

Corpus Analysis and the Translation of Adverbs in Specialized Texts: Raising Student Awareness

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Abstract

In teaching specialized translation, one of the challenges is to help students perceive the text as a whole. This difficulty is directly related to the way that each language-culture tends to structure scientific discourse, as reflected in text types and their information structure. Interlinguistic and intertextual variation directly affects the use of logical connectors, syntax, and semantic prosody. In this sense, general language words can be a challenge for the translator of specialized texts since their behavior in general language texts differs from their behavior in specialized language texts. For example, in bilingual Spanish-English dictionaries, *however/sin embargo*, *currently/actualmente* and *inadequately/inadecuadamente*, are generally regarded as translation correspondences. Nevertheless, in specialized texts, this equivalence is more apparent than real because of the specific contextual constraints imposed by each of these words, which can vary, largely due to their semantic prosody.

The main objective of this study was to assess the effectiveness of using comparable corpora for teaching specialized translation to undergraduate students with a view to increasing the quality of their text production and their translation competence. For this purpose, we performed an experiment in which undergraduate students were asked to translate a set of English medical text excerpts into Spanish, before and after receiving training sessions during which they learned how to compile, analyze, and exploit comparable specialized corpora. The focus was on the translation of adverbial modification in the form of logical connectors. In the course of this study, students became more sensitive to the problem of translating such words in specialized texts. When the translation produced before and after the training sessions were compared, the

results reflected that the students had gained a heightened awareness of the difficulty of translating these apparently simple general language terms and were less apt to choose the conventional dictionary correspondence as a translation solution.

Abstract

Uno de los principales retos de enseñar traducción especializada consiste en ayudar a los estudiantes a tener una percepción global y unitaria del texto. Esta dificultad está estrechamente relacionada con las particularidades de cada lengua-cultura a la hora de estructurar la información en los distintos tipos de texto del discurso científico. La variación interlingüística e intertextual influye directamente en el uso de conectores lógicos, la sintaxis, la semántica y la prosodia. Debido a esto, ciertas palabras de la lengua general pueden suponer un obstáculo para el traductor de textos especializados, ya que su uso difiere con respecto a la lengua general. Tal es el caso de muchas parejas de palabras que los diccionarios bilingües dan por equivalentes: *however/sin embargo*, *currently/ actualmente* and *inadequately/inadecuadamente*. Si bien esto es cierto en muchos casos de la lengua general, en los textos especializados dicha correspondencia no resulta tan obvia. Aunque el significado nuclear de estos adverbios sea equivalente, las restricciones contextuales que impone cada uno en su lengua respectiva no se corresponden, en gran parte debido a que tienen una prosodia semántica diferente.

En este estudio determinamos el grado de efectividad que tiene el uso de corpus comparables para la enseñanza de traducción especializada a estudiantes de Grado con el objetivo de aumentar la calidad de su producción textual y competencia traductora. Para ello, llevamos a cabo un experimento en el que se pidió a los estudiantes que tradujeran una serie de extractos de textos médicos del inglés al español antes y después de haber recibido una formación específica sobre la compilación, análisis y uso de corpus especializados comparables. En concreto, nos interesamos por la traducción de adverbios que sirven para estructurar el discurso de manera lógica. A lo largo de estas sesiones, los estudiantes aumentaron su capacidad perceptiva ante los problemas de traducción que conllevan estas palabras en textos especializados. Al comparar las traducciones que hicieron de manera previa y posterior a las sesiones formativas observamos, por un lado, que los estudiantes aumentaron la capacidad para percibir las dificultades que entraña la traducción de estas palabras, que tan sencillas resultan a primera vista. Por otro lado, los resultados muestran que los estudiantes aprendieron a valorar mejor la pertinencia de las traducciones propuestas en los diccionarios.

1. INTRODUCTION

The process of specialized translation goes beyond finding correspondences between specialized terms in two languages and entails considerably more than inserting the appropriate term in a given context. Current approaches underline the need for translators to expand their focus beyond the term to larger segments of the text, such as phrasemes and collocations (Gill, 2011; Pecman et al, 2010; L'Homme, 2009; Williams 2002).

In specialized translation teaching, one of the challenges is to help students perceive the text as a whole. This difficulty is directly related to the way that each language-culture tends to structure scientific discourse, as reflected in text types and their information structure. Interlinguistic and intertextual variation directly affects the

use of logical connectors, syntax, and semantic prosody (López and Buendía, 2013; Sánchez and Buendía, 2012; Philip, 2009; Gledhill, 2000).

Students must be taught that different specialized fields give rise to different text types. For example, medical reports and health education brochures are genres typical of Medicine, and are not found in fields such as Geology and Civil Engineering, where prevalent text types include technical manuals and project design specifications, *inter alia*. Furthermore, even when the text type is the same, its structure can vary, depending on the specialized domain. More specifically, the abstract of a medical paper may be quite different from the abstract of a civil engineering text. This is evident not only in the subject matter of the paper, but also in the length of the abstract as well as the way that the main ideas of the text are linked, explained, and justified. To further complicate matters, variation of this type is also present at the interlinguistic level even in texts belonging to the same specialized field. This means that the information structure of a medical or engineering text in Spanish may be significantly different from that of an English text in those fields.

One way in which this type of interlinguistic variation is reflected is in the use of logical connectors in the form of adverbs. As is well known, logical connectors are linking words or phrases that establish the logical relationship between ideas in a sentence or between sentences. As such, they are guideposts that enable readers to better follow the text. These relationships can be sequential (time), reason and purpose, adversative (opposition and/or unexpected result), or condition.

Paradoxically, adverbs, such as *however*, *currently*, and *inadequately*, have traditionally been considered quite simple to translate. For this reason, such words are rarely if ever included in any terminological resource since their description in bilingual dictionaries supposedly provides sufficient information. Another reason for their absence in specialized resources is that terminology has traditionally focused on nouns and has neglected other grammatical categories. Nevertheless, researchers are beginning to realize that these words are also a challenge for the translator of specialized texts. As a matter of fact, their behavior in general language texts differs from their behavior in specialized language texts.

2. THE TRANSLATION OF ADVERBS

Corpus analysis reveals that general language words, such as adverbs, and their interlinguistic equivalents tend to appear in different syntagmatic contexts in each language (Cummins, 2002). For example, in bilingual Spanish-English dictionaries, *however/sin embargo*, *currently/actualmente* and *inadequately/inadecuadamente* are generally regarded as translation correspondences. Nevertheless, in real specialized texts, this equivalence is more apparent than real because of the specific contextual constraints for each of these words, which can vary from one language to another (Charles, 2011). This is largely due to their semantic prosody in specialized discourse (Stewart, 2009; Krausse, 2011; Kübler and Volanschi, 2012).

To illustrate the translation problem caused by these adverbs that act as logical connectors, we discuss two examples. Examples (1) and (2) include excerpts from specialized texts (1a, 2a), student translations of these excerpts (1b, 2b), and the target texts that best transmit the meaning of the original text (1c, 2c). In order to obtain the most suitable translation, corpus consultation techniques had to be imbued with a certain dose of creativity Frérot (2013) as shown in (1).

(1)

- (1a) Source text
Hepatitis C is transmitted via blood - through transfusions, when drug users share needles and even from tattoo needles. The first symptoms are mild, such as fatigue. **But** in around a third of people affected, the liver becomes scarred after a few decades and stops functioning properly, causing weakness, exhaustion and jaundice.
- (1b) Student translation
...los síntomas iniciales, como por ejemplo el cansancio, son leves. **Sin embargo**, en aproximadamente un tercio de los afectados se forma tejido cicatrizal tras unas décadas **y** deja de funcionar correctamente, lo que provoca debilidad, agotamiento e ictericia.
- (1c) Target text
A pesar de que los primeros síntomas son leves, como por ejemplo la aparición de cansancio, al cabo de unas décadas, en aproximadamente un tercio de los afectados el hígado forma tejido cicatrizal **lo que causa** debilidad, agotamiento e ictericia.

As shown in (1b), the student translation reflects the isolated semantic equivalence of *but* without considering its meaning in context. In Spanish, it sounds odd to link the two sentences in the text with a strong adversative connector, such as *sin embargo*. The reason for this is that the second statement does not really contradict the first. Rather, it enlarges upon it by affirming that an intensification of symptoms (fatigue to serious liver malfunction) eventually happens to roughly a third of the people affected. Accordingly, a better choice of connector is *a pesar de que*, which softens the opposition (as shown in 1c). Still another factor to take into account is the English-Spanish variation of the conjunctions, *and* and *y*. In English, *and* often conveys a causality that is not present in *y*. For this reason, the target text in (1c) makes this nuance explicit.

As can be observed in (2), this also occurs with other types of adverbial modification, such as *actually* and *basically*. Despite the fact that, strictly speaking, these words are generally not included on conventional lists of conjunctive adverbs, they have an important role in the information structure of the text since they are used as a way of specifying the preceding ideas.

- (2)
- (2a) Source text¹
Idiot compassion is a great expression, which was **actually** coined by Trungpa Rinpoche. It refers to something we all do a lot of and call it compassion. It's the general tendency to give people what they want because you can't bear to see them suffering. **Basically**, you're not giving them what they need. You're trying to get away from your feeling of I can't bear to see them suffering. In other words, you're doing it for yourself. You're not really doing it for them.
- (2b) Student translation
La compasión idiota es una expresión genial que **de hecho** acuñó Trungpa Rinpoche. Se refiere a algo que todos hacemos a menudo y lo llamamos compasión. Es la tendencia general de darle a los demás lo que quieren porque no podemos soportar verlos sufrir. **Básicamente**, no les estás dando

¹ Our thanks to Prof. Ana Ballester Casado for the example.

lo que necesitan. Estás intentando escapar del sentimiento de verlos sufrir. En otras palabras, lo haces por ti. Realmente, no lo haces por ellos.

(2c) Target text

“Compasión idiota” es una estupenda expresión que acuñó Trungpa Rinpoche para referirse a algo que todos solemos hacer y que llamamos “compasión”. Se trata de la tendencia generalizada de dar a la gente lo que quiere porque no soportamos verla sufrir. Cuando hacemos esto con alguien, no le estamos dando lo que **verdaderamente** necesita sino que más bien intentamos librarnos del sentimiento de “no soporto verlo sufrir”. En otras palabras, no lo hacemos por el otro, sino por nosotros mismos.

As can be observed in (2b), the student translation does not take context into account and uses the conventional bilingual dictionary correspondences of *actually* and *basically*, which are *de hecho* and *básicamente*. More experienced translators perceive the forest instead of individual trees and are aware that depending on the source text and its context, the Spanish equivalents of *actually* and *basically* may be quite different when the text is viewed as a whole.

The target text (2c) does not include a Spanish word corresponding to *actually* because Spanish tends not to use emphasers in this context. *Basically* is translated for *realmente* because these two adverbs provide a similar level of emphasis in this context. In our opinion, it is important for translation students to increase their interlinguistic sensitivity to this type of phenomenon in order not to translate word-for-word, and thus avoid calques of the formal structure of the text.

Accordingly, the main objective of this research was to determine the effectiveness of comparable corpora as a way of heightening the linguistic perception of translation students. We decided to focus on the translation of conjunctive adverbs in specialized texts and evaluate whether a heightened awareness of interlinguistic variation helped to improve the students’ translation skills and the quality of their translations. In our opinion, it is crucial for translation students to be able to perceive the variation of meaning in context in order to be able to successfully deal with the translation of specialized texts.

This research compares translations of source texts made by the students before and after they had become acquainted with this translation problem. The results obtained reflect the effectiveness of using comparable corpora for contrastive analysis in the Translation classroom as a way of improving the students’ translation competence.

3. EXPERIMENTAL DESIGN

In our experiment, translation students learned how to compile and exploit comparable specialized corpora for the translation of English medical texts into Spanish (Kübler, 2003; Gill, 2009; López and Buendía, 2013). In the course of this experience, the students also became more sensitive to the problem of translating general language words in specialized texts. The corpora used for this purpose were comparable and not parallel in order to avoid the calques often found in parallel corpora (e.g. EuroParl7).

A great deal has been written about the difference between real language and what is known as *translationese* (Avner et al., 2014; Volansky et al., 2015). Especially in the initial phase of the translation process, the translator is inevitably influenced by the semantic and syntactic characteristics of the source text. Parallel corpora, which are rife with semantic and syntactic calques, are a clear example of what often occurs when translators have to do their work as quickly as possible with little time for revision. For

this reason, we decided to use comparable corpora, namely, CORPES (Corpus del Español Actual) and the corpora found in Sketch Engine (SkE).

The sample population in our study consisted of 75 students in the Specialized (English-Spanish) Translation. All of the subjects were native Spanish speakers and their main foreign language was English. They attended the University of Granada and were in their third year of a four-year degree in Translation and Interpreting.

In class, the students were given ten excerpts from English medical texts (Annex 1), which they were asked to translate into Spanish. All of them contained one of the following adverbs: *unfortunately*, *actually*, *however*, *otherwise*, *consequently*. For this first translation (Translation 1), they used a computer with Internet access and also had at their disposal monolingual and bilingual lexicographic resources.

After they had finished the translation of the medical excerpts, the following classes were specifically focused on the use of corpora. Special emphasis was placed on the usefulness of these resources for the study of syntax and semantics, particularly in regards to the adverbs in the study. Also explained was the concept of semantic prosody, which refers to the fact that the collocates of a word often belong to the same semantic class. Semantic prosody has been described as a shared “aura of meaning” (Louw, 1993, p. 157), “connotational coloring beyond single word boundaries” (Partington, 1998, p. 68), or “attitudinal meaning” (Sinclair, 1999). According to Hunston and Francis (2000, p.13), a “word may be said to have a particular semantic prosody if it can be shown to co-occur typically with other words that belong to a particular semantic set”. It goes without saying that that awareness of this meaning-related phenomenon is extremely valuable in translation and contributes to an improvement of translation quality (Kübler and Volanschi, 2012; Krausse, 2011, Stewart, 2009).

In class, semantic prosody was explained in detail and specifically exemplified, using the study in Cummins (2002) that demonstrated that *population* (EN)/*population* (FR) and *more or less* (EN)/*plus ou moins* (FR) have the same meaning but different uses because of its semantic prosody. The students were informed that semantic prosody is best investigated initially through the visual inspection of KWIC (key word in context) concordances of the word(s) in question. The corpus tools used were the following²:

- CORPES³ (*Corpus del Español Actual*). This corpus has user-friendly interface and gives access to 200,000 texts produced from 2001 to 2012. Its size is 25 million tokens per year. The texts are all tagged for text-type and POS.
- Sketch engine⁴ (SkE). This corpus analysis tool permits the analysis of concordances and distributional patterns of words. Words can thus be studied, based on their frequencies and combinatorial potential (Zanettin, 2012). The British National Corpus is available on Sketch Engine. Users can also compile and upload their own corpus. Another option is to use WebBootCat to automatically compile a corpus, based on key words.

During the corpus training sessions, considerable emphasis was placed on interlinguistic differences and the fact that scientific and technical texts differ from language to language. For example, conjunctive adverbs are not used in the same way in

² While the students were doing the second translation, they did not have access to the first one.

³ <http://www.rae.es/recursos/banco-de-datos/corpes-xxi>

⁴ <http://www.sketchengine.co.uk>

English and Spanish, nor do apparent bilingual correspondences have the same semantic load. To make students sensitive to this fact, they were asked to analyze examples extracted from real corpus texts that reflected the use of adverbs that act as logical connectors, such as *however* [*no obstante, sin embargo*] and *unfortunately* [*lamentablemente, desgraciadamente*]. The examples showed that whereas adverbs such as *unfortunately*, can play the role of a discourse connector in English, the same is not true in Spanish. When either of the Spanish dictionary equivalents, *lamentablemente* or *desgraciadamente*, is used in the translation equivalent, the same meaning is not conveyed. This lack of correspondence can be due to a number of reasons such as lexical preference or semantic prosody.

After the training sessions, the students were given a week to familiarize themselves with CORPES and Sketch Engine. In the next class, they were asked to translate the same texts a second time (Translation 2). The translations were done on the computer and the students had access to corpus resources. After the second student translation was finished, we recorded how the students had translated these connectors into Spanish before and after the corpus training sessions (see Table 1).

Adverb/ Connector	Translation 1 (before corpus training)	Translation 2 (after corpus training)
<i>actually</i>	<i>Translation options:</i> verdaderamente, en realidad, realmente, sin lugar a dudas de hecho, en efecto	<i>Repeat options:</i> verdaderamente, en realidad, sin lugar a dudas,
		<i>New options:</i> precisamente, (omisión), incluso ciertamente, a decir verdad, de verdad, realmente, efectivamente, el cáncer sí que tiene éxito
<i>unfortunately</i>	<i>Translation options:</i> desgraciadamente, por desgracia, lamentablemente	<i>Repeat options:</i> desgraciadamente, por desgracia
		<i>New options:</i> desafortunadamente, [omission], sin embargo, lo cierto es que, que por el contrario, de manera irremediable, irremediabilmente
<i>however</i>	<i>Translation options:</i> sin embargo, no obstante, pero, aunque, por mucho que	<i>Repeat options:</i> sin embargo, no obstante, pero, aunque
		<i>New options:</i> a pesar de, de todos modos, frente a estos datos, aún así, por el contrario,

<i>otherwise</i>	<i>Translation options:</i> de otra manera, de otro modo, en vez de, en contraposición al resto, aparte de, en cualquier otro caso, concretamente	<i>Repeat options:</i> de otra manera, de otro modo
		<i>New options:</i> de no ser así, de lo contrario, por lo demás, además, por tanto, en algunos casos, es decir, como son N, si se hubiera utilizado otra N, ya que...
<i>consequently</i>	<i>Translation options:</i> por consiguiente, por tanto, así, por ende	<i>Repeat options:</i> por consiguiente, por lo tanto así
		<i>New options</i> ya que, y por ese motivo, (omisión), como consecuencia, por ello, como resultado, con ello, al mismo tiempo, de esta forma

Table 1. Results of the experiment (see Annex 1 for the texts)

4. DISCUSSION OF RESULTS

It was found that the Translation 1 (based on monolingual and bilingual lexicographic resources) and Translation 2 (based on comparable corpora and corpus analysis) showed significant differences.

4.1. *Actually*

According to most bilingual dictionaries, the Spanish correspondences for *actually* are *en realidad*, *en efecto*, or *realmente*. As can be observed in Table 1, these were the most frequent equivalents in students' initial translations (Translation 1). In this first phase of the experiment, the students ignored one of the most important functions of *actually*, which is to emphasize the reiteration of a previous statement or one aspect of its meaning as shown in (3) and (4).

- (3) From an evolutionary point of view cancer is a remarkable disease. If the purpose of life is to reproduce itself, then the paradox is that the cancer is **actually** very very successful. It is the dark twin of life.

Statement 1: cancer is a remarkable disease

Reiteration: cancer is very very successful

- (4) Some of the things they might think are: "Why do I hurt," "How long will it last," "Why can't someone take it away?" and "Do I hurt because I was bad?" They might wonder if it will get worse, or if it will ever be gone. This worry or anxiety can **actually** make the pain seem worse and this, in turn, causes even more worry.

Statement 1: They might wonder if it [the pain] will get worse
Reiteration: This worry or anxiety can make the pain seem worse

In order to accurately translate *actually*, it is important to bear in mind the difference between semantic equivalence and pragmatic equivalence. Semantic equivalence is based on what could be described as the nuclear or most basic meaning of a word, whereas pragmatic equivalence refers to the meaning that a word or words acquire because of their interaction with other words in the same context. When words are used in a text, their nuclear meaning is thus modulated so as bring certain aspects to the forefront and leave others in the background.

As previously mentioned, the pragmatic value of *actually* in (3) and (4) is to emphasize a certain information segment of the texts. This is something that students are rarely aware of when they read a text for the first time and then try to translate it. In their quest for the easiest solution, they often latch onto one of the dictionary equivalences (i.e. *de hecho*, *en realidad*, or *realmente*) as a kind of life raft. However, this is not the path to translation quality. The student needs to learn how to detect pragmatic equivalence by becoming aware of the meaning of larger text segments.

One way to achieve this goal is to use a comparable corpus to detect the semantic value of words. Nevertheless, even though a corpus is a valuable tool, it is of little help if one does not know how to use it. Unless students are adequately trained, a corpus is merely a huge bag of words and has limitations (Malmkjær 2003). There are various methods to introduce students to comparable corpora and make them aware of its usefulness for translation.

Possibility 1: A good starting point is to have the students observe the behavior in the corpus of the dictionary correspondences of *actually*, namely, *efectivamente*, *realmente*, *en realidad* or *en efecto*. This type of awareness exercise in which students reflect on meanings and compare their nuances in different languages enhances their sensitivity to meaning differences. At the very least, this will lead them to the conclusion that these terms cannot be used in the translations of texts 3 and 4 as equivalents of *actually*. More specifically, the concordances from CORPES highlight the following meanings:

- The affirmation of something that might otherwise be called into question.
(5) Giuseppe Verdi hace que el libertino y seductor se enamore realmente de su víctima.
- The confirmation of something that is doubtful.
(6) Yo sé lo que realmente ocurrió.
- The corroboration of information that the reader already knows because it has been previously stated:
(7) De esta manera el país se hallaba en el umbral de un nuevo y fecundo período histórico. Había entrado en efecto en el mundo moderno.
- The contradiction of previously given information.
(8) Los campesinos ricos, por supuesto, en realidad eran pobres, pero menos pobres que los demás.
(9) Se diría que en esa mirada hay expectación, pero en realidad sólo hay cariño.

Possibility 2: Another technique that gives good results is to have the students study the collocational behavior or the lexical-syntactic patterns of the words that appear with the conjunctive adverb in order to see which collocates they appear most frequently with. This can be performed by using Sketch Engine to make a search for adverbs within the immediate context of a headword. For example, in the sentence, “if the purpose of life is to reproduce itself, then the paradox is that the cancer is **actually** very very successful”, it is necessary to use *paradox* as a search word. Figure 1 shows the Sketch engine interface with the information for the term, *paradoja*.

The screenshot displays the Sketch Engine search interface. At the top, there is a 'Simple query:' field with a 'Make Concordance' button. Below this are links for 'Query types', 'Context', 'Text types', and a help icon. The 'Query type' section has radio buttons for 'simple', 'lemma' (selected), 'phrase', 'word', 'character', and 'CQL'. The 'Lemma:' field contains 'paradoja', and the 'PoS:' dropdown is set to 'unspecified'. There are also fields for 'Phrase:', 'Word Form:', 'Character:', and 'CQL:', each with its own 'PoS:' dropdown. A 'match case' checkbox is present. A 'Default attribute:' dropdown is set to 'word'. A link for 'Tagset summary' is provided. The 'Context' section is divided into 'Lemma filter' and 'PoS filter'. Both filters have a 'Window:' dropdown set to 'both' and a 'tokens' field set to '5'. The 'Lemma filter' has a 'Lemma(s):' field and a dropdown set to 'all'. The 'PoS filter' has a 'PoS:' dropdown with a list of parts of speech: 'adjective', 'adverb' (checked), 'conjunction', 'determiner', 'interjection', and 'noun'. Both filters have a dropdown set to 'all' and the text 'of these items.' At the bottom, there are 'Make Concordance' and 'Clear All' buttons.

Figure 1. Sketch engine search interface for the context of a noun.

The search results for *paradoja* included more than 200 concordances of this type (see Figure 2):

Query paradoja 15,748 > Positive filter (excluding KWIC) R.* 4,723 (1.92 per million)	
First Previous	Page 7 of 237 Go Next Last
#50316482	, en lo referente a las conceptualizaciones gramaticales. La paradoja resultante es que frecuentemente en métodos muy avanzados metodológicamente
#50968276	del clima sobre los seres organizados" en Escritos , 23). Esta paradoja parece recrearse en Cien años de soledad . García Márquez imagina
#51157186	ciudad ". El coordinador de la serie ha puesto de manifiesto la paradoja de la sociedad de hoy , en la que ante el ansia de los ciudadanos
#51321577	profesionales de la salud mental (psicólogos y psiquiatras). Ante esta paradoja , cabe preguntarse si realmente el problema para hacer el sistema
#52270008	centro del tiempo / mi lugar es el espacio. Pese a su aspecto de paradoja , acaso esta cita no lo sea: de muy cerca o de muy lejos, perdida
#52355146	Ante la demanda creciente de software seguro y fiable, se da la paradoja de que, desafortunadamente , el diseño de un programa correcto
#52367755	Ripoll (1953) estructura Los poetas invisibles alrededor de dos paradojas esenciales de nuestra época. La primera se remonta al Romanticismo
#52398854	como densos; carnales y místicos al mismo tiempo, encarnan la paradoja esencial del amor: sólo la entrega absoluta libera al alma
#52837616	solucionar su grave problema de falta de personal y envueltos en una paradoja . Así , aunque desde la patronal Hostecar ya se puso de relieve
#53276692	yo con mi palabra / muerta de vida. Aun impregnada por esta paradoja de raíz mística, el sujeto encuentra su identidad desposeída
#53381152	Extremadura. Así que les voy a decir una cosa, Señorías: aquí hay una paradoja enorme. Nosotros hoy, en el día de hoy, no tenemos que preguntarnos
#53381178	tenemos que preguntarnos qué es lo que hemos hecho mal , la gran paradoja es que lo que tenemos que preguntarnos es qué es lo que hemos
#53733652	plantearlo como un problema educativo todo parece crear un mundo de paradojas no resueltas. El artículo, lejos de dar soluciones, simplemente
#54110036	italiano Luna Rossa . De las tres pruebas que disputó y ganó, paradojas de la vela, no terminó dos y la que finalizó la había concluido
#54868467	misma, al igual que Yo y Yo. La Paradoja de la Nada Existe una paradoja lógica donde no se cumplen las normas del Puellano. Si se supone
#54868768	al número 4 como semiocho". Los matemáticos que plantearon la paradoja de las semioficias hoy se encuentran leyendo cuentos en un
#54869353	intentado rebatir la teoría con contraejemplos tan clásicos como la paradoja del 1=2. En el seminario, realizado junto a la cascada de FACEA
#54879004	muchas otras. Se cree que también demostró matemáticamente la paradoja de Schrödinger utilizando, cómo no, la patada giratoria. Contenido
#54926594	cualquier otro medio. El estudio apunta, además una sorprendente paradoja : crece la inversión en dos soportes que podrían considerarse
#55333404	detallados en la noticia. Además nos encontramos con una aparente paradoja , ya que el anuncio esta escrito en catalán y la noticia que

Figure 2. KWIC concordances for *paradoja* with an adverb in its immediate context.

The search results show that there were few occurrences of *paradoja* associated with the adverbs in our study in the CORPES general language corpus, which seems to indicate that in Spanish, these adverbs are less frequently used with this headword than in English. Furthermore, the corpus indicates that the emphasis, which is part of the meaning of *paradoja*, is expressed in Spanish in a different way. Thus, it is not only a question of identifying the pragmatic equivalents or equivalents of *actually* in Spanish, but also of finding how to convey intensification within the collocational context of *paradoja*.

As can be observed in Table 1, in the second phase of the experiment (Translation 2), the students' translations better coincided with the pragmatic-textual meaning of *actually*. Consequently, in text 4 (see Annex 1), *actually* was translated for *justamente*, *precisamente*, or *lo cierto es que* (examples 10-12):

Source text: If the purpose of life is to reproduce itself, then the paradox is that the cancer is **actually** very very successful.

- (10) Si el objetivo de la vida es reproducirse, la paradoja consiste **justamente** en que el cáncer tiene mucho éxito.
- (11) Si el objetivo de la vida es reproducirse, se da **precisamente** la paradoja de que el cáncer es un éxito rotundo.
- (12) Si el objetivo de la vida es reproducirse, **lo cierto es que** el cáncer tiene un éxito rotundo, lo cual resulta paradójico.

Furthermore, in Translation 2, some students also detected that *actually* has an incremental value and translated it for *incluso*:

Source text: This worry or anxiety can **actually** make the pain seem worse and this, in turn, causes even more worry.

- (13) Este miedo o ansiedad puede llegar **incluso** a hacer que el dolor parezca mayor de lo que es y esto, a su vez, causa aún más preocupación.

4.2. *Unfortunately*

Unfortunately is much more than a contrastive adverb. As explained by Charles (2011), it is an interpersonal marker that conveys the attitude of the speaker and has semantic values such as the following: (i) mitigation of the criticism of previous work; (ii) criticism of the work of other researchers; (iii) a nod of complicity with the reader; (iv) justification of the work of the author; (v) demonstration of the professional competence of the author.

In English, *unfortunately* is frequently used in scientific texts to present new information imbued with a negative evaluation. This is evident in texts (13-14), which the students were asked to translate:

- (13) From our perspective these are not two different drugs but a single one, the same drug can produce images but at the same time treat the tumor. **Unfortunately** some tumors are so spread across the body with metastases that you cannot use surgery or external radiotherapy to kill them, so chemotherapy is used.
- (14) Should it become necessary, to meet EEC requirements on medicines legislation, to run tests with homoeopathic remedies using double-blind models, the great advantage of research with the remedies is their gentle action and lack of the harmful side-effects which **unfortunately** result from many orthodox drugs.

In Spanish-English bilingual dictionaries, the Spanish correspondences given for *unfortunately* are *desafortunadamente*, *desgraciadamente* and *por desgracia*. These are also the equivalences given in the *Diccionario Crítico de Dudas* of Fernando Navarro, although the recommendation is to avoid adverbs with *-mente*. These adverbs occupy a similar syntactic position. They appear in an isolated position at the beginning of the sentence or phrase.

However, according to the RAE, *por desgracia* and *desgraciadamente* are often used to when the author is talking about something very painful or troubling. Corpus analysis confirms that *unfortunately* is strongly charged with negative semantic prosody. It is generally used as an interpersonal marker that shows the position of the speaker.

le; desde la cuarta a la octava avenida, se habían tenido terribles consecuencias y	desgraciadamente	representaban más del 60% de la economía urbana de la ciudad gemela de Comayagua
Después de nacer Tin, decidí poner esos dos ojos a quién más los mereciera, pero,	desgraciadamente	, nunca supe dónde los puse, y ya viejo y cansado, cuando decidí ir a ese valle
e comenta. Hablo correctamente el castellano porque es un defecto que padezco	desgraciadamente	desde chiquito; porque en este país, para caer pesado, lo primero que hay que hacer
de que al regreso los republicanos hayan vuelto al fin a la patria arrebatada. "	Desgraciadamente	no sólo no regresaron, sino que encima se vieron acompañados de los partidarios
ada época dieron origen a un modelo de organización y de control corporativo, y	desgraciadamente	los múltiples intereses que dominan al deporte y la limitación de recursos para
echosos de ser aristócratas en fuga, habían estado a punto de ser encarcelados.	Desgraciadamente	, las penurias del viaje probaron ser fatales para Curchet. Llegado a Lausana, el
traiciones y humillaciones... ¡Qué te voy a decir! Sé de lo que hablo. Algo que	desgraciadamente	conozco de cerca. La sociedad que has elegido para ser mujer es el ejército, querida
tracias, señor O'Gorman. Como sabe, en Rusia tuve buenos maestros. También,	desgraciadamente	, bastante práctica.
-	Desgraciadamente	todo eso ocurre, pero sólo en los ingenios. Los esclavos domésticos no son tan
No va porque el Ilustre, dicen los médicos, ha rebasado,	desgraciadamente	, el cuadro de gravedad.
Esas manifestaciones se vieron corroboradas	desgraciadamente	con los sucesos de la tarde. Mientras una manifestación pacífica recorría uno de
	Desgraciadamente	Júbilo se enteró de todo esto mucho tiempo después, cuando tomó un curso para
realizar grandes esfuerzos para que unos tenues sonidos salieran de su boca, que	desgraciadamente	resultaban incomprensibles para los que lo escuchaban.
entrenamiento adecuado fue a don Chucho, el amigo de infancia de su padre, pero	desgraciadamente	éste no pudo prestarle su ayuda pues tenía a su esposa hospitalizada a causa de
nían una consideración especial cuando hacían buenas capturas de boquerones.	Desgraciadamente	, en la mayor parte de las preparaciones culinarias no se emplean las vísceras de
ve de 26 semanas de gestación), con fuerte trauma de nacimiento. Las cesáreas,	desgraciadamente	, aparecen en igual número, tanto en mujeres que asisten al programa de estimulación
-	Desgraciadamente	, este año el trigo lleva menos gluten -conten
otro -dijo el enano-. Es un error pensar y hacerle pensar a él lo contrario.	desgraciadamente	, la soledad acompaña al hombre durante toda su vida.
he tan indefinida en objetivos? Lo primero, a tomar una larga ducha. Lo segundo,	desgraciadamente	, a un martini.
	Desgraciadamente	, los poetas no sois ya los mantenidos del poder, como en los tiempos de Augusto

Figure 3.KWIC concordances for *desgraciadamente* in CORPES

As can be observed in the corpus, *desgraciadamente* has two main semantic values:

- Subjective evaluation of events that produce great pain and sorrow.
 - (15) Nuestro país **desgraciadamente** sufrió las consecuencias de dicha guerra, cuyos objetivos ya fueron enunciados.
 - (16) Tanto confiáis en él que nunca le habéis preguntado de dónde sale tal o cual cantidad. Ese ha sido vuestro error. **Desgraciadamente**, las personas en las que más confiamos son las únicas que llegan a defraudarnos del todo.
 - (17) ...nuestra común estirpe, como el doctor Yepes (colombiano) y el profesor García Arias (español), ambos **desafortunadamente** fallecidos.
- The description of events that are unsuccessful or without the desired results.
 - (18) La gente había marchado ya dormir, y únicamente algún marinero semiborracho o algún pollito rezagado se entretenía en tirar al blanco o en intentar, **desafortunadamente**, colar los arillos por el cuello de la botella de sidra.
 - (19) Llegar a la aplicación de estos principios de conducta en la vida privada y en la pública, en la defensa de los derechos de la persona humana y de los de la colectividad, es justamente la mejor prueba de madurez, de mayoría de edad en el proceso político y no lo contrario, como, **desafortunadamente** parece dar a entender el articulista al considerar que la regulación de la Prensa existente en España nos hace correr "el riesgo de que, como en otras morbosas iniciaciones, el menor se busque en rincones sombríos la información que sus presuntos educadores no le quieren dar por respeto al pudor".

In Spanish texts, *desafortunadamente*, is generally used to express negative evaluations that reflect subjective perceptions of pain. Evidence of this can be found in the contexts of this adverb, which include negatively charged words such as the

following: *males* [evils], *sufrimientos* [sufferings], *congojas* [distress], and *fallecidos* [deaths]. In all likelihood, this negative subjective load is one of the reasons why *desafortunadamente* and *desgraciadamente* are rarely found in scientific texts written in Spanish. More specifically, in our specialized medical corpus of a million words, there is only one occurrence of these adverbs.

In Translation 1, students were not aware of the fact that these words are rarely found in Spanish scientific discourse and used them as translations of *unfortunately*. After receiving training in corpus compilation, use, and analysis, there was a certain degree of improvement. Although 70% of the students persisted in using the same translation, 30% came up with alternatives that were more coherent with the text genre in the target language (i.e. *sin embargo*, [omisión], *por desgracia*, *lo cierto es que*, *que por el contrario*, *de manera irremediable*, *irremediablemente*). Nevertheless, in those student translations that opted for the literal correspondence, the adverb was generally placed in a different position and not at the beginning of the sentence. This seems to indicate an incipient awareness on the part of the student translator that the target text should not be a calque of the source text. Despite the fact that they should have opted for a different choice of term, their texts reflect that they were trying to adjust their text to the Spanish text system and use distributional positions suitable for Spanish texts.

Finally, it must be said that it is not always easy to make the students enthusiastic about using corpora and corpus analysis tools. As Frérot points out, (2013) there is often a certain reticence towards using such resources, perhaps because of the initial time and effort that must be invested in becoming familiar with corpus analysis methods and the CORPES and SkE platforms. Nevertheless, this is one of the challenges that the professor must face along with that of leading the students to discover the subtle interlinguistic differences produced when apparent translation equivalents are analyzed in context.

4. CONCLUSION

The objective of this study was to raise student awareness of the usefulness of corpus tools in the translation of specialized texts, and to help them to improve their translations by means of the concordance analysis of general language words. Novice translators have the tendency to calque the semantic and syntactic structure of the source text and opt for easy solutions to translation problems. The purpose of this exercise was to increase their sensitivity to interlinguistic differences in regards to the pragmatic-textual values that certain discourse connectors acquire in context. This was done by means of training sessions in corpus use, analysis, and compilation.

As part of this research, we compared the Spanish translations of English source texts made by the students before and after they had received corpus analysis training. These sessions highlighted the difficulty of translating general language words, such as adverbial modification and discourse connectors, in specialized medical texts. The problem resides in the fact that these words behave differently in different contexts. This is not surprising since their semantic prosody can vary from one language to another and from one specialized field to another. Consequently, to produce a high-quality translation, it is not enough for a translator to know a language and be familiar with the terminology in the specialized field. It is also necessary to have an excellent grasp of textual genres and conventions in both the source and target language. In this sense, specialized translation bears a certain similarity to localization in which the source text must be adapted to target language-culture system.

The results in our study reflect the effectiveness of using comparable corpora for contrastive analysis in the Translation classroom as a way of improving the students'

translation competence. After the corpus training sessions, the students gained a heightened awareness of the difficulty of translating certain apparently simple general language terms that frequently appear in specialized medical texts in English. Making the translation students more sensitive to the danger of grammatical and semantic calques is a necessary first step to lessening their dependence on the form of the source text so that they can focus more on its meaning.

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Annex 1

1. From our perspective these are not two different drugs but a single one, the same drug can produce images but at the same time treat the tumor. **Unfortunately** some

tumors are so spread across the body with metastases that you cannot use surgery or external radiotherapy to kill them, so chemotherapy is used.

2. Should it become necessary, to meet EEC requirements on medicines legislation, to run tests with homoeopathic remedies using double-blind models, the great advantage of research with the remedies is their gentle action and lack of the harmful side-effects which **unfortunately** result from many orthodox drugs.
3. It's always interesting to see how people avoid preventative care. The most common excuse is "I just don't have the time." **Unfortunately**, when it comes to our health we often don't get a second chance.
4. From an evolutionary point of view cancer is a remarkable disease. If the purpose of life is to reproduce itself, then the paradox is that cancer is **actually** very very successful. It is the dark twin of life.
5. Some of the things they might think are: "Why do I hurt," "How long will it last," "Why can't someone take it away," and "Do I hurt because I was bad?" They might wonder if it will get worse, or if it will ever be gone. This worry or anxiety can **actually** make the pain seem worse and this, in turn, causes even more worry.
6. A personalized approach to patients is more expensive for the pharmaceutical industry because the more you are selective, the smaller is your patient population and the smaller your market. But **actually** the cost of developing the drugs remains the same. Medicine must go in this direction. It is the only way to deliver more effective care but also to reduce healthcare costs.
7. The human body, a perfect machine, full of wonder, a self-regulating system able to repair itself when injured and defend itself from viruses and illnesses. **Yet** in this amazing vehicle, which we mostly take for granted, sometimes things can go wrong.
8. Thus, studies of migrants tended to reinforce the view that an increase in sodium intake was responsible for the rise in blood pressure. Recently, **however**, findings among the Kuna Indian, initially residents of the San Blas Islands off Panama, have cast doubt on the notion that salt is the factor responsible for the change in blood pressure.
9. **Unfortunately** some tumors are so spread across the body with metastases that you cannot use surgery or external radiotherapy to kill them, so chemotherapy is used. **However** this has strong side effects since it affects not only the cancer cells but also the healthy ones.
10. If the inflammation and infection spread through the wall of the appendix, the appendix can rupture. After rupture, infection can spread throughout the abdomen; **however**, it usually is confined to a small area surrounding the appendix (forming a peri-appendiceal abscess).
11. Over 1.5 million men and women will be diagnosed with cancer this year in the USA, and more than 500 000 will die of it. **However**, a new ray of hope for cure lies today in targeted personalized treatments. From an evolutionary point of view

cancer is a remarkable disease.

12. Since then, the same Kuna people have established trade relations with the mainland, and sodium availability increased to the level as consumed by mainland Panamanians. Remarkably, **however**, these island people, mostly maintaining their traditional cultural pattern, with the exception of increased dietary sodium, retained the pattern of low blood pressures and revealed no tendency for it to rise with age.
13. Sometimes, the body is successful in containing ("healing") the appendicitis without surgical treatment if the infection and accompanying inflammation do not spread throughout the abdomen. The inflammation, pain and symptoms may disappear. This is **particularly** true in elderly patients and when antibiotics are used.
14. There are compelling data demonstrating that with the appropriate programs, treatment for HCV infection among PWID is successful, with responses to therapy similar those observed in large randomized controlled trials in non-PWID. **However**, assessment and treatment for HCV infection lags far behind the numbers who could benefit from therapy, related to systems-, provider- and patient-related barriers to care.
15. Stem cell researchers are making great advances in understanding normal development, figuring out what goes wrong in disease and developing and testing potential treatments to help patients. They still have much to learn, **however**, about how stem cells work in the body and their capacity for healing. Safe and effective treatments for most diseases, conditions and injuries are in the future.
16. Molecular Imaging Molecular imaging is the use of imaging technologies to assess biological activity in the body and is a valuable way to obtain medical information that may **otherwise** require exploratory surgery or more expensive diagnostic tests.
17. His research looked at a different group of patients - **otherwise** healthy people with no standard risk factors.
18. Salt is ubiquitous in food, and its consumption in large amounts is **consequently** widespread.
19. Task-oriented goals in youth sport programs can represent a relevant framework for promoting prosocial attitudes and **consequently** increment the effectiveness of educational interventions.