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TRABAJO DE FIN DE GRADO

The Significant Role of the Translator: An Illustration
of the Analytical and Documentary Work to be
Developed in the Translation of a Specialized
Medical Text

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ABSTRACT

The aim of this undergraduate dissertation is to claim the significance of the translator's role, as well as to exemplify the analytical and documentary work to be developed in specialized medical translation. In order to achieve this purpose, the translator's dilemma has been briefly discussed, noting the underestimation and criticism typically associated with this profession. Furthermore, medical language has been covered in depth to illustrate potential translation problems. Before translating, an analysis of the main features of the ST has determined the communicative context at issue. The methodology followed for the subsequent translation has been based on documentation, particularly on the consultation of Spanish parallel texts. Finally, some examples regarding translation procedures and medical language have been spotted and commented after the elaboration of the TT. These results have provided a work model for medical translators and have confirmed the complexity of specialized professional translation.

Keywords: translator's dilemma, medical translation, documentation, parallel texts, analytical work.

RESUMEN

El objetivo de este proyecto es defender la importancia del traductor y ejemplificar el trabajo analítico y documental a desarrollar en la traducción médica especializada. Para conseguir dicho propósito, se ha tratado brevemente el dilema del traductor, haciendo hincapié en la infravaloración y la crítica que suelen asociarse a esta profesión. Asimismo, se ha hablado con detalle del lenguaje médico para poner de manifiesto posibles problemas de traducción. Antes de traducir, un análisis de las principales características del TO ha determinado el contexto comunicativo en cuestión. La metodología utilizada durante la traducción se ha basado en documentación, concretamente en la consulta de textos paralelos españoles. Tras la elaboración del TM, se han comentado algunos ejemplos relacionados con los procedimientos de traducción y el lenguaje médico. Estos resultados han proporcionado un modelo de trabajo para traductores médicos y han constatado la complejidad de la traducción profesional especializada.

Palabras Clave: dilema del traductor, traducción médica, documentación, textos paralelos, trabajo analítico.

Table of Contents

1.	Introduction.....	8
2.	Translation: Origin and Dilemma of the Translator’s Role.....	9
3.	Language: Challenges for the Translator to Overcome	11
3.1.	LGP vs. LSPs	11
3.1.1.	The Language of Medicine.....	13
3.1.1.1.	Scientific Monolingualism: Advantages vs. Disadvantages	13
3.1.1.2.	Thematic Breadth of the Medical Field.....	14
3.1.1.3.	Variety of Medical Genres	15
3.1.1.4.	Communicative Settings in the Medical Field	17
3.1.1.5.	Communicative Functions in the Medical Field	18
3.1.1.6.	Specific Medical Terminology: Complexity and Hybridism.....	19
4.	Methodology.....	20
4.1.	Documentation Process.....	20
4.1.1.	Parallel Texts.....	21
4.2.	Finding Equivalent Terms for the TT	21
5.	Results: Translation and Analysis of a Specialized Medical Text.....	23
5.1.	Characteristics of the ST	23
5.1.1.	Genre	23
5.1.2.	Register.....	23
5.1.3.	Communicative Setting and Function	24
5.2.	Full Translation	24
5.3.	Analysis at Sentence Level	25
5.3.1.	Comments on the Translation Procedures.....	25

5.3.1.1.	Transpositions.....	25
5.3.1.2.	Adverbs.....	27
5.3.1.3.	Additions	27
5.3.2.	Comments on the Terms Found in the ST.....	29
5.3.2.1.	Nominalizations.....	29
5.3.2.2.	Affixation	30
5.3.2.3.	Compounding	31
5.3.2.4.	Acronyms	32
5.3.2.5.	Eponyms	33
5.3.2.6.	Metaphors	34
5.3.2.7.	Redundancies.....	35
6.	Conclusion	36
7.	Bibliographical References.....	39
8.	Appendix.....	40

List of Abbreviations

ST – Source Text	TO – Texto Origen
TT – Target Text	TM – Texto Meta
SL – Source Language	LGP – Language for General Purposes
TL – Target Language	LSPs – Languages for Specific Purposes

List of Tables

<i>Table 1:</i> Transpositions used in the TT for naturalization purposes	26
<i>Table 2:</i> Alternative translations for English adverbs in the TT	27
<i>Table 3:</i> Additions inserted in the TT for clarification purposes	28
<i>Table 4:</i> Nominalizations located in the ST together with their verbal origin	29
<i>Table 5:</i> Affixation found in the ST and the meaning of the affixes.....	30
<i>Table 6:</i> Compounds located in both the ST and the TT (pre vs. postmodification)	32
<i>Table 7:</i> Acronyms found in the ST and their translation in the TT	33
<i>Table 8:</i> Eponyms located in the ST and their translation in the TT.....	33
<i>Table 9:</i> Warlike metaphors used in the ST for comprehension purposes	34
<i>Table 10:</i> Redundancies used in the ST for clarification purposes	35

List of Figures

<i>Figure 1:</i> Spanish equivalent of the English term <i>antigen cells</i>	40
<i>Figure 2:</i> Spanish equivalent, acronym and phraseology of <i>antigen cells</i>	41
<i>Figure 3:</i> Full version and acronym of the English term <i>antigen cells</i>	41
<i>Figure 4:</i> Spanish equivalent of the English term <i>HIV positive (person)</i>	41
<i>Figure 5:</i> Bilingual example of <i>HIV-positive patients</i> (English vs. Spanish)	41
<i>Figure 6:</i> Alternative translation of the English term <i>HIV positive (person)</i>	42

1. Introduction

Translation is an activity that naturally emerges to help people overcome language and cultural barriers around the world. The most important figure within this activity is the translator, who is the one performing linguistic and cultural mediations. However, his role is generally overlooked and underestimated. To take an example, people pay attention to the foreign author of a book, but tend to forget about the translator allowing them to have access to that work, which is also a quite meritorious task.

Departing from this notion, the theoretical part of this undergraduate dissertation will include sections 2 and 3. Section 2 will discuss the significant role of the translator and the criticism of his work. Considering that this dissertation deals with specialized medical translation, section 3 will briefly cover the major distinction between LGP and LSPs, as well as the detailed description of the language of medicine. The distinguishing features of medical language will be presented in different subsections regarding scientific monolingualism, the thematic breadth of the medical field, the variety of medical genres, the communicative settings/functions occurring in this domain, and the complexity of specific medical terminology.

The practical part of this dissertation will include sections 4 and 5. Section 4 will explain the consultation of parallel texts, as well as the documentation approach followed during the elaboration of the Spanish TT. In addition, two representative cases will be displayed in order to further illustrate the methodology chosen. Section 5 will present the full version of the TT and the analysis of the English ST. Such analysis will comprise the study of the ST in terms of register, genre, setting and function; as well as the identification of several elements defining medical language within it. Furthermore, several comments of some translation procedures implying the TT will be considered.

To conclude, this undergraduate dissertation will hopefully exemplify the complexity of the analytical and documentary work accomplished by medical translators. Although those conclusions will be limited to the field of medicine, they might be extrapolated to other translation domains as a way to support the importance of professional translators, refuting their underestimation somehow.

2. Translation: Origin and Dilemma of the Translator's Role

Whenever we talk about translation, it is not enough to consider it as an activity consisting of simply transferring a text from a SL into a TL. Translation is a very complex activity in which many factors intervene and must be carefully considered. The figure of the translator becomes crucial since he is the one who directly deals with a great variety of translation problems. In this section, the translation process and the complicated labor that the translator must accomplish are going to be discussed.

According to Ruiz Casanova, Partzsch and Pennone (2005, 7), “Vivimos, sin duda, en una *Era de Traducción* ... vivimos en una era en la que la traducción se ha manifestado en nuestro consciente como *machina* interna ... que mueve el ser cultural de la humanidad”. In other words, translation is an undeniable necessity nowadays. Globalization and the great information flow that takes place around the world triggers the requirement to transmit such knowledge to other people. However, here comes the problem: the existence of different languages and cultures. Despite how cultivated a person could be or how many foreign languages he/she could manage to learn, there is no way that an individual will never need to have access to some translated material.

The translation process is, therefore, an ancient activity that has existed for so long, although it is true that translation techniques have improved, as well as the translation demand has increased with time. Nevertheless, some authors such as Ricoeur (2001, 18-19) noted that there are some translation problems that remain unsolved, being the ones constituting the translator's dilemma:

no existe criterio absoluto de buena traducción. Para que tal criterio estuviese disponible, habría que poder comparar el texto de partida y el texto de llegada con un tercer texto que contendría ese sentido idéntico que supuestamente circula del primero al segundo ... De ahí la paradoja, previa al dilema: una buena traducción sólo puede aspirar a una equivalencia supuesta, no fundada en una *identidad* de sentido demostrable ... Y la única manera de criticar una traducción ... es proponer otra que presumimos o pretendemos que es mejor o diferente.

Ricoeur (2001) departed from the premise that translators must convey the original message of the SL in the most reliable way for the target audience. However, as he stated in the previous quotation, no translator can elaborate an absolutely perfect translation. Ricoeur (2001) remarked that natural languages differ greatly from each other, something

that makes the translator's role extremely difficult since transmitting the same message with different words from a foreign language may become an incredibly arduous task. Translators might eventually find words, expressions or even concepts in the SL that do not exist in the TL and, therefore, raise a translation issue. That is why this author asserted that equivalence is essential in every translation process. Nonetheless, Ricoeur (2001) was aware that such equivalence implies certain subjectivity, which causes the criticism of the translator's work and the existence of numerous alternative translations.

Ruiz Casanova, Partzsch and Pennone (2005) were focused on the problems to be faced when translating poetry, but they discussed translation difficulties from an interesting point of view. According to these authors, there are two important dualisms that are pointed out as some of the main problems to be noticed in the translation theory, as well as the major elements that the criticism of the translator's labor is based on: *gain vs. loss* and *faithfulness vs. unfaithfulness* (Ruiz Casanova, Partzsch, and Pennone 2005, 36). Translators are the ones who carry out the translation itself and encounter both dualisms, which are unavoidable for them. Nonetheless, those dichotomies are inadequate from the point of view of the critic because they lead to a quality and reliability loss that makes the TT inappropriate. For this reason, Ruiz Casanova, Partzsch and Pennone (2005, 33) considered that "la traducción ... es una idea de *trasiago de significados* que se evalúan y calibran según unos muy discutibles patrones o ideas de *fidelidad*".

Taking all these notions into account, many authors have argued that the translator has been the most damaged element in the incredibly complex translation framework. Other authors such as Olohan (2004, 4-5) talked about the underestimation of the translator as a problem to be given serious consideration in different translation domains:

This lack of consideration or relative invisibility of the translator of literary and other works is not unusual ... when the presence of the translator is recognized, it is often as a result of perceived short-comings in their work.

Hence, Ruiz Casanova, Partzsch and Pennone (2005), Ricoeur (2001) and Olohan (2004) claimed that being faithful to the original message of the SL has put the translator in a dilemma. The problem is that following the traditional rules may not provide a correct result; while finding an equivalence in the TL may be subject of criticism. As a result,

and from the point of view of these authors, the translator has been unfairly judged many times and the effort performed in his work has not always been properly valued.

3. Language: Challenges for the Translator to Overcome

Knowing the importance of the translator, it is essential to consider the different types of language that he may be working with. This results from the fact that translation problems will vary depending on the type of text concerned in each case. Here the merit of the translator comes into play again since, as Olohan (2004, 4) said “we gain access to the strangeness through the familiarity of language produced for us by the translator as linguistic and cultural mediator”. In this section, the characteristics defining and differentiating general, specialized and medical languages are going to be broadly discussed.

3.1. *LGP vs. LSPs*

Whenever we think about different types of language, the distinction between LGP and LSPs is one of the first things that comes to our mind. These languages differ in some of their features as well as they share many others, which turns their discrimination into a very controversial issue. As Cabré (1993, 148) remarked:

El tema de la diferencia entre la lengua general ... y las lenguas de especialidad es de difícil resolución ... Algunos autores han concebido a los lenguajes especializados por la temática como sistemas totalmente diferenciados de la lengua común. Esta afirmación, en términos absolutos, no parece muy adecuada.

In order to understand the differences and similarities between LGP and LSPs, Cabré (1993, 151) tried to describe them by taking into account their linguistic, pragmatic and functional aspects, respectively.

Analyzing LGP and LSPs, Cabré (1993, 152) demonstrated the unavoidable connection between them by spotting some important coincidences, as for instance that they share the same graphic, phonological and morphological systems, as well as the same type of sentences. In other words, she argued that these languages “muestran coincidencias

lingüísticas harto significativas que revelan que han sido contruidos a partir de un sistema común” (Cabré 1993, 151).

Regarding linguistic aspects, Cabré (1993, 153) found that the vocabulary appearing in specialized texts is much more complex than the one used in common speech, as well as certain linguistic structures such as nominalizations, loans, acronyms or symbols are more frequent in specialized contexts.

According to pragmatic aspects, this professor considered them as those allowing the clearest distinction between LGP and LSPs because “Con los lenguajes de especialidad no puede vincularse cualquier tema relacionado con el mundo y la vida cotidiana, sino solamente temas de carácter científico, técnico o profesional” (Cabré 1993, 154). This concept is quite easy to understand since there are specialized topics that will never be the subject of everyday conversation, and vice versa.

Concerning functional aspects, Cabré (1993, 154) asserted that people use LGP to fulfill many functions that go beyond a mere intercommunication between them. Here she assumed the six linguistic functions established by Jakobson (1963): metalingual, referential, phatic, conative, poetic and emotive (Cabré 1993, 154). Notwithstanding, this author found that some of them were not commonly used in LSPs because their main purpose concentrates on transmitting the audience specific data about a specialized topic (Cabré 1993, 155). That is why, to ensure that the information is perfectly understood by the reader, she noted that “los textos especializados recurren a menudo a ... la descripción, la definición, la clasificación, la enumeración, el cálculo, el razonamiento, la argumentación, la citación, la referencia, etc.” (Cabré 1993, 155)

Therefore, depending on the type of text translators are dealing with, a specific set of features and functions will have to be maintained in the TL. Taking into account all the aspects that should be analyzed, and going back to the ideas stated by authors like Ruiz Casanova, Partzsch and Pennone (2005), Ricoeur (2001) and Olohan (2004), it is possible to understand the complexity of the translator’s work.

3.1.1. The Language of Medicine

There are many different types of language and each one requires a careful consideration when translating. After the major distinction between LGP and LSPs, now the discussion will be focused on the language of medicine since it is the one concerned with this dissertation. This subsection aims to review some defining features of medical language as a specialized way of communication.

3.1.1.1. Scientific Monolingualism: Advantages vs. Disadvantages

As Navarro González (2001) claimed, the English language has a total predominance in the medical domain at international level nowadays. Analyzing the impact that such predominance has caused in the way in which the medical community transmits information, this author established two important consequences: the simplification of international communication and the influence of English in the current medical language.

Concerning *the simplification of international communication*, Navarro González (2001) considered it a significant advantage because “la supremacía actual del inglés ha resultado muy eficaz para derribar las barreras nacionales de principios del siglo XX y garantizar la difusión mundial de los conocimientos y los avances científicos”. As it was already discussed in section 2, it is not possible to deny the fact that translation is a communication instrument that has become indispensable in order to fulfill the necessity to share knowledge in our current global society.

On the contrary, this doctor identified *the influence of English in the current medical language* as the major disadvantage to be found in this matter. Navarro González (2001) departed from the premise that “Los médicos de habla hispana suelen ser conscientes de que el inglés está modificando el uso que hacen de su lengua materna, pero no lo son tanto de la intensidad y el alcance de esta influencia”.

Talking about all these problems, Navarro González (2001) presented linguistic discrimination as an important obstacle inasmuch as the evaluation of a medical research depends on the impact registered in the Science Citation Index (SCI), which disregards the real quality of the research itself. He also emphasized the scope of the issue by stating

that, as a general rule in non-English-speaking countries, “un artículo escrito en un idioma nacional se considera de calidad inferior a otro idéntico escrito en inglés”. That is to say, for those physicians whose mother tongue is not English, language difference automatically establishes an unfair barrier that hinders the development and valuation of their professional career.

Somehow connected with this matter, Navarro González (2001) highlighted the linguistic modifications that English causes in other languages at sentence level. Focusing on Spanish medical language, this expert noted that the nature of the problem lies in the fact that it has mainly resulted from a direct translation of scientific English. In order to make it clear, Navarro González (2001) explained that “lo que habitualmente tenemos por textos escritos originalmente en español corresponde en realidad a textos escritos por autores que leen en inglés y escriben en español ... que traducen del inglés”. From his point of view, such circumstance is not surprising since the predominance of English in the medical domain makes it easier for physicians to find information written in that language.

Trying to find a solution for the issues mentioned, this previous author suggested that close collaboration between translators and physicians would be a great combination of medical and linguistic knowledge that would definitely help improve the way in which medical language is used. Cooperation is thus needed because “la traducción científica en los países de habla hispana no está fundamentalmente en manos de los traductores profesionales ... sino en manos de los propios científicos” (Navarro González 2001).

3.1.1.2. Thematic Breadth of the Medical Field

When we talk about medicine, we must be aware that it is a very wide domain. Marsh (1999) indicated that there are many different medical specialties conforming an intricate network of interrelated disciplines. Pondering this idea and reflecting about the amount of knowledge to be managed in the medical field, he extrapolated this hindrance from physicians to translators as follows: if it is impossible for the former to be skilled in every area of expertise, so it would be for the latter. Therefore, Marsh (1999) observed that “aun en el supuesto caso del traductor profesional que se dedicara exclusivamente a la traducción médica, no podría dominar todas las áreas”.

With respect to this, Montalt Resurrecció and González Davies (2007, 198) classified the main obstacles to be faced by medical translators into two major types: “those which hinder a true understanding of the original ... and those which may adversely affect the completion of a reliable finished product”. They considered that medical translators need a lot of information in order to do a good job because many of the hardships they encounter derive from a lack of data. This problem is quite difficult to solve since, as previously mentioned, medicine is a very wide and complex domain. That is why these previous authors asserted that medical translators tend to find solutions for translation problems by using documentary sources or, if possible, by consulting physicians themselves (Montalt Resurrecció and González Davies 2007, 200).

The great thematic breadth of the medical field demonstrates the complexity of this domain and supports the solution already offered by Navarro González (2001). The combination of knowledge from both physicians and translators will be the ideal way to manage an amount of medical data that seems to be completely unmanageable. Such association will definitely enrich and improve the quality of professional medical translations.

3.1.1.3. Variety of Medical Genres

Genre definition is a controversial issue because its notion is much more complex than it may seem. In fact, there are a lot of explanations offered by researchers nowadays. García Izquierdo (2009, 17) quoted Kress (1985) to define genres as “conventionalized forms of texts which reflect the functions and goals involved in a particular social occasions as well as the purposes of the participants in them”. Furthermore, she defined genre herself as “forma convencionalizada de texto que posee una función específica en la cultura en la que se inscribe y refleja un propósito del emisor previsible por parte del receptor” (García Izquierdo 2009, 17). Therefore, genres do not only involve texts themselves, but also many extratextual aspects.

Considering that genres are so complex, their study eventually becomes complicated. According to Biber, Conrad and Reppen (2007, 137), there is a general agreement among researchers that the most comprehensive way to accomplish the study of genre features is given by corpus-based techniques. These authors noted that a corpus may be very useful

to identify the linguistic patterns existing in different genres and their resulting divergence (Biber, Conrad, and Reppen 2007, 138). However, they also established that “quantitative techniques are not sufficient in themselves. Rather, qualitative interpretations are necessary to examine the functional bases underlying patterns of linguistic features” (Biber, Conrad, and Reppen 2007, 139). From these ideas it is deduced that genre analysis must be carried out at both objective and subjective levels.

In relation to this, there have been developed two major methodological approaches regarding genre studies: the quantitative and the qualitative method (García Izquierdo 2009, 25). When bearing in mind which approach must be chosen, there is a quite clear consensus among authors that:

es aconsejable la combinación de ambos métodos, ya que nos permite objetivar ... los resultados obtenidos del análisis de las diferentes variables mediante su cuantificación ... pero también identificar la naturaleza y el sistema de relaciones de una realidad concreta. (García Izquierdo 2009, 26)

We have already seen the thematic breadth of the medical field. Connecting the previous notions about genres with medicine, it is not surprising to find out that there is a great variety of medical genres. Montalt Resurrecció and González Davies (2007, 30-31) enumerated some of them, as for instance research papers, medical histories, medical encyclopedias and drug advertisements. In order to arrange the overwhelming amount of medical genres, García Izquierdo (2009, 20) resorted to the so-called *colonias de géneros*, which were defined by Bathia (2004) as “groupings of closely related genres serving broadly similar communicative purposes, but not necessarily all the communicative purposes in cases where they serve more than one”. This idea allowed researchers to divide medical genres according to their general aim, creating categories such as professional practice, research, trade or education (Montalt Resurrecció and González Davies 2007, 30).

Nonetheless, genre classifications are not perfectly accurate since “some of them ... can be included in more than one category” (Montalt Resurrecció and González Davies 2007, 30). The distinction among medical genres will thus depend on the consideration of different communicative settings and functions that will determine the characteristics and interpretations of each type of medical text. Such concerns will be discussed below.

3.1.1.4. *Communicative Settings in the Medical Field*

García Izquierdo (2009) argued that genres require the consideration of several extratextual aspects because they are a cultural activity. Following Monzó (2001), she claimed that “el hecho de que tengamos que observar el género desde una perspectiva cultural, pone de manifiesto que es ... un medio de *socialización*” (García Izquierdo 2009, 17). If social interaction is so determining in this matter, it will have to be regarded when dealing with different medical genres. Montalt Resurrecció and González Davies (2007, 46) listed some of the participants involved in medial contexts, as for instance physicians, patients, surgeons, medical students, researchers and carers. From the point of view of these authors, medical communication goes beyond written texts or research papers, so that “it can be seen as a rich, dynamic continuum moving from research articles to educational television documentaries” (Montalt Resurrecció and González Davies 2007, 46).

Taking into account the participants involved in each communicative setting, Montalt Resurrecció and González Davies (2007, 47) tried to illustrate the intricacy of medical communication by using three representative dualisms: *top-down vs. bottom-up*, *specialized vs. popular* and *formal vs. informal*.

The first dualism regards the origin of new medical knowledge, as well as the direction towards it flows. Montalt Resurrecció and González Davies (2007, 47) explained that in the top-down direction “New knowledge is generated by researchers in laboratories and hospitals, and then distributed ... so that it can benefit patients, companies and the general public”. On the contrary, these authors described the bottom-up direction as an information flow that comes from patients and goes to physicians, providing essential data for future investigations.

The second dualism deals with the degree of expertise of those participants who are involved in a particular communicative situation. Montalt Resurrecció and González Davies (2007, 47) stated that “The transmission of medical knowledge takes place in a wide range of situations from highly specialized research papers ... to newspapers articles”. Therefore, they emphasized the existence of several degrees of specialization corresponding to a broad range of medical settings.

The third dualism copes with the register variation of medical language depending on the communicative context. Montalt Resurrecció and González Davies (2007, 47) asserted that “Formal communication in the medical field might involve published papers or presentations at conferences. But ... medicine involves a wide variety of communicative practices”. These previous authors highlighted that most medical communication occurs in informal settings, as for instance in patients’ consultations.

Since medicine is a specialized field that uses a specialized language, it could be declared that the key element to classify different communicative settings within the medical domain lies in the degree of expertise of participants. However, Montalt Resurrecció and González Davies (2007, 52) reminded that there are no absolute but gradual degrees of specialization, which will increase both the complexity of the text itself and the difficulty of the translator’s work.

Hence, a great variety of participants generates a great variety of communicative settings, which justifies the existence of a large amount of medical genres that meets the needs of the incredibly complex medical interactions.

3.1.1.5. Communicative Functions in the Medical Field

The functions displayed by medical texts are also widely varied. As Montalt Resurrecció and González Davies (2007, 52) stated, in order to determine the communicative purposes of a medical genre “it is important to consider who is likely to read it and in which circumstances”. In other words, these authors remarked the importance of each communicative setting, since the addresser must select the genre that better suits the addressee when transmitting a particular message (Montalt Resurrecció and González Davies 2007, 53).

Keep on following Montalt Resurrecció and González Davies (2007, 55), there are many medical texts dealing with the same theme but having completely different functions. That is to say, functions are always adapted to contexts. For instance, if a physician wants to communicate the results of his investigation, he will choose a different genre depending on the reader: another physician, a medical student or a patient (Montalt Resurrecció and González Davies 2007, 53-54).

According to Cabré (1993, 161), the main function of medical and other specialized texts is to transmit information accurately and objectively, avoiding any ambiguity that may alter the message. However, each communicative situation presents several nuances that will modify the *basic* communicative function of each medical text. In relation to this, Montalt Resurrecció and González Davies (2007, 56) established the existence of a *functional intertextuality* that “underlines the fact that genres are dependent on each other as far as communication is concerned because each of them covers specific needs of writers and readers”. Here again, it is possible to see a clear connection between the large variety of genres, settings and functions that may be found within the medical field.

3.1.1.6. Specific Medical Terminology: Complexity and Hybridism

Although terminology is not the only characteristic of LSPs, there is a consensus among authors that it is, indeed, one of their essential and distinguishing features. In relation with the thematic breadth of medicine, Congost Maestre (1994, 33) identified expertise as one of the main problems encountered when we are dealing with medical terms: “El dominio del vocabulario de una materia dentro de un campo determinado no implica un entendimiento de las otras materias del mismo campo, aunque estén estrechamente relacionadas”. On the basis of Newmark (1986), Congost Maestre (1994, 31) offered a general classification of lexical terms that may be found in the language of medicine:

existen los términos utilizados por el lego que incluyen variantes léxicas del habla familiar como papeas, anginas, garrotillo (nivel popular); los términos formales usados por expertos como osteoartritis, parotiditis, amigdalitis, difteria (nivel profesional); y el latinismo *malum coaxe senilis* (nivel académico), que tiene como propósito conseguir que la fosilización de un esnobismo existente hoy en día – la superioridad de las lenguas clásicas – lleve a un término aceptado internacionalmente como punto de referencia.

This author assumed the fact that almost all medical terms come from Greek and Latin, which is quite unnatural in English since it is not as formal as romance languages (Congost Maestre 1994, 32-33). That implies another obstacle in the task of the translator because he encounters “palabras ... que presentan problemas a la hora de traducir, como son palabras aparentemente claras pero poco corrientes ... que han de ser revisadas, ya que el traductor de textos científico-técnicos no debe producir neologismos” (Congost Maestre 1994, 33).

Moreover, using medical terminology becomes even harder due to a phenomenon already described by García Izquierdo (2009) and Montalt Resurrecció and González Davies (2007): the social nature of medical genres derived from the interaction between a broad spectrum of participants. On the bases of Díaz Rojo (2005), García Izquierdo (2009, 23) claimed the influence of this phenomenon in the language of medicine in the sense that:

presenta características específicas, derivadas de la naturaleza misma de la ciencia que vehicula y del funcionamiento de la sociedad que lo acoge ... que lo convierten en un caso paradigmático de *hibridismo* entre la lengua de especialidad y la lengua común, más evidente que en otras de las llamadas *ciencias experimentales*.

Following Congost Maestre (1994, 33), the confusion typical of medical vocabulary is a major problem derived from the mixture of professional, popular, modern and archaic terms. All these ideas lead to the conclusion that medical terminology is not easy to use, neither for authors nor for translators. Moreover, this sort of chaos seems to go in line with the one that is also found in medical genres, settings and functions.

4. Methodology

This section aims to explain the methodology followed during the translation of a medical text. Since documentary work is essential in specialized translation, a documentation approach was followed in this dissertation. This method allowed to find both background information and translation options by means of the consultation of Spanish parallel texts on the subject matter. Besides documentation, some dictionaries such as *Diccionario Crítico de Dudas Inglés-Español de Medicina*, *Oxford Dictionary*, *Collins Dictionary* and *The Free Medical Dictionary* were also used.

4.1. Documentation Process

Documentation was the methodological approach followed in the elaboration of the TT. Many authors agree that documentary work is crucial for translators when dealing with LSPs. As Montalt Resurrecció and González Davies (2007, 199-200) stated:

When we are faced with translating a highly specialized text on an unfamiliar topic, it is always advisable to spend time researching the subject matter before launching into the task of reading

and making sense of the text. If the subject matter is already familiar, then before embarking on any checks or searches or consulting any documents, the text should be read very thoroughly.

Before starting my degree, I was particularly focused on the study of health sciences. I am a Superior Technician in Clinical Diagnostic Laboratory, which allowed me to get familiar with some scientific disciplines such as Hematology, Immunology, Biochemistry, Microbiology and Human Anatomy. My knowledge facilitated the comprehension of the ST, as well as the search of appropriate documents to solve difficulties that were spotted after the reading process.

4.1.1. Parallel Texts

According to Méndez Cendón (2016), parallel texts are very useful for translators because they provide terminology, phraseology and syntactic structures typically used in the TL. She defined parallel texts as:

texts written in different languages which were produced originally in a given language by competent native speakers. They are not translations from each other but deal with a very similar topic and coincide in their communicative function and belong to the same text type and genre. (Méndez Cendón 2016)

In this case, parallel texts were found by using the Google Advanced Search engine, filtering texts from Spain that were originally written in Spanish. That way, it was possible to obtain correct and natural translation options for peninsular Spanish. Since the ST was addressed to a non-expert audience, these parallel texts were mainly Spanish popular science articles and didactic texts.

4.2. Finding Equivalent Terms for the TT

The documentation process developed through the consultation of parallel texts is going to be illustrated in this subsection. As an example of how equivalent terms were searched in the TL, two cases will be described below. Some images clarifying the explanations are attached in the appendix.

Antigen Cells

The initial search was a literal translation of the source term *antigen cells*: *células de antígeno*. Nonetheless, the translation option found on the Internet was *células presentadoras de antígeno*, which is a widely used term in peninsular Spanish (see Figures 1 and 2). It was also possible to find some term variants, as for instance *células que presentan antígeno* (see Figure 2), but they were not very frequent.

On the other hand, it was observed that the Spanish equivalent *células presentadoras de antígeno* tends to appear next to the acronym *APC*, which does not match the initial letters of the Spanish term. Since the acronym may come from English, the search was then focused on the source term *antigen cells*. This time it was necessary to change the criteria, filtering texts from the USA that were originally written in English. The results confirmed that the term *antigen cells* was actually an abbreviation of *antigen-presenting cells* (see Figure 3). Moreover, the meaning of the acronym *APC* was verified.

Considering its high frequency of occurrence, as well as its clear correspondence with the English term *antigen-presenting cells*, the final translation chosen for the TT was *células presentadoras de antígeno*.

HIV Positive (Person)

The initial search involved the Spanish term *persona VIH positiva*, being possible to find several instances on the Internet (see Figure 4). However, a bilingual example was encountered during the search, so that the SL and the TL could be compared: *HIV-positive patients* vs. *pacientes VIH-positivo* (see Figure 5). Although this was not an ideal example since it differed from *persona VIH positiva* to *paciente VIH positivo*, the bilingual comparison of the term gave rise to the suspicion that the Spanish equivalent initially found on the Internet could be a calque from English.

Because of that, it was decided to look for an equivalent that was more adapted to the TL. The search was then focused on the term *persona seropositiva*, being possible to find examples in many texts (see Figure 6). This Spanish term is perfectly valid to express that a person has been infected by the HIV virus, whether or not he/she is currently suffering the disease.

The last version fits the meaning of the source term, as well as it sounds more natural in peninsular Spanish. Therefore, the final translation chosen after the documentation process was *persona seropositiva*.

5. Results: Translation and Analysis of a Specialized Medical Text

This section comprises the results corresponding to the practical part of this dissertation, which is based on the translation and analysis of a specialized medical text. This practical part will include the description of the main characteristics of the ST, the full version of the translation, and the presentation of the analysis at sentence level.

5.1. Characteristics of the ST

Some of the main features of the English ST will be discussed here, specifically those related to genre, register and communicative setting and function. It is important to remark that analyzing those aspects is very helpful not only to interpret the context of the ST, but also to make translation decisions.

5.1.1. Genre

This ST belongs to the group of medical genres having educational purposes. As Montalt Resurrecció and González Davies (2007, 31) stated, “*Educational genres* are used to teach and learn in a wide range of contexts, from university courses to institutional campaigns to domestic life”. In order to specify a particular genre within this group, it can be said that the ST is a manual of medicine.

5.1.2. Register

Register analysis is based on three basic aspects: *field*, *mode* and *tenor*. Following Méndez Cendón (2016), the field “is the topic of a text”, the mode “refers to the medium of transmission”, and the tenor “concerns the relation established between the participants in a given linguistic exchange”.

Considering the field, the ST analyzed here provides information about the functioning of blood cells, the lymphatic system, the immune system, and some diseases associated to them such as anemias, leukemias and AIDS. According to the mode, the text is in written format. Regarding the tenor, this ST belongs to an expert-to-semi-expert or expert-to-initiate communicative setting.

As a general comment, it is interesting to mention that there is a clear predominance of the present simple verbal tense and the passive voice along the whole text. The former is used to communicate facts and contributes to the objectivity of the ST. The latter gives the text a sense of impersonality that is also typical of the medical language.

5.1.3. Communicative Setting and Function

As it was previously indicated, this ST belongs to an expert-to-semi-expert or expert-to-initiate communicative setting. The authors of the text must be experts in the field because the information provided has to be correct and precise. However, the audience that they are addressing to does not have a good level of knowledge on the topic and is supposed to be learning new data. Therefore, these authors have to adapt the way in which they use medical language, so that the content of the ST will be as clear and comprehensible as possible. That is the reason why they tend to use metaphors, similes, definitions and general language words to describe specialized terms.

In addition, this ST has an informative function that, according to Méndez Cendón (2016), “refers to language used for the purpose of communicating the facts of the subject matter under consideration”.

5.2. Full Translation

The specialized medical text chosen for this dissertation was taken from the manual *Modern Medical Language* by C. Edward Collins and Juanita J. Davies (1996). In particular, the fragments of text that were translated into Spanish correspond to some parts of chapter 15, which is entitled *Blood, Lymphatic, and Immune Systems*. The selection of this text was also based on my knowledge on Hematology and Immunology, since I am familiar with those disciplines. Compared with the English ST, a full version

of the Spanish TT can be found in the CD attached at the end of this dissertation. The working method followed in the elaboration of the TT was explained in section 4.

5.3. Analysis at Sentence Level

This analysis is going to be divided in two different groups. The first one will be dealing with those elements that imply some kind of translation procedure but do not exclusively occur in medical texts. The second one will discuss those elements that are typical of medical language and can be found in the ST.

5.3.1. Comments on the Translation Procedures

This subsection contains the study of transpositions, adverbs and additions. Since the explanation of these translation procedures is based on the TT, the ST will appear together with the Spanish version in all cases. As it was mentioned above, although the translation procedures analyzed here are common in medical translation, they also happen in many other translation fields.

5.3.1.1. Transpositions

Congost Maestre (1994, 54) defined transposition as “un procedimiento de traducción que implica un cambio en la gramática al pasar de un texto de la lengua original a la terminal”. This author explained that transpositions are used because of equivalence problems existing in languages that differ greatly from each other, as in the case of English and Spanish. Therefore, Congost Maestre (1994, 54) established that the main goal of transpositions focuses on “conseguir estructuras sintácticas naturales en la lengua a la que se traduce”.

Some examples of transpositions used in the elaboration of the TT are presented in the following table. The grammatical category of those words undergoing a transformation is explicitly indicated in both the ST and the TT, so that the change can be clearly seen.

ST	TT
Thrombocytes help prevent blood loss ... (verb)	Los trombocitos contribuyen a la prevención de la pérdida de sangre ... (noun)
Leukemias are malignancies, characterized by a massive proliferation ... (non-finite)	Las leucemias son un tipo de cáncer que se caracteriza por una proliferación masiva ... (relative clause)
... to mark them for destruction by the cells of the nonspecific defense system. (noun)	... marcarlos para que los destruyan las células del sistema de defensa inespecífico. (verb)
“Antigen” is a general term that refers to both bacteria and viruses ... (verb)	“Antígeno” es un término general que hace referencia tanto a bacterias como a virus ... (noun)
... including new mutations of viruses. (non-finite)	... lo que incluye nuevas mutaciones de virus. (relative clause)
... and the immune system eventually becomes weakened and incapacitated . (adjectives)	... y finalmente el sistema inmunitario se debilita e incapacita . (verbs)
Current treatment is focused on life extension and symptom reduction . (nouns)	El tratamiento actual se basa en alargar la vida de los pacientes y en reducir los síntomas de la enfermedad. (verbs)
All blood cells originate from undifferentiated stem cells ... (noun)	Todas las células sanguíneas se originan a partir de células madre desdiferenciadas ... (adjective)
... frequently contract the virus by using contaminated syringes and needles. (non-finite)	... contraen el virus con frecuencia debido a la utilización de jeringas y agujas contaminadas. (noun)

Table 1: Transpositions used in the TT for naturalization purposes.

5.3.1.2. Adverbs

Following Méndez Cendón (2016), it is advisable to avoid the use of Spanish adverbs ending in *-mente* when translating English adverbs. The reason for this recommendation lies in the fact that its overuse may give a sense of linguistic poverty. Hence, Mendez Cendón (2016) reminded that it is not a problem to use Spanish adverbs ending in *-mente* in a translation, but to overuse them.

Considering the text selected for this dissertation, several adverbs were translated from the ST into the TT. Some examples that try to avoid an excessive use of this type of Spanish adverbs are included in the table below.

ST	TT
Additionally	Además
Approximately	Alrededor de
Consequently	Por consiguiente
Directly	De forma directa
Eventually	Con el tiempo
Frequently	Con frecuencia
Generally	Por lo general
Previously	Con anterioridad
Quickly	Con rapidez
Usually	Suelen

Table 2: Alternative translations for English adverbs in the TT.

5.3.1.3. Additions

Congost Maestre (1994, 59-60) stated that translators may include additional information in a TT for different purposes, although one of the most frequent ones is “complementar únicamente aquellos pasajes que los lectores puedan encontrar inadecuados, incompletos u oscuros”.

Some additions were inserted in the TT considered here. A few examples are presented in the table below, where it can be seen that they are neither large nor important from an informative point of view. Nonetheless, since English is much more telegraphic than

Spanish, the main objective of those additions is to clarify some sentences in the SL, so that they can be clearly interpreted in the TL.

ST	TT
There are 4.8 million to 5.4 million erythrocytes/cubic millimeter (or about 26 trillion erythrocytes in the body) ...	Por cada milímetro cúbico de sangre, hay de 4,8 a 5,4 millones de eritrocitos (lo que implica unos 26 trillones de eritrocitos en el organismo) ...
As the cells differentiate, they mature into erythrocytes, thrombocytes, and leukocytes ...	A medida que las células se diferencian, maduran para convertirse en eritrocitos, trombocitos y leucocitos ...
The causes include hemorrhage, hemolysis, and defective erythropoiesis.	Entre las causas que provocan anemia se incluyen las hemorragias, la hemólisis y la eritropoyesis defectuosa.
Lymph capillaries in body tissues merge into larger lymphatics, which merge into large lymph ducts.	Los capilares linfáticos de los tejidos corporales se unen para formar vasos linfáticos mayores, los cuales se unen a su vez para dar lugar a los grandes conductos linfáticos.
The palatine tonsils, located in the oral cavity where it meets the pharynx ...	Las amígdalas palatinas están ubicadas en la cavidad oral, concretamente en la parte que se une con la faringe ...
... acts directly to rupture bacteria cells.	... actúa de forma directa rompiendo la membrana de las células bacterianas (lisis celular).
... the genes that carry the code for antigen receptors los genes portadores del código genético para los receptores de antígeno ...
... exchanged through close or intimate contact.	... se intercambian mediante un contacto cercano o íntimo entre las personas .

Table 3: Additions inserted in the TT for clarification purposes.

5.3.2. Comments on the Terms Found in the ST

This subsection includes the study of nominalizations, affixation, compounding, acronyms, eponyms, metaphors and redundancies. These elements tend to be distinctive of medical language and are going to be located in the ST. Since their description does not necessarily require the TT, the Spanish version will only be included whenever it is interesting from an analytical point of view.

5.3.2.1. Nominalizations

Nominalizations are quite common in specialized fields, as well as in medical language. According to Méndez Cendón (2016), nominalization is a word-formation process that consists of making nouns out of verbs, which implies a change of the grammatical category. Many examples were found in the ST and some of them are gathered in the following table. As it can be seen below, nominalizations appear next to the verb from which they originated.

Nouns	Verbs
Accumulation	To accumulate
Agglutination	To agglutinate
Circulation	To circulate
Coagulation	To coagulate
Concentrations	To concentrate
Destruction	To destroy
Identification	To identify
Immunization	To immunize
Infection	To infect
Invasion	To invade
Multiplication	To multiply
Mutations	To mutate
Production	To produce
Proliferation	To proliferate
Protection	To protect

Recombination	To recombine
Reduction	To reduce
Replication	To replicate
Transfusions	To transfer
Transmission	To transmit

Table 4: Nominalizations located in the ST together with their verbal origin.

5.3.2.2. Affixation

Following Méndez Cendón (2016), affixation is the process by which “many terms are made up of a root plus a suffix or a prefix derived from Greek or Latin”. Affixation is quite common in the language of medicine. Therefore, it was possible to find several examples in the ST. Together with the explicit meaning of their affixes, some medical terms are presented in the table below. The meaning of those affixes was found in different information sources, including *The Free Medical Dictionary*, the theoretical material provided by Méndez Cendón (2016), and the manual *Modern Medical Language* from which the ST was taken.

Terms with affixation	Affixes
Agranulocytes	Granul/o- (small grain); -cyte (cell)
Basophils	Bas/o- (base); -phil (attracted to)
Cytotoxic	Cyto- (cell); -ic (pertaining to)
Eosinophils	Eosin/o- (rosy-red); -phil (attracted to)
Erythrocytes	Erythr/o- (red); -cyte (cell)
Erythropoiesis	Erythr/o- (red); -poiesis (production)
Granulocytes	Granul/o- (small grain); -cyte (cell)
Hematopoiesis	Hemat/o- (blood); -poiesis (production)
Hemocytoblasts	Hem/o- (blood); cyto- (cell); -blast (germ)
Hemolysis	Hem/o- (blood); -lysis (disintegration)
Hemorrhage	Hem/o- (blood); -rrhage (excessive flow)
Hemostasis	Hem/o- (blood); -stasis (maintenance)

Lacteals	Lact/o- (milk); -al (pertaining to)
Leukocytes	Leuk/o- (white); -cyte (cell)
Leukopenia	Leuk/o- (white); -penia (deficiency)
Lymphadenopathy	Lymphaden/o- (lymph nodes); -pathy (disease)
Lymphatic	Lymph/o- (lymph); -ic (pertaining to)
Lymphocytes	Lymph/o- (lymph); -cyte (cell)
Monocytes	Mono- (one); -cyte (cell)
Neutrophils	Neutr/o- (neutral); -phil (attracted to)
Splenomegaly	Splen/o- (spleen); -megaly (enlargement)
Thrombocytes	Thromb/o- (clot); -cyte (cell)
Thrombocytopenia	Thromb/o- (clot); cyto- (cell); -penia (deficiency)
Thymosin	Thym/o- (thymus); -in (neutral substance)

Table 5: Affixation found in the ST and the meaning of the affixes.

5.3.2.3. Compounding

As stated by Méndez Cendón (2016), compounding may be defined as “a combination of two or more words into a new syntactic unit which represents a single concept in a subject field”. Moreover, she highlighted the fact that premodification is common in English; while there is a strong tendency for postmodification in Spanish.

Sager (1990, 66) asserted that compounding is frequently used in English. Because of that, this author justified premodification as a natural and logical tendency in this language due to a word-formation flexibility that does not exist in Spanish. Notwithstanding, he noted that some compounds are ambiguous, so the use of hyphens may be necessary sometimes (Sager 1990, 66).

Since compounding is widely used in LSPs, many examples were found in the ST. Some of those instances are included in the following table, together with their corresponding translation. This will make it easier to notice the actual tendency for either pre or postmodification in each language, which establishes a clear contrast between them.

ST	TT
AIDS-related diseases	Enfermedades asociadas al SIDA
Antigen-binding site	Sitio de unión al antígeno
Cell-mediated immune response	Respuesta inmunitaria mediada por células
Central nervous system	Sistema nervioso central
Contaminated blood products	Productos sanguíneos contaminados
Contaminated body fluids	Fluidos corporales contaminados
Contaminated donor organs	Órganos de donantes contaminados
Helper T-lymphocytes	Linfocitos T cooperadores
Humoral immune response	Respuesta inmunitaria humoral
Iron-containing protein	Proteína que contiene hierro
Natural genetic recombination	Recombinación genética natural
Natural killer cells	Células asesinas naturales
Nonspecific defense system	Sistema de defensa inespecífico
One-way valves	Válvulas de un solo sentido
Red blood cells	Glóbulos rojos
Red bone marrow	Médula ósea roja
Right lymphatic duct	Conducto linfático derecho
Specific defense system	Sistema de defensa específico
Virus-infected cells	Células infectadas por virus
White blood cells	Glóbulos blancos

Table 6: Compounds located in both the ST and the TT (pre vs. postmodification).

5.3.2.4. Acronyms

On the basis of Newmark (1988), Congost Maestre (1994, 40) defined acronyms as “palabras nuevas formadas con las letras iniciales de la serie de palabras a las que sustituyen”. Although acronyms may seem easy to identify and translate, this author remarked a problem that should be taken into account by translators: the adaptation of foreign acronyms to the TL whenever possible (Congost Maestre 1994, 41).

Some acronyms were found in the ST. As it may be seen in the table below, the meaning of each acronym is explicitly indicated at least the first time it appears in the text. This is not surprising since we are dealing with an audience that is supposed to be acquiring new knowledge. Some of those acronyms have undergone an adaptation into Spanish, but some others still maintain the English version. Documentation is thus essential to choose the right translation in each case.

ST	TT
Acquired immunodeficiency syndrome (AIDS)	Síndrome de inmunodeficiencia adquirida (SIDA)
Azidothymidine (AZT)	Azidotimidina (AZT)
Dideoxyinosine (ddI)	Dideoxiinosina (ddI)
High density lipoproteins (HDL)	Lipoproteínas de alta densidad (HDL)
Human immunodeficiency virus (HIV-1)	Virus de la inmunodeficiencia humana (VIH-1)
Immunoglobulins (Ig)	Inmunoglobulinas (Ig)
Low density lipoproteins (LDL)	Lipoproteínas de baja densidad (LDL)

Table 7: Acronyms found in the ST and their translation in the TT.

5.3.2.5. Eponyms

Paraphrasing Newmark (1988), Congost Maestre (1994, 39) explained that an eponym is “cualquier palabra derivada de un nombre propio, incluidos los topónimos”. Two eponyms derived from names of people were found in the ST. Congost Maestre (1994, 39) stated that this kind of eponyms are easy to translate, unless there is a problem with the patent of the discovery. The examples found in the ST were not difficult to translate since they are fully accepted in the medical domain.

ST	TT
Peyer’s patches	Placas de Peyer
Kaposi’s sarcoma	Sarcoma de Kaposi

Table 8: Eponyms located in the ST and their translation in the TT.

5.3.2.6. Metaphors

Following Congost Maestre (1994, 48), a metaphor “presenta como idénticos términos diferentes”, being a figure of speech that can be used in both LGP and LSPs. Montalt Resurrecció and González Davies (2007, 173) asserted that “metaphors in a given field bring to the surface its underlying conceptual system while helping the reader to visualize and understand its construction, its development and its way of facing challenges”. Furthermore, these authors remarked that metaphors in medicine are usually related to sports, hunting or war (Montalt Resurrecció and González Davies 2007, 174).

Considering these ideas, it is not surprising to find some warlike metaphorical language in the ST, which has an educational purpose. Those metaphors help students understand the content of the lesson, especially the way in which the body’s immune system works. As it may be seen in the examples below, the body is represented as a battlefield where immune system cells and infectious agents are the opposing sides.

ST
... cancers and infections are able to attack the body.
... natural killer cells are called to destroy the invader ...
... not all invaders are combated by antibodies.
... the white blood cells cannot defend the body against disease.
... to either destroy them directly or to mark them for destruction ...
If foreign organisms such as bacteria succeed in crossing the skin ...
Phagocytes doing battle with bacteria ...
The body is protected against invasion ... by two lines of defense ...
The tonsils help fight microorganisms that may enter the body ...
This tissue contains lymphocytes that destroy infectious agents ...
When the generalized protection ... fails to halt foreign invaders ...

Table 9: Warlike metaphors used in the ST for comprehension purposes.

5.3.2.7. Redundancies

Talking about the characteristics of specialized texts, Cabré (1993, 156) observed that “Cuanto menos especializado sea el destinatario, más redundancia y más elementos metalingüísticos deberá contener el texto”.

Several redundancies were located in the ST, which is quite logical since it is addressed to an audience that is supposed to have few knowledge on a specific medical topic. Because of that, there were also found definitions and explanations of the biological processes presented in the lesson. The redundancies found in this case try to clarify the content of the ST, avoiding ambiguity. This way students will not misunderstand the information that they have to assume. Some examples are presented in the following table.

ST
... <i>cloned cells</i> are called <i>effector cells</i> . Some of the <i>cloned cells</i> , however, are called <i>memory cells</i> . The <i>effector cells</i> die within a few days, but <i>memory cells</i> remain in circulation ...
... fats such as <i>triglycerides</i> , <i>cholesterol</i> , and <i>phospholipids</i> . <i>Triglycerides</i> and <i>cholesterol</i> provide the body with energy, and <i>phospholipids</i> make up ...
... <i>natural killer cells</i> are called to destroy the invader. <i>Natural killer cells</i> attack body cells ...
... occurs in <i>the red bone marrow</i> . In adults, <i>the red bone marrow</i> is found in ...
... phagocytosis is accelerated by the process of <i>agglutination</i> ; in <i>agglutination</i> , one antibody molecule ...
... secretes a hormone called <i>thymosin</i> . <i>Thymosin</i> stimulates red bone marrow ...
<i>The nonspecific defense system</i> protects the body against infection in a generalized way. <i>The nonspecific defense system</i> includes ...
... <i>the specific defense system</i> comes into play. <i>The specific defense system</i> utilizes white blood cells ...
... to secrete proteins called <i>lymphokines</i> . <i>Lymphokines</i> then, in turn, stimulate the multiplication ...
... which produce proteins called <i>antibodies</i> . <i>Antibodies</i> are released into the body fluids ...

Table 10: Redundancies used in the ST for clarification purposes.

6. Conclusion

This undergraduate dissertation has shown the wide analytical and documentary work that medical translators have to develop. Although it is only an illustration concerning one single medical text, it may demonstrate the effort made by professional translators working with LSPs.

Moving on to the specific case considered in this dissertation, the previous analysis of the ST was essential for the elaboration of the TT. As stated in the theoretical part, the great variety of medical genres, settings and functions determines the way in which the language of medicine is used. If medical authors must bear in mind the whole communication context before writing a medical text, then medical translators should do the same. Analyzing the characteristics of the ST in terms of genre, register, setting and function was very useful in order to put myself in the authors' shoes before translating. Thanks to such analysis it was established that the ST was written by experts in the subject field and addressed to semi-experts or initiates. In fact, it was a manual aimed at medicine students for informative and educational purposes. This previous finding was very helpful for making translation decisions and oriented the search of both parallel texts and documentation.

Documentation proved to be essential during the whole translation process. Although the previous knowledge of translators on the subject matter determines such procedure, it is always necessary to look for some background information and parallel texts. This guarantees the full comprehension of the ST, as well as the use of appropriate terminology and phraseology in the TL. In particular, my knowledge on scientific disciplines such as Hematology or Immunology facilitated the understanding of the ST and the management of documents. Notwithstanding, every single translation option was checked in order to provide the best result possible, since there was no option to ask experts personally. As far as this previous aspect is concerned, documentation was mainly focused on the consultation of parallel texts, which provided useful data regarding terminology, phraseology and background information.

After the translation was done, it was possible to continue with the analysis and reach some interesting conclusions. First of all, warlike metaphorical language and redundancies were quite abundant. Metaphors were related to the widely-known notion

of war to facilitate the understanding of the content in an abstract way. Redundancies were also helpful since they avoided ambiguity in the information provided. However, those two elements were not the only ones denoting the didactic intention of the ST. It was also remarkable the presence of some acronyms with their explicit meaning. This revealed that the authors of the ST assumed readers to have a lower level of expertise. That is the reason why these authors included the meaning of each acronym in the ST at least once. In connection with this aspect, the language used throughout the ST was generally easy and presented both definitions and detailed explanations, something that is never found in expert-to-expert communicative settings. These findings were quite predictable considering the characteristics of the ST. Since those elements were the key to accomplish the educational purpose of the ST, all of them were maintained in the TT as faithfully as possible.

On the other hand, the analysis of the ST indicated the presence of some other elements that were a bit unpredictable. That was the case of nominalizations and compounding, which were also quite abundant. Nominalizations are typical of the language of medicine, but they are much more frequent in expert-to-expert contexts. Something similar happens with compounds since they increase the difficulty of the text. In fact, the terminology found in the ST was much denser than expected in an expert-to-semi-expert/initiate communicative setting. Moreover, there were a lot of terms with Latin and Greek affixes. Although affixation is typical of medicine, its abundance indicates a language accuracy that is not common in non-expert contexts.

These unexpected findings may be a little bit confusing, but they gain meaning if we refocus on the target audience. As specified in the analysis of the communicative setting of the ST, the authors were perfectly aware of the fact that they were addressing medical students. That is to say, those readers are still beginners but will probably continue studying medicine. Since complexity will increase as learning advances, authors did not overlook the fact that language accuracy is essential to make students get used to medical language from the very beginning. This could be a way to justify the use of all these elements in the ST, as well as to realize how important is to maintain them in the TT.

The maintenance of both nominalizations and affixation was not that difficult. Affixation is quite easy to translate because the use of affixes that come from Latin and Greek results

in terms that are understandable in many languages. As it was mentioned in the theoretical subsection about specific medical terminology, affixation is a way to internationalize medical language at academic level by means of classical languages. The main translation problem had to do with compounding and other specialized terminology appearing in the ST. Sometimes it was even necessary to look for solutions by consulting medical texts with a higher level of expertise, which implied a little change in the methodology initially established.

Since this undergraduate dissertation deals with translation, it was important to comment some translation procedures implied in the elaboration of the TT. That was the case of transpositions, adverbs and additions. Transpositions were quite common and reflected the difference between English and Spanish, being necessary to change the grammatical category of certain words in order to get the most appropriate syntactic structures in the TL. Something similar happened with additions because Spanish is not as telegraphic as English. Some sentences in the TT were expanded a bit in order to avoid obscure passages. Adverbs were not that relevant but demonstrated that Spanish is less permissive with repetitions than English. Some Spanish adverbs ending in *-mente* were substituted by other alternative translations in order to avoid an overuse that would give a sense of linguistic poverty.

In brief, medicine is a very complex domain that includes a wide variety of texts. It is impossible to master every area of expertise even for physicians, since medical fields are interrelated but completely different from each other. Therefore, medical translation is a quite challenging task in which documentation is always crucial for translators, to a greater or lesser degree.

Despite existing classifications, it is difficult to determine the genre to which a particular medical text belongs to, as well as to predict the difficulties that it will present. This results from the complexity and hybridism defining medical language, being possible to find general language words and specialized terminology within the same text. This implies a constant modification of the methodology chosen during the translation process. In most cases, not losing sight of the communicative function and setting of the ST is the only way to make an appropriate TT.

Additionally, general language dictionaries are not always useful and even medical ones may not be enough. That is why parallel texts and further documentation might be the only tool providing proper translation options. Still, sometimes the consultation of physicians in person is the only solution for certain translation problems.

Finally, this undergraduate dissertation provides a documentary and analytical model that can be followed by those translators who are working on medical texts with similar characteristics.

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8. Appendix

Bloque 5: MECANISMOS EFECTORES Y REGULACIÓN DE LA RESPUESTA INMUNITARIA

TEMA 1. Activación y Proliferación de Linfocitos T. Mecanismos Efectores de Inmunidad Celular

Umbral de activación. Señales que conducen a la activación linfocitaria. Papel de las diferentes células presentadoras de antígeno en la activación linfocitaria. Linfocitos T vírgenes y memoria. Células T efectoras: cooperadoras, citotóxicas y reguladoras. Activación de

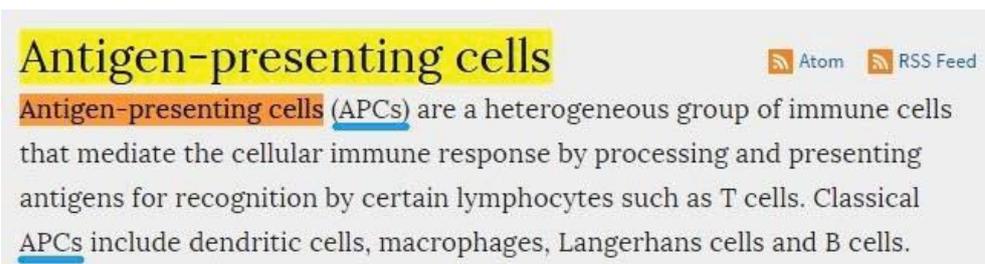
Figure 1: Spanish equivalent of the English term antigen cells.

9.3 CÉLULAS QUE PRESENTAN ANTÍGENO

Como acabamos de ver, en realidad, células que presentan antígeno pueden ser tanto células nucleadas enfermas que presenten péptidos de parásitos intracelulares (o de proteínas tumorales) a linfocitos T_C como las células "profesionales" presentadoras de antígenos exógenos a los linfocitos T_H. Sin embargo, a efectos de nomenclatura, a las primeras se les suele designar como células diana, para no confundirlas con las células presentadoras "profesionales" (APC en sentido estricto):

1. Células diana (enfermas por parásitos intracelulares, o tumorales): presentan péptidos junto con moléculas MHC-I propias para que los reconozcan los linfocitos T_C (CD8⁺).
2. **Células presentadoras de antígeno (APC)**: despliegan péptidos asociados con MHC-II, para su reconocimiento por linfocitos T_H (CD4⁺). Sus principales características son:

Figure 2: Spanish equivalent, acronym and phraseology of *antigen cells*.



Antigen-presenting cells  Atom  RSS Feed

Antigen-presenting cells (APCs) are a heterogeneous group of immune cells that mediate the cellular immune response by processing and presenting antigens for recognition by certain lymphocytes such as T cells. Classical APCs include dendritic cells, macrophages, Langerhans cells and B cells.

Figure 3: Full version and acronym of the English term *antigen cells*.

La PPENO está recomendada en los siguientes casos: 1) personas receptoras de una penetración anal desprotegida una **persona VIH positiva** y 2) personas que intercambian agujas o jeringuillas con una **persona VIH positiva**.

Cada situación debe ser analizada de forma individualizada, y la decisión última tomada conjuntamente una vez valorados los riesgos y los beneficios. El médico también valorará el riesgo de transmisión de

Figure 4: Spanish equivalent of the English term *HIV positive (person)*.

SUMMARY

The improvement in survival and quality of life of **HIV-positive patients** has led to a significant rise in demand for esthetic dental treatment among these patients. In this context, implant-supported prostheses are currently considered a valid treatment option.

RESUMEN

El aumento de la calidad y la esperanza de vida de los **pacientes VIH-positivo**, ha hecho que la solicitud de tratamiento estético dental se haya incrementado significativamente en estos pacientes, considerándose actualmente las prótesis implantosoportadas como una opción terapéutica válida.

Figure 5: Bilingual example of *HIV-positive patients* (English vs. Spanish).

El VIH produce un envejecimiento precoz del **sistema inmunológico**, de tal forma que gente más joven padece enfermedades de las personas mayores. "Se estima que una **persona seropositiva** de 50-55 años equivale a una de 65-70 años no infectada", ha señalado el doctor Moreno. Todos los tipos de cáncer -salvo próstata y mama-, la hepatitis, los infartos, los daños en el riñón y en los huesos, y los trastornos del sistema nervioso central son más frecuentes en los pacientes con VIH. De esta forma, los esfuerzos de los médicos ahora se centran en

*Figure 6: Alternative translation of the English term *HIV positive (person)*.*