies. However, one typology of couplets involves the use of equivalence with a ST loan word. This is referred to as ‘double presentation’ (Pym, 1992, p. 76 quoted in Chesterman, 2000, p. 95). In this strategy the ST term has an equivalence in the target language and the translator uses it but s/he also borrows the ST term and places it next to the equivalent term in the TT as a gloss. According to Pym (ibid), the use of this combined strategy has an ideological implication; the ST term has a higher value[22]. The choice is triggered by many ideological factors including social, cultural, political, educational, etc. This strategy is used in 43 cases (4%) in the TTs. For example, *triglyceride* in the ST; has an available equivalence in Kurdish چەوری سیانی (BT: triglyceride); it has been translated into Kurdish in the TT but the ST term is put between parentheses next to it as چەوری سیانی (triglyceride). Another example is the medical condition of *chronic telogin effluvium*; it is translated into its Kurdish equivalence as هەڵوەرینی قژەمتی درێژخایەن (BT: chronic telogin effluvium), but the English term is placed between parentheses next to it in the TT.

Although double presentation is not prevalent in the TTs, as 4% is evidently a very small percentage compared to the total strategies used throughout the translated abstracts included in the study corpus, it is one of the common strategies used in Kurdish writing and in translation, especially from Arabic (Aziz, 2005). In regards to this study’s results, the incidence of double presentation is not as significant as the incidence of equivalence so that it

[22] See section 2.3 in chapter two for detailed discussion of this joint strategy.

can be considered as strong evidence to prove the norm of double presentation preference in Kurdish medical translation from English. On the other hand, the fact that double presentation does exist in the TTs can be taken as indicative that such a norm also operates in English-Kurdish medical translations at the level of expert-to-expert communication.

Omission is yet another strategy that medical experts use in their translations. It is especially used for terms which do not have an equivalent in the target language, or terms whose omission 'does not harm' in some contexts (Baker, 1992, p. 40). However, the fact that the TTs of this study corpus are research abstracts and therefore are, by default, very short types of texts, the terms used therein are mostly key words, and their role is essential in their contexts. The data analysis shows that although omission has the second highest frequency after equivalence, it only accounts for 17% of the cases in the TTs, see table 4.5 below. Perhaps the frequency of omission cases refers to the text type conventions that characterise the TTs. Moreover, the journal of *Zankoy Sulaimani* instructs scholars who wish to publish their theses to limit their abstracts to 200 to 300 words[23]. The website of the Journal does not specify the word limit of translated abstracts, but usually authors follow verbal instructions in that regard. Although the textual features and patterns of the TTs will be analysed and described in chapter six, it seems that the TTs follow a length, word count and format as close as possible to their STs. These points might explain the choice of 17% of the omission cases in the TTs since translators, trying to adhere to ST length and word count, choose to leave out terms that do not substantially impact the overall message transfer between the STs and the TTs.

[23] http://univsul.edu.iq/JournalsAbout.aspx?Jimare=17&main=13 accessed on 25/11/2014.

Omitted cases	Frequency	Percentage
Terms and phrases	166	16%
Acronyms and abbreviations	6	1%
Eponyms	2	0%
Total	174	17%

Table 4.6 Frequency and percentage of omission cases in the TTs

According to the table, omission is also used in the case of handling medical acronyms and abbreviations as well as medical eponyms, but it is largely used for dealing with medical terms and phrases. Interestingly enough, the majority of the cases that involve omission in the TTs consist of omitting an expression, a phrase, or even a sentence. For example, terms such as *capsular fibrosis*, *controlled blood pressure*, *giardiasis*, etc. are omitted in the TTs without providing any compensation in their place or in any another part of the TTs. Expressions such as *orally administered*, *prospective study* or *retrospective study*, *with a mean of*, etc. are left out without replacing them with other similar expressions in the Kurdish translations. In addition to these cases, long phrases are also omitted, for example, *immunological reactions performed on a test strip by diffusion*, *early cord clamping and controlled traction of umbilical cord*, etc.

The choice of omission, as discussed before, can be triggered by the text type conventions of the translated text in question. The TTs of this study corpus are translated abstracts whose word count, according to the University publication rules, should not exceed 300 words. The word count, then, makes the medical specialists who translate the abstracts abide by the specified limit and cut down words and/ or expressions and phrases that 'do not harm' (Baker, 1992, p. 40) the contextual as well as the overall textual meaning of the TTs is

omitted. If we consider the frequency of the omitted cases (17%) in relation to the total percentage of the translated terms in the TTs (83%), the omitted cases do not constitute a significant percentage. However, this result can have two interpretations in relation with its significance in terms of the impact it can have in the TTs. On the one hand, the omitted cases include key words that have an indispensable function in the TTs. Given that the TTs are research abstracts, omission of key words considerably impacts the textual meaning of the translated abstracts. The decision to omit terms and phrases may not have the same impact if the TTs were of another genre, for example articles or books[24].

On the other hand, the effect of omission in the TTs may not be substantial for the target readership given that they are medical specialists; they can always refer to the original text if they find a key term omitted in a particular TT. It is interesting that the effect of omission on written medical translation at a specialist-to-specialist level has not been investigated in the literature of medical translation so far; what exists is the impact of omission in medical interpreting at a specialist-to-lay level. This level is, in fact, quite different from the level that this study investigates. The main findings of the majority of studies carried out on medical interpreting at non-specialist level indicate that omission has a large impact on the quality of medical interpreting provided to patients and can have significant clinical consequences (Flores *et al.*, 2003; Laws *et al.*, 2004; Meeuwesen *et al.*, 2010; Flores, 2006; Anazawa *et al.*, 2012). The impact may not be as significant at a specialist-to-specialist level due to the domain expertise medical experts have, nevertheless this does not completely exclude the possibility of negative effects on this level. However, if omission has any impact at specialist level communication, it is often smaller than at a non-specialist level.

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[24] See section 2.2.1.3.3.1 in chapter two for more detail on text type conventions.

Among the translation strategies used in the TTs, addition has the lowest frequency. It accounts for 1% of the total translated terms. It is used in the translation of one word in the ST, which is the word *protective* translated as ئاستی پارێزەر لە دژەتەن(BT: the protective level from antibody). This case, in fact, can be classified as involving the use of the explicitation strategy as well because it is paraphrased in the TT. It also exemplifies the use of the addition strategy by adding other words to the term for the sake of explicitness.

The rest of the cases that involve addition are, in fact, terms and phrases added to the TTs, which do not have any correspondents in the STs. The choice of using addition as a translation strategy is sometimes considered as an act of compensation on the translator's part for any omission or loss of meaning occurring in other parts of the TT. This, in essence, resembles the compensation strategy that Chesterman (2000, p. 115-116) describes. According to him, compensation sometimes works retrospectively, i.e. the translator decides to compensate for terms or meanings omitted, changed, or lost at earlier points in his/her translation (ibid). However, the addition cases revealed from the data analysis in the TTs do not represent a compensatory choice in relation to their respective STs. They represent deliberate choices of addition performed by the medical experts. Moreover, the percentage of added cases in the TTs is very small and as such, they do not have any significant impact in terms of translation behaviour in English-Kurdish specialist medical translation. For example, terms like خوێن بەربوون (BT: haemorrhage), درێژبوونەوەی ناوکەپەتک (BT: the fall of the umbilical cord), etc. are added to the TTs without having any correspondent in their respective STs. The decision can be explained in the context of the tendency of unnecessary elaboration in Kurdish. Adding some medical terms to the TTs attributes a feature to the TTs making them conform to the norms of the target language.

Addition is used as a couplet combined with other translation strategies, including equivalence, transliteration, borrowing and explicitation. It consists of cases where these

strategies are the primary strategy and addition is a secondary strategy. In other words, the ST term is rendered using one of the above strategies, and then some elements are added to them. For example, *cardiovascular disability* is translated into its equivalent term in the TT but another word is added to it: بێتوانایی و مردنی کۆئەندامی سوڕان (BT: disability and death of cardiovascular system), thus the words *death* and *system* are added to the translated term in the TT. It is also combined with transliteration. For example *leptin* is transcribed in the TT and the word *hormone* is added to it as هۆرمۆنی لیپتین (BT: leptin hormone). The frequency of these couplets is very small (2%), thus they are not statistically significant in relation to the overall used strategies in the TTs. However, their incidence is evidence of the various types of translation strategies that the medical experts opt for during Kurdish medical translation. Otherwise the choice of adding an item or more to a medical term, which already has its ready equivalence in Kurdish, does not contribute to the accessibility of the TTs to the medically expert target readership. In the example above, adding the word *hormone* to *leptin* is, in essence, not necessary since the medical readership already knows that *leptin* is a hormone. The choice would have been necessary if the readership was medically non-expert, as the addition would have made the translation more accessible. On the other hand, the use of addition in the couplets is stylistically motivated as it enhances the readability of the TTs and makes them read more smoothly as far as the cases that involve couplets are concerned.

4.2.3 Medical acronyms and abbreviations and their translation

The language of medicine uses acronyms and abbreviations extensively. Common medical acronyms and abbreviations are usually familiar to medical experts as they learn them through their medical education and training. However, some can be very specific to a particular medical branch, or some can have different meanings and be author-specific (Lee-Jahnke, 1998, p. 86).

Acronyms and abbreviations are recognised and used in Kurdish in various fields. Like English and many other world languages, Kurdish has acronyms formed from initials of Kurdish terms and phrases. The acronyms are a component of individual letters, such as *KAZHIK* کۆمەڵەی ئازادی و ژیانەوە و یەکیەتی کورد (BT: Kurdish unity, revival and freedom group), *PASOK* پارتی سۆسیالیستی کورد (BT: Kurdish Socialist Party), etc. Kurdish abbreviations, on the other hand, are shortened forms of words or phrases. They usually consist of a letter or more taken from the word or the phrase. For example, پەکەکە (BT: PKK) is taken from the phrase پارتی کرێکارانی کوردستان (BT: Kurdish Workers Party). Kurdish acronyms and abbreviations are commonly used in the field of human sciences, including sociology, history, political science, media, etc. However, their usage in scientific fields such as medicine, chemistry, physics, etc., in essence, is limited to the transferred (and sometimes transcribed) forms from English. Examples of common transcribed and naturalised acronyms and abbreviations in medical Kurdish are: ئایدز (BT: AIDS), سارس (BT: SARS), ئێم ئار ئای (BT: MRI), ئێچ ئای ڤی (BT: HIV), ئێکۆ (BT: ECHO), etc. Kurdish medical abbreviations and acronyms have not been investigated so far and therefore the Kurdish medical literature does not provide any reference addressing the subject.

However, since existing Kurdish medical literature has not addressed the subject, medical acronyms and abbreviations are considered in the scope of this study. They are investigated in the context of translation strategies used by medical experts for translating medical abbreviations and acronyms into Kurdish. The contrastive data analysis shows that ST abbreviations and acronyms are handled using five different strategies: direct loan, transliteration, explicitation, omission and written in full terms, i.e. spelled out in their equivalent words in Kurdish. It is observed that ST abbreviations and acronyms are rendered into their fully written Kurdish equivalences in the TTs, accounting for 3% of the cases. It has the highest frequency among the other strategies used for handling abbreviations and

acronyms. For example: *PsA* is translated into its Kurdish equivalence as نەخۆشی هەوکردنی جومگەکان (BT: the disease of psoriatic arthritis), *MABP* is translated as تێکڕای فشاری خوێنبەری خوێن (BT: mean arterial blood pressure), etc.

Given that medical experts often use English medical acronyms and abbreviations, it is interesting that borrowing does not have the highest frequency in the TTs of this study corpus. Borrowing is used in only 3% of the cases, followed by transliteration which accounts for 1% of the cases. These percentages show that borrowing and transliteration are not common strategies in the translation of medical abbreviations and acronyms. Among the strategies, explicitation has the lowest frequency as shown in table 4.7.

The results shown in table 4.7 are interesting for two reasons: on the one hand, the instructions given by the Journal explicitly permits the use of abbreviations and acronyms in the (original) abstracts. Since the TTs are translated versions of the originals, the permission covers the TTs, though such permission is verbally given and as such it can be considered implicit in nature.

Translation strategies	**Frequency**	**Percentage**
Equivalence (full words)	35	3%
Borrowing	31	3%
Transliteration	11	1%
Omission	6	1%
Explicitation	4	0%
Total	87	9%

Table 4.7 Frequency and percentage of translation strategies used for translating medical abbreviations and acronyms in the TTs

It follows that the use of loan or transcribed abbreviations and acronyms should be permissible and acceptable in the TTs as well as accessible to the target readership. On the other hand, the instructions explicitly indicate that abbreviations and acronyms should be introduced in full forms at the beginning of the abstracts and then used in their short forms thereafter to avoid obscurity. Having applied the instruction, the medical experts still prefer to render part of ST abbreviations and acronyms in their fully written formats.

The choice of translating abbreviations and acronyms into full words in the TTs can be explained as an effort to compensate for the lack of ready equivalences for the medical abbreviations and acronyms in medical Kurdish. However, the use of borrowing, transliteration and explicitation for handling ST abbreviations and acronyms indicates that translating ST abbreviations and acronyms into their full written equivalences in Kurdish is not a norm. This is because the percentage of fully written Kurdish equivalents (3%) does not constitute the majority of the translated abbreviations and acronyms of the STs in relation to the other strategies used in rendering abbreviations and acronyms (5%) in the TTs.

Another strategy used for handling ST abbreviations and acronyms in the TTs is reducing fully written medical terms and phrases of the STs into abbreviations and acronyms in the TTs. The use of this strategy accounts for 1% of the cases in the TTs. These cases are, however, all directly borrowed from English and placed in the TTs without any change, with one transcribed case. This somewhat surprising translation choice might be related to the text type conventions of the medical abstracts and the limit of their word counts. Translating medical terms and phrases into full terms increases the word count of the TTs, especially given that translations are often longer than their originals, for that reason, such percentage might have been reduced to their acronyms and abbreviations in their respective TTs. The decision to do so can also be related to the target readership and their medical expertise. Translators of the English abstracts know that their readership is medically expert and as

such, rendering the ST full terms in the TTs by their abbreviations and acronyms does not affect the accessibility of the TTs to them. For example a phrase like *enzyme linked immunosorbent assay* is rendered as *ELISA* in the TT, *total serum bilirubin* is rendered as *TSB*, *thyroid function tests* is rendered as *TFT*, etc.

The findings of the data analysis in terms of medical abbreviations and acronyms indicate that there does not exist a standard strategy for handling them. The preference for translation strategies varies among medical experts. This leads to a rather chaotic situation since translation of medical abbreviations and acronyms is largely different from translation of medical terms and phrases. The difference lies in the very nature of such abbreviations and acronyms as their formation is, in essence, not standardised in English. They can be author-specific and they can also vary according to the medical branch or speciality they belong to. Sometimes the same acronym can have different meanings as it stands for different terms in different medical branches. Examples of these cases are abundant in medical language, such as *EDC* could be *estimated date of conception*, or *estimated date of confinement*, *LLL* could be *left lower lid*, *left lower lip*, *left lower lobe*, or *left lower lung*, etc. Thus the diversity of medical abbreviations and acronyms can sometimes be problematic even for medical experts. The use of different strategies for handling medical abbreviations and acronyms is also covered in a study addressing the medical language of English and Spanish from a translation perspective (Rosendo, 2008). It covers the issue of medical acronyms in Spanish stating that some medical specialists are influenced by English acronyms and use them, while some others tend to use Spanish medical acronyms. The study explains that the lack of consistency in using medical acronyms in medical Spanish makes the task of translating them even harder (ibid). This study, thus, confirms that the inconsistency in the use and the translation of medical abbreviations and acronyms is not unique in medical Kurdish but it also extends to other languages.

4.2.4 Medical eponyms and their translation

Eponyms are words derived from or based on names of persons. They are used more frequently in medical terminology than in other disciplines (Dirckx, 2001, p. 15). Like English, eponyms are used in Kurdish, but the use of eponyms in medical Kurdish is not as prevalent as in English. The medical eponyms in medical Kurdish are translated versions of the English one, for example, *Adam's apple*, *Alzheimer's disease*, *Parkinson's disease*, *islets of Langerhans*, etc.

As medical eponyms in Kurdish have not been investigated yet, the subject is not established nor is it introduced in the literature of medical Kurdish. Thus, the findings of the data analysis in this study are the basis of gaining an insight into eponyms in medical Kurdish. According to the data analysis, five translation strategies are used for handling ST medical eponyms. Table 4.7 shows the frequency and percentage of the medical acronyms in the translated abstracts as well as the strategies used for their translations.

Medical eponyms	**Frequency**	**Percentage**
Equivalence	15	1%
Transliteration	3	0%
Explicitation	3	0%
Borrowing	3	0%
Omission	2	0%
Total	26	2%

Table 4.8 Frequency and percentage of medical eponyms in the TTs

According to the table, equivalence has the highest frequency among the translation strategies used for handling medical eponyms. However, it is interesting to notice that the translated

eponyms, in fact, involve an element of transliteration as well. For example, Jessner's solution is translated as شلەی جێسنەر (BT: Jessner's solution), in other words, the eponym is half translated (the word solution) and half transcribed (the noun Jessner). More examples include: Calot's triangle, Hartmann's pouch, etc. This feature is not specific to Kurdish; other languages have similar cases, such as English (Ariza, 2012, p. 67-90), French (Van Hoof, 1998, p. 57), etc.

The translation of ST eponyms into Kurdish involves a shift in the word order, for example, *Calot's triangle* is translated as سێگۆشەی کالۆت (BT: the triangle of Calot), i.e. the English and the Kurdish eponyms are identical but their word order is different. This word order shift is described by Van Hoof (1999 cited in Rosendo, 2008, p. 238) as one of the typologies of eponyms in a comparative study between English and Spanish. Another type he describes is when the English eponym does not have its equivalence in the TT. An example in this study corpus is *Sprague-Dawley rats*, which is handled by employing an explicitation strategy in the TT as جرجی تاقیگە (BT: rats of laboratory) and thus using a more general term and dropping the eponym characteristic of the ST term in the TT.

The choice of translating ST eponyms using a couplet strategy, i.e. half equivalence and half transcribed, in the majority of the TT eponyms shows the norm of eponym translation in medical Kurdish. The norm, according to Abdul (personal communication, 29 November 2014), is established in Kurdish specialised language, not only in the medical domain. The fact that eponyms do not originate from Kurdish leaves translators as well as writers in scientific and technical fields with no choice but to transcribe the names that constitute part of the eponyms. In addition to these cases, two ST eponyms are transliterated into their phonetic transcription in the TTs without any modification to their orthography. For example, *Wood's light*. However, these are very small cases that do not have any significant effect on the TTs.

In addition to the six translation strategies discussed above, the analysis shows cases of translation errors. According to Skopos theory, translation solutions are identified as errors when the instructions given in the translation brief are not achieved (Nord, 1997, p. 75). The TTs included in this study corpus are self-translated. ST authors outline the translation brief for themselves, however, they have primarily received a general outline, though verbally, of their translation brief from the School of Medicine[25]. The implicit verbal brief indicates that TTs should serve a function similar to their STs because they provide medical information and findings related to their papers on a specialist level. Thus, 'anything that obstructs the achievement of this purpose is a translation error' (ibid). Errors can be identified whenever functional constancy of the ST term is lost in the TT. These cases account for 2% of the translated terminology in the TTs. This percentage is very small and as such, it does not have any significant effect on the TTs textual function. Examples of mistranslated cases are: *neonatal period* translated as تازەلەدایکبووەکان کۆرپە (BT: neonates), *postpartum haemorrhage* is translated as خوێنڕێژی (BT: bloodshed), *disability* is translated as پەککەوتنی جومگەکان (BT: joint dysfunction), etc. It can be seen from the back translations provided that the translated terms do not semantically correspond to the ST terms. Yet their effect is limited to the level of micro, not the macrostructure of the TTs.

4.2.5 Translation of medical terminology according to publication date

This section compares the use of each translation strategy with the other strategies in the translated abstracts according to the date of their publication. The aim is to observe the distribution of translation strategies used over the span of the five years. In order to achieve

[25] See section 2.3 in chapter two on the translation brief of the TTs.

this, translation strategies used in each year are calculated in percentages, i.e. they constitute a hundred percent. This is to see how translation strategies are distributed in each specific year. The percentages of each year are, then, compared with each other to see if any interesting patterns develop over the five years. The following table illustrates the distribution of translation strategies on terminological level in the TTs from 2007 to 2011. The table reveals interesting patterns in terms of translation strategies used over the years. It shows that equivalence has the highest frequency (76%) in 2011 and the lowest frequency (42%) in 2008. Equivalence shows a noticeable rise in 2009 (65%), but it begins to decline in 2010 (55%) before it rises in 2011. The highest percentage of equivalence in 2011 indicates the medical experts' preference to render ST terminology into their Kurdish equivalents (76%) rather than using other strategies. It might also explain that more medical terms were created in 2011 providing translators with a wider range of terminology to use.

Translation strategies	**2007**	**2008**	**2009**	**2010**	**2011**
Equivalence	57%	42%	65%	55%	**76%**
Omission	14%	**23%**	19%	11%	6%
Transliteration	7%	13%	2%	**21%**	6%
Borrowing	**13%**	11%	3%	3%	7%
Explicitation	**8%**	7%	7%	6%	4%
Mistranslation	0%	2%	2%	**3%**	0%
Addition	1%	1%	0%	1%	1%

Table 4.9 Distribution of translation strategies according to publication date

Omission is shown to have been a common practice in 2008 (23%), but it shows a dramatic decline in the following years, reaching its lowest percentage (6%) in 2011. This could be an

indication that translators grew more familiar with text type conventions of their abstracts, particularly of the fact that terms included in their abstracts constitute an essential part of their texts and therefore their omission can largely affect their functionality aspect. As for transliteration, it shows the lowest frequency in 2009 (2%) and the highest frequency (21%) in 2010, but later in 2011 it shows a sharp decline (6%). It also shows a rise in 2008 (13%) after it had a low frequency in 2007 (7%).

The use of borrowing from 2007 to 2008 shows a decline (13% to 11%). However, the percentages become very interesting when borrowing declines sharply to 3% in 2009 and remains constant throughout 2010 until it rises in 2011 (7%). Explicitation shows an interesting pattern by beginning to show a gradual decline after 2007, when it has the highest percentage (8%), to show the lowest percentage in 2011 (4%). The decline of borrowing and explicitation over time, compared to 2007 and 2008 in particular and compared to the other strategies, indicates that these two strategies are not as common as the study hypothesised, which is a significant finding.

Addition, the least used translation strategy in the TTs, has the lowest frequency (0%) in 2009 but it has a constant percentage in the other years (1%), which is not significant. It is interesting to notice that TTs in 2007 did not exhibit any cases of translation error while TTs of 2008 show a rise in translations errors (2%). Occurrence of translation errors remains the same in 2009 (2%) and returns to show a slight increase in 2010 (3%), but, interestingly it completely disappears in 2011.

The observations identify several interesting patterns throughout the five years. On the one hand they indicate that although equivalence was more frequent in 2011 and thus was the most favoured strategy in the TTs of that year, it was also a preferred strategy in the other years compared to the other strategies. Yet the rise of equivalence in 2011 indicates that there is an attempt to translate ST terminology into their Kurdish equivalents in the medical

domain on a specialist level. The trend can be indicative of the availability of more Kurdish medical terminology that are created as well as used by medical specialists. As discussed in chapter two, creation of medically specialised terminology is the product of individual efforts rather than an officially recognised body or institution. While some of the individual efforts are sometimes criticised, they seem to be somehow effective in enriching the stock of Kurdish medical language. Based on table 4.9, we can establish that even though Kurdish is not used in the specialised medical domain, the translation of the medical abstracts is, nevertheless, one medium for the creation of specialised terminology, the use and the dissemination of such terminology. Perhaps (self-)translating more medical abstracts over a longer period of time lead to the creation and use of even more terms in KMP, yet this remains a speculation only unless a larger corpus including more recent translated abstracts is investigated.

On the other hand, the patterns in table 4.9 reveal significant observations in relation to the use of explicitation, transliteration and omission strategies. The three strategies show inconsistent and varying levels of rise and fall over the years, but the interesting pattern they develop is their decline in 2011. This can have a twofold explanation: 1) translating medical terminology into Kurdish cannot be performed without the use of these three strategies, on a limited basis, owing to: the nature of medical language, the target readership in terms of their domain expertise, and the text type conventions of the translated text in question. As explained above, medical language contains names of chemical substances, bacteria, viruses, medical instruments, eponyms, abbreviations, acronyms, etc. which cannot be translated because they do not originate from Kurdish. The majority of them have Greek and Latin origins and, like some world languages (e.g. English, Arabic, Spanish, etc.) Kurdish tends to either borrow them, or transcribe them. 2) The target readership plays an important role in translation and hugely influences the choices that translators make. Since the target

readership of these TTs is medical experts, it justifies the use of certain translation strategies such as borrowing and omission for reasons explained earlier in this section. And 3) the fact that the TTs are abstracts whose word count is limited, again, shapes and impacts the choices made in translating medical terminology therein. Limited word counts, sometimes, may force medical experts to omit terms that may have less potential impact on the sake of adherence to the specified text length. These patterns are further discussed in relation to and within the context of translation norms in the target culture in the next section.

4.3 Translational norms of medical terminology

The previous section described the use of certain translation strategies in the translation of medical terminology into Kurdish according to publication dates. It also interpreted the results of the terminological analysis in that regard. This section, however, discusses what translation behaviours the findings and observations of the contrastive data analysis on the terminological level indicate. Having discussed the concept of translation norms proposed by Toury (1995/2012) and Chesterman (1997) in the literature review (see 2.4), this section discusses the manifestation of those norms in the translation of English-Kurdish medical terminology on the basis of the observations of the terminological analysis.

As established in chapter three, the TTs of this corpus are accepted translations in the Kurdish culture. This statement suggests that the TTs are accepted according to the norms of the Kurdish culture and the expectancies of the target readership. The target readership of the TTs is an assessing committee, which evaluates submitted theses (and their translated abstracts), and the medical community. However, it is the committee that plays the role of the 'norm authority *par excellence*' (Chesterman, 2000, p. 67, italics in the original) because it has the authority to accept certain translated abstracts and reject others. The committee, in essence, represents the medical community and therefore it is trusted by them. Accordingly, it

(the committee) sets the criteria that characterise acceptable translations (for abstracts of theses). These criteria are pertinent to medical translations performed on a specialist level only, because the context that produces and accepts these translations is a specialist context. It does not include less specialist or non-specialist translations. This also indicates that the expectancy norms operating in this context may not necessarily operate in less specialist or non-specialist contexts.

The expectancy norms operating in English-Kurdish medical translation at a specialist level is an entirely absent subject in the literature, therefore the observations and translation behaviours obtained through the data analysis are the first attempts to define the subject. Expectancy norms, by their very nature, are 'very sensitive to text type' (ibid) and genre. The TTs are medical abstracts which are expected to conform to translation norms set by the assessing committee. The committee expects translations to preserve the functional constancy of the STs. It does not, however, set explicit guidelines on how to achieve that. Interestingly, the committee members may not necessarily have linguistic and/ or translation expertise because their medical training has been in English, and they have not been required to translate their own abstracts[26], but they nevertheless perform evaluation for translated abstracts. This may make one question the correctness of the TTs. However, since they were accepted by a recognised medically expert committee, they can be considered 'correct translations' (Hermans, 1991, p. 166 quoted in Chesterman, 2000, p. 64) as long as they fit 'the correctness notions prevailing' (ibid) in the Kurdish medical domain. Under these

[26] Translating abstracts into Kurdish has a recent history, dating back to 2005. The committee who accepted the TTs employed in this study had published their theses before abstract translation became a requirement.

circumstances, translated abstracts become models for other candidates who need to translate their abstracts. For them, previously accepted translations form implicit guidelines for abstract translation, and, consequently, become implicit translation briefs.

The data analysis shows that expectancy norms within the context of Kurdish specialist medical translation are changing and developing, but at a very low speed. The observations suggest that medical specialists are making an effort to meet the expectancy norms set by the norm-authorities. This is evident from the gradual decline in cases of omission and mistranslation in the TTs between 2008 and 2011 (see table 4.8). The evidence proves that the translation norms operating in the context of specialist translation in medical Kurdish are not static, but temporary and changeable.

According to the data analysis, equivalence is the most common translation strategy used in the TTs (54%), indicating that more than a half of the terms are rendered into their Kurdish equivalents in the TTs. Although, as discussed in section 4.2.2, the use of equivalence often involves some element of addition, borrowing, omission or transliteration, it does not affect the functionality of the translated terminology in the TTs. In fact, the use of equivalence as such indicates that semantic closeness between ST and TT terminology has been prioritised. In other words, the 54% of equivalent cases show that translators have tried to establish a relevant similarity between the terminology of the STs and the TTs. As a result, their translations conformed to the relational norms (Chesterman, 2000, p. 69); nevertheless the use of other strategies like those stated above with equivalence suggests that the equivalence relation established between the STs and their TTs is not a close relation. In fact, the data analysis shows that the use of equivalence with some element of another strategy is used when equivalence alone is not sufficient to preserve the function of a particular ST term in the respective TT. Translation of eponyms into Kurdish is the best example of this usage, because although part of the eponym can be rendered into Kurdish or any other language, as

shown in section 4.2.3, the other part, which is a name, is standard and thus cannot be translated. Either it is transferred or transcribed. This strategy, which is also used in other languages like English and French, indicates that the translation of medical eponyms in medical Kurdish generally conforms to the expectancy norms of eponym translation.

The semantic closeness between ST and TT terminology is not maintained by the use of equivalence alone, because equivalence may achieve one type of relation between the two texts (ibid). There might be terms in the ST that cannot be rendered in the TT by the use of equivalence as a single strategy, and therefore addition, transliteration, or any other strategy might be a better strategy to adopt. This, in effect, suggests that the medical experts have opted for a range of various strategies for the sake of achieving semantic similarity between the ST and the TT terminologies.

As shown in section 4.2.5, translation behaviours practised in the translation of medical terminology changed according to the publication date of the TTs. The changes were caused by different distribution of translation strategies in each year. Decline in omission, translation errors and explicitation are evidence of the dynamic feature of expectancy norms (Chesterman, 2000, p. 67) operating in the TTs (see table 4.9). In contrast, we see borrowing and addition remain unchanged in 2009 and 2010, 2010 and 2011 respectively suggesting that the change in translation behaviour, and consequently, in translational norms can sometimes be ‘enduring’ and take a relatively longer time to change (Toury, 1995/2012, p. 86). In the case of equivalence, however, the change is happening very quickly from one year to another, as such it indicates the instability of norms and their liability to change over time. Even though these changes do occur over the period of five years, they nevertheless are not very substantial changes because the time period is not that long. In other words, if a corpus of translations over a longer period of time is investigated, it might exhibit substantial changes in terms of translational norms and as such they might be easier to identify.

Having said that, omission is the only translation strategy that shows a substantial, yet gradual, change in the TTs from 2008 to 2011. This behaviour can be explained in relation to the word limit for the genre of research abstracts (see section 2.2.1.3.3.1). As such, the TTs, being translated versions of the original abstracts, may demand some redundant or less significant terminology to be omitted. This translation behaviour is easy to detect between the TTs performed within the time span of four years (2008, 2009, 2010 and 2011). However, cases of omission indicate that the TTs are not full translations of their STs because the data analysis shows 17% of cases involving omission of abbreviations, acronyms, eponyms, terms and phrases. The majority of the omission cases (23%) occurred in the TTs of 2008. Such cases, in effect, indicate that there was a clash with the operational norms and in particular with fullness of translation (ibid) in relation to translated terminology. As shown in table 4.8, cases of omission start to decline from 2009 (19%), and continue in 2010 (11%) and further in 2011 (6%).

This gradual decline is, in fact, very interesting because it suggests that the medical experts have tried to render terminology by the use of other strategies in the subsequent years and thus were less inclined to omit them in the TTs. In the same way, incidence of mistranslation or translation errors exhibits a decline from 2010 (3%) to 2011 (0%). The decline in these translation behaviours shows that translations performed in 2011, in particular, are more improved in terms of terminology translation compared to 2008. In fact, three possible factors can be given to explain such improvement. As established in the literature, the TTs are proofread by linguistic specialists; the process involves the detection and correction of sematic, syntactic and textual errors or ambiguities. Sometimes the process is not performed

consistently and thoroughly, a fact that is rarely admitted[27]. However, the role of proofreaders might be more visible in the improvement of the syntactic and textual aspects of the translated abstracts rather than the terminological aspect since they are linguistically specialised, not medically. This implies that detecting syntactic or textual markedness or errors can be easier for the linguistic specialists because they are within the realm of their expertise, in contrast to semantic errors demanding conceptual knowledge related to medicine, which is beyond their expertise.

Another factor is the creation of more Kurdish medical terms as well as the publication of Kurdish medical dictionaries; although these are all results of individual efforts (see sections 2.2.1.3.2. and 4.2.1). The other factor, however, the practice and status of translation has been raised in the region in the recent years. This, in turn, may have had an impact on who is recruited as translators. Although we have established right from the beginning that professional translators are not inclined to engage in specialised translation, those who perform the task try to do a *good job* as far as their expertise allows them. These factors may not equally and directly apply to specialist medical translation and particularly in relation to the translation of terminology; nevertheless it may have an indirect impact on the medical experts who handle medical terminology during abstract translation.

The observations made at the level of terminology, in fact, have established a range of interesting translation patterns, which reveal translational norms operating in the context of Kurdish specialist medical translations. They indicate that a range of multiple translation strategies are used for translating medical terminology. Equivalence is considerably used

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[27] I can explicitly make this statement because I proofread a number of translated abstracts and therefore I was aware of other translations that passed with inaccurate proofreading.

making it one of the preferred strategies. The use of equivalence in combination with other strategies, including borrowing, addition, transliteration and omission, appears to be a general practice. The observations show how medical abbreviations and acronyms are translated into Kurdish. Three distinct norms are revealed in translating abbreviations and acronyms: either they are 1) written in full words in the TTs; 2) transferred; or 3) transcribed. Eponyms, on the other hand, are half translated and half transcribed. The use of these strategies reflects is indicative of the medical experts' awareness of varying translation strategies that can be used for establishing equivalence relations between STs and TTs. Even though they have not received any formal training in translation, nevertheless their use of various translation strategies and their success in preserving the functional constancy between the STs and the TTs indicate that they have a level of translational skills, yet may not be developed as a professional's.

The patterns also indicate that strategies of borrowing and explicitation are not as common as equivalence; the tendency to use these two strategies is, in fact, not great. This finding refutes one of the hypotheses that this study made, assuming that borrowing and explicitation are two preferred translation strategies in English-Kurdish medical translation (see chapters one and three). The hypothesis was established on the assumption that medical Kurdish might have lexical gaps as compared to medical English and as such, medical experts resort to those two strategies to handle non-equivalence. Nevertheless, since the corpus used in this study is relatively small, investigating a larger corpus of specialist medical translation may better qualify for confirming or denying the existence of lexical gap in medical Kurdish. However, the findings in the context of this study are only an attempt at gaining initial insights into the state of medical Kurdish on a specialist level, which would need to be followed up with further research. That said, and as far as the findings of the terminological investigation have

shown, the translated abstracts confirm that medical Kurdish has a proliferation of specialised terminology which is used by the medical experts in the translation of their research abstracts.

5 Syntactic aspects of Kurdish specialist medical translation

5.1 Introduction

We have already seen that the previous chapter provided an insight into the terminological aspects of English-Kurdish specialist medical translation and discussed its features based on the results of the contrastive data analysis of the translated medical abstracts. This chapter, however, aims to focus on the syntactic features of the translated abstracts as well as identifying any potential syntactic markedness and inaccuracies that may occur in such translations.

While the syntactic aspect of Kurdish, as a general language, has extensively been studied in the literature, the syntactic makeup and features of specialised Kurdish, particularly medical Kurdish is an entirely absent subject. Although the aim of this chapter is not to investigate and describe specialised Kurdish in terms of its syntactic structure, it nevertheless attempts to give an insight into some basic and general syntactic aspects of medical Kurdish on a specialist level. It attempts to do so by examining the translated abstracts focusing on their grammatical structure as well as identifying and reflecting on any potential incidences of syntactic markedness and errors in them.

5.2 Kurdish syntactic structure

The syntactic investigation of Kurdish has received the interest of many Kurdish and non-Kurdish linguists (Soane, 1913; Bedir-Khan, 1937; MacKenzie, 1954; McCarus, 1958; Bedir-Khan and Lescot, 1970; Akrawy, 1982; Kalbassi, 1994; Matras, 1997; Mahwi, 2010; etc.). Since Kurdish is not a unified standard language, the published work existing in the literature deals with describing syntactic construction of various dialects or language varieties of

Kurdish individually. As established in the first chapter, Kurdish has many dialects that are different from each other and is sometimes referred to as a dialect continuum language (Matras and Akin, 2012). The language varieties may not be mutually intelligible unless there has been considerable prior contact between their speakers. The two main Kurdish dialects, i.e. Kurmanji and Sorani, exhibit different phonological, morphological as well as syntactic features (MacKenzie, 1961; Haig and Matras, 2002). However, since Sorani Kurdish is the main dialect used in Iraqi Kurdistan, this study investigates specialised medical translation of Sorani Kurdish and therefore this chapter focuses on the syntactic structure and features of Sorani Kurdish[28].

In actual fact, discussing the syntactic aspects of Kurdish is a very large subject of study that cannot be covered within the scope of a chapter and also it is not the aim of this chapter. Therefore, the chapter aims to provide a brief overview of the syntactic rules and structure of Kurdish in an attempt to identify any potential correlation between general Kurdish and Kurdish medical translations. Any developed patterns, then, can be taken as indications towards establishing features of specialised Kurdish, particularly medical Kurdish.

Although our corpus does not include texts or translations of general Kurdish, we assume that what has been recorded in the literature of Kurdish syntax is basically about Kurdish for general purposes. This assumption is based on the fact that the literature does not provide us with any resources on Kurdish for specific purposes. This, in turn, suggests that the syntactic makeup of specialised medical translation in Kurdish is also an unintroduced subject. Following from this, investigating and thus identifying the syntactic structure and

[28] See chapter one for further details.

characteristics of Kurdish medical translation is, in effect, an imperative task which this chapter tries to undertake.

As we have just stated, specialised Kurdish, in particular medical Kurdish, is a topic that has received no attention to this moment. Thus its syntactic properties, like its other aspects, are an entirely unidentified aspect. However, anecdotal evidence suggests that it shares many features with Kurdish for General Purposes (LGP). In order to confirm this, a corpus of specialised writing in Kurdish needs to be investigated syntactically in order to see if any recurrent patterns develop that may distinguish it from Kurdish LGP. However, since this cannot be done within the space of this chapter, we investigate the syntactic properties of the translated abstracts to identify the syntactic features that characterise specialist medical translation of research abstracts in Kurdish.

While we hope that investigating the translated abstracts will give us an insight into the syntactic features of specialised Kurdish translation, it will also help us to test another hypothesis of this study which assumes that medical experts lack linguistic competence enabling them to produce syntactically correct translations. We also hope that this chapter will provide an insight into the syntactic construction of self-translated medical texts in Kurdish, which is also an area that has been left unstudied so far.

Based on anecdotal evidence, medical translations performed by medical experts feature high incidence of syntactic inaccuracies as well as marked cases, which might be indicative of their lack of linguistic competence. It is similarly suggested for self-translated medical abstracts given that they are performed by medical experts rather than professional specialised translators. Perhaps these are misconceptions made by those who believe that medical experts only pay attention to the conceptual aspect of their translations, as such disregard their syntactic as well as textual aspects (cf. Newmark, 1988; Byrne, 2006).

For the purpose of our investigation, we have conducted a syntactic analysis of the translated abstracts focusing on a number of essential elements, which include: subject/ object-verb agreement, number (singular and plural), tense, modality, collocation, voice (active and passive) and word order.

Before we begin explaining the abovementioned elements in the translated abstracts, we should point to three general features of the Sorani dialect, which is also referred to as the central Kurdish dialect (MacKenzie, 1961; Haig, 2008, p. 277). It is significant to point to thee three features because they are related to the syntactic analysis of the data. Knowing these properties in advance helps the reader towards better understanding the syntactic elements that we are discussing in the following section in the present chapter. The features are:

1. Kurdish has the so-called *Ezafe*-construction. The term is adopted from Arabic *idafat* which means addition or supplement (Haig, 2007, p. 1)[29]. In Kurdish, like the Iranian languages, the *Ezafe* is 'an unstressed vocalic particle which occurs between a noun and an adjective or other nominal modifier' (ibid). *Ezafe* is pronounced as the unstressed English vowel 'i' added directly to words. It could be used with attributive adjectives that follow a noun, or it links the two parts of a possessive construction and is equivalent to 'of' in English (Mahwi, 2010, p. 10)[30]. Sometimes a noun is post-modified by an adjective, where the noun is known, i.e. it has a definite article after it.

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[29] Available at: http://www.engl.polyu.edu.hk/research/nomz/files/HAI.Iranian.final.pdf accessed on Jan, 12/2015

[30] Available at: http://www.fas.harvard.edu/~iranian/Sorani/sorani_1_grammar.pdf accessed on Jan, 12/2015

In such case, the *ezafe* is changed to 'a' (Amin, 2004, p. 143-144) and is added to the noun while the definite article is added to the end of the adjective.

2. Kurdish has a dual-stem system for verbs in the past and present tense (Haig, 2008, p. 277), but the future tense, unlike Kurmanji, does not exist in Sorani Kurdish. Future sense is usually gained from the context in question (Thackston, 2006, p. 26)[31]. Nevertheless, another view maintains that Kurdish has the dual-stem of past and future and the other grammatical tenses are formed from them (Amin, 2004, p. 381; Mahwi, 2010).

3. Unlike Kurmanji Kurdish, Sorani does not have grammatical case and gender (Haig, 2008, p. 277-278).

5.2.1 Syntactic structure of Kurdish medical translation

As stated in chapter one, the field of Kurdish medical translation is an entirely absent subject in the literature. The absence is not restricted to the description of medical terminology alone, but it applies to studying as well as describing the syntactic makeup of Kurdish medical translation and its textual aspects as well. Therefore, this study aims to take the initiative in terms of investigating the syntactic structure and features of this type of translation through identifying and thus discussing the syntactic markedness and errors that are revealed through the data analysis. The aim is to test the second hypothesis of the study which assumes that Kurdish medical translation on a specialist level exhibits a high incidence of syntactic

[31] Available at: http://www.fas.harvard.edu/~iranian/Sorani/sorani_1_grammar.pdf accessed on Jan, 14/2015

markedness, and that such syntactic marked cases and/ or errors may be related to a lack of linguistic competence of medical experts who perform such translations.

5.2.1.1 Tense and aspect

Sorani Kurdish recognises both tense and aspect of verbs. These two categories provide two main types of information, namely time relations locating an event in time and aspectual differences indicating the temporal distribution of an event (Baker, 1992, p. 98). Kurdish, like English, has a developed tense and aspect system. It distinguishes between past, present and future (with these last two being subject to controversies as indicated in the previous section), and indicates whether or not the event is completed or continues. In addition, the language not only makes distinctions in reference to past events, it also expresses the remoteness of the event in relation to the time of speaking.

Nevertheless, while Kurdish recognises verb tense and aspect like English, their names (i.e. names of or reference to the tenses) and connotations in Kurdish may not always be similar to those in English (see appendix one for more details on tense in Sorani Kurdish). For example, whether or not Kurdish has a present tense is still a matter of controversy, and the same holds for the future tense. Therefore, adverbials or contexts are often considered in order to distinguish between the two and thus identify the intended connotation of the time of an event (Mahwi, 2010). The significance of this in relation to our data analysis lies in that it helps us to distinguish between present and future tenses in the sections of each abstract. As regards aspect, what is referred to as present continuous in English, is, in fact, called past perfect 2 in Kurdish (see appendix one for more examples on the difference of aspect between English and Kurdish).

Although the reference to tense and/ or aspects can be different between English and Kurdish, the signalling system in terms of these two categories is closely similar (Amin, 2004; Mahwi,

2010; Fattah, 1985/2010; Thackston, 2006, etc.). However, since this information is already established in the literature of Kurdish and since it is not our aim here, we shift our attention to the translated abstracts to see what signalling systems are observed in them.

As discussed in chapter two, abstracts present a brief summery about full-length papers (see section 2.2.1.3.3.1 in chapter two). Conventionally, the information given in an abstract is often expressed in past and present tenses. Since the background section often provides established facts and the conclusion section makes generalisations, they are usually written in the present tense (Fraser *et al.*, 2009, p. 21). Sections stating aims or objectives are written either in the present or past tense (ibid). Both sections of methods and results are reported in the past tense (Fraser *et al.*, 2009, p. 21; Day and Gastel, 2011, p. 198).

While anecdotal evidence indicates that Kurdish abstracts follow the same verb tense and aspect of English abstracts, the abstracts and their translations analysed in this study corpus reveal that the case is not always so. Based on the syntactic analysis, change of tense and aspect is shown to have the highest frequency as it accounts for 32% of the total syntactic marked cases as illustrated in chart 5.1. Such cases cover a range of different tenses identified in 33 out of 65 TTs, and there does not seem to be any systematicity in their choice. The remaining 32 TTs, however, were syntactically compatible with their STs in terms of verb tense. The majority of the changes that happened in terms of verb tense are from past simple in the STs to a different tense in the TTs. Verb tense is changed from past simple to: past perfect 2 in 14% of the cases, present simple in 8% of the cases, future in 5% of the cases, and past perfect 2 (far) in 3% of the cases. Present simple is also changed to past perfect 1 in 1% of the cases and to past perfect 2 in 1% of the cases. However, present perfect is changed to present simple and to past perfect in one of the cases respectively. These percentages are further shown in table 5.1. The majority of the tenses that have deviated from the default format occur in the sections of methods (45%) and results (42%) of the abstracts whereas the

smallest deviation occurs in the sections of conclusions (8%), background (4%) and objectives (1%) respectively as shown in table 5.2.

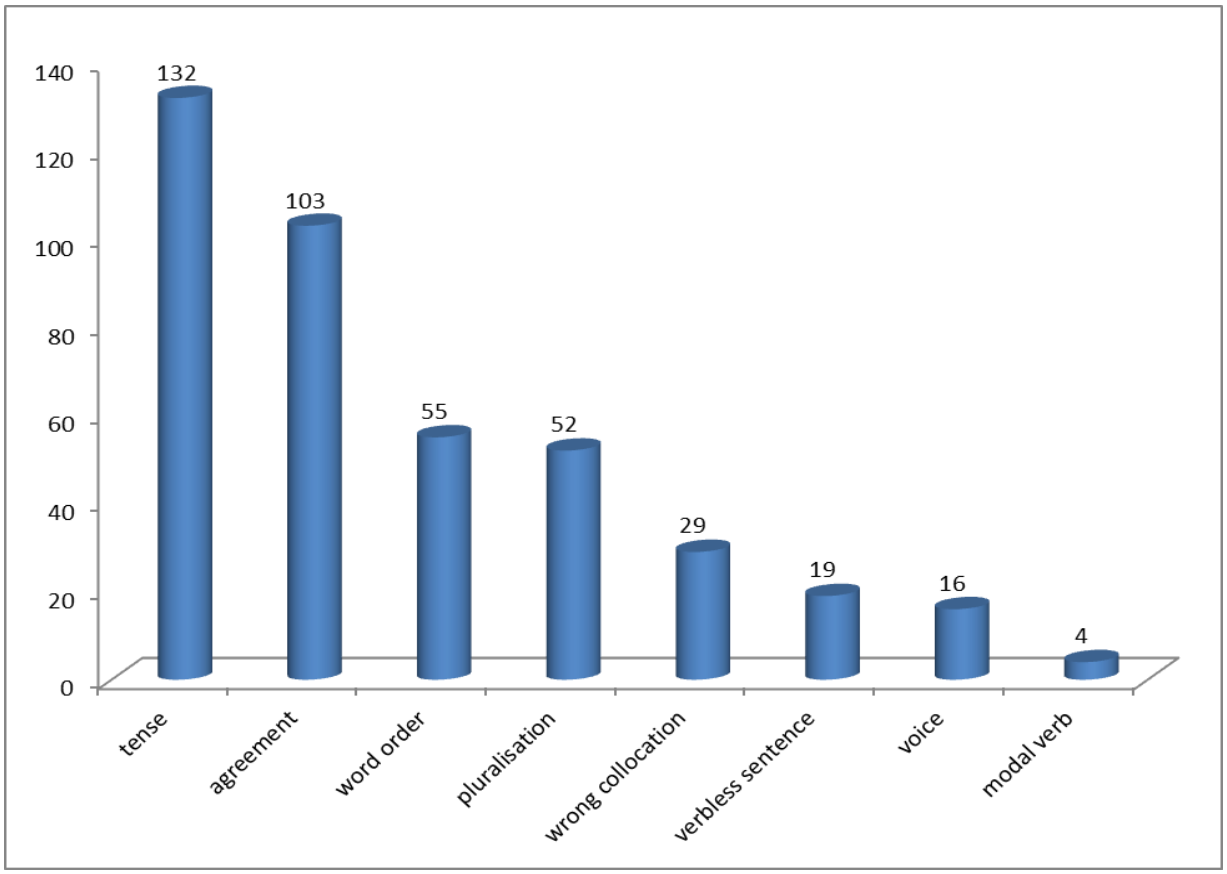

Chart 5.1 Frequency of syntactic markedness in the TTs

It should be noted that guidelines are not unanimously provided for researchers on appropriate verb tenses that should be used in the sections of Kurdish abstracts. This is not to claim that supervisors do not advise their students, but my personal contact with student researchers revealed that supervisors are often reluctant to advise them on syntactic, textual and stylistic aspects. Therefore, student researchers are left to use the verb tenses they consider appropriate for certain sections of their abstracts. They also use translated abstracts of their colleagues, which have already been submitted and accepted, as models. Choosing the right verb tense for the English version might be an easy decision because they (i.e. the

student researchers) consult and follow originally written English abstracts. However, the decision is not as easy for the Kurdish version given that the choice of appropriate verb tenses is not established in Kurdish abstracts.

Tense	**Frequency**	**Percentage**
Past simple-past perfect 2	57	14%
Past simple-present simple	33	8%
Past simple-future	19	5%
Past simple-past perfect 2 (far)	12	3%
Present simple-past perfect 1	5	1%
Present simple-past perfect 2	3	1%
Present perfect-present simple	2	0%
Past perfect-past perfect 1	1	0%
Total	132	32%

Table 5.1 Frequency and percentage of tense change between STs and TTs of the corpus

As we saw in table 5.1, 29% of the verbs that underwent a change in their tense are from past simple in the STs to past perfect 2, present simple, future and past perfect 2 (far) in the TTs. Although this percentage is not statistically high, more than half of the deviation is to past tense in Kurdish, 14% to past perfect 2 and 3% to past perfect 2 (far), in other words, the deviation has occurred in the aspect of the verb whereas the tense is the same.

Section	Frequency	Percentage
Results	59	45%
Methods	56	42%
Conclusions	11	8%
Background	5	4%
Objectives	1	1%
Total	132	%32

Table 5.2 Frequency and percentage of tense change in the abstract sections in the TTs

As for the remaining cases, 8% has been changed to present and 4% to future. These changes indicate the occurrence of varied uses of tenses deployed in the TTs. Their incidence cannot be marked as syntactically incorrect due to the absence of established conventions for the use of appropriate tense and aspect in Kurdish medical abstracts. Nevertheless, if we sustain that the translated abstracts follow the preferred tense and aspect of English abstracts, then these identified deviations can be considered marked usage.

Considering the ST verb tenses that are past simple, 28% of the verb tenses which were changed to past perfect 2, present simple and future in the TTs, in fact, should have been past perfect 1. In general, particularly in English, the use of past simple is, in essence, suggested appropriate for the sections of methods and results for indicating that the activities therein were performed and completed in the past[32]. Biber (1990 cited in Orasan, 2001, p. 440) has also found out that past tense is more frequently used in the section on methods. The use of past perfect 1 in Kurdish has the same implication as past simple in English. Based on this,

[32] See the preferred tense and aspect in English abstracts discussed above.

we can suggest that the appropriate choice for the past simple tense in English abstracts is the past perfect 1 in the TTs.

Even if the change of the ST past simple verbs to past perfect 2, present simple and past perfect 2 (far) verbs in the TTs are considered syntactically appropriate, the choice of using future tense in the TTs instead of ST past simple is not. Both sections of methods and results in the STs report actions that have definitely happened in the past and are completed, thus reporting such actions in the future tense is syntactically as well as semantically inaccurate.

Interestingly, the identified cases of the future tense in the TTs can also be considered as the present tense. As discussed earlier, the difference between Kurdish present and future tenses is controversial in the literature. One view considers that both present and future tenses have the same verb form, the original form of the verb is the present tense, however if the aim is to state a future action, an adverb of time should be added to the sentence, such as *tomorrow*, *next week*, etc. In contrast, the other view perceives that the original form of the verb is the future tense, but talking about a present state or action requires the addition of an adverb of time, such as *now* or *at the moment*. While the identified verb tenses in the TTs do not have any associated adverbs to indicate whether the intended tense is present or future, we have indicated the actions as future in the analysis but denoting present states of actions.

Distinguishing between the present and future tenses in our TTs is challenging as the sentences do not have any recognisable tool to indicate the time of the actions that are stated in them. Therefore, the appropriate strategy for handling the ambiguity is to contextualise the verbs. In the absence of adverbs of time, context can be the best instrument to identify the verb tense in the TTs. Given the fact that the TTs are translated abstracts of completed research papers confirms that the verb tenses in the TTs either denote a state of actions that were carried out in the past or they express a state of present actions, facts, habits, etc. Following from that, the possibility of expressing any future actions in the sections of

methods or results where every action is finished is ruled out. Therefore, we have categorised them as verbs expressing present states or actions.

English recognises the use of present tense, known as historic present, for past situations. It is often used for describing past actions and situations vividly (Declerck *et al*., 2006, p. 176). However, historic present is not used in the sections of methods and results of abstracts. Although the evidence of such usage in Kurdish is not documented in the literature, anecdotal evidence shows that Kurdish, like English, uses the present tense to describe as well as narrate past events and states. This is particularly used in news headlines, summarising stories, novels, films, etc. Nevertheless, the use of present tense for reporting results of a study in an abstract has not been established yet. The 4% of the present tense usage, in fact, occur in only eight TTs out of the 65 analysed. This percentage is very small, yet its occurrence is evidence of the presence as well as usage of historic present in the sections of methods and results in abstract writing of medical Kurdish.

Verb tense was also investigated in the translation of Spanish medical journal abstracts by la Torre (2001, p. 127-135). She has found that the most prevailing tense in the translations is present tense construction (ibid, p. 132). Moreover, Johns (1992) compared the preference of tense use in English and Brazilian academic abstracts. According to him, some verbs denote what is stated in the paper, which he refers to as indicative verbs, whereas others denote what was actually carried out in the paper, which he calls informative verbs. In this respect, he indicates that the present tense is used for indicative and the past tense is used for informative statements (ibid, cited in Baker, 1992, p. 100). He concludes that translations of Brazilian abstracts prefer to use consistent tense and aspect throughout, nevertheless such consistency destroys the natural signalling system pertinent to the target language (ibid, p. 101). The findings of these two studies do not correlate with our findings, because, as shown in table 5.1, the most prevailing tense in our TTs is past perfect 2. Moreover, the use of tense and

aspect, in contrast to translated Brazilian abstracts, is not consistently distributed throughout the TTs. This, in effect, suggests that Kurdish does not have a preference for consistent use of verb tense and aspect throughout its abstracts.

5.2.1.2 Agreement

Agreement or concord in grammar refers to the agreement between the subject and the verb as well as other elements that exist in a clause or sentence (Leech and Svartvik, 1994). In English, agreement is mainly about the correspondence of a verb with its subject in person, which in English is only visible in the third person singular present tense (Halliday, 1985, p. 73). Unlike the English, Kurdish has an elaborate agreement system in terms of number and person but gender dimension is absent from Kurdish.

Kurdish is generally considered an ergative language (Friend, 1985; Windfuhr, 2005; Thackston, 2006; Mahwi, 2010; Haig, 2008). It has the grammatical pattern in which the subject of an intransitive clause is treated as the object of a transitive clause, as well as different from a transitive subject (Dixon, 1994). On the dialect level, the literature on Kurdish exhibits different perspectives in terms of ergativity. While Kurmanji is seen to be an ergative dialect (Payne, 1998; Haig, 2008), Sorani is described as a semi-ergative dialect (Ahmed, 2006; Lazard, 2005; Haig, 2008; Muhammad, 2012), with others considering Sorani to have lost its ergativity (Bynon, 1980; Jügel, 2009).

The issue of ergativity in relation to Sorani and establishing its currency or loss in the dialect is significant for this section because it is directly related to the aspect of agreement. However, since personal pronouns in Sorani play an important role in relation to ergativity and thus in agreement, it is useful to briefly introduce them here. Sorani personal pronouns are divided into two main types: independent and bound or copula suffixes (McCarus, 2003, p. 381). The bound personal pronouns, in turn, are divided into two sets: A and B. These are

shown in table 5.3 below. In Sorani Kurdish, subjects and verbs usually agree in person and number (Amin, 2004, p. 26). Verbs are governed by their subjects, thus they take bound personal pronouns based on their subjects. If the subject is first person singular, the verb takes first person singular bound pronoun and so on.

Person	**Independent personal pronouns**		**Bound personal pronouns Set A**		**Bound personal pronouns Set B**	
	Singular	Plural	Singular	Plural	Singular	Plural
1st	min	ême	-(i)m	-(i)man	-(i)m	-in/yn
2nd	to	êwe	-(i)t	-tan	-it/yt	-(i)n
3rd	ew	ewan	-i/y	-yan	Ø/ at/ êt	-(i)n

Table 5.3 Personal pronouns in Sorani Kurdish (Jügel, 2009, p. 152; Amin, 2004, p. 25)

Bound personal pronouns often show ergativity agreement in Kurdish according to tense, person, transitivity and number (Amin, 2004, p. 26; Mahwi, 2010, p. 212-221). Set A is used with past transitive verbs and agree with the subject in number and person, whereas set B is used with past intransitive verbs as well as future transitive and intransitive verbs and agree with subjects in person and number (Amin, 2004, p. 26-27). Examples of the use of personal pronouns and their role in agreement are provided in appendix one. The reference to these personal pronouns is important in relation to agreement in the translated abstracts because agreement is a syntactic element that is partly articulated through the correct use of the personal pronouns in Kurdish.

According to the syntactic analysis, incidence of markedness in agreement has the second highest frequency (25%). Object-verb disagreement occurs in 13% of the cases, followed by subject-verb disagreement which occurs in 12% of the cases. The frequency and percentage

of these incidences are illustrated in table 5.4 below. Inconsistency between subjects and their verbs occurs in active constructions whereas object-verb inconsistency occurs in passive constructions in the TTs. In addition, the analysis shows one case involving inconsistency between a subject and an object. The majority of the cases that exhibit object-verb inconsistency in terms of number and person involve plural objects and singular verbs (12%). In other words, the verbs do not take bound personal pronouns that agree with the objects in number and person. The remaining 1% of the cases involves singular objects but their verbs take plural bound pronouns. The pattern observed in the cases that involve subject-verb inconsistency shows that the subjects are all in plural forms but their verbs show singular bound pronouns. This, in effect, indicates that agreement is not realised between them and their subjects in number and person.

Type of disagreement	**Frequency**	**Percentage**
Plural subject-singular verb	48	12%
Plural object-singular verb	48	12%
Singular object-plural verb	3	1%
Singular subject-plural verb	2	0%
Plural subject-singular object	2	0%
Total	103	25%

Table 5.4 Frequency and percentage of types of disagreement in the TTs

The three patterns identified in our syntactic analysis occur in 45 out of 65 TTs, the 20 remaining TTs do not contain incidences of error in terms of the agreement types in question. These cases demonstrate that even though they are not statistically significant (25%), their

incidence can be indicative that the medical experts who produced these TTs lack competence in realising agreement among the specified constituents in their translations.

The failure to realise agreement in 25% of the cases in the TTs can be explained in terms of adherence of the medical experts to the STs syntactic constructs. Unlike Kurdish, English agreement as far as number and person are concerned is far simpler. In English, the only visible inflection occurs in present simple, which is in the third person singular, and with certain other verbs like *to be*, *to do* and *to have*, but this does not happen in the past tense.

When the Kurdish medical experts write their English abstracts, they often tend to follow the format of verb tenses for English abstracts. Thus, they usually use past simple for the sections of methods and results (see section 5.2.1.1). Since English verbs are not inflected in the past simple, they do not exhibit any agreement with their subjects or objects, except the verb *to be*. This lack of agreement markers in the STs might have an impact on the medical experts while translating into Kurdish, and thus they may unintentionally disregard the rule of agreement in Kurdish. As established earlier, Kurdish verbs are inflected in all tenses, as such they show agreement with their arguments in number and person exhibiting one set of copular suffixes depending on the verb tense in question.

Incidence of error in agreement in the TTs can also be explained in relation to inconsistent or inaccurate proofreading. As discussed in chapter two, in Kurdish universities specialised linguists are commissioned to proofread the dissertations and research papers before they are submitted to the assessing committee. In other words, the guidelines indicate that student researchers should have their works proofread before submitting them. Proofreaders are believed to have linguistic expertise both in English and Kurdish. While they are supposed to proofread the whole work, my personal experience indicates that most of the time the English abstracts of the work are proofread but the Arabic and the Kurdish translations are neglected.

As a result, incidence of error in agreement passes undetected such as the cases we have identified in the analysed TTs.

5.2.1.3 Word order

Although the order of and the relationship between words in a sentence date back as far as the nineteenth century, Greenberg (1963) is considered the first linguist to introduce and describe word order typology in general. The basic idea of this typology focuses on the order of the syntactic constituents of a language. The order of constituents considered in this section is the order of subjects, objects, verbs and adverbs in Kurdish clauses.

Based on the seminal work of Greenberg (1963), the basic word order of Kurdish is SOV (Amin, 2004, p. 238; Mahwi, 2010, p. 26). The verb is located at the end of the clause/ sentence, in other words Kurdish is a verb-final language. When Kurdish sentences follow the default word order of SOV, they are considered unmarked. However, Kurdish has a flexible constituent order (Haig, 2008, p. 277) and thus changes may occur to the order of the constituents of a clause, as in the case of topicalisation and exclamation, and thus cases of markedness arise (see appendix one for examples of how linguistic elements are ordered in Kurdish sentences).

Kurdish adjectives and adverbs, like English, function as modifiers. Kurdish modifiers usually follow their heads and thus provide new information about them. However, determiners and quantifiers, i.e. demonstratives and numerals, precede the noun head (Haig, 2007, p. 2)[33]. Examples showing the grammatical position of modifiers, determiners and

[33] Available at: http://www.engl.polyu.edu.hk/research/nomz/files/HAI.Iranian.final.pdf accessed on 12 Jan 2015

quantifiers are given in appendix one. The analysis of the TTs shows that word order is one of the syntactic aspects that exhibit marked cases in the translated abstracts. The incidence of marked word order is 13% in the TTs (see chart 5.1). Most of the identified cases show adherence to the ST word order (8%) whereas the rest are random (5%) as shown in table 5.5.

Marked word order	**Frequency**	**Percentage**
Adherence to ST word order	34	8%
Random	21	5%
Total	55	13%

Table 5.5 Frequency and percentage of marked word order in the TTs

The 13% cases are identified in 28 TTs out of 65 analysed TTs. This indicates that the other 37 TTs do not contain clauses that deviate from the Kurdish SOV order. As indicated above, most of the cases (8%) follow the word order of the ST clauses and sentences. While such cases are not considered syntactically incorrect, the order of their constituents does not follow the natural order followed in originally written Kurdish sentences. Therefore, their occurrence is identified in the analysis in order to indicate that they have violated the default word order of Kurdish and as such, they are considered marked.

Since we established earlier that Kurdish has a flexible word order, the marked cases in the TTs can be justified in relation to topicalisation. Given that the TTs are research abstracts, their authors may have considered certain words more significant than others and thus have given priority to them while rephrasing the ST sentences in the TTs. Nevertheless, the findings show examples that rule out such possibility. For example: *formation of methemoglobin was monitored spectrophotometrically* is rephrased as دروستبوونی مێتهیمۆگلۆبین چاودێری کرا بەهۆی ئامێری سپێکترۆفۆتۆمیتەرەوە (BT: formation of methemoglobin was monitored by

device of spectrophotometer) (see ST and TT number 2 in the worksheet of the syntactic analysis in appendix 3). If we look at the example, the adverb *spectrophotometrically*, which is semantically significant in the sentence, occupies the position after the verb in the TT. In fact, the normal position of the adverb is before the verb, and even if we consider topicalisation, it should have pre-modified the verb *monitored*. However, the example clearly exhibits its adherence to the ST word order.

Another example is *this study was/has been conducted/ carried out* to/ on…etc., which is translated as ئەم توێژینەوەیە ئەنجامدرا/ دراوە بە مەبەستی/لەسەر etc. (BT: this study was/has been conducted to/ for/ on…etc.) (See ST and TTs number 8, 16, 28, 44, etc. in the worksheet of the syntactic analysis in appendix 3). The order of the constituents in the TT follows the same of the ST which is marked in Kurdish, the correct order in Kurdish is ئەم توێژینەوەیە بەمەبەستی/ لەسەر...ئەنجامدرا/دراوە (BT: this study to/ for/ on…was/has been conducted). This marked word order is observed in seven TTs and based on the examples above, their markedness is not related to topicalisation purposes. They are evidence of adherence to the ST word order. Following from this, they can be considered an indication of the lack of linguistic competence in Kurdish as well as inaccurate proofreading, because a specialist linguist can easily detect those marked cases.

The other cases that exhibit marked word order in the TTs have a small frequency (5%). They exhibit some element of free translation in these cases (including the 8% cases that show adherence to the ST word order and the remaining cases that follow the linear arrangement of elements in Kurdish), i.e. the TT constituents do not correspond to the ST constituents. This indicates that the TT constituents do not adhere to the ST word order and therefore the marked cases cannot be explained in relation to English word order. For example this sentence in a ST *a sample of 150 patients were screened* is rendered as پشکنینی تەواو کرا بۆ نەخۆشەکان (BT: complete screening was carried out for the patients) in the TT (see ST and TT

number 23 in the worksheet of the syntactic analysis in appendix 3). The two versions, though close in meaning, do not completely correspond to each other in terms of their individual syntactic constituents. Thus, it is not possible to decide that the TT adheres to the ST word order. However, it can be noted that the adverbial has occupied the position after the verb, which is marked in Kurdish. This indicates that such incidences are random, i.e. they neither adhere to the ST nor the TT word order.

While the incidences of marked word orders in the TTs, as shown in table 5.5, are not statistically significant in the corpus, nevertheless their occurrence suggests that the medical experts lack expertise in Kurdish syntactic rules in relation to word order. It may also suggest that word order is specifically susceptible to the interference of ST elements to the TTs, which can, in turn, be linked to a potential lack of syntactic competence, an observation further discussed in section 5.3.

5.2.1.4 Number

As discussed in section 5.2.1.2, subjects and verbs agree in person and number in Kurdish sentences. Numbers play an important role in relation to our syntactic analysis. Therefore, this section discusses the use of numbers in Kurdish and their syntactic role in Kurdish sentences. However, articles are also a key element in number and pluralisation. Thus, the section provides a brief overview about articles and their usage in Kurdish.

Unlike English, Kurdish articles come at the end of a noun phrase because they follow the head final rule (Mahwi, 2010, p. 167). Kurdish articles are divided into two types: definite and indefinite, both for singular and plural nouns.

Although one of the uses of the definite article in English is to designate a generic sense, such usage is rare in Kurdish but not absent. Moreover, Kurdish, unlike English, does not use

plural forms for denoting generic elements. Although such usage is not wrong, the use of singular forms without any article is most common and used to talk about things in general.

Both elements of pluralisation and number are investigated in our study corpus. The analysis reveals that the incidence of marked pluralisation occurs in 13% of the identified marked syntactic cases in the TTs. While this percentage is not statistically significant, it indicates a great tendency for following the pluralisation use of the STs as shown in table 5.6 below:

Marked pluralisation	**Frequency**	**Percentage**
Adherence to ST use of plural form	42	10%
Random	10	3%
Total	52	13%

Table 5.6 Frequency and percentage of marked use of plural forms in the TTs

It appears from the table that the majority of the marked use of plural form (10%) is the cases where the TT follows the ST, whereas the rest are random (3%). All the identified cases that adhere to the ST use of plural form, in fact, include the recognisable section of headings used in abstracts. These section headings include: objectives, methods, results and conclusions. While these are usually used in plural form in English, such usage is considered marked in Kurdish yet not incorrect. In contrast, their singular form, i.e. objective, method, result and conclusion, is commonly used in Kurdish. This is because Kurdish does not pluralise nouns for denoting a generic sense, nor does it use definite articles as known in English.

Interestingly, the marked use of plural form is not the only thing that draws one's attention, but also their inflection with definite articles. Nevertheless, the use of plural forms without definite articles in the identified cases would be syntactically incorrect and uncommon usage

in Kurdish. Therefore, if the plural form is used, the definite article should be added as well. For example *results* is rephrased as ئەنجامەکان (BT: the results) where ئەنجام means *result* and –کان is the plural definite article. The incidence of the marked use of plural forms in the TTs is not incorrect in Kurdish, however, it is not common in Kurdish. Even though their occurrence is not dominant in the TTs and cannot be considered statistically significant, it is an indication that their users do not realise the different use of plural forms in English and Kurdish.

5.2.1.5 Collocation

Collocation is one of the elements that play an important role in a language. It is defined as frequently co-occurring lexical items of one or more words (Oakey, 2010, p. 14). Kurdish, like English, has words or terms that occur together and collocate. Collocating words is one of the linguistic elements we investigated in the syntactic analysis. The findings reveal that the use of incorrect collocation accounts for 7% of the syntactic markedness identified in the TTs (see chart 5.1).

The use of incorrect collocations in the translated abstracts is triggered by the adherence to the collocated words in the STs. For example, *the grade of the disease* is translated to تیژی نەخۆشیەکە (BT: the sharpness of the disease) which is incorrect because تیژی (BT: sharpness) does not collocate with نەخۆشی (BT: disease) in Kurdish. In another TT *treating it is rare* is translated to چارەسەرکردنی دانسقەیە (BT: treating it is unique). The choice of words is incorrect because *treatment* and *unique* do not collocate in Kurdish. Although the cases identified do not constitute a significant percentage in the TTs, they indicate that the impact of the STs is evident in the TTs to a certain degree (7%). The relatively low incidence of incorrect collocations in the TTs suggests that while the medical experts who produced the TTs are native Kurds, they have a lack of linguistic competence in written Kurdish. The fact that one

is a native speaker does not always guarantee that they are competent in their written language. This is further discussed in section 5.3.

5.2.1.6 Voice

It was already established in section 5.2.1.3 that Kurdish is an SOV language. This word order is followed when the sentence is in the active voice. However, when the voice changes into passive, the word order changes, too. While the use of passive construction is not absent in written Kurdish, anecdotal evidence suggests that Kurdish tends to avoid impersonal constructions and nominalisations if possible. However, the use of or preference for passive or impersonal constructions in written Kurdish and/ or specialised Kurdish, particularly medical Kurdish is not established in the literature so far. Although this section does not aim to investigate the preference of voice in medical Kurdish, the syntactic analysis reveals that passive constructions are used in the TTs as much as the active construction. In fact, the choice of active or passive construction in the TTs is influenced by their occurrence in the STs. In other words, the TTs follow their corresponding STs in terms of verb voice. Although this is true for the majority of the cases, the findings indicate that there exist incidences of change from active to passive and vice versa in the TTs. Based on the syntactic analysis, the prevalence of ST influenced change in verb voice in the TTs is 4%. This small percentage is identified in 11 out of 65 analysed TTs. The changes are shown in table 5.7.

Change of verb voice	**Frequency**	**Percentage**
Passive-active	11	3%
Active-passive	5	1%
Total	16	4%

Table 5.7 Frequency and percentage of change of verb voice in the TTs

The frequency of voice change in the TTs is statistically insignificant, thus it cannot be used for establishing whether active voice or passive voice is preferred in medical Kurdish. The TTs adhere to the ST choices rather than establishing a preferred choice of their own. The use of voice and impersonal constructions are also investigated in medical Polish (Pietrzak, 2015, p. 324). Unlike Kurdish, Pietrzak's study has demonstrated that the use of agentless passives and impersonal forms are highly common in Polish discharge summaries of patients. Likewise, medical Spanish uses passive forms, nevertheless the usage is thought to be triggered by medical English during translation (Rosendo, 2008, p. 241), which agrees with our findings. That said, investigating and thus establishing voice preferences, in particular in medical Kurdish requires a special study that employs a larger corpus than ours.

The discussions provided in the previous sections are all triggered by the findings of the data analysis on the syntactic level which aimed to identify incidences of syntactic markedness in the TTs. It can be noticed that the sections are arranged in a hierarchical order depending on the most frequently occurring syntactic markedness to the least. In addition to the already discussed findings, there are two other syntactic elements identified in the analysis. One is verbless sentences and the other is modal verbs.

The analysis has revealed that 5% of the syntactic inaccuracies occur in sentences which lack a main verb. Although these sentences appear in different sections of the TTs, they are mostly found in the section that describes the objectives of the study in question. The lack of main verbs in this small percentage of the TTs is caused by their adherence to the STs. It is observed that the section of objectives in some STs is written in bullet points and their sentences begin with infinitives such as *to investigate*, *to study*, *to find out*, etc. While the respective TTs are reproduced similarly in terms of the semantic aspect, the stylistic aspect of the STs is disregarded, thus, the TT sentences remain verbless. The occurrence of verbless sentences is also confirmed in Polish medical translations by Pietrzak (2015, p. 321) who has

revealed that verbless sentences are predominant in medical records of patients, however the purpose of their usage in those records is to produce formality of expression. Moreover, the choice of using verbless sentences in Polish seems to be a conscious decision for stylistic effects, yet the choice in Kurdish probably resulted from the adherence to the ST structure. That said, anecdotal evidence suggests that Kurdish, like English, has a profound tendency to write complete sentences including a main verb, a pattern that is clearly observed in the translated abstracts except for that small percentage (5%).

Modal verbs are also observed in the TTs which are all translated versions of the modal verbs occurring in their corresponding STs. However, a very low incidence of change is identified in the TTs (1%). These consist of three modal verbs that express possibility in the STs which are changed to modal verbs expressing certainty in the TTs, and one modal verb expressing possibility in the ST that is changed to obligation in the TT. While these changes are statistically not significant, the change of their semantic aspect is significant in the relevant abstracts to the extent that it could be considered an error because it involves a shift in connotation.

5.2.2 Syntactic markedness according to publication date

This section demonstrates the incidence of syntactic markedness in the translated abstracts according to their year of publication. This step is significant because it can show us the distribution of the occurrence of syntactic markedness in each year on the basis of which, then, we can observe any potential improvement in the syntactic structure of the TTs. The highest percentage of marked cases is bolded in the table in order to give the sense of distribution more clearly.

According to table 5.8 below, incorrect agreement has the highest incidence in the TTs of 2007 (31%) and 2008 (26%), but the incidence shows a noticeable decline in 2009 (21%) and

2010 (16%), then it exhibits a large increase in 2011 (26%). The table shows that the TTs of 2009 and 2010 had improved in terms of their adherence to Kurdish agreement rules. Although the TTs of 2011 did not have prevalent incidence of incorrect agreement markers as compared to the TTs of 2007, the percentage of marked agreement cases in them is similar to the one of 2008, which is more than 2009 and 2010.

Change in verb tense also appears to have been prevalent in the TTs of 2009 (44%) and 2007 (37%), but it shows a decline in the TTs of 2008 (26%) and 2010, yet a slight increase in the TTs of 2011 (26%). One interesting pattern observed in the table is the high percentage of marked plural forms in the TTs of 2011 (34%) whereas plural forms show a gradual decline in the TTs of 2007 until the TTs of 2010. The incidence of marked word order is also interesting because while it shows the highest percentage in the TTs of 2010 (32%), it suddenly falls in 2011 (11%). The other syntactic elements, including wrong collocation, verbless clauses, change of verb voice, and modal verbs all appear to have varying percentages in the TTs of 2007 until 2010 but they all have shown a sharp decline in the TTs of 2011.

Based on the percentages shown in the table, we can establish that the incidence of marked syntactic structures is not stable in the TTs published during the five years. Each of the eight categories that we have identified exhibits falling and rising percentages across the years but the TTs of 2011 show a slight improvement compared to the TTs of the other years. The improvement is only observed in the incidence of verbless sentences, modal verbs and verb voices otherwise it does not equally include the other elements.

Markedness	2007	2008	2009	2010	2011
Agreement	**31%**	26%	21%	16%	26%
Plural form	11%	10%	10%	7%	**34%**
Tense	37%	26%	**44%**	25%	26%
Word order	10%	14%	9%	**32%**	11%
Wrong collocation	5%	**13%**	0%	9%	4%
Verbless clause	2%	6%	6%	**9%**	0%
Voice	3%	**6%**	5%	2%	0%
Modal verb	0%	0%	**5%**	0%	0%

Table 5.8 Distribution of syntactic markedness in the TTs based on publication date

The table, in effect, does not indicate substantial changes in the TTs in terms of syntactic markedness, because the TTs show percentages close to each other, in other words the differences are not profound. Therefore, we cannot establish that the TTs of one year show more adherences to Kurdish syntactic rules than another. That said, the table reveals that the high incidence of syntactic markedness include the three elements of agreement, plural forms and tense, in addition to word order, but it is not as recurrent as the other three. This implies that these four elements require linguistic awareness from the translator because their use is different between English and Kurdish. As such, recurrent marked structures in terms of these four elements in the TTs over five years is partly indicative of a lack of linguistic competence, and partly to inappropriate proofreading, this is because the majority of the marked cases can be detected by a linguistically knowledgeable proofreader.

5.3 Translational norms of syntactic features of medical translation

This section attempts to explain the findings of the syntactic analysis as well as the effects of the translation decisions and choices made by the medical experts within the context of translational norms. Section 5.2.1 and its consecutive subsections demonstrated that the TTs have shown varying percentages of syntactic markedness. The marked cases are explained either in relation to the adherence of medical experts to the ST syntactic makeup, or a series of random attempts. Both interpretations are indications that the TT producers have some lack of awareness as regards Kurdish linguistic rules and therefore, their failure to realise such rules suggests that there is some lack of linguistic competence.

In fact, closer analysis of the data indicates that most of the marked cases identified in the TTs are attempts by medical experts to follow the ST syntactic rules as much as possible. These attempts are, in essence, traces of ST interference in the TTs (Toury, 1995/2012, p. 312). Although traces of ST syntactic rules in the TTs may not affect the comprehensibility of the ST message, maintaining them produces unnatural Kurdish texts. Perhaps one of the factors leading to ST interference is a lack of translation competence because the more accomplished the translator, the less s/he is affected by the ST elements and structures and thus the translation shows fewer traces of ST interference (ibid, p. 313).

Another factor for the recurring syntactic features of the STs in the TTs might be related to the conscious or unconscious focus of the TT producers on translation of terminology and a lack of focus on the syntactic aspects. For them, translation of medical terminology surpasses syntactic structure. For the majority of medical experts, the misconception that medical translation is all about terminology is still widely held (Newmark, 1988; Byrne, 2006).

As discussed in the literature, some languages are considered more prestigious than others. During the act of translation, less prestigious or ‘minor’ languages show tolerance of

interference from highly prestigious or ‘major’ languages (Toury, 1995/2012, p. 314). Within the context of this study, English is considered a prestigious/ major language based on the broadly shared consensus on its predominant role in the international medical community (Snell-Hornby, 2006; Pilegaard, 1997; Van Hoof, 1998; Rosendo, 2008; Munday, 2012). The element of prestige is, ultimately, reflected in the decisions and choices that medical experts make intentionally or randomly. As the analysis in this chapter has shown, the hegemony of English is not restricted to terminology (see chapter four), but extends to grammatical construction and organisation of the TTs. This, in effect, allows English grammatical elements and structure to prove their existence in the TTs and shine through.

Grammatical correctness is one of the strictest expectancy norms in English (Chesterman, 2000, p. 81) which entails that grammatical rules of English are not expected to be broken. While the same is expected as regards Kurdish grammatical rules, the present data proves otherwise (see section 5.2.1 and its subsequent subsections). It can be argued that the relatively small corpus used in this investigation would not suffice to offer generalisation and therefore claim that grammatical rules of Kurdish are broken against the expectations of norm-governing authorities. However, the counter-argument may sustain that the data used in this study is the only material available on Kurdish medical translation on a specialist level, and as such it is the only sample that can represent the practice at present. It is also the only vehicle that can be used for investigating the syntactic features of Kurdish specialised medical translation. Following from that, what is revealed and identified in the present corpus, ultimately, mirrors the reality of current Kurdish medical translation of research abstracts in terms of grammatical accuracy and the extent of their adherence to the expectancy norms. However, we should point here to the fact that the findings of our data analysis are indicators of potential norms operating in specialised medical translation in Kurdish because the corpus that we have investigated is small in size and duration.

One method that can direct translators on how to achieve grammatical correctness during translation is books and/ or courses on Kurdish grammatical rules. These are usually provided by norm-governing authorities, particularly those specialised in Kurdish linguistics. While these are widely available in Kurdish, personal communication with some medical specialists concluded that they do not consider it necessary to consult such books or attend such courses. Three factors can trigger this attitude; first, these medical specialists are not translators and they may not intend to pursue translation as a profession in the future, thus they may not consider it necessary to acquire linguistic expertise. Second, medical specialists know that their translations are *proofread* by linguistic specialists, therefore they may not be much concerned about the grammatical correctness of their TTs. Third, medical specialists do not expect their research theses to be rejected for incidences of grammatical markedness in the translated abstracts as long as their English versions are correct.

Although the three points mentioned above might justify the rather unconcerned attitude of medical specialists regarding grammatical correctness of the TTs they produce, these TTs constitute the only specialist medical translations produced in Kurdish, and as such they shape the practice in the field of medical translation. Grammatical structures used in these TTs are significant and will ultimately have some impact on future translations performed in the field. Therefore, the findings of this section are not statistically significant in relation to the other grammatical structures which are correctly used in the TTs; but, they play a key role in characterising and thus shaping the grammaticality of Kurdish medical translation on a specialist level. Despite that, the data analysed in this chapter seems to suggest that the translations performed in 2010 and 2011 show an improvement in terms of their syntactic constructions (see table 5.8). Although the table shows that the improvement is not proportionately observed in all the analysed elements, it nevertheless indicates that there is a

tendency towards more adherences to the grammatical structures pertinent to Kurdish. This can also be attributed to proper proofreading and editing before the TTs are published.

It has been argued that sometimes norm systems are disregarded or violated in medical translation because the ultimate objective is to achieve communication between two interlocutors (Rosendo, 2008, p. 244). While this argument holds perfectly true, nevertheless, chapter four has already established that the lack of explicit guidelines for medical experts on how to translate their abstracts into Kurdish has made them use translations of their colleagues as guiding samples. Following from that, incidence of grammatical markedness in the TTs, in effect, influences the grammatical construct of future translation products. Thus, the effect of the current TTs may not be restricted to themselves as existing translations, but the effect may influence other translations that follow their model. Consequently, incidence of grammatical markedness or inaccuracy might be established as a translational behaviour, gradually becoming a norm. In other words, violating or disregarding syntactic norms of Kurdish may very well become a norm within the field of specialised medical translation.

6 Textual aspects of Kurdish specialist medical translation

6.1 Introduction

The previous chapter examined the translated abstracts which were produced by Kurdish medical experts in terms of syntactic markedness and inaccuracies. This chapter, however, focuses on the textual structure and features of the translated abstracts. It aims to investigate and thus identify the textual structures that characterise the Kurdish translation of the medical abstracts in order to identify the incidence of any potential marked textual rendering in them based on the observations made as a result of the data analysis. While the chapter does not attempt to explore and address the textual properties of medical translation in Kurdish, the observations and findings made throughout the chapter will, in effect, give us an insight into the conventions of current English-Kurdish medical translation on a specialist level in terms of its stylistic characteristics and textual properties.

The main objective of this chapter is to test the third hypothesis of our study. As discussed in chapter one and three, our study assumes that specialised medical translations performed by medical experts exhibit textual elements which are considered marked in Kurdish. This hypothesis is based on the assumption that given that the translated abstracts are self-translated by the ST authors (who are medical experts); rendition of the conceptual (terminological) aspect of their translations might be far more significant than their textual aspects. Our aim is to see if we can find any potential correlation between the self-translated medical abstracts and recurrent textual markedness in them. Thus, the present chapter aims to investigate the incidence of textual markedness in the TTs and examine its distribution across the 65 analysed TTs. This step has an important role in identifying any recurrent marked

textual behaviour in the TTs, which might in turn help us identify the way self-translated medical texts are textually shaped in Kurdish. The key points that are focused on in this chapter include: cohesion, coherence, format, punctuation marks, spelling, structure, length and headings or titles/running heads[34]. Furthermore, the chapter looks at the distribution as well as the severity of textual markedness according to the publication dates of the TTs in order to identify any potential changes or improvements in later self-translated TTs as compared to the earlier ones. The ultimate aim is to see if the findings can provide any insight to the textual competence of the medical experts.

6.2 Textual features of medical texts

While LSP translators assume that technical and scientific translation are primarily about accuracy and do not require any attention to fluency and style (Robinson, 2003, p. 93), translation scholars maintain that translators may have trouble in 'knowing how to put the whole text together in a style that is appropriate to the LSP' (Bowker and Pearson, 2002, p. 193). This suggests that specialised translation, including medical translation, is not restricted to the use of terminology, for it requires expertise and skill to reproduce the ST texts in a format that comply with the textual conventions of the target language in question.

The stylistic aspect constitutes one of the intratextual elements of text features (Nord, 2005, p. 20), which can vary according to text type and genre. As we established in chapter two, identifying the text type will, in effect, help us to interpret and understand choices that translators make and strategies that they use in their translations (cf. Fawcett, 1997, p. 104). The TTs that we are investigating are abstracts, which have their own defined textual

[34] See section 2.2.1.3.3.1 in chapter two.

conventions (Hatim and Mason, 1990, p. 74) that characterise them and distinguish them from other text types. Recognised as a specific genre, research abstracts follow codifications and possess properties based on stylistic and textual norms (Swales, 1993, p. 36) proposed and thus accepted by the scientific community (see section 2.2.1.3.3.1 in chapter two). The stylistic and textual conventions of medical abstracts mainly consist of layout, which in turn include title, subheadings, word counts, sentence length, paragraphing, as well as other textual features such as the use of cohesive devices and punctuation marks, and the arrangement of linguistic elements and information flow, i.e. coherence. These elements are textual constraints that, as far as the process of translation is concerned, impose themselves on the translator and demand his/her attention (Hatim and Mason, 1990, p. 73). In this context, the next subsection in this chapter focuses on each of the abovementioned textual elements of medical abstracts and attempts, on the basis of the data analysis, to investigate how each element is rendered and maintained in the translated abstracts.

6.2.1 Format

Abstracts can have between three to six sections (Graetz, 1982, p. 22). Although the typical proposed macro-structure of research abstracts consists of five sections: background, objectives or aims, methods, results and conclusions (Hartley, 1999, p. 255), the format can vary based on the style of publishing journals, and some medical journals have proposed abstracts of subheadings up to 10 (Guimarães, 2006, p. 263-267). While some journals prefer structured abstracts, in which the sections are written separately[35], others may not formally

[35] Available online at: http://www.apa.org/pubs/authors/new-author-guide.pdf retrieved 12 May 2015.

separate the sections (Swales, 1990; Guimarães, 2006, p. 268; Hartley 2004, p. 370). According to Hartley (2004, p. 368), structured abstracts were introduced into medical research journals in the mid of 1980s. Holtz (2011, p. 15), too, notes that structured abstracts with subheadings are mostly found in medical journals. Regardless of whether the sections are formally separated, researchers are advised to include information about study objectives, methods, results and conclusions as accurately and coherently as possible[36]. Nevertheless, research into structured and unstructured abstracts has revealed that authors and readers find structured abstracts to be easier to understand, help authors not to omit relevant data and reveal methodological errors (Guimarães, 2006, p. 266; Hartley, 2004, p. 370).

Text format and layout account for the third most problematic areas in terms of translation quality (Andriesen, 2006, p. 157-159). In this respect, we have looked at the format and layout of the translated abstracts, not to assess their quality, since this is not our aim here, but to see if any patterns are developing. Based on the data we have analysed, the original abstracts along with their translated versions exhibit three different formats. The first group is the abstracts that are separated into sections, with each having its own heading. The second group is also structured into separate sections but they do not have headings. The third group, however, is different from the other two for its abstracts are not formally structured into separate sections, rather they are written in one or more than one paragraphs. Although the sections are not separated, abstracts of the latter group include all the required information about study backgrounds, objectives, methods, results and conclusions.

The findings that our data has generated in terms of abstract formats are also observed by Salager-Meyer (1991) who analysed a corpus of 77 medical abstracts. Her results showed that

[36] See the previous link.

only 52% of the abstracts analysed followed the structure, and the remaining 48% were '*poorly structured*' (emphasis added). Moreover, Orasan (2001) conducted a comparative study of 67 abstracts of journal papers and abstracts of conference papers. His investigation, in part, focused on the adherence to an expected structure, which included five sections, namely: introduction, problem, solution, evaluation, and conclusion. It revealed that only 39 (58%) abstracts followed the expected format (Orasan, 2001, p. 439). Guimarães (2006), too, investigated the structure of 304 medical articles that included abstracts and found that 188 (61.8%) had structured and 116 (38.2%) had unstructured abstracts (p. 267).

The findings of the abovementioned studies indicate that the format or structure of scientific or more particularly medical abstracts is flexible, an observation similarly made by Göpferich's findings (1995, p. 299 cited in Kussmaul, 1997, p. 71), who posits that conference reports and articles in technical journals seem to have more flexible macrostructures in contrast to patents which have 'a completely rigid macrostructure' (ibid). Orasan (2001, p. 434) thinks that another factor for non-adherence to the standard structure of abstracts could be that authors may not consider the abstract to be particularly important, as in many cases 'it is written just before the paper is submitted' (ibid). We will come back to this point after providing the findings of our analysis because it is particularly significant in relation to our translated abstracts.

What is interesting in our data, nevertheless, is a deviation of format between the STs and their corresponding TTs. Of 65 analysed STs, we found that 44 (68%) STs are written in the structured format of abstracts (headed paragraphs); in addition five (8%) followed the structured format but without subheadings. The remaining 16 (25%) STs, however, are written in free formats, i.e. they are not structured into separate sections with subheadings. Once their corresponding TTs were analysed, we found that of the 44 structured abstracts, only 36 TTs followed their STs: five followed a free format (although their STs were

paragraphed), and three had the structured format of their STs but omitted subheadings. Similarly, the free format STs are not all translated into free formats in the target language: out of 16 free format STs, only 14 are produced in free formats in Kurdish, whereas the other two are produced in structured formats; one with subheadings and the other without subheadings. Moreover, of five STs without subheadings, three of their corresponding TTs followed the same format of their STs whereas the other two have subheadings added to them as shown in table 6.1.

If we look at the table, there are three cases which draw one's attention: first is the choice to produce a TT in structured abstract format while its ST originally has a free format (unstructured); and the other two are TTs with their subheadings while their STs do not have any. The first incidence is more interesting than the latter two because the ST in the first case is written in a free format of four paragraphs, whereas its TT is translated into a structured abstract format of nine paragraphs (see ST number 30 and its TT in appendix 2).

ST	**TT**	**TT deviation**		
		Structured abstracts	Free formats	Without sub.
44 structured abstracts	36 structured abstracts		5	3
16 free formats	14 free formats	1		1
5 without sub.	3 without sub.	2	0	

Table 6.1 Frequency of matching and deviation between STs and their TTs

Although the two texts, i.e. the ST and its respective TT, are presumably produced by the same author, the choice to write the original in a format different from the translated version raises the question: what has triggered this decision? The case is the only one identified in the corpus, and as such it cannot be interpreted in relation to norms or preferences of abstract writing in Kurdish. In other words, the corpus that we have does not provide us with more

similar cases so that we could establish a pattern on the basis of which, then, we can make interpretations.

Therefore, this data is inclusive in terms of translation trends as far as text macrostructure is concerned. However, if one considers it in the context of source and target text productions, i.e. that these are abstracts of dissertations and theses submitted to the School of Medicine at the University of Sulaimani, and that it is the University regulations which require the provision of a Kurdish translation of the English abstracts, it may suggest that this one case (the structured TT) may have been produced by a specialist translator aware of abstract norms and working to adhere to the normative macrostructure of English abstracts. In other words, the producer of this single TT is either the author of the ST who is aware of the norms of abstract writing, or s/he is somebody else rather than the medical expert who has produced the ST, in other words, the TT may not self-translated.

As regards the other two cases, again, the choice to produce TTs with subheadings while their originals do not have any raises questions. Although the two versions, i.e. the English and the Kurdish, are written in structured abstract formats, their authors have decided to leave the STs without subheadings, yet provide individual subheadings to their translated versions (see STs number 25 and 46 and their TTs in appendix 2). We cannot interpret this decision in relation to the possibility of format preference of abstract writing in Kurdish since, as established above, the subject is absent in the literature of Kurdish writing. Following from that lack, we do not have any grounds to establish that giving subheadings or subtitles to structured abstracts is a norm or a preferred option in Kurdish. Further, given the fact that we only have two cases out of 65 analysed abstracts, we cannot develop a pattern on the basis of which we indicate that this choice might be a norm among self-translated medical abstracts in Kurdish. Nevertheless, they can perhaps also be interpreted in the context of suggestive evidence that they are not self-translated abstracts. Their ST authors may have commissioned

their translation to somebody else who is potentially aware of the generally preferred format of abstract writing in English. Even though the three TTs indicated in table 6.1 have a structured format in contrast to their STs, nevertheless they are not free from syntactic and textual markedness, which implies that it may not have been translated by a professional translator. This, in effect, means that the TTs show a discrepancy between the two levels of macrostructure and microstructure. On the level of macrostructure, they show adherence to the norms of abstract writing in English while on the level of microstructure, they exhibit some elements of markedness or inaccuracy that violate the normative syntactic and textual structure of written Kurdish (see syntactic and textual analysis of TTs number 33, 59 and 65 in the worksheet of the textual analysis in appendix 3).

Nevertheless, based on the findings of our analysis, we can see that, despite a few cases of deviation (18%), medical experts have a great tendency to follow the format of the English abstracts (82%). This finding allows two interpretations: first, Kurdish medical abstracts have the same format as English medical formats; or second, Kurdish does not have an established format for writing medical abstracts, as such they follow the same format as medical abstracts established in English, either structured or unstructured. In other words, medical experts do not know which format is the preferred one in medical Kurdish, thus they decide to be on the safe side and follow the acceptable formats of English abstracts. In line with our interpretations, Guimarães (2006, p. 266) notes that structured abstracts in English are convenient to non-English authors. The choice to do so in the 82% of the study corpus reveals a regularity of translation behaviour which we can interpret in relation to translational norms in medical Kurdish, but this question is addressed in more detail in section 6.4.

6.2.2 Paragraphing

Closely related to abstract format is paragraphing. A single paragraph can constitute an abstract that is between 100 and 350 words[37]. However, abstracts can be more than one paragraph, especially if it is structured into separate sections. The abstracts we are looking at in this study often have more than one paragraph. The average number of paragraphs per abstract ranges from five to eight paragraphs (60%), see table 6.2.

According to the table, only two abstracts (3%) consist of a single paragraph, the rest (97%) have two or more paragraphs. While it is usual for the abstracts to have five or six paragraphs, each paragraph addressing the different sections of background, objectives, methods, results and conclusions separately, abstracts with more paragraphs than sections could be considered unusual. Having said that, the data analysis shows that abstracts of more than six paragraphs exhibit very short paragraphs; sometimes a complete sentence constitutes a paragraph.

However, looking at the element of paragraphing in the TTs, we observed that they exhibit an interesting feature in terms of paragraphing that is different from their STs as shown in table 6.2 below:

Number of paragraphs	ST frequency and percentage	TT frequency and percentage
1	2 (3%)	0 (0%)
2	2 (3%)	2 (3%)
3	2 (3%)	2 (3%)
4	5 (8%)	8 (12%)

[37] Available online at: https://www.haverford.edu/writing-center/files/abstracts.pdf

5	13 (20%)	12 (18%)
6	11 (17%)	9 (14%)
7	8 (12%)	5 (8%)
8	7 (11%)	7 (11%)
9	2 (3%)	5 (8%)
10	2 (3%)	2 (3%)
11	3 (5%)	4 (6%)
12	3 (5%)	1 (2%)
13	2 (3%)	6 (9%)
14	3 (5%)	2 (3%)
Total	65 (100%)	65 (100%)

Table 6.2 Comparison between STs and TTs in terms of paragraphing

According to the table, the TTs do not show the same average number of paragraphs as their STs, because the range of five to eight paragraphs seems to work for 44% of the TTs, abstracts with seven paragraphs cannot be included in the range since it accounts for 8% of the total TTs, yet we have a higher percentage (9%) representing abstracts with 13 paragraphs. Therefore, the range exhibiting in 44% of the TTs is between 4-6 paragraphs in less than half of the TTs. The table shows that only 20% of the TTs match their STs in terms of paragraph numbers, the rest exhibit different numbers (80%). This indicates that the number and distribution of paragraphs are disproportionate in the majority of the STs and their TTs. However, paragraphs can be different in terms of their length, depending on the number of sentences that make up the paragraph. Sometimes a paragraph consists of one single sentence but of varying length. This, in effect, means that the STs and the TTs may have more or fewer paragraphs to present the same amount of information. Following from

this, we cannot establish the length of the TTs in relation to their STs based on their number of paragraphs. Therefore, we need to look at their sentence length and word counts in order to decide on the element of length.

6.2.3 Sentence length

Sentence length is a feature that marks structural complexity and elaboration in discourse (Biber, 1988, p. 47, Biber and Conrad, 2009, p. 152, cited in Holtz, 2011, p. 76). Paragraphs vary in their number of sentences as well as sentence length, indicating that the distribution of sentences is not proportioned in the paragraphs of an abstract as well as in relation to other paragraphs in the other STs. In other words, paragraphs are showing different lengths. While some paragraphs show an over-use of short sentences, others exhibit the occurrence of long sentences that represent the whole paragraph (see TT number 59 in appendix 2 for example). Again, the data shows that the distribution of short and/ or long sentences is not balanced in the paragraph(s) of a single abstract as well as in relation to the other abstracts. Thus, the corpus does not exhibit any clear conventions in relation to paragraphing and sentence length. Anecdotal evidence shows that sentence length varies between English and Kurdish. Unlike English, Kurdish has a tendency to present information in long sentences (Aziz, 2005, p. 406-414) as well as long paragraphs. In addition to that, there is a preference to connect several clauses by the use of the conjunction *u* (and) rather than punctuation marks. Sometimes a very long sentence constitutes a complete paragraph that is a full page. This aspect is also observable in the STs to some extent where the medical experts have written paragraphs consisting of long sentences, which probably reflects the medical experts' influence by the way they produce and structure their Kurdish abstracts. Having said that, however, writing long sentences is not exclusively practised by our medical experts, because Maglie (2009), who describes English for Medical Purposes (EMP), has observed that sentence length is a

feature of medical language and a habit of medical writers 'due to the need to include a number of elements so as not to create an information gap or ambiguity' (ibid, p. 36). Furthermore, according to Holtz (2011, p. 76), given that abstracts present summarised information of full-length papers, they are expected to have longer sentences.

However, since Kurdish for Medical Purposes is not studied yet, it is not yet known if writing long sentences is prevalent and normative in the domain, i.e. it is not established yet whether or not long sentences are pertinent features to textual conventions of Kurdish medical writing. In this context, we have looked at the length of sentences in the TTs and their corresponding STs with the aim to see if any patterns can be observed between them. The comparison may also help us to establish if the TTs reveal any norms in terms of preference of short and/or long sentences in medical Kurdish.

The analysis revealed that the TTs exhibit sentences of various length and different length from their corresponding STs. These sentences are distributed disproportionately in and across the TTs. Identifying this feature is significant in order to see if specialised Kurdish has undergone any changes in terms of sentence length recently[38]. The criterion for determining the length of both ST and TT sentences was to consider a sentence of up to 25 words as short and more than 25 words as long. This criterion is taken from Swales and Feak (2009, p. 4) who suggest an average sentence length of around 25 words to be standard for abstracts. The criterion is not only used for measuring sentence length in the STs, but it is similarly used in the TTs, because there does not exist any criteria for measuring or determining sentence length in Kurdish. Based on this criterion, the analysis has revealed that the average incidence

[38] The time span meant in this context refers to 2007 up until 2011, which is the period of which the translated abstracts were produced and published.

of short sentences in the TTs is eight sentences. Interestingly enough, the analysis yielded a similar result for the occurrence of short sentences in the STs. As regards the incidence of long sentences per abstract, the analysis showed that the average is five sentences per abstract in the TTs whereas the average is six sentences per abstract in the STs. These findings indicate that although the STs match their TTs in terms of the incidence of short sentences, they contain more long sentences.

However, the STs and the TTs show different length of longer or complex sentences. We observed that the TTs contain complex sentences of 178-word length, but the longest sentence in the STs is 164-word length (see TT number 22 and ST number 54 in appendix 2). Moreover, the STs contain five sentences of more than 100 words length, but the TTs have seven sentences of more than 100 words length. It follows that while the TTs have fewer average complex sentences per abstract compared to their STs, their complex sentences are longer as well as more frequent.

Some complex sentences in the TTs, which have a length from 90 to 178 words, constitute single paragraphs, i.e. a paragraph featuring several short clauses, separated by commas, colons or semi-colons (see TTs number 18, 22, 34, 35, 41, 43, 52 and 59 in appendix 2). This observation supports Maglie's study (2009, p. 36) in establishing the existence of long sentences in medical writing. Sentence length has also been investigated in patients' medical records between the two languages of English and Polish. In contrast to our findings, that study has revealed that Polish discharge summaries often consist of simple sentences presenting information in a concise manner, but their comparable English texts tend to use compound and complex sentences (Pietrzak, 2015, p. 321). Another study of English and Persian (the latter being a language very close to Kurdish and being of the same language family) medical texts has revealed that the majority of the STs and TTs have the same sentence lengths (Mousavinasab, 2011, p. 117) but it does not identify the preference for

short and long sentences in the two languages. However, based on our findings, as well as those of Maglie (2009) and Pietrzak (2015), we conclude that the occurrence of long sentences in medical writing, including abstracts, is a recurrent behaviour and thus a textual pattern pertinent to it (i.e. medical writing).

Based on my personal observation of original Kurdish, though not medical, writing, and based on anecdotal evidence, it seems that the preference for long sentences is changing in Kurdish. Since this change is not yet documented in the literature of medical Kurdish, we analysed the TTs in order to observe any potential development over the time period that we are investigating, i.e. 2007-2011. The following table is a time-specific illustration of the TTs showing how the preference of sentence length is in the translated abstracts:

Publication year	**Short sentences**	**Long sentences**
2007	58%	42%
2008	**70%**	30%
2009	63%	37%
2010	52%	**48%**
2011	55%	45%

Table 6.3 Sentence length preferences in the TTs from 2007 to 2011

The table indicates that the preference of writing short sentences was higher in the TTs of 2008 and 2009 compared to the TTs of the other years, by contrast the preference of long sentences increased in the later TTs of 2010 and 2011. Even though the table reveals that the later TTs contain relatively fewer short sentences compared to the older TTs, it nevertheless indicates that the TTs, in general, show a general tendency among the medical experts to use

short sentences in their translations more than long sentences. However, the data is not inclusive in terms of establishing whether or not the convention of Kurdish writing and its preference for sentence length is undergoing a change.

6.2.4 Word count

Word count is another significant element that characterises the textual makeup of abstracts. In this respect, we have looked at this element in both the STs and their TTs in order to see if any interesting patterns develop in them. Although the researchers (i.e. the medical experts) are instructed to limit their abstracts to up to 200 - 300 words[39], data analysis has revealed that this range is not always observed. Most of the English abstracts we have analysed exhibit a word count of more than 300 words, which is shown in table 6.4 below:

Word count per abstract	Number of abstracts	Percentage
Below 100	1	2%
100-200	3	5%
200-300	18	28%
300-400	18	28%
400-500	14	22%
500-600	6	9%
600-700	3	5%
700-760	2	2%
Total	65	100%

Table 6.4 Word count ranges of the STs

The analysis of the TTs revealed that only 29% of them follow the specified word limit of 200-300 words, as shown in table 6.5 below. Looking at the table, we can see that only 28% of the STs have adhered to the expected word count specified in the guidelines. From the

[39] Available online at: http://univsul.edu.iq/JournalsAbout.aspx?Jimare=17&main=13

remaining percentage (72%), 6% have a word count of less than 200, and 66% have a word count more than 300. These figures indicate that the STs are showing varying word counts and thus we cannot identify an average range on the basis of the STs that we have analysed. Based on the figures and percentages shown in table 6.4, we can establish that medical experts do not follow the word limit set for abstract writing. In other words, the 66% of the STs show us that there is a tendency to write longer abstracts suggesting a developing pattern among Kurdish medical experts in writing their English abstracts, yet we need to look at the translated abstracts in order to see whether or not similar patterns are observable in them.

Word count per abstract	**Number of abstracts**	**Percentage**
100-200	3	5%
200-300	19	29%
300-400	20	31%
400-500	14	22%
500-600	5	8%
600-660	4	6%
Total	65	100%

Table 6.5 Word count ranges of the TTs

The ranges shown in the table are different from the ranges we observed in the STs (see table 6.4 for comparison). A comparison made and shown between word counts of both STs and TTs in table 6.6 indicates that one ST has a word count of less than 100 words, but the minimum word count TT is more than 100 (one TT consists of 147 words). Interestingly, in terms of maximum word limit, the STs have abstracts of more than 700 (753 words) words,

whereas the maximum word count of the TTs is less than 700 (659 words). This is an indication that, unlike their STs, the TTs tend towards shorter abstracts[40], although not always. Despite this fact, if we take a closer look at table 6.6 below, we can see that both STs and TTs have comparable ranges of word counts.

Our results in terms of the ST and the TT formats contradict those observed by Doornekamp (2011), who has compared the format of English specialist medical texts and their Dutch translations. She has found that the translated versions have kept their ST formats and styles (ibid, p. 62). This may be related to the fact that conventions of writing and translating abstracts, particularly medical research abstracts, are not established in Kurdish yet. Therefore, the medical experts have applied various formats and conventions in their self-translated abstracts.

Word count range	**ST**	**TT**
Below 100	1 (2%)	0 (0%)
100-200	3 (5%)	3 (5%)
200-300	18 (28%)	19 (29%)
300-400	18 (28%)	20 (31%)
400-500	14 (22%)	14 (22%)

[40] Although this contradicts the earlier argument in section 4.2.2 in chapter four that word limit constraints may explain the tendency to omit terminology in the translated abstracts, the observation of shorter TTs in relation to their respective STs here is not applicable throughout the corpus. There are TTs which are longer than their STs.

500-600	6 (9%)	5 (8%)
600-700	3 (5%)	4 (6%)
700-800	2 (3%)	0 (0%)

Table 6.6 Comparison of word count ranges between STs and TTs

In general, table 6.6 shows that, although the word counts are relatively similar, the STs exhibit a slightly larger word count range than their TTs. Interestingly, this finding contradicts the commonly held view that translations tend to be longer than their originals (Toury, 1995/2012; Chesterman, 2011; Munday, 2012, etc.). While this view can be relatively true since translations often involve 'some expansion' (Pym, 2010, p. 79), it might not always apply to all languages, genres, or translators. This is not to suggest that Kurdish translations do not undergo expansion in relation to their originals, because we cannot substantiate such a claim since this feature of translation universals has not been researched in Kurdish yet. That said, however, the findings of this corpus and this specific text type suggest that the translated abstracts are slightly shorter than their originals, a finding which we observed in relation to sentence length, too, in the previous section.

According to Fischbach (1962, p. 467-468), who has investigated text length of translated texts, languages such as 'Spanish, French and other Romance languages require many more words to convey the same meaning and thought'. In line with Fischbach's finding, anecdotal evidence suggests that Kurdish often uses more than one word to express the same meaning or thought expressed in English. Yet, the translated abstracts contain fewer words and fewer long sentences than their English versions. However, if we look back at chapter four, we can see that translation strategies such as explicitation and addition are somehow evident in the TTs (6% and 1% respectively). These percentages do not constitute the majority of the

translation strategies that the medical experts have used. By contrast, omission accounts for 17% of the overall translation strategies used in the TTs, a percentage much greater than explicitation and addition together. These findings indicate that the TTs have undergone far more contraction (17%) than expansion (7%) compared to their STs. Although this is a reasonable explanation for having shorter TTs in this corpus, it may not be the only factor, because this parameter can be further interpreted. On the one hand, longer STs can be perceived in relation to the potential impact of writing long sentences and paragraphs in Kurdish. As discussed in chapter one, these medical experts have not received extensive education in Kurdish linguistics, but they have had some level of primary education about Kurdish grammar and writing in school. In addition to their primary education in Kurdish linguistics, we should remember that the medical experts are native speakers of Kurdish and they may also have had access to other informal resources that have developed their linguistic knowledge. Based on that, we can assume that even though the medical experts who have authored the STs are not accomplished linguists, nevertheless the influence of textual norms of Kurdish writing may have a conscious or unconscious influence on and thus presence in their English writing, i.e. the STs. That said, our discussion here remains hypothetical in nature until the topic is specifically investigated.

On the other hand, the absence of officially established guidelines for abstract writing, both in English and Kurdish[41], can be another factor for the production of varied-length abstracts in English as well as in Kurdish. This last possibility can be argued considering the fact that

[41] The purpose here is to point to the lack of official guidelines for writing abstracts in both languages of English and Kurdish for the medical researchers at the time period of the abstracts we are investigating.

even if Kurdish lacks established guidelines for abstract writing, English does not, therefore one expects the STs to be shorter, more structured and show adherence to the textual conventions of research abstracts. However, the analysed data suggests that some medical experts may consult guidelines and conventions of abstract writing in English and apply them in their abstracts and translations, whereas others may not do so. Based on these factors, the data exhibits varied conventions and norms practised among the medical experts.

6.2.5 Punctuation marks

We have looked at the use of punctuation marks in the TTs. The way punctuation marks are used and distributed in the TTs plays a significant role in determining their sentence lengths and paragraphing. As established in section 6.2, unlike English, Kurdish prefers to present information in large grammatical chunks, a feature it shares with Arabic (Baker, 1992, p. 193). While English 'relies on a highly developed punctuation system to signal breaks and relations' between large chunks of information, Kurdish depends on conjunctions (Aziz, 2005, p. 414). According to Baker (1992, p. 193), punctuations and paragraphing are 'a relatively recent development' in Arabic, which similarly applies to Kurdish. The use of punctuation in Kurdish is formally taught in schools, yet some Kurdish writers, although they acknowledge and encourage the use of punctuation marks, rarely apply them in their own writings (Aziz, 2005, p. 406-414). However, Aziz's observation in relation to the use of punctuation marks is restricted to literary works; the topic has not been investigated in specialised Kurdish.

Therefore, we looked at the presence and application of punctuation marks in the translated abstracts. Our overall observation has revealed that the medical experts do use punctuation marks in their translations, a feature that has positively affected their writings in terms of cohesion. Yet, based on the data analysis, absence and incorrect use of punctuation marks

account for 16% of the identified stylistic and textual marked and inaccurate cases in the TTs. The percentage consists of various cases: missing commas/ colons/ full stops, unnecessary use of comma or full stops, incorrect use of commas/ colons/ full stops/ hyphens/ dots, etc. (see TTs number 5, 10, 19, 32, 34, 38, 39, 46, 47, 48, 49, 51, 61 and 65 in appendix 2 for examples).

Moreover, there are a few translated abstracts that rarely exhibit any punctuation marks, except for full stops at the end of very long sentences. This case is identified in two TTs only and thus we do not consider their incidence significant. However, upon reflecting on the 16% marked and incorrect uses of punctuation marks in the TTs, it has become apparent that the distribution of these cases is disproportionate in and across the TTs. Some TTs exhibit appropriate application of punctuation marks whereas others do not. Further the percentage can also contain cases that are not detected during proofreading or occurred during typing. This suggests that while some marked or inaccurate usage of punctuation marks might be due to inappropriate proofreading or typing, others could be a considered choice. However, differentiating between the two patterns is not possible because this study has used a product-based approach, i.e. it analysed the data on the basis of which it made different interpretations. As such, it was not possible to have access to the individual participants involved in the production of the abstracts and their translations so that we can then know their choices and decisions regarding the use of punctuation marks in their work.

We have also analysed the temporal occurrence of incorrect and marked application of punctuation marks in the TTs based on the year of their publication, as shown in table 6.7.

Year of publication	Percentage
2007	15%
2008	12%
2009	28%
2010	12%
2011	12%

Table 6.7 Incorrect use of punctuation marks according to publication date in TTs

Figures shown in table 6.7 indicate that the later TTs exhibit less incorrect usage of punctuation marks, which, in effect, suggests that they are more improved in comparison with the older TTs, particularly with those of 2009 (%28) and 2007 (15%) respectively. Following from our discussion and based on the table, we can establish that while the overall percentage of incorrect usage of punctuation marks does not reflect the knowledge of the medical experts in terms of using punctuation marks, its presence in the TTs is indicative of the fact that there is an increased effort to apply punctuation marks in Kurdish specialised translation. It further suggests that there is an improvement and more accurate application of punctuation marks in the most recent TTs. These findings, in turn, indicate an improvement, though gradual, in Kurdish specialised writing.

6.2.6 Thematisation and information flow

We have already discussed the significance of word order on the syntactic level in chapter five and analysed the nature and role of word order in Kurdish and in the TTs. However, the topic here is considered as a 'textual strategy' (Baker 1992, p. 119) in order to investigate its role in the organisation of messages and information flow in the TTs. As established earlier, the order of linguistic constituents in Kurdish sentences is different from those of English

(see section 5.2.1.3 in chapter five). Unlike English, the basic word order of Kurdish is SOV, in other words, Kurdish is a verb-final language. It is a flexible language, as such it permits deviations from the default word order. Cases of deviation usually raise markedness, which is the point of interest in this section because it gives us an insight into the choices that medical experts have made in terms of the arrangement of their linguistic constituents in their TTs. It helps us to see where and how marked structures are produced when the medical experts had the choice to produce unmarked structures in their translations.

This topic, which is closely linked to the thematisation and information structure in the TTs, plays a key role in revealing if decisions and choices of the medical experts, whether made consciously or randomly, establish any regularities of behaviour in relation to thematic structure of sentences in Kurdish specialist medical translation.

Kurdish writing tends to apply Halliday's model of information flow and thematic structure (Fattah, 2010, p. 345-346). In other words, it selects an element in a clause to be the theme, which is placed in initial position. This structure is observed in the majority of the clauses that we have looked at in the TTs, which shows that the clause element indicating the authors' 'point of departure' (Baker, 1992, p. 129) is thematised. Yet, according to Baker (ibid), what is interesting in the clause is not the elements that are structured according to the default order, because they do not involve the author's choice, as such they have little or no significance. However, the elements which do not occupy their default positions in a clause lead to markedness and thus are more meaningful and attractive (ibid; Bell, 1991, p. 149).

These marked elements, then, result from a deliberate choice and decision of the author. They suggest that the author's intention is to highlight them and put more textual meaning on them in relation to the other elements in the same clause. Authors usually choose to do so in order to foreground a certain element in the sentence (ibid), which is often new information or the

point of emphasis. Having said that, marked elements in translation may sometimes be the result of shining through or syntactic calque.

Evidence of topicalisation or marked cases has been identified in the TTs. Based on the syntactic analysis, word order constitutes 13% of the marked syntactic structure in the TTs. This percentage shows both conscious and randomly made choices as illustrated in table 6.8.

Marked word order	**Frequency**	**Percentage**
Adherence to ST word order	34	8%
Random choice	21	5%
Total	55	13%

Table 6.8 Frequency and percentage of marked word order in the TTs

While the choice for deviating from the default word order, as established before, can be explained in terms of topicalisation or thematising certain elements, our observations indicate that it is not always the case. As the table shows, the majority of the marked cases result from adherence to the ST word order rather than following the default order practised in Kurdish. The choice to do so can be related to three possible factors: the TT producers have been loyal to ST structures, they lack good knowledge in Kurdish linguistic as well as textual structure, or they are inexperienced translators and do not have the awareness or confidence to depart from SL structures.

The first possibility, which accounts for 8% of the marked cases, cannot be considered thematisation techniques in Kurdish since the choice is triggered by adherence to the ST word order and thematisation rather than the Kurdish. These cases can be considered translationese because they feature unnatural word order in the TL (Newmark, 1991; Shuttleworth and

Cowie, 1997; Hatim and Munday, 2004) influenced by the SL word order. This tendency is also linked to the hypothesised feature of translation universals or translation law, namely interference (Hatim and Munday, 2004, p. 12) since the TL permits ST elements to be transferred to it. Based on this, these cases are indicative of the fact that medical Kurdish tolerates SL interference, a significant observation that is further discussed in relation to norms and translation universals in section 6.4. Moreover, personal contact with most of the medical experts concluded that they are first time translators, i.e. they are inexperienced in translation and thus they do not have confidence to depart from ST structures so that they would not affect the underlying conceptual meaning of their abstracts. This in turn implies that the translators of the medical abstracts may not be fully aware of the linguistic and textual structures of Kurdish and therefore they choose to stick with the structures that make up the STs in order to produce what they perceive as *correct translations*.

The other possibility, which accounts for 5% of the marked cases, is that the choice of random or deliberate thematisation in the TTs is an indication of another way that information flow is structured in Kurdish specialised translation. In other words, the decision to achieve prominence and emphasis on clause level and/or textual level in the TTs suggests that the medical experts have the necessary linguistic and textual competence which enables them to manipulate the lexico-grammatical structure of the TTs for shifting the focus on particular elements in order to achieve an intended purpose.

While the second possibility contrasts with the first one, it does not hold a strong position because the frequency of deliberate or random marked cases is comparatively smaller. Moreover, not all the 5% deliberate marked cases include thematised elements, since some of them show a change in position of two elements in the middle of the clause, without placing any of them in the initial position. In addition, the incidence of deliberate or random markedness is not proportionate in the TTs, i.e. they are not equally distributed across the

TTs. Therefore, following from this explanation, the second possibility turns out to be very weak indeed, yet it is still indicative of some level of linguistic and textual knowledge of the medical experts.

Textual emphasis or prominence, in our TTs, is achieved by a number of techniques. These include: fronting of complements, objects, time adjuncts, or verbs (For examples see TTs number 3, 4, 17, 21 and 30 in the worksheet of the syntactic analysis in appendix 3). Although fronting or thematising each of these abovementioned elements is not highly marked in Kurdish, their placing directs one's attention and thus causes the clause in question to appear unnatural to a native Kurd. Further, while some structures are syntactically correct, they may not appear acceptable to Kurdish language users. This is also evident in our TTs, where the thematised element has not affected the grammaticality of the sentence, yet the structure does not conform to the standard order of acceptability (Bell, 1991, p. 167) of Kurdish textuality.

One reason for this is related to the fact that the concept of thematisation and information flow does not necessarily correspond to grammaticality (Baker, 1992, p. 124). Not all grammatically correct sequences of words in a sentence ensure the acceptability of that sentence. This is because while the first (thematisation) is 'part of the abstract system of language', the second (grammaticality) 'depends on how it fits into its surrounding textual environment' (ibid). Based on what the findings have revealed, while the identified marked cases sound unnatural in relation to the majority of other clause structures that follow the standard word order of Kurdish, they still fit into their textual context and as such have not left any negative impact on the acceptability of the TTs as informative texts. In other words, the small percentage of marked cases (13%) has permitted ST interference, both syntactically and textually, yet its effect is hardly evident at the macrostructural level of the TTs.

Another element observed in the TTs, as far as textuality is concerned, is text organisation and development. As discussed in the previous section, the TTs are translated abstracts and follow a standard format of consecutive sections or paragraphs. It means that the TTs are texts organised in such a way that they guide the reader along a series of paragraphs, each featuring one semantic element running through them. In other words, each paragraph or section refers to a particular medical topic that holds the thematic position in the entire abstract.

While each paragraph (mostly section) has its own theme, introducing the focal element therein, and rheme, providing description about the focal element, the overall abstract focuses on one main theme running on a textual level. The linear arrangement as well as orientation of the sections/ paragraphs in the TTs in this way characterise and thus present them as (medical) abstracts. Thus, given that each TT features a series of homogenous themes that direct the reader and develop coherently is an indication that the medical experts have achieved the textual organisation, orientation and development of their translations.

Having established that the translated abstracts fulfil requirements of textual organisation and linear thematic development, it is imperative to investigate whether or not the TTs hold together as an integral as well as a coherent piece of work. To do so, we need to look at another standard of textuality, namely cohesion. Cohesion is defined as a 'network of lexical, grammatical, and other relations which provide links between parts of a text' (Baker, 1992, p. 182). Although the location of theme and rheme in the TTs has its own significance both on micro and macrostructural levels, they require the use of cohesive devices to maintain and thus lead the flow of information.

6.2.7 Cohesion and coherence

Although cohesion and coherence are characteristics shared by all text types and genres, their presence in specialised texts, particularly in medical abstracts 'constitute a distinction in quantitative terms' (Maglie, 2009, p. 40). According to Maglie's observation of EMP, a number of devices and techniques are used to increase the textual cohesion and coherence; among the most important ones are anaphoric reference, conjunctions, and theme and rheme (ibid). The aim is to assure the cohesion and coherence of the discourse.

Like English, Kurdish has a proliferation of cohesive devices. Each device plays a certain role in a text that is different from another. In Kurdish, cohesion is achieved by the use of a set of markers including: ellipsis, junction, lexical cohesion, reference, repetition and substitution. We have investigated the use of these cohesive markers in the TTs with the aim to see whether or not they have been used adequately. Analysis of the data shows that the overall use of cohesive devices has achieved textual unity in individual TTs. Nevertheless, incorrect and marked use of cohesive sets is the second highest cases which were identified in the TTs, accounting for 25% of the total incorrect and marked textual cases in the TTs.

Among the most frequent incidence in terms of cohesion is missing the enclitic *–da*, accounting for 35% of the marked cohesive relationships in the TTs. This is one of the few enclitics that are used in conjunction with prepositions or adverbs, although it is usually separated by a noun from the preposition or the adverb. The most recurrent Kurdish enclitics are: *-awa*, *-aya*, *-da* and *–wa*. Our data analysis has shown that, apart from *–da*, the other types are also missing in the TTs but in very few cases: *awa* 6%, *-wa* 3%, and *–aya* 1%.

Although omission of these enclitics does not affect the meaning of a clause, their absence raises the issue of markedness and thus the clause does not read naturally in Kurdish. In

contrast, their presence in a clause establishes a textual relationship and makes the clause hold together and read smoothly.

The second observable textual incidence that has affected the cohesion of the TTs is the use of comma to connect two clauses or sentences where the conjunction *u* (BT: and) is required. Kurdish conjunction *u*, like English additive *and*, 'signals the way the writer wants the reader to relate what is about to be said to what has been said before' (Baker, 1992, p. 190). The absence of *u* accounts for 22% of the total marked and inaccurate cases of cohesion in the TTs. We consider this absence as incorrect not marked because it affects the textual relationship of the TTs on both micro and macro levels. Other issues identified in the TTs are missing *ezafe* (7%), wrong use of the conjunction *u* (4%), wrong referent (4%), and missing referent (3%). In general, the occurrence of these incorrect and marked cases in terms of cohesion is not predominant (25%) if we compare it with other identified stylistic and textual cases in the TTs (75%). In actual fact, the percentage is not comparatively significant because it is very small and its incidence is not proportionally distributed across the TTs. While some TTs contain a few incorrect and/ or marked cohesive devices, others do not exhibit any. Based on this conclusion, even though we do not consider this percentage to be evidence of the lack of textual competence of the medical experts who have produced the TTs, this data may point to inconsistent and inaccurate proofreading of the TTs before they are published.

Our evaluation is based on the fact that every written work, even the most accurately proofread and revised, tends to exhibit some inaccurate and/ or marked usage of textual devices. Sometimes incorrect and/ or marked textual structures may arise as a result of typing mistakes rather than by the authors themselves. Thus, the above percentage can be interpreted in relation to a series of varying factors that is caused by the TT producers, their proofreaders or both.

The use of cohesive devices in medical texts has also been investigated between English and Chinese. The study concludes that while medical English uses explicit cohesive markers, Chinese prefers the omission of references and omission of repetitions of nominal nouns (Zhao et al., 2009, p. 319). According to this study, the difference is related to the different nature of the two languages; in other words, while Chinese is more paratactic, English is more hypotactic in nature (ibid), a feature it shares with Kurdish. Although that study indicates that the use of cohesive devices is different in medical language of Chinese, it highlights the significant role that they play in medical texts of English. In other words, its findings supports the findings of this study that the explicit use of cohesive markers is essential for establishing textual ties in translated texts.

The two standards of cohesion and coherence are also considered according to the date when the TTs were published. The results, shown in table 6.9, provide us with varying frequencies of marked and incorrect use of cohesive devices in each year.

Publication year	**Percentage**
2007	19%
2008	31%
2009	39%
2010	23%
2011	41%

Table 6.9 Frequency and distribution of marked and incorrect cohesive devices in the TTs

According to the table, the TTs of 2011 exhibit the highest percentage of marked and incorrect cases (41%) whereas the TTs of 2007 show the lowest percentage (19%). The table shows that incorrect usage of cohesive devices is relatively low in the TTs of 2007 but it

increases gradually in the TTs of the subsequent years until it falls in the TTs of 2010. However, the sudden rise of the behaviour in the TTs of 2011 is very interesting because it indicates that the later TTs have not undergone any improvement in their cohesive structure. This behaviour contradicts the majority of the translational behaviours that we have investigated in this study so far, because the later TTs have always shown an improvement, be it terminologically, syntactically or textually. Even though the incidence of the highest percentage of incorrect use of cohesive devices in the TTs of 2011 may be surprising compared to the older TTs, it nevertheless does not constitute a significant percentage compared to the overall marked textual structures in the TTs of 2011. This behaviour is more related to the lack of inappropriate proofreading than a lack of textual competence. This is because the majority of the TTs show correct usage of cohesive devices and thus cohesive relationships are appropriately achieved in the translated abstracts. Thus, it is not possible to establish that the medical experts lack textual competence based only on the small percentages shown in table 6.9 above.

6.3 Editing and proofreading

Spelling mistakes or typographic errors is another significant feature of the TTs that we have considered. Based on the analysis we have carried out, spelling mistakes account for 53% of the total cases of identified inaccuracies and markedness in the TTs. Although this percentage is significantly high, the incidence as well as the distribution of spelling mistakes is not proportionate among the TTs. While some TTs do not exhibit any spelling mistakes, others feature a considerable amount of them. Moreover, some spelling mistakes tend to be common mistakes that are spotted in the majority of the TTs. These include misspelling some Kurdish letters such as i instead of ē, u instead of o, b instead of p, light l instead of dark l, etc. Although the majority of the identified misspelt cases in the TTs have not affected the

intended meaning, the analysis has shown a few cases where the meaning of the misspelt word has completely changed. For example, *pēs*t (BT: skin) is misspelt as *bist* (BT: twenty), *miz* (BT: urine) is misspelt as *mēz* (BT: table), *māng* (BT: month) misspelt as *mān* (BT: survival), etc. Even if their meanings are changed, these words can still convey their intended meaning to the reader for two reasons: first, because they are recurring common mistakes in Kurdish writing, and second because they can be understood from their contexts.

Publication date	**Percentage**
2007	63%
2008	51%
2009	26%
2010	55%
2011	41%

Table 6.10 Severity of spelling mistakes in the TTs according to their publication dates

The incidence and severity of spelling errors in the TTs vary according to their publication dates. The analysis indicates that the most recent TTs feature fewer misspelt items than the earlier ones, as shown in table 6.10. Abstracts translated in 2007 and 2008 show a high frequency of errors in spelling (63% and 51% respectively) whereas analysis in terms of the severity of errors show a sharp decline in 2009 (26%). The findings have revealed a dramatic rise in spelling mistakes in the TTs of 2010 (55%), followed by another decline in the TTs of 2011 (41%). We can conclude, on the basis of these results, that the more recent the translated abstract, the less severe is the incidence of spelling errors. In other words, there is an overall decline of spelling errors in the later TTs compared to the former TTs, yet the lowest incidence is actually in the TTs of 2009 rather than in the TTs of 2010 and 2011.

Inconsistent and inappropriate proofreading, in our observation, is considered the main factor for the high prevalence of spelling mistakes in our TTs. It is true that written work, particularly of the types we have investigated, usually tends to contain spelling mistakes to some extent, yet proofreading can play a key role in minimising them. Typographical errors and inaccurate use of punctuation marks are also observed in a comparative study between English and Persian medical texts (Mousavinasab, 2011, p. 119). Whether or not misspelt terms have any impact on the translations should not be a reason for ignoring them in the TTs because they, in effect, can negatively affect their readability as well as their stylistic quality. Even though the data analysis has shown that the severity of spelling mistakes is not equally distributed in the TTs, their incidence indicates that they have undergone potentially superficial proofreading before they have been submitted for publication. Nevertheless, our findings have indicated that, unlike the older TTs, the more recent TTs exhibit less incidence of errors.

6.4 Translational norms of textual aspects of medical translation

This section aims to interpret and explain the results of our observations of the translated abstracts in terms of their stylistic and textual characteristics. It also aims to contextualise choices of the medical experts within the realm of translation norms in order to provide explanations for and against the incidences of markedness and inaccuracies therein.

The stylistically and textually analysed TTs provide us with several interesting and useful insights into the translational behaviours and thus the translational norms operating in Kurdish medical translation on the specialist level. One of the most striking elements is the length of the TTs in respect to their corresponding STs.

The textual analysis of the TTs has revealed that the stylistic manifestations of the translated abstracts show a graded continuum reflecting the choices that their translators have made. At

the very extreme pole of the continuum, we see that the medical abstracts adhere to the normative style of abstracts, which are structured into several separate sections, each with its subheading. They are appropriately punctuated and exhibit no or low incidences of spelling mistakes, and they also limit themselves to the specified word count and length. In contrast, at the opposite extreme we see that some TTs break the norms, where they are written in a random style, they feature high incidence of typographical errors, and their length exceeds the specified word count. Between the two extremes, we find TTs showing varying lengths, spelling mistakes and incorrect use of punctuation marks, as well as formats.

It is already established in the literature of translation studies that translations tend to be longer than their originals (Toury, 1995/2012; Chesterman, 2011; Munday, 2012, etc.). The applicability of this behaviour or hypothesised translation universal to Kurdish translations, particularly medical translations, is a matter of speculation at present because it has not been investigated. What our investigation has revealed is rather contradictory to what has been observed, i.e. longer translations in relation to their originals (see sections 6.2.2, 6.2.3 and 6.2.4). However, since the incidence of shorter translations is not predominantly perceptible in the TTs, they cannot be used as evidence for establishing a pattern indicating that Kurdish medical translations contradict the translation behaviour that has been observed across many world languages. Moreover, as identified in the data analysis, the medical experts chose to use omission as a translation strategy far more than explicitation and addition. Further, as Pym maintains, translation universals may not 'hold for all genres' (2010, p. 79). Translations of other medical genres such as medical articles or medical textbooks might evidence a greater tendency of explicitation and thus longer versions. The text type may also contribute to the length of the translations had they been literary or institutional. Yet the possibilities we have just considered have not been investigated in Kurdish, and as such they remain hypothetical in nature.

Therefore, based on the analysis and discussion provided in sections 6.2.2, 6.2.3 and 6.2.4, the findings provide us with the first insight into the length of Kurdish translated medical abstracts, a parameter that can be further investigated to see if it applies to other text types and/or genres in Kurdish (medical) translation.

Perhaps what is more interesting than non-confirmation to the above translation universal in the TTs, as far as their structure and format are concerned, is that they feature ST interference on a macrostructural level as well as on a microstructural level. This finding partially contradicts Toury's second law of translation (1995/ 2012). The law applies to our TTs, on the one hand, as they have allowed ST interference in terms of text organisation, subheadings, sentences, and paragraphing, all of which are observable on their macrostructural level. On the other hand, the law is broken as the TTs have also allowed ST interference, to some extent, in terms of the arrangement of linguistic elements, the use of punctuation marks, as well as the use of cohesive devices.

The ST interference in our TTs may have been triggered by two factors. First is the tendency of Kurdish to tolerate interference of languages and/ or cultures which are considered, by the Kurds, prestigious. Such languages, as discussed in chapter one and two, include Arabic, Persian and Turkish, before 2003 to a large extent, and English specifically after 2003 and the post-Saddam era.

As for the second factor, the ST interference may have been caused by the lack of linguistic and textual competence of the medical experts who have produced the TTs. The choices and decisions made by these medical specialists show their adherence to the ST style and textual structures rather than accommodating themselves to textually 'established models and repertoires' (Toury, 1995/2012, p. 307) pertinent to the Kurdish.

While the majority of the choices that medical experts have made in their translations in terms of style and textual structures do not make the TTs incomprehensible, they can have a

significant effect on shaping the stylistic as well as textual makeup of Kurdish medical translation in particular and specialised translation at large. These TTs may gradually establish expectation norms of the Kurdish specialist medical translation in the long term.

The argument here, then, is not whether or not ST interference on the stylistic and textual level affects the conceptual aspect of the TTs, but it is whether the possibility that introducing foreign elements into translations may potentially become a professional norm in medical translation. This may cause future translations in the field to follow the lead and may allow more and more ST elements and structures to replace Kurdish ones. Since different types of norms reinforce each other (Pym, 2010, p. 74), these professional norms would establish expectancy norms, i.e. readers would be frustrated if they do not find medical translations feature ST elements and styles. Medical translators would, in effect, make an effort to adapt to the 'expectation norms of the target addressees' (House, 2011, p. 164) so that their translations become acceptable. Whether or not this is desirable in Kurdish specialist medical translation, the norm seems to be one of the main by-products of the language contact between English and Kurdish within the field of medicine.

In fact, this discussion of translation norms within the descriptive approach makes us reflect on the impact of English as the official language used in medical education in Kurdish medical schools. The dominant position of English has turned it into a language that is considered superior and prestigious in the medical domain. From this perspective, medical specialists do not consider adherence to the conceptual, syntactic and textual properties and structures of English inappropriate. Rather, the dominant role and position that English occupies in the medical field has, in effect, marginalised Kurdish and as such allocated Kurdish medical translations a peripheral role and position. The main reason for this is that medical experts do not read the literature in Kurdish, because they can read it in English

especially as up-to-date specialist research is mostly published in English, both nationally and internationally.

We have noticed that the majority of the TTs adhere to the abstract format adopted in the STs (see section 6.2.1). Although this behaviour or matricial norm (Toury, 1995/2012, p. 82) is not observable in all the TTs, it is indicative of the fact that there is a growing tendency towards standardisation in terms of text format. While this interpretation may be true, the choice can also be explained in terms of uncertainty. In other words, given that both STs and TTs are produced by the same author, the choice to adopt similar formats and layouts for them may be triggered by the absence of official guidelines for the researchers on how to structure the format of their abstracts and thus the authors (and translators) are not certain which format they should follow. This, in effect, makes them decide on the format by themselves, i.e. the choice is, then, personal rather than official.

This argument, in actual fact, further supports Toury's perspective who posits that text formatting, fullness of translation, distribution of linguistic elements throughout the TTs, text segmentation, all of which are subsumed under matricial norms, do not seem to follow universal patterns, rather they are at the disposal of the translator, as to how s/he manipulates them (ibid, p. 83). The aim, in essence, is to bring the translation closer to the target culture norms and thus enhance the acceptability of the translated text (ibid). In this context, while our findings point to the fact that many TTs show adherence to the matricial norms that govern Kurdish, as we identified in the previous sections and chapters, they (i.e. the TTs) exhibit cases where the norms are broken. We can, therefore, consider the decisions and choices made by the medical experts, whether in favour of or against the matricial norms, as attempts towards adherence to the expectancy norms of medical translation in Kurdish.

Recalling what we discussed in chapter four and five in relation to expectancy norms, the absence of clearly defined and officially formulated explicit guidelines for translating the

abstracts leaves the medical researchers with no option except to follow the path of their preceding fellow researchers. In other words, they often tend to use their translated abstracts, which are already approved and published, as guidelines. As such, we cannot establish here if there is a preferred format or layout for abstract writing in specialised Kurdish, or more specifically in specialised medical Kurdish. Instead, we can establish that, based on our observations of the analysed translated abstracts, there is a tendency towards an accommodation to the source culture models.

While this tendency can be viewed as a step towards loss of variation in style and layout of abstract writing within the field of medicine and medical translation, which, in effect, would bring the style of abstract writing in medical Kurdish closer to the internationally recognised style, it conceals the normative style and layout of abstract writing in Kurdish. In other words, one would not be able to identify and thus define how Kurdish medical experts would write their abstracts in terms of style and what would be their preferences in terms of layout, format, punctuation marks, headings, paragraphing, word counts, etc. Nevertheless, Kurdish medical experts may prefer to adhere to the ST styles in an attempt to make their papers and abstracts accessible and acceptable to the international medical community instead of keeping them at the national level. Although it should be stated here that the abstracts that we have investigated, as well as their translated versions, have all been published within the region so far, none has been published in international journals, at least not at the time we recruited them.

Yet, our purpose in this context is to justify the tendency of the majority of medical experts to follow the standard international style of abstracts because there is a possibility that they prefer to follow the universal norm. This can also be correlated to the potential stylistic preferences of self-translated abstracts in specialised medical Kurdish. However, since self-translation is a practice that has not been recognised in the literature of Kurdish translation

studies, our assumption in relation to what the preferred stylistic and textual norm of abstract writing is in the medical domain remains a matter of speculation at this moment. The reason for this lies in the fact that self-translation is a practice that is rarely performed in Kurdish, perhaps these abstracts constitute the only corpus that represents such practice, which we initially related to the potential 'distrust or dissatisfaction' (Râbacov, 2013, p. 68) of the medical experts with the work of existing translators (see section 1.1 in chapter one).

The tendency to follow the normative style and textuality of ST abstracts can also be interpreted to be due to the influence of ideological factors and power relations between the English culture and the Kurdish culture (cf. Chesterman, 2000, p. 64). As much as English is viewed as a prestigious language, its power is also predominant in today's medical community, research and publications. Anecdotal evidence suggests that this view is widely held within the Kurdish medical community where English is the official language of education, training and publication. Based on this view, academic writings are expected to adhere to the discourse conventions, style and textual makeup of English writings. Perhaps it is these expectations, or more specifically, expectancy norms that influence medical experts, who have self-translated these TTs, to allow features of discourse conventions and style of English writing to make their way into and thus prove their existence in the translated abstracts. The effect of such expectancy norms is not restricted to the stylistic and textual aspects of the TTs, but it also covers their syntactic as well as terminological aspects (see chapter four and five).

In conclusion, and based on our discussion, it may well seem appropriate to explain the decisions and choices of the medical experts for their adherence to the stylistic features of abstract writings in English. Since they have received their medical training in English, write in English and read the literature in English, the existence of English elements and patterns in terms of style can be viewed as an unavoidable behaviour. This can also be viewed as a

gradual step towards bringing the style of Kurdish abstract writing close to the internationally recognised format. Nevertheless, evidence of English textual interference in the TTs may not be seen as appropriate as English stylistic interference due to the structural features that differentiate the two languages in terms of their textuality.

7 Conclusions and recommendations

7.1 Introduction

Down the ages, medical translation has contributed immensely to the dissemination of medical knowledge in the world. Medical translation is not only the most universal practice that humanity has undertaken, it is also the oldest field of scientific translation (Fischbach, 1986). Today, specialised translation in general and medical translation in particular has received worldwide attention and understanding of these fields has profoundly improved (Argeg, 2015; Stiegelbauer *et al.*, 2012; Wermuth, 2010; Lee-Jahnke, 2005, p. 83; Kren-Kühle, 2005, p. 338). In line with the growing attention to and the advance of specialised translation, specifically medical translation, more specialist translators are trained not only in specialised languages but also in other domains in order to become competent translators. Translation competence is one of the main concepts that has received great attention within the field of Translation Studies and thus it has been extensively researched (Campbell, 1991; Schäffner and Adab and the contributing authors in their volume, 2000; Orozco and Hurtado Albir, 2002; Pym, 2003; Šeböková, 2010; PACTE, 2011; Ehrensberger-Dow and Massey, 2013; etc.). However, there is a dearth of research on the role and impact of translation competence in medical translation on a specialist level. From that consideration, this study primarily set out to investigate translation competence of different groups of translators performing specialised medical translation from English into Kurdish[42]. However, upon initial investigation I realised that specialised medical translation in Kurdish is only

[42] See section 3.1 in chapter three for more details on how the study focus shifted during the course of the study.

performed by medical experts and published in university publications. In contrast, translators who are not medically specialised translate non-specialised medical texts for popular science journals and websites. As a result of this finding during the course of my investigation, I shifted the focus of my study onto investigating translation competence of medical experts performing specialised medical translation into Kurdish and the role of their specialist expertise in the translations they produce.

7.2 Study conclusions

While translation competence can be investigated both from the product perspective and the process perspective (Schäffner and Adab, 2000, p. xiii), our investigation has focused on the product perspective of Kurdish specialist medical translation only. For this, a corpus of translated medical research abstracts was examined from three aspects: terminology, grammar and textuality in order to measure the level of translation competence of the medical experts. These three aspects were considered useful criteria for assessing translation competence because the competence in itself is an abstract concept and thus it can only be assessed through performance (ibid).

Terminological investigation of the translated abstracts was a significant criterion to assess subject competence of the medical experts, which constitutes one of the essential parameters of translation competence. Subject competence of the translator plays a key role in enabling them to realise the underlying conceptual meaning and render it accurately in the target language. Our investigation revealed that the medical experts have rendered the majority of the ST terms in their equivalent meanings in the TTs, although part of them involved some elements of addition, omission or transliteration. Although understanding medical terminology and recognising their conceptual meaning is ‘active knowledge’ (Neubert, 2000, p. 9) for the medical experts and as such it plays a significant role in their translation task,

knowing their corresponding meaning in the target language and preserving the same functional constancy of the medical terms indicate their subject competence in terms of translation. Medical training may make someone acquire general medical knowledge but may not necessarily make her/him competent in all the branches pertinent to the medical domain (c.f. O'Neill, 1998, p. 75). One of the main factors that has contributed to the successful rendition of the ST terminology in the TTs is the fact that each medical expert is specialised in the medical branch in which s/he has conducted the study and thus written the abstract as well as self-translated it. This has had a great impact on the translation of terminology, abbreviations or acronyms which are specific to a certain branch of medicine, which may sometimes be only accessible to the medical expert who is specialised in that particular branch. This was a significant finding in this study because the TTs showed that the medical experts were aware of the Kurdish medical terminology related to their topic. This indicates that although the medical experts did receive their medical expertise in English, they have knowledge of medical terminology in Kurdish and can use them appropriately in their translations. This finding contradicts Jussara Simões's opinion who notes that because medical specialists in Brazil are trained in English, they are not aware of the medical terminology in their native language, and as such they do not perform accurate medical translations into Portuguese (cited in O'Neill, 1998, p. 73).

Preserving functional constancy between ST terminology and their correspondence in the translated abstracts was an important element because the main function of translating the research abstracts and their translation brief was information transfer[43]. The informative function of the STs in the TTs was not only achieved based on the medical experts' subject

[43] See section 2.3 in chapter two on text function in medical translation.

competence, but it was also attributed to their translation/ transfer competence. The appropriate use of translation strategies has played a profound role in establishing equivalent relations[44] between the original texts and their translated versions. This is not to say that the use of equivalence as the main translation strategy in the translated abstracts was a yardstick by which we measured the translation competence of the medical experts, for they (the medical experts) have used other strategies including omission, borrowing, transliteration, addition and explicitation. We established this finding, in essence, based on our realisation that each medical term, abbreviation, acronym, eponym or phrase in the translated abstracts has the same function as its original version, regardless of what translation strategy the medical experts have used.

In contrast to the above outcomes, the terminological investigation revealed that omission held the second position among the translation strategies that the medical experts used. Although the frequency was not significantly high, identifying omitted terminology in a research abstract, which mainly contains key words, made the behaviour interesting and worth consideration. Each specialised term in an abstract is designated a function and sends a certain message of its own which is not restricted to the micro-level of the abstract, but extended to its macro-level. In other words, it influences the textual meaning and message of the abstract in question. With this view in mind, omitting specialised terminology in the translated corpus by the medical experts who are in a position which enables them to realise the key role of such terminology suggests that their behaviour is not triggered by their lack of subject competence. One might explain their behaviour in relation to the textual conventions

[44] See section 2.3 in chapter two to see how this study defines and identifies equivalent relations.

that characterise research abstracts which limits their word count and length. This explanation is reasonable, but chapter six showed that the original abstracts along with their translated versions exhibited varying degrees of length and did not always adhere to the specified word count and length (i.e. 200-300 words). In other words, there were translated abstracts longer than the specified range but they were still accepted. Based on this observation, I dismissed the length factor as a possible explanation for the omission of specialised terminology.

Dismissing both factors of the lack of subject competence and text length specification, the tendency to omit specialised terminology in the translated abstracts can be linked to their peripheral position within the medical literature of Kurdish. Although the translated abstracts represent the only evidence of specialised medical translation in Kurdish, their usefulness to the specialist medical community in Kurdistan is not the same as the English abstracts. The primacy of English and its pervasive influence as the main and only language of medical education, training and research in the region have relegated Kurdish to a marginal position. From this consideration, one may assume that the medical experts did not see any harm in omitting some medical terminology in their translated abstracts because they already knew that the priority is given to the English abstract whereas the translated version is only a formality. Even though the incidence of omission revealed that the matricial norms are at work in the TTs because they are not the complete versions of their originals, it (the omission) nevertheless has not affected the underlying conceptual aspect of the TTs. As mentioned above, the medical experts have translated the majority of the specialised

terminology into their Kurdish equivalence, yet this translation behaviour, i.e. the omission, is indicative of the fact that different norms are operating in the translated abstracts[45].

Another outcome of the terminological investigation was that it refuted one of the study hypotheses which assumed that medical Kurdish has a lexical gap and that it is under-developed. Although the corpus used in this investigation was not very large, as it consisted of 130 abstracts only (65 English abstracts and their 65 Kurdish translations), it was the sole evidence of specialised medical translation in Kurdish. Thus, this corpus was the only vehicle for investigating the status of Kurdish specialised medical language. Following from that, this study is the first initiative to establish that specialised medical Kurdish has a proliferation of specialised terminology that medical experts as well as medical translators can use in the translation of medical texts from any languages into Kurdish. Despite that, medical experts tend to use other strategies such as foreign borrowing, transliteration and explicitation as common strategies in translating medical terminology, not only in Kurdish medical translation but in other languages (Abigal, 2005; Rosendo, 2008; Stiegelbauer *et al*., 2012)[46]. However, this investigation revealed that these strategies were not common in the translated abstracts compared to equivalence and omission, and as such it refuted another study hypothesis[47] which assumed that Kurdish medical experts tend to use explicitation and borrowing as two common strategies to handle non-equivalence. This study also revealed that

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[45] See chapters four, five and six for detailed discussion of the various translational norms observed in the TTs.

[46] See section 4.2.2 in chapter four for the evidence of transliteration and borrowing in medical translation in other languages.

[47] See section 1.2 in chapter one on study hypotheses and aims.

the majority of medical terminology in Kurdish is the outcome of individual efforts rather than official language institutions or associations. Moreover, while Sorani Kurdish is the main dialect used in education, media and all the other governmental establishments, no language policy is actively functioning in the region to regulate language use, particularly in specialised domains.

Although borrowing was not a frequent strategy in the translated abstracts, research confirms that it is a common feature of specialised translation, particularly medical translation (Lee-Jahnke, 1998; Abigal, 2005; Rosendo, 2008; Stiegelbauer *et al*., 2012; Argeg, 2015). Whether directly transferred from English or transliterated, the majority of the borrowed terms in the translated abstracts are already established in the medical language of Kurdish that is used by medical specialists. They mostly consist of medical abbreviations, acronyms and eponyms which medical experts prefer to use as they are without translating them into their Kurdish equivalents. Furthermore, some medical abbreviations, acronyms and eponyms, in fact, do not have Kurdish equivalents yet. That said, the use of borrowed acronyms, abbreviations and eponyms as well as medical terms does not affect the accessibility of the translated abstracts to the target readership because they are medical specialists, too.

In addition to borrowing, explicitation is considered one of the potentially universal features of translated language (Øverås, 1996; Baker, 1996; Baker and Olohan, 2000). The translated abstracts showed that explicitation was an infrequent translation strategy in the translation of medical terminology. Unlike the findings of our study, a study on the translation of medical terminology from English into Arabic, by both translation students and professional translators, has found that explicitation was one of the strategies that they frequently used for dealing with non-equivalence (Argeg, 2015). However, the findings of that study conform to our study findings based on the fact that the use of explicitation in the translated abstracts was also triggered by non-equivalence as medical Kurdish does not have ready equivalents for

some terms, thus the medical experts chose to explain them in their translations. Although the use of explicitation meant the use of more words to explain an ST term and thus had an impact on the TT in terms of textuality, i.e. a longer TT, their choice did not affect the function and the semantic aspect of that particular term in the TT. Hence it was another strategy that indicated the transfer competence of the medical experts.

Apart from these outcomes, the terminological investigation showed that Kurdish medical language is not standardised. This feature was observed both on the level of full terms (words) as well as medical prefixes and suffixes (morphemes). The significance of this finding is that it shows that non-standardisation is not only restricted to the general language of Kurdish (see section 1.1 in chapter one), a fact that is extensively studied in the literature. The lack of a standardised medical language is not observed in Kurdish alone, for it is also documented by Montalt (2011, p. 80) as a feature that characterises medical terminology, which has the tendency towards dynamism and variation (see section 4.2.2 in chapter four). However, he notes that there is also a tendency towards standardisation of medical terminology and that attempts have been made by the World Health Organisation to internationalise and thus standardise names of diseases, their classification and names of pharmaceutical substances (ibid). Pritzker (2014) also discusses the issue of non-standardisation of medical terminology in Chinese medical translation. However, the difference between her study and this study is that they address two difference facets of medicine; this study has investigated terminological aspects of medical language that is used universally, whereas her study has addressed terminology of Chinese medicine which is a particular practice of medicine, different and distinct from Western medicine. Yet the common finding is that both studies confirm the tendency of medical terminology towards variation and non-standardisation.

Translation competence is a composite of a range of parameters and therefore it cannot be assessed on the basis of subject competence and transfer competence alone. In order to gain a better insight into the translation competence of the medical experts, I investigated the syntactic features of the medical abstracts. One of the main outcomes of this investigation is that the translated abstracts showed marked syntactic elements and structures. The TTs bear certain marked syntactic features, mainly word order, agreement and number, which are specific to the ST linguistic structures, whereas others are random, i.e. they are neither pertinent to the ST structures nor to the TT structures (see chapter four for more details). These two behaviours have two explanations; the first one, which is readily subsumed under Toury's law of interference, was caused by the constant contact that the medical experts have with English as the language of their speciality. As a result, some English linguistic features influenced the Kurdish that they used in their translation and thus proved their presence in the translated abstracts. The choice of preserving ST syntactic structures in the TTs can also be interpreted in relation to Venuti's foreignisation strategy (1995) or to Schäffner and Adab's hybridity in translation (2001). These two strategies, however, are not valid as far as the text type and genre of this study are concerned. As for the foreignising strategy, it is best applicable and thus can be developed in less specialised and less technical translations where elements of cultural embedding are involved (c.f. Venuti, 1995, p. 309). Moreover, foreignisation aims at retaining and exhibiting the ST linguistic and cultural difference in the TT so that the target readership can recognise them (Venuti, 1995, p. 41). As for hybridity, it is a strategy practiced by experienced and professional translators who preserve ST elements in their translations deliberately and consciously for a particular purpose (Trosborg, 1997, p. 146). In fact the use of both strategies requires translation experience which, to the best of my knowledge, the medical experts do not have as their self-translated abstracts was the first

translation task that they performed. Thus, preserving ST elements in their translations cannot be considered a purposeful activity.

Dismissing foreignisation and hybridity as two possible factors for triggering the occurrence of ST linguistic elements in the TTs, I explain the behaviour in relation to the lack of linguistic competence of Kurdish. My decision does not only include the incidence of ST linguistic structures, but also the incidence of unusual syntactic features which do not conform to the syntactic properties of Kurdish. The decision is based on the personal communication with a number of those medical experts who have self-translated their abstracts. According to the medical experts, the occurrence of marked linguistic structures in their translations is due to the fact that they do not read the medical literature in Kurdish, and also because they have no prior experience in translation practice. Therefore, adherence to the ST linguistic structures sometimes proves to be an easy and handy strategy for them during the translating of their abstracts. In fact the lack of prior experience in translation is a reasonable factor for the incidence of ST interference because the more competent or experienced the translator, the less s/he is affected by the elements of the ST (Toury, 1995/2012, p. 313) and thus leaves less room for foreign elements to occur in her/his translation.

The incidence of ST elements was observed in the translated abstracts both on the micro and macrostructural levels. On the level of microstructure, the translated abstracts exhibited grammatical structures as pointed out above, textual features, loan words, thematisation techniques and the arrangement of linguistic elements that were transferred to them from their originals. On the level of macrostructure, however, the interference was visible in terms of the textual layout of the translated abstracts, such as text organisation, subheadings, sentencing and paragraphing. Apart from the lack of linguistic competence, the lack of experience in translation and the impact of the constant contact between English and Kurdish,

I interpreted the presence of ST elements and structures in the translated abstracts in relation to Kurdish as a language that tolerates interference. The impact is often quite visible especially if Kurdish is in contact with a language that is considered, by the Kurds, authoritative and prestigious (Hasanpoor, 1999; Aziz, 2005), which was observed and identified in the translated abstracts.

We have already discussed above that several factors play their role in shaping the translation of the medical abstracts into Kurdish. However, another factor that has profoundly affected the translated abstracts is the commonly established knowledge among medical experts that the translated abstracts assume a marginal position in the submitted theses, which nevertheless, may have a demonstrable role in shaping the translation of specialised texts into Kurdish at large. This is because, as discussed before, the translated abstracts are the only evidence of specialised medical texts translated form from English into Kurdish. Even though translated abstracts are considered marginal, nevertheless our investigation showed that the translated abstracts exhibit a noticeable improvement in terms of terminological, syntactic and textual rendering during the period of five years (i.e. from 2007 to 2011). The significance of this finding lies in the fact that although the translated abstracts were produced by non-linguistically competent and non-translationally competent medical experts, and although they were perceived as marginal within the submitted theses, they underwent visible improvements in their quality as specialised medical texts translated into Kurdish. This also suggests that translational norms of Kurdish medical translation are not static but changing and developing.

Proofreading by linguists is yet another process that the translated abstracts go through as part of the proofreading of medical theses before they are submitted to the School of Medicine. However, our study found that the translated abstracts, in contrast to the other parts of the theses, did not undergo proper proofreading. This indicates that lack of consistent and

thorough proofreading is another factor that contributes to the incidence of syntactic and textual markedness as well as common typographic errors in the translated abstracts, because they passed undetected by linguistic experts who are commissioned to perform the proofreading process[48].

The translated abstracts are evidence of self-translation in Kurdish because they were authored and translated by the same medical experts. The initial assumption explaining the prevalence of the self-translated abstracts was that this choice was driven by the medical experts' lack of confidence in the quality of professional translations. However, personal communication with a number of the medical experts established that translators and translation service providers are not inclined to perform specialised medical translation due to its challenging nature. Therefore, the medical experts had to carry out the translation of their own English abstracts into Kurdish.

The study also revealed that Kurdish specialist medical translation exhibits hypothesised universal features of translation including simplification, some explicitation, levelling out, and unique items. The translated abstracts exhibited a greater tendency towards using short sentences rather than long sentences. Moreover, explicitation was also observed as one of the translation strategies used in the translation of medical terminology, although, as discussed above, the tendency was not great. One implication of the occurrence of short sentences in the translated abstracts may be indicative of a preference in specialised medical Kurdish to express information in concise and simple language. This finding is interesting because Kurdish has long been known as a language that has a preference for expressing ideas,

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[48] See section 2.2 in chapter two for how this study defines the concepts of expertise and expert.

concepts and information in long sentences and paragraphs (Aziz, 2005). While this observation can be indicative of a change in textual conventions of Kurdish in specialised domains, further research is needed to establish if that change is pertinent to specialised translation or if it is equally prevalent in specialised language. Nevertheless, the tendency of using omission more than explicitation and addition in the translation of terminology can also be related to the occurrence of short sentences and relatively few long sentences in the translated abstracts. Simplification was also observed by Corpas *et al.* (2008) in medical translations performed by professional translators which exhibited simpler wording and formulations compared with non-translated medical texts. However, in contrast to our findings, their study did not reveal any interesting results in terms of sentence length in the professionally-translated medical texts.

The study revealed that some Kurdish enclitics were under-represented in the translated abstracts. As discussed in chapter six, such enclitics are morphemes that have the syntactic characteristics of a word but depend phonologically on other words that they are attached to. These morphemes were found under-represented in the translated abstracts, although not always, because they do not have equivalents in English, and as such they did not exist in the original abstracts. Upon reflection it was established that representing as well as under-representing the enclitics in the translated abstracts is indicative of the linguistic competence of the medical experts. However, since both conditions did not proportionally occur in and across the translations, it was not possible to identify how many TTs represented the enclitics and how many did not. It is worthwhile to say that while the absence of enclitics in Kurdish triggered markedness syntactically and textually, it did not make the sentence or the translated abstracts syntactically or textually incorrect. That said, the presence of enclitics in the translated abstracts made them read smoothly and naturally because the text appeared more cohesive in nature.

Overall, we can conclude that this study has been successful in providing answers to the main questions that we asked in chapter one; establishing that specialised medical Kurdish is not under-developed, indicating that borrowing and explicitation are not two common strategies in Kurdish specialised medical translation, revealing that prevalence of syntactic and textual markedness are not only triggered by the lack of linguistic and textual competence but other factors are also involved, and establishing that KMP has a tolerance for SL interference during translation. However, this study is not conclusive in identifying the role of translation competence of Kurdish medical experts in English-Kurdish specialised medical translation. This is because, as discussed above, several factors have influenced the translation of the medical abstracts that were out of the control of the medical experts, including the status of Kurdish in the specialised medical domain, the absence of explicit guidelines for abstract writing and translation in Kurdish, the lack of a quality assurance body to check the translated abstracts and the lack of consistent and adequate proofreading. Considering the impact of all these factors and upon reflection, we can establish that the medical experts have achieved a considerable level of translation competence which has helped them to self-translate their research abstracts into Kurdish as explained in the abovementioned paragraphs.

7.3 Contributions of this study

The main contribution of this study is not only that it has investigated the translation competence of medical experts performing specialised medical texts from English into Kurdish, but it has also investigated self-translated medical texts in Kurdish. The significance lies in the fact that self-translation in Kurdish, like medical translation, is an absent subject in the literature. It has also revealed that specialised medical translation from English into Kurdish is only practised by medical experts, not professional translators.

Another contribution is that it has addressed specialised medical translation terminologically, syntactically and textually, whereas the literature features studies addressing one aspect of medical translation, be it terminological (e.g. Argeg, 2015; Abigail, 2006; Warambo and Odero, 2015), syntactic (Corpas *et al*., 2008) or textual (e.g. Pietrzak, 2015) and the majority of them are not on specialised medical translation (e.g. Mercy, 2009; Muñoz-Miquel, 2009; Pedersen and Halliday, 2009), or they investigate translations which have not been undertaken by medical specialists (e.g. Corpas *et al*., 2008).

This study has also shown that some terminological, syntactic and textual features of English-Kurdish medical translation conform to the features that characterise medical translation in other language pairs such as: English-Arabic (Argeg, 2015), English-Spanish (Rosendo, 2008), English-Romanian (Stiegelbauer *et al.*, 2012), English-Chinese (Yin *et al*., 2003), but diverge from features of other language pairs for example: English-Polish (Pietrzak, 2015) and English-Xitsonga (Abigail, 2005). It has further revealed that Kurdish specialist medical translation supports the hypothesised universal features of translation proposed by Baker and translational laws proposed by Toury.

Another significant contribution of this study is that it has confirmed that Kurdish medical language is not under-developed as hypothesised. However, it has shown that although medical Kurdish has a proliferation of specialised terminology, Kurdish medical specialists have a tendency to use other strategies in their translations such as: borrowing, explicitation and transliteration. The study has also revealed that some borrowed and transliterated medical terms, abbreviations, acronyms and eponyms are established in medical Kurdish and are widely used in the medical domain.

In addition to the above contributions, the study has confirmed that even though subject competence plays a profound role in specialist medical translation, nevertheless it does not suffice for producing a linguistically and textually correct translation. It has, thus, confirmed

that translation competence does not only consist of one sub-competence, but it comprises a set of interrelated sub-competences which enable translators to achieve their task successfully.

7.4 Limitations and recommendations of this study

Although the present study has addressed several significant points in English-Kurdish medical translation on a specialised level including translation competence of Kurdish medical experts engaged in the translation of research abstracts, in addition to investigating the terminological, grammatical and textual aspects of specialised medical translation in Kurdish, it was limited due to several points. The first limitation was the size of the corpus. As discussed in the methodology[49] section, the size of the corpus was not large consisting of texts translated and published over a period of five years only (from 2007 to 2011). It was not possible to include translated abstracts over a longer time period and of more recent dates because they were not available at the time of corpus compilation process. As a result, the study could not yield any results showing the status of specialised medical Kurdish beyond 2011. In other words, we do not have any insight into the most recent or current practice of English-Kurdish specialised medical translation and what changes have occurred to the present. Therefore, we recommend further research on Kurdish specialist medical translation over a longer time span including more recent translations in order to see if the practice exhibits further improvements or not. In other words, while the study showed a noticeable change in the translational behaviours and norms of specialist medical translation in Kurdish from 2007 to 2011, it was unable to establish substantial changes in the behaviours and norms

[49] See section 3.3 in chapter three for a detailed description of the study corpus.

because the time period was not very long. Perhaps if further studies are carried out on a corpus including translation over a longer period of time, it may provide more noticeable and substantial changes.

The literature of Kurdish does not provide references indicating the preference of Kurdish specialised language in terms of voice, nominalisation, word order, thematisation and tense, therefore our study could not establish whether their occurrence in the translated abstracts were adherence to the ST preferences or they were indicative of norms in medical translation. Based on this limitation, we suggest more comprehensive studies in Kurdish specialised language as well as translation so that their syntactic properties can be established in relation to Kurdish general language.

Since the focus of this study was on the translation competence of medical experts performing specialised medical translation into Kurdish, we recommend investigating translation competence of any medical expert engaged in semi-specialised and/ or non-specialised medical translation into Kurdish to see if any similar patterns to this study develop. The usefulness of such studies will be in introducing and describing the characterising features of other less specialised types of medical translation in Kurdish lexically, syntactically and textually.

Another limitation of this study was that while it discussed the role of cultural competence as one of the important parameters of translation competence in medical translation in particular and specialised translation in general, the study corpus could not identify and establish the role of cultural competence of the medical experts. Cultural competence can have a significant role in realising the genre conventions of specialised texts as cultural conventions

(Kastberg, 2007)[50]. However, the translated abstracts developed two different patterns in their textual conventions. On the one hand, the translated abstracts showed adherence to the ST textual conventions, which we explained in relation to Baker's universal of levelling out, or more broadly Toury's law of growing standardisation. The decision was based on the fact that since all those abstracts were accepted and published, it indicated that maintaining ST textual conventions is accepted in Kurdish abstract writing, and as such the medical experts prefer to be on the safe side and 'steer toward the centre of the continuum' (Baker, 1996, p. 184). On the other hand, the translated abstracts exhibited different textual conventions from their originals in terms of word order, thematisation, punctuation marks, layout, titling, subheadings, sentence length and paragraphing. This latter choice was explained in relation to the lack of textual competence as well as to the status of uncertainty (Pym, 2010, p. 112)[51]. This uncertainty is based on the fact that genre conventions of research abstracts are not established in Kurdish[52], and moreover the medical experts are not given any guidelines on the textual conventions to apply them in their translations. Therefore, we were not able to establish if deviation from ST textual patterns was caused by randomised choices, the lack of textual competence, or they are an attempt towards growing standardisation and adherence to Kurdish genre conventions of research abstracts (which may exist but not be documented in the literature).

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[50] See section 2.2.1.3.5 in chapter two for the role of cultural competence in specialised translation.

[51] See section 6.4 in chapter six for more details.

[52] See section 2.2.1.3.3.1 in chapter two for a detailed discussion on that subject.

As regards terminology, the corpus did not feature any terms that might involve cultural embedding. The absence of terms, expressions or concepts carrying explicit or implicit cultural references in the corpus may refer back to the nature of specialised medical language which is more internationally standardised and thus involves less cultural embedding. Perhaps studies on medical translations on a less specialised level contain terminologies or expressions in which cultural references and concepts are involved.

Appendix 1

Tense

As mentioned in section 5.2 in chapter five, tense in Sorani Kurdish is thought to consist of past and present, but a more recent view proves that it has past and future (Mahwi, 2010). For example:

1. mindaḷ -eke dexew -êt (the child sleeps/ is sleeping/ will sleep)

   Child the sleep 3 SP

2. mindaḷ -eke êsta dexew -êt (the child is sleeping now)

   Child the now sleep 3 SP

In sentence 1, it is not clear whether the child is sleeping at the time of speaking or s/he is going to sleep after the time of speaking. In other words, there does not exist anything in the sentence to indicate if the verb is present or future, thus it can be taken as both. However, the tense can be clearly identified as present if the adverb êsta (now) is added to the sentence. Following from this, Kurdish distinguishes future tense as the following:

a) for the present to express state of actions, facts and habits, for example:

3. Leyla mamostay –e (Layla is a teacher)

   Layla teacher is

4. Zistan sard –e (Winter is cold)

   Winter cold is

5. kuř -eka -n hemw řojêk deçi -n bo mele (the boys go for a swim everyday)

   Boy the s every day go 3pl.pr. for swim

b) for the future to express certainty, for example:

6. kuř -eka -n deçi -n bo mele (the boys will go for a swim)

   Boy the -s go 3pl.pr. for swim

c) for the present expressing actions happening at the time of speaking provided that the adverb êsta (now) is used in the sentence, for example:

7. kuř –eka -n êsta deçi -n bo mele (the boys are going for a swim now)

Boy the -s now go 3pl.pr. for swim

Mahwi (2010, p. 303) explains that the adverb êsta (now) can be used for the past as well as for the future as in the following sentences:

8. êsta jur –eke -m pakirdewe (I have just cleaned the house)

Now room the 1pl.pr. clean

9. êsta jur -eke pakdeke -m ewe (I will clean the house now)

Now room the clean 1sg.pr. part of the verb (suffix)

In sentence 8, êsta (now) indicates that the process of cleaning has just finished, before the time of speaking. However, êsta (now) in sentence 9 means that the process will begin after the time of speaking. Nevertheless, adding to Mahwi's view, the verb in sentence 9 can also be interpreted as happening at the time of speaking, i.e. the speaker is cleaning the house while speaking. This indicates that present and future tenses can be confusing sometimes and they can be highly context-based, nevertheless, the use of adverbs may provide a useful tool in order to distinguish between them.

Past tense is divided into (Mahwi, 2010, p. 285-286):

a) past perfect 1 which expresses an action that happened in the past and finished. This is similar to past simple in English, for example:

10. mindaḷ -eke nust -Ø (the child slept)

Child the slept 3sg.pr.

b) past perfect 2 (progressive) which expresses an action that happened in the past but it may not have finished yet, i.e. the action is continuous until the time of speaking. This is similar to present continuous in English, for example:

11. mindaḷ -eke nustw -e (the child is sleeping)

Child the slept 3sg.pr.

c) past perfect 2 (far) which expresses an action that happened and finished in the past. This tense is used for narration. This is similar to past perfect in English, for example:

12. mindaḷ -eke nustbû-Ø (the child had slept)

Child the slept 3sg.pr.

Agreement

For example:

1.a. min sêw - êk dexo -m. (I'll eat an apple.) b. ême sêw -êk dexo -yn (we'll eat an apple)

I apple an eat 1sg.pr. we apple an eat 1pl.pr.

2.a. to sêw -êk dexo-yt (you'll eat an apple) b. êwe sêw- êk dex-on (you'll (pl) eat an apple)

You apple an eat 2sg.pr. you apple an eat 2pl.pr.

3.a. ew sêw -êk dexw -at (S/he/it'll eat an apple) b. ewan sêw- êk dexo-n (they'll eat an apple)

S/he/it apple an eat 3sg.pr. they apple an eat 3pl.pr.

In each of the above sentences, the highlighted bound pronouns are attached to the end of the verbs and agree with the subjects (the independent personal pronouns) in person and number. If the subjects are deleted, the pronouns can function as the subjects for the sentences (Mahwi, 2010, p. 222), for example:

1.a. sêw -êk dexo -m. b. sêw -êk dexo -yn.

apple an eat 1sg. pr. (I'll eat an apple) apple an eat 1pl.pr. (We'll eat an apple)

For example:

4. ew tenha ktêbekan -y maw -in

she/he/it only the books 3sg.pr. remained 3pl. pr. (S/he/ it only has her/his/its books left)

5. ême cantakan -tan dehên -yn

we the bags 2 pl. pr. will bring 1pl.pr. (we'll bring your bags)

It appears in sentence 4 that there is an agreement, on the one hand, between the subject aw (s/he/it) and the object *ktêbekan* (the books) by the addition of the third person singular bound pronoun *–y*, and between the object *ktêbekan* (the books) and the verb *maw* (remain) shown by the third person plural bound pronoun *–in* on the other hand. However, bound personal pronouns may not always generate ergativity, for sometimes the object and the verb do not agree in number and person. Consider the following sentences:

6. daykim mindaḷekan –y bird –n bo šary yary

My mother the children 3sg.pr. took 3pl. pr. to playground

(My mother took the children to the playground)

7. daykim min –y bird – Ø bo šary yary

My mother me 3sg. pr. took 0pr. to playground

(My mother took me to the playground)

In sentence 6 the agreement is shown between the subject *daykim* (my mother) and the object *mindaḷekan* (the children) by the third person singular pronoun *-y*, and between the object *mindaḷekan* (the children) and the verb *bird* (took) by the third person plural pronoun *-n*. Thus the sentence shows full agreement between the object and the verb in person and number. However, in the second sentence, the object is changed to *min* (me), which does not agree with the verb in number and person. If we consider agreement between the object and the verb, first person singular bound pronoun should be added to the verb, but the sentence will become grammatically incorrect:

8. daykim min –y bird – im bo šary yary

My mother me 3sg. pr. took 1sg. pr. to playground (My mother took me to the playground)

As noted, sentence 7 shows agreement between the subject *daykim* (my mother) and the object *min* (me) but not between the object *min* (me) and the verb *bird* (took) and thus it is not ergative. This example proves that objects and verbs do not always agree in number and person, which, in turn, supports the view that Sorani is a semi-ergative dialect of Kurdish (Muhammad, 2012, p. 34).

Apart from personal pronouns, nouns also agree with verbs. Nouns more than two are combined by the use of the conjunction *u* (and), become plural and agree with the verb, for example:

9. pzišk -ke u perstar -eke qse deke -n

Doctor the and nurse the talking 3pl. pr. (the doctor and the nurse are talking)

Quantifiers

They are another grammatical element that occur in Kurdish sentences and agree with nouns that they modify. They can behave differently based on nouns that follow them. For example:

10. mindaḷ -eke gišt sêw –ekan -y xward

Child the all apple the (pl) 3sg. pr. ate (The child ate all the apples)

11. mindaḷ -eke gišt sêw –eke -y xward (The child ate all the apple)

Child the all apple the 3sg. pr. ate

In sentence 9, *gišt* (all) denotes that the child ate the apples one by one until s/he finished all of them, thus the nouns that follows it has taken plural definite article, but *gišt* (all) in sentence 10 means that the child ate an apple completely, therefore the modified noun has taken singular definite article. A similar rule applies to *hemw* (all) and *hendêk* (some). Moreover, the agreement between a quantifier and its following noun head with the verb is based on the countability and uncountability of the noun head. Such quantifiers are: *hendêk* (some), *hemw* (all), *břêk* (some), *gišt* (all), *her* (any), *gelêk* (many/ much), etc. For example:

11. hendêk gya le baxçekeda řwawe -Ø (some grass has grown in the garden)

Some grass in the garden grown 0pr.

12. hendêk kes hat -n (some people came)

Some people came 3pl. pr.

Sentence 11 shows that *hendêk* (some) is followed by an uncountable noun head *gya* (grass) and thus the verb has taken third person singular bound pronoun. However, *hendêk* (some) in sentence 12 is followed by a countable noun head *kes* (people), which agrees with the verb in person and number. The verb has taken third person plural bound pronoun to show agreement with the subject.

The discussion provided about agreement in Kurdish is given to the extent that is necessary in relation to the elements to which it applies in our data analysis. In other words, agreement is in actual fact a very detailed subject in Kurdish syntax, but we have delimited the discussion here to the types of agreement that we need to analyse the data. Thus, as seen above, only agreement between subjects, objects and verbs are considered.

Word order

For example:

1. min ktêb -eke -m xwêndewe

I book the 1sg.pr read (I read the book)

2. ew name -yek -y bo to nard

s/he letter a 3sg.pr. to you sent (S/he sent a letter to you)

3. ktêb –eke min xwênd –m –ewe

Book the I read 1sg.pr (The book I read)

In sentence 3, *ktêbeke* (the book) is moved to the front of the sentence in order to put the focus on it rather than the other constituents of the sentence. By doing so, the word order is changed from SOV to OSV.

Kurdish adjectives and adverbs, like English, function as modifiers. In Kurdish, modifiers follow their heads and thus provide new information about them. However, determiners and quantifiers, i.e. demonstratives and numerals, precede the noun head (Haig, 2007, p. 2). Kurdish adverbs follow a certain order (Fattah, 1985/2010, p. 225):

S + Adv.[1] + O + Adv.[2] + V + Adv.[3]

Adv.[1] usually describes time, place and manner of a certain action, i.e. of the verb in a sentence. The three types of adverb follow each other in Kurdish, in other words their order is: time, place and manner. For example if we consider the original sentence above and add the three types of adverb to it, the order takes the following form:

4. min dwênê le ktêbxane bepele ktêb –eke –m xwêndewe

I yesterday in library quicky book the 1sg.pr. read (yesterday I read the book quickly in the library)

Now if a sentence contains two adverbs of time, one showing a longer period of time than the other one, it comes before the second adverb (which is shorter in terms of time), for example:

5. min dwênê dw kajêr ktêb –eke –m xwêndewe

I yesterday two hour book the 1sg.pr. read (yesterday I read the book for two hours)

If two adverbs of place co-occur in the same sentence, they can exchange their position in the sentence without any change in their semantic aspect. For example:

6. min le ktêbxane leser kursy ktêb –eke –m xwêndewe

I in library on chair book the 1sg.pr. read (I read the book on a chair in the library)

Or:

7. min leser kursy le ktêbxane ktêb –eke –m xwêndewe

I on chair in library book the 1sg.pr. read (I read the book in the library on a chair)

The examples above indicate that Kurdish adverbs follow the same order of English adverbs.

Adv.[2] occupies the position before the verb and directly modifies it, for example:

8. min ktêb –eke –m bepele xwêndewe

I book the 1sg.pr. quickly read (I read the book quickly)

Adv.[3] directly modifies the action of the sentence. This type is often used in interrogative sentences, for example:

9. çw bo kwê? (ibid, p. 226)

Went to where (where did s/he/ it go?)

Interestingly, unlike English, Kurdish wh-words do not move to the beginning of the sentence, but 'remain in situ (i.e. in the same place as it would be occupied by a corresponding noninterrogative expression)' (Radford, 1997, p. 17, italics in original; Mahwi, 2010, p. 27). Therefore, the question word kwê (where) in sentence 9 remains in the position of the adverb of place that is inquired about and does not move to the front of the sentence.

Although adjectives, like adverbs, follow an established order in Kurdish, they are not considered in this chapter because the corpus do not exhibit any cases that can be addressed in relation to the order of adjectives in Kurdish. Moreover, discussing Kurdish adjectives is a detailed subject that requires a special section, thus it is not covered here.

Number

If a noun head is modified by an adjective, the indefinite article can come at two different positions: either at the end of the noun head, or at the end of the adjective as shown in the following examples:

1. kuř -e paḷewan –êk (a brave boy)

Boy ezafe brave a

2. kuř –êk -y paḷewan (a brave boy)

Boy a ezafe brave

However, if a definite article is used, it comes at the end of the adjective as in the following sentences:

3. kuř -e paḷewan –eke (the brave boy)

Boy ezafe brave the

4. kuř -e paḷewan –ekan (the brave boys)

Boy efaze brave the

Kurdish, unlike English, does not use plural forms for denoting generic elements. Although such usage is not wrong, the use of singular forms without any article is most common and used to talk about things in general. For example:

5. jin yeksan -e legeḷ pyaw (woman is equal to man)

Woman equal is with man

6. nexoš pêwyst –y be çawdêry heye (sick needs care)

Sick need 3SP for care has

Nouns *jin* (woman) and *pyaw* (man) in sentence 5 are singular in form but they have a generic sense. The adjective *nexoš* (sick) which plays the role of a noun in sentence 6 is singular in form but plural in meaning because it refers to the sick in general.

With regard to numbers, Kurdish numerals are divided into two types: cardinals and ordinals (Fakhry, 2005, p. 203). Cardinal numbers are numbers such as *yek* (one), *dw* (two), *sê* (three), *çwar* (four), etc. Ordinal number are number like: *yekem* (first), *dwem* (second), *sêyem* (third), *çwarem* (fourth), etc. Both types can function as determiners, subjects, objects, complements and adverbials (ibid). Unlike English, Kurdish cardinal numerals do not agree with enumerated nouns they modify except for *yek* (one) with which the enumerated noun remains singular in form, for example:

1. yek sêw -m xward (I ate one apple)

One apple 1 sg. pr. ate

2. dw sêw -m xward (I ate two apples)

Two apple 1 sg.pr. ate

3. yanze sêw –m xward (I ate eleven apples)

Eleven apple 1 sg. pr. ate

If we look at the noun *sêw* (apple) in the three sentences above, we can see that they have the same form, i.e. they are all singular. However, even though such nouns are singular in form, they agree with the verb in person and number. For example:

4. hešt mindaḷ hat -n (Eight children came)

Eight child came 3 pl. pr.

5. pênc pzyšik neštergery encamdede -n (five doctors will perform the operation)

Five doctors surgery perform 3 pl. pr.

Unlike English, when definite articles are added to numerals, they tend to come at the end not before (ibid, p. 208), for example:

6. çwar –eke êsta dege –n (The four will arrive now)

Four the now arrive 3 pl. pr.

7. çwarem –eke êsta dega –t (The fourth will arrive now)

Fourth the now arrive 3 sg. pr.

Passive

Passive construction in Sorani Kurdish follows a certain rule (Amin, 2003, p. 271-274):

a) the subjects and any bound personal pronoun agrees with it are deleted,

b) the object occupies the position of the subject, yet it preserves its original function,

c) the root of the transitive verb is taken from the future tense, and based on the tense, two prefixes are added to it: *a*- for the past tense, and *r*- for the future tense

d) tense markers are added to the verbs, *da* for the future, *bw* for the past, and

e) a bound personal pronoun is added to the object based on the object's number and person. For example:

1. a. mindaḷ -eke sêw –eke –y xwardbw (active) b. sêw –eke khwrabw -Ø (passive)

child the apple the 3 SP ate apple the eaten 3 SP

(the child ate the apple) (the apple was eaten)

2. a. mindaḷ -eke sêw -eke dexw -at (active) b. sêw -eke dexwr -êt (passive)

child the apple the eat 3 SP apple the eat 3 SP

(the child eats / is eating/will eat the apple) (the apple is/is being/will be eaten)

Although the above rule for converting an active sentence to passive is often followed, exceptional cases may occur where the verb root is taken from past tense not future (ibid).

Appendix 2

The following is a list of source texts of the corpus which are used for the study investigation. They are put on a CD along with their target texts and are available with this thesis. The STs are:

1. A clinical study of early visual outcome after LASIK

2. A clinical study of the early effect of ND: YAG laser posterior capsulotomy on improvement of visual

3. A comparative trail of labour induction with misoprostol versus oxytocin

4. A prospective study on functional outcome of intra articular hyaluronic acid with oral glucosamine and chondroitin sulfate compared to intra articular hyaluronic acid alone for treatment of early osteoarthritis of knee joint

5. A retrospective study of blunt traumatic hyphema management

6. Acetaminophen and Diclofenac Sodium tablets versus Fentanyl as post-operative analgesic in elective laparoscopic cholecystectomy

7. Active versus expectant management of third stage of labour

8. Adherence to Antihypertensive Treatments and causes of poor or non-adherence in Sulaimani City

9. Awareness of coronary heart disease among patients attending Ali Kamal Health Centre in Sulaimani City

10. Birthmarks and other cutaneous disorders among neonates in the neonatal units of both paediatric and maternity hospitals in Sulaimani city

11. Clinical and hormonal evaluation of women presenting with hirsutism at child bearing age in Slemani city

12. Clinical comparison of the non-contact (air-puff) tonometry with Goldmann application tonometry

13. Clinical evaluation of women in their reproductive ages presenting with diffuse hair loss

14. Concentration-Effect Relationship for the Radical Scavenging Activity of Silibinin Dihemisuccinate and Benfotiamine in Nitrite-induced Hemoglobin Oxidation

15. Diabetes-related knowledge, attitude, practice and beliefs among adult diabetic patients attending diabetic consultation clinic in Sulaimani city

16. Dose-Response Relationship of the Anti-inflammatory Activity of Melatonin in Experimental Animal Models of Acute, Subacute and Chronic Inflammation

17. Echocardiographic findings in patients with essential hypertension

18. Effects of acyclovir on fertility, implantation, and pregnancy outcome in mice

19. Efficacy and Safety of Cryotherapy for the Treatment of Actinic Keratoses, Seborrhic Keratoses and Viral Warts in Sulaimani City

20. Efficacy of salicylic acid solution as a peeling agent in combination with depigmenting agents in the treatment of melasma in Sulaimani city

21. Electroencephalographic study in patients with newly-developed epileptic seizure

22. Estimation of optimal time needed for tracheal intubation with sevoflurane in surgical paediatric patients

23. Evaluation of lipid profiles in systemic lupus erythematosus patients

24. Evaluation of serum Magnesium, Chromium, Vanadium, and Selenium levels in type two diabetic patients in Sulaimani city

25. Expression of BCL-2 protein in breast cancer tissues and its association with clinicopathologic factors

26. Giardia Lamblia effect on PCV and some biochemical parameter

27. Growth of testes and changes in seminiferous tubules in different types of azoospermia

28. Haemodynamic changes in smoker patients during general anaesthesia

29. Haemodynamic response to orotracheal intubation: direct laryngoscopy compared with fiberoptic bronchoscopy

30. Histologic demonstration of Helicobacter Pylori in patients with gastritis and peptic ulcer in Sulaimani

31. Histological features, risk factors of carcinoma of urinary bladder; analysis of 20 cases

32. Immunohistochemical analysis of P53 protein in colorectal carcinoma and its relationships to clinicppathological features

33. Knowledge of tuberculous patients on the disease and their treatment outcome of directly observed treatment short course programme with emphasis on WHO strategy in Kirkuk-Iraq

34. Laparoscopic anatomical study of the gallbladder and extrahepatic biliary tree

35. Managements of basal cell carcinoma in Sulaimani governorate

36. Measles immunization and the level of circulating anti-measles antibodies among under five-year children in Sulaimani

37. Measurement of Malondialdehyde level in blood of Kurdish women with Preeclampsia

38. Outcome of patients with acute coronary syndrome in cardiac care unit of Sulaimani city

39. Pharmacognostic and pharmacologic study of Silybum marianum growth in Iraqi-Kurdistan region

40. Polymerase chain reaction based identification of infectious cases caused by Pseudomonas spp.

41. Prenatal prediction of foetal birth weight by using ultrasonography in singleton full term healthy pregnant women

42. Preoperative haemostatic screen in Sulaimani governorate

43. Prevalence of diabetic retinopathy in diabetic patients in Sulaimani city

44. Prevalence of refractive errors among secondary schools students in Sulaimani

45. Protective effect of benfotiamine in the experimentally-induced hepatotoxicity with CCI4 in rates

46. Putative role of mitogen activated protein kinase kinase 4 (MKK4) in colorectal tumorigenesis

47. Scoring atopic dermatitis a clinical tool to evaluate the severity of atopic dermatitis in Shaheed Sayfadden Consultation Clinic

48. Seroepidemilogical survey of cytomegalovirus (CMV) infection among pregnant women in Sulaimani city

49. Seroprevalence of toxoplasmosis among women in Sulaimani governorate

50. Serum Leptin Levels in Patients with Primary Hypothyroidism

51. Some Dermatoses Related to Solar Radiation Exposure in Sulaimani

52. Sonographic and computed tomographic assessment of focal liver lesions

53. Sublingual Misoprostol versus intravenous Oxytocin for active management of the third stage of labour

54. The effect of chelating therapy on the levels of serum ferritin, zinc, copper and malondialdehyde in patients with B-thalassemia major

55. The Efficacy of Bifocal Right Ventricular Pacing in Cardiac Resynchronization Therapy for the Treatment of Heart Failure

56. The Frequency of Psoriatic Arthritis in Psoriatic Patients in Sulaimany city

57. The functional outcome of conservative treatment for the proximal humeral fractures (type two-part and three-part fractures) 58. The incidence of rotavirus and adenovirus infections among children with diarrhoea in Sulaimani province

59. The prevalence of hepatitis C virus antibody among blood donors in Sulaimani city

60. The role of flexible nasopharyngolaryngoscop in the diagnosis of patients with hoarseness

61. The role of various outpatient aural toileting procedures in the treatment of otomycosis

62. The values of intratumoral mast cells in the differential diagnosis of uterine smooth muscle neoplasms 63. Thrombocytopenia in pregnancy

64. Treatment of intracapsular femoral neck fracture with multiple cannulated lag screws

65. Unintentional injuries amongst children in Sulaimani city

Appendix 3

The Excel sheets which are used for the analysis of the corpus are all put on a CD and are available with this thesis. The software includes terminological, syntactic and textual analysis of the corpus.

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