

The State of the Art in LSP Translation: Theory and Practice

1. Introduction
 2. The state of the art of LSP Translation
 3. Old problems and new perspectives
 4. The translator's real life: the text
 5. Biomedical LSP: translation-relevant characteristics
 6. Conclusions
- REFERENCES
Abstract

1. Introduction

The translation of Languages for Specialized Purposes (LSP) is the main field of activity for practitioners in their everyday work, and experience shows that specialized texts pose a very large number of difficulties for them. Furthermore, the teaching of this type of translation requires a balanced combination of a) well-structured bilingual, bicultural specific knowledge, and b) the proper development and application of a series of methodologies. These are the main ideas behind our research paper.

In order to translate specialized texts and to use them for didactic purposes, it is obvious that both the specific language and the specialized field of knowledge must first be analyzed in the pair of languages involved. Given the variety of types of specialized texts, it is impossible to tackle all of them at once. This is the reason why we believe that it is necessary to find a pragmatic methodology that can be applied across specialized fields by researching into *one* of them first.

Our research focuses on the scientific study of specialized translation in the biomedical field, a study from which both the professional translator and the translation student could benefit. Besides, it is important to mention that we are working within a quite infrequent language combination (German-Spanish) in an English-dominated environment. We will be coming back to this issue later on in this article.

As far as methodology is concerned, neither in the Spanish nor in the international context can relevant studies on LSP Translation be found combining more than one scientific approach. This kind of interaction is fundamental to our research, since we believe that it is the only way to study LSP Translation in its full complexity. Therefore we base our methodology on the combination of Textual Typology, LSP, Translation Studies and Didactics. With this scientific background in mind, our presentation will focus on two aspects: first, we will offer a critical review of the *state-of-the-art* literature on LSP Translation and secondly, we shall describe some translation-relevant characteristics of the language of one specialized field, namely biomedicine, at its semantic and lexical levels in the pair of languages we are working with, German and Spanish. This will allow for a translation-oriented comparison that can be useful for both the practitioner and the student.

2. The state of the art in LSP Translation

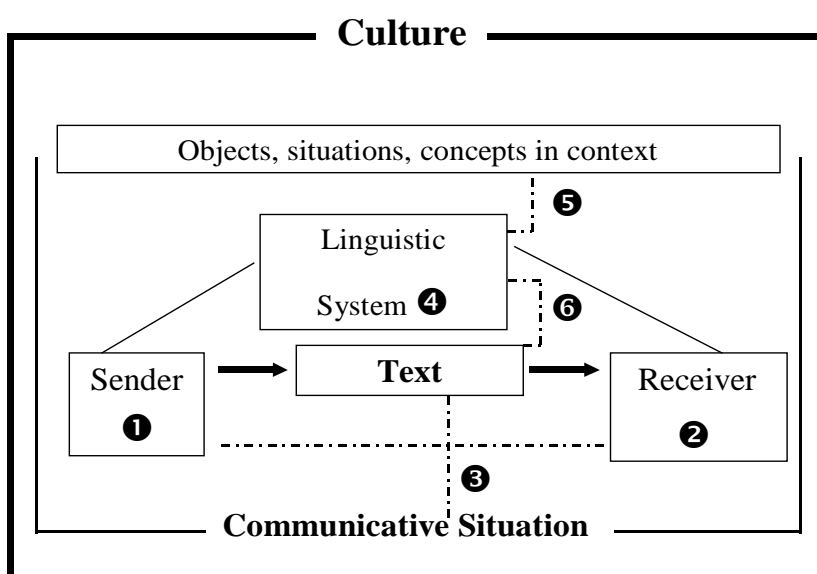
As far as the history of LSP research in Europe is concerned, almost everything started with Lothar Hoffmann, who in 1967 obtained the chair of Applied Linguistics and Foreign Language Methodology at the University of Leipzig. He was one of the first linguists engaged in following and encouraging a research line around and about LSP. For reasons of space, we can not include a detailed overview of Hoffmann's achievements in this paper¹, but we have tried to sum up the development on LSP research in the past 50 years in the following chronological index of topics²:

¹ A complete bibliography of Hoffmann's pioneering work can be found in Kalverkämper 2004:50f.

² Since Hoffmann's literature is originally written in German, we have included some key-words in this language that will be translated in the text.

Period	Research lines	German Key-word
60s - 70s	Terminology	<i>FACHBEGRIFF</i>
70s - 80s	Syntactic and functional level Textual level	<i>FACHTEXT</i>
80s	Pragmatic and communicative aspects	<i>FACHTEXTSORTE</i>
90s	Socio-cultural aspects	<i>FACHSPRACHEN-IN-TEXTEN-UND KOMMUNIKATIONSSITUATIONEN- UND-KULTUREINBETTUNG</i>
Today	Semiotic aspects	<i>FACHKOMMUNIKATION</i>

In the 60s and 70s LSP research started focusing on terminological approaches that were mainly word-oriented and based either on a single language or on specific language pairs. This research took place at the semantic level and concentrated on the analysis of specialized terms (*Fachbegriffe*). Following the development of general text linguistics, in the 70s and 80s the focus of LSP research moved from the specialized word up to the specialized text (*Fachtext*), paying attention to syntactic, functional and textual aspects. The so called 'Pragmatic Turn' in Linguistics in the late 80s also had an influence on LSP research. At that time it addressed mainly pragmatic and communicative questions concerning a certain specialized text type (*Fachtextsorte*), i.e. the relationship between sender and receiver, thus establishing classifications like horizontal (from expert to expert) and vertical (from expert to layman) LSP communication. In the 90s, LSP research moved one step further up and started to consider socio-cultural aspects. As a result of this development, LSP text types were defined as linguistic units made from LSP material necessarily embedded in a specific communicative situation within a specific culture (*Fachsprachen-in-Texten-und Kommunikationssituationen-und-Kultureinbettung*). Finally, as a result of the influence of Semiotics, most researchers nowadays speak and write about LSP communication (*Fachkommunikation*) as a holistic concept that involves more than just language. This concept allows coping with the complexity of LSP as a research field, but at the same time it entails the risk of being too wide and vague. In order to put some order into it, we will follow Kalverkämper's approach (2004), which consists of organizing LSP-communication around the classical communication model taken from Jakobson (sender-text-receiver), enhanced by a communicative and cultural perspective:



(Kalverkämper 2004)

This model works as an orientation map which helps classify different strategies when approaching LSP communication research according to one or many specific parameter(s): sender, text, linguistic system, objects/concepts/actions in context, receiver, communicative situation and culture. Let us give some examples of research topics organized according to this model.

The analysis of a text producer's idiolect would be strictly related to the *sender* (1). If one prefers to focus on aspects like the receiver and his relationship with the producer (i.e. horizontal vs. vertical communication) or the role of emotions within LSP communication, we would move on to parameter number (2), the *receiver*. The question of how to produce a specialized text, which is specially relevant for translation purposes, would be placed under (3), that means that it is directly related to *text* production in a specific *communicative situation*. Another possible approach could deal with the encoding of LSP, or in other words, how do we organize specialized knowledge linguistically? This research topic belongs to parameter number (4), *linguistic system*. As far as the relationship between *objects/concepts/actions in context* and its representation within a *linguistic system* is concerned (5), this parameter refers to questions regarding LSP lexicography or terminology. Finally, parameter number (6), a *text* within a *linguistic system*, includes everything related to LSP text types.

It is very important to emphasize that this orientation map is not meant to be rigid. Moreover, if they are challenging enough, most research topics will probably be under the influence of more than one parameter. As already said, the main purpose of this model is to shed some light on the present LSP research status.

3. Old problems and new perspectives

The above structuring background helps us outline some old problems and new perspectives on LSP research in the following list:

- LSP theory
- Meta-theory on LSP research
- LSP Orality
- LSP Semiotics
- Cognitivism
- Scientific language
- Text types
- Collaboration between LSP and Terminology
- LSP Didactics
- Influence of English
- Multimediality, interdisciplinarity, interculturality, diachrony, etc.

All these aspects are nowadays under the influence of the latest turn within LSP research, which is the movement from descriptivism to prescriptivism. In the 80s and early 90s, LSP linguistics focused on the description of formal elements as part of texts. From the 90s to the present, cognitive LSP linguistics intends to define exactly those textual elements in order to optimize text reception. Moreover, the newest approach, which might be called 'prescriptive or prospective LSP linguistics', consists in exploring the didactic use of cognitive LSP typology in order to improve and optimize LSP communication. At first sight this development might be regarded as a step back in a more 'conservative' direction. However, we agree with those who state that it is time to plea for an adequate LSP theory in order to improve LSP quality (Göpferich/Enberg 2004). In other words, LSP research should take the initiative and think about how LSP texts *should be* written, translated etc. instead of describing – and complaining about – how badly written, translated etc. they are. In the words of Göpferich and Enberg (2004: IX):

Die Qualität der Kommunikation über Fachliches gerät zunehmend in die Kritik; der Ist-Zustand fachlicher Kommunikation wird als imitierenswertes Muster hinterfragt; die Fachkommunikationsforschung begibt sich auf die Suche nach besseren Kommunikationsformen, Kriterien zu deren Bestimmung und didaktischen Konzepten, mit denen sich die kommunikative Kompetenz von Kommunikationsexperten, aber auch Fachwissenschaftlern aus nicht primär kommunikationsorientierten Bereichen optimieren lässt. Die primär deskriptive und imitative Betrachtung von Fachkommunikation ist also einer auf

Evaluation und Optimierung zielenden gewichen. Der Fokus hat sich verlagert vom Ist-Zustand fachlicher und fachbezogener Kommunikation auf deren Soll-Zustand.

The key-word within this quote is *quality*. If LSP-communication research wants to move forward, it has to look for (a) better ways and forms of communication, (b) criteria for a self-definition and (c) didactic concepts for LSP-communicative competence. Once again, there is a turn from description and imitation to *evaluation* and *optimization* in LSP communication research.

Coming back to the orientation map already mentioned, it is also important to underline the fact that the holistic perspective is very useful, especially for theory, and has to be always kept in mind. Nevertheless, when it comes down to real life, both the researcher and the practitioner (i.e. the translator) have to start a bottom-up process from a low level and choose some aspects of one specific LSP or LSP combination as an initial research object. After that, they might always enhance the perspective accordingly. In the next section we will illustrate this procedure.

4. The translator's real world: the text

If we take a close look to any given communicative situation but only and exclusively from a translation-oriented point of view, we will feel the necessity to focus primarily on the text and the linguistic systems as such (namely the pair of languages involved in the translation process, that is, parameter number (3) in the map described above). In order to come down to the daily task of a translator, all the other elements of the communicative situation must be taken into account, but the text, that is, the working material for the translator, is the main piece of the communication puzzle he will have to focus on. The translator must then know how to approach the text and, in order to do that, he must bear in mind the global characteristics of the specialized field the text belongs to.

In order to work bottom-up we have selected one specialized field, namely medicine, and within that field we shall focus on the peculiarities it presents and the main characteristics a translator must have in mind when translating a medical text. These are mainly morphosyntactic and lexical features. It is important to notice, as mentioned before, that we are working within quite an infrequent language combination (German-Spanish) in a mainly English-dominated environment. However, we intend to present further down what we consider to be the general features of the language of Western medicine as such and then narrow it down to the pair of languages we are working with.

Although, as stated before, all the elements involved in any communicative situation and in any translation process must be taken into account, we also think that it is impossible not to refer to the most representative and visible part of a communication act: the text, and we also think that, in order to produce a well-constructed and coherent text, i.e. a translation, we must start working from the detail up to the general communicative frame (understood as in Kalverkämper 2004, see figure above).

5. Biomedical LSP: translation-relevant characteristics

The characteristics we have found when translating medical texts from German into Spanish are quite varied, but we have selected those which we consider most relevant for the translator, namely:

- Eponyms
- Polysemy, homonymy, synonymy
- Hypernym and hyponym chains
- Double-deck terminology in German

Let's take a brief look at the first three items and then we will focus on the last one, a peculiarity found in German medical language: its double-deck biomedical terminology.

5.1. Eponyms

Eponyms are, as a rule, very frequent in medical texts. The difficulty they present is that very often (we could even say most of the time) doctors from different specialties or from different countries do not use the same proper names for the same pathology, depending on either the country they come from or the language they have learnt medicine in. For the translator, this means having to conduct thorough research and documentation. Another peculiarity of eponyms is that they very often have more than one meaning, due to the fact that the doctor after whom a given pathology is named has probably discovered or named more than one medical discovery. Some examples are: *Forsius-Eriksson syndrome*, also known as *Forsius-Eriksson* (a type of ocular albinism), the *Åland disease* or the *Åland eye disease*. All four expressions refer to the very same pathology, but one doctor might use the name *Eriksson* whereas another one might talk about *Åland albinism*.

5.2. Polysemy, homonymy and synonymy

Contrary to general belief, these three phenomena are very frequent in medical language. For example, polysemy, as seen before, is very common in eponyms and also frequent in other cases, usually due to the Classical origin of the word and to the use of Greek and Latin in the creation of neologisms (the roots of the words can sometimes coincide in its external form). For example, *cervical* means ‘from the neck downwards’, and also ‘belonging to the cervix or the uterus’.

Homonymy, on the other hand, is not so common, but let us give one example: the word *metrology*, where *metr* is the Greek root for *measure* and, at the same time, means *uterus*. Synonymy is indeed very frequent and usually due to the co-existence of the Greek and Latin term or root. For example: *diabetic nephropathy* is a kidney disease that develops as a result of *diabetes mellitus*. The same meaning is conveyed by the term *diabetic renopathy*: the former is of Greek origin and the latter has a Latin root.

Synonymy is quite a hard obstacle for the translator: doctors may be using one term with various meanings unaware of the linguistic problem they create when doing so. When a polysemic term is used in a professional communicative environment, only one of the meanings is intended and understood by both sender and receiver. This happens because doctors share the background information learnt throughout their academic and professional career, which gives them adequate knowledge of terms and their collocations, whereas a translator with no medical background might have to look up those terms in dictionaries and other sources of information and do the necessary research to decide whether the word is used with meaning A or B, and then translate it into the target language, where he might also have to choose between two or more synonyms.

5.3. Hypernym and hyponym chains

Hypernyms and hyponyms build chains of words. These chains are especially important for us translators to find out the level at which the sender and the receiver are communicating: depending on what part of the chain the sender's choice of term is set, the grade of speciality of the communication actors (or *Fachlichkeitsgrad der Kommunikationspartner* in German linguistic literature) can be revealed. For example: *disease* > *cardiopathy* > *coronariopathy* > *myocardial infarction* > *thrombotic myocardial infarction* > etc.³

5.4. Double-deck terminology in German

We will focus now on this very peculiar and, for translation, very relevant difficulty that German medical language presents. It is important to notice that, although we work with German as the source language, some of the following features also apply to English as a non-romance language.

What we call double-deck terminology in German is, as we have seen for the hypernym and hyponym chains, related to the degree of specialization of sender and receiver. The German language, especially in scientific fields, among them medicine, presents the very peculiar feature of double-deck or double-way terminology. It is indeed very significant that students of medicine in

³ Further reading on semantic changes and other phenomena in medical language can be found in López Piñero/Terrada Ferrandis 1990.

German-speaking countries must devote a good part of their studies to learning medical vocabulary of Greek and Latin origin. In fact, the dictionary *Deutsch-Medizinsich: das umgekehrte medizin-Wörterbuch* is a must in the library of any German-speaking medicine student. This work intra-translates, so to say, the German vernacular medical terms into the scientific Latin/Greek-based words.

Let's take a community of non-specialists belonging to a romance language group: they can talk about and understand terms like *rhinitis*, *hypertension*, *hepatitis*, etc., and doctors speaking that same romance language use the very same terms. This is not possible in German: only doctors could talk of *Rhinitis*, *Hypertension* or *Hepatitis*. The average German speaker would rather use *Schnupfen*, *Bluthochdruck* and *Leberentzündung*.

The origins of this phenomenon (and of all the semantic phenomena presented above) are to be found in the history of medicine and in the history of the medical language in our Western world. The first Greek influence that lasted centuries, on the one hand, and the prevalence of Latin when all the medical knowledge was translated into this language, on the other (the Latin medical vocabulary was coined during the Renaissance and the 19th century in Europe), are two big issues that can not be considered here in depth for space reasons, but that deserve further analysis, because they are the main components of *one* of the registers of medical German, the one used by doctors. The course of history in general and the course of the history of medicine in particular brings us to the 20th century, the moment in which vulgar languages arise and give a rest to Latin and Greek, which remain in the professional register only to build neologisms, since all the new discoveries are treated, named in and spoken about in vernacular languages. This happened also with romance languages, but these continued to use their own norms, rules and roots, that is, Greek and above all Latin, to write any kind of scientific documents, including medical ones. But German and many other non-romance languages started to prefer the vernacular over Latin to write medicine. In addition to this, during the Nazi era in Germany, the Greek-Latin words were forbidden in favour of vulgar German expressions. For example: Germans no longer spoke of *cornea* or *meningitis*, as they used to, and started to use *Hornhaut* and *Hirnhautentzündung* instead.

This is not the place to give an in-depth description of this very peculiar but not very studied nor analyzed phenomenon. Further down we present a clear and meaningful example of this duality existing in German between Greek-Latin terms and vernacular/German terms. The example is taken from the book that the two of us, in collaboration with three other colleagues from the University of Salamanca, translated from German into Spanish, entitled *Alzheimer: das Leben eines Arztes und die Karriere einer Krankheit*. What follows is part of the medical report presented by doctor Alzheimer after the death of his most famous patient (Maurer, 1998: 193):

Heute morgen exitus letalis – Tod
Todesursache: Septicemia infolge Dekubitus – Blutvergiftung infolge Wundliegens
Anatomische Diagnose: Geringer Hydrocephalus externus – internus – Wasseransammlung in den äusseren und inneren Hirnhöhlräumen
Atrophie cerebri – Gehirnschwund
Arteriosklerose der kleinen Hirngefässe?
Pneumonia beider Unterlappen – Lungenentzündung
Nephritis – Nierenentzündung

Obviously, this text presents no difficulties for a translator working with a non-romance target language; but translating this paragraph into Spanish (or any other Romance language) is quite a complicated task, since Spanish doctors and average Spanish speakers use the same word to talk of, for example, *atrophie cerebri*, whereas the German text presents the same concept twice: 'Atrophie cerebri – Gehirnschwund'. And so, the result of a literal Spanish translation would be something like: 'Atrophie cerebri – atrofia cerebral'. There is no doubt that the German text does need this intra-translation, since not all the readers would understand the specialised medical term, but in the Spanish translation it makes absolutely no sense to *repeat*, so to say, the term, taking into account that any reader, even those not familiar with medical texts, can understand the Latin term. Again, we must say that we cannot extend this article here, but this duality in German and other

Anglo-Saxon languages should be further investigated, since a good diagnosis of the source language we translate is always the best cure.

6. Conclusions

In this article we have given a general overview of the holistic theoretical frame in which LSP Studies are to be placed and we have approached the daily task of the translator of a specific LSP in a given pair of languages. We think that theory and practice must walk hand in hand, but at the same time research has to start from the bottom of the scale in order to be able to tackle the whole frame of the communicative situation, which the translator must always bear in mind. Research concerning both the theory and the text as such in each pair of languages and in all possible LSPs is indeed necessary if we aim at a well-based and solid Translation Theory that could be easily applied to the daily task of translating. Sharing all the results in meetings like the one held in Galati is always the best treatment, since, as Erasmus said, prevention is always better than cure.

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In order to translate specialized texts and to use them for didactic purposes, it is therefore obvious that both the specific language and the specialized field of knowledge must first of all be analyzed in the pair of languages involved.

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Our research specifically focuses on the scientific study of specialized translation in the biomedical field, a study from which both the professional translator and the translation student could benefit. Besides, it is important to mention that we are working within a quite infrequent language combination (German-Spanish) in a mainly English-dominated environment.

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