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Calquing noun concatenations in English <> French translation and interpreting

From defining criteria to corpus-based insights

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Année académique 2019-2020
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Mémoire présenté en vue
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Le calque des concaténations de noms en traduction et en interprétation anglais <> français :

Des critères définitoires à l'analyse de corpus

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Introduction

In this contribution, I examine noun concatenations in English-to-French and French-to-English translation and simultaneous interpreting. More particularly, I focus on calques produced by translators and interpreters when rendering source noun concatenations into the target language. The topic hence covers different fields of study such as corpus-based interpreting studies, corpus-based translation studies, translation procedures and contrastive lexicology.

The purpose of my study is threefold. The first objective is theoretical. There is a considerable amount of literature on translation procedures. Various scholars have proposed comprehensive typologies, but they have not all come to an agreement on what constitutes a calque. The notion of calque appears vague and blurred, compared to the other translation strategies, and is sometimes used with negative connotations. I thus aim to formulate defining criteria for the construct of calque on the basis of a thorough literature review. Second, since there are very few empirical studies dedicated to calques, this dissertation is intended to describe calques using authentic corpus data through the lens of noun concatenations for the English <> French language pair. The third and final objective is methodological. Indeed, I plan to assess the added value of combining translation and interpreting corpus data (i.e. an intermodal approach) to study a particular translation procedure.

This dissertation is made upon six chapters. The first one is relatively short. It outlines the background of corpus-based translation and interpreting studies before focusing on intermodal corpora and their advantages.

Chapter 2 is devoted to the construct of calque. Firstly, it is aimed at establishing a clear definition on the basis of a detailed literature review. It also describes scholars' attitudes towards calques and addresses the construct of literal translation (which is often confused with the concept of calque). This second chapter then provides a brief review of representative empirical studies and ends with a summary of the causes of calques.

Chapter 3 focuses on the notions of nominal compounds and noun concatenations. In particular, it covers a well-known contrast between English and French: the NN pattern. The penultimate section of the chapter presents two recent corpus-based studies on noun concatenations. The research questions I aim to address in this dissertation are introduced in the last section.

The fourth chapter introduces EPTIC, the *European Parliament Translation and Interpreting Corpus*. I took part in this collaborative corpus compilation project during my Master's degree and I have therefore decided to use these data in the present dissertation. In particular, Chapter 4 describes the compilation of EPTIC and illustrates its potential as a source of data for corpus-based translation and interpreting studies.

Chapter 5 explains how I built the two Excel databases on which my analyses are based. More specifically, it deals with automatic extraction, manual data selection and data coding.

The last chapter is devoted to the analysis of the two Excel datasets. After providing an overview of the identified source noun concatenations, it presents a quantitative and qualitative analysis of the rendition of noun concatenations in translation and interpreting. Finally, the last section is dedicated to the analysis of calques. It answers my research questions and addresses the concept of calque cline (which, to the best of my knowledge, has not been discussed in the literature yet).

1 Corpus-based translation and interpreting studies: the case of intermodal approaches

This first chapter consists of four sections. After a brief introduction, Sections 1.2 and 1.3 outline the background of corpus-based translation and interpreting studies. Then, Section 1.4 focuses on intermodal corpora and their advantages.

1.1 Introduction

New technologies have transformed translation practice and have had an impact on research. To mention only one of these: electronic corpus. It can be defined as "a collection of machine-readable authentic texts (including transcripts of spoken data) which is sampled to be representative of a particular language or language variety" (McEnery, Xiao, & Tono, 2006, p.5). Such corpora have led to the development of corpus-based translation studies (CTS) and corpus-based interpreting studies (CIS), which are two young academic disciplines respectively introduced in 1993 and 1998.

In *The name and nature of Translation Studies*, Holmes (1988/2004) describes what translation studies (TS) cover. It is the founding statement for the field: since then, TS has had a home of its own. In his contribution, he mentions three main branches of TS: theoretical, descriptive and applied (see Figure 1).

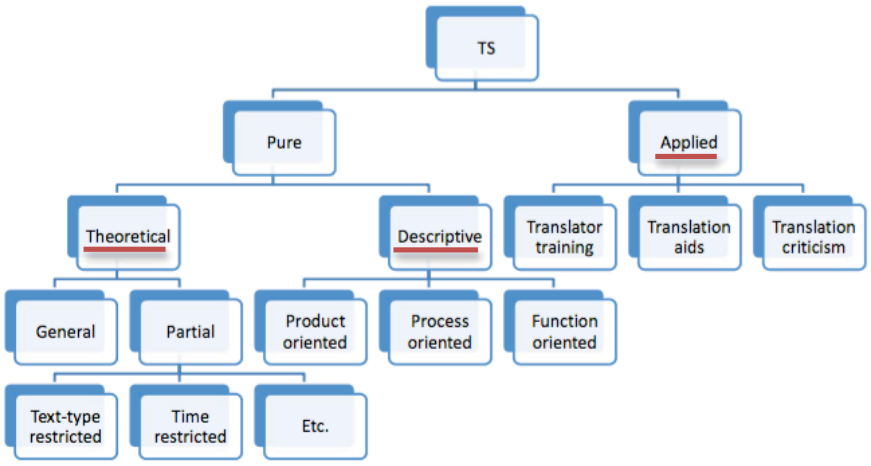

Figure 1 – Visual representation of Holmes's map by Toury (as cited in Munday, 2016, p.17, my emphasis)

CTS and CIS mainly belong to the *descriptive/product-oriented* branch since these two disciplines look at what the translator or interpreter produces. However, as Hermans (1999, p.103) puts it, “description is not enough, it has to serve a purpose, such as explanation”. With the aim of explaining different patterns, CTS and CIS also try to be *theoretical* (e.g. see Sections 4.3.1 and 4.3.2). Finally, they can be placed on the *applied/translator training* branch given that Ferraresi (2016) uses EPTIC to design translation teaching materials (see Section 4.3.3).

1.2 Corpus-based translation studies (CTS)

In the 1990s, corpus linguistics received increasing interest. In 1993, Baker put forward the idea of adopting the methodologies of this academic discipline to analyse translation: “The availability of large **corpora of both original and translated text[s]**, together with the development of a corpus-driven methodology will enable scholars to **uncover the nature of translated texts** as a mediated communicative event” (as cited in Bendazzoli & Sandrelli, 2009, p.1, my emphasis). Baker referred to monolingual comparable corpora, which consist of one collection of original texts in a particular language and another collection of texts translated in that same language from one or more given source languages (Baker, 1995). It can be inferred that the focus was then on translated language. Indeed, as Baker (1995, p.233) later said: “We need to effect a shift in the focus of theoretical research in the discipline, a shift away from comparing either ST [i.e. source text] with TT [i.e. target text] or language A with language B to comparing text production per se with translation”.

TS scholars had assumed earlier that translated language was different from original language and had its own distinctive linguistic profile. The translated language was even called *translationese* (Gellerstam, 1996) or *third code* (Frawley, 1984). The first CTS scholars were thus interested in uncovering the recurrent features of translated language (in comparison to non-translated language), which are termed *universals of translation* in TS. These can be defined as “features which typically occur in translated text rather than original utterances and which are not the result of interference from specific linguistic systems” (Baker, 1993, p.243).

In 1998, a special issue of the translation journal *Meta* (edited by Laviosa) gathered many contributions about the key aspects of CTS, which proves that CTS was already considered a *new paradigm in translation studies* at that time (Bendazzoli & Sandrelli, 2009, p.1).

Today, the two major topics in CTS are universals of translation (as in the early days of the discipline) and translators' style.

1.3 Corpus-based interpreting studies (CIS)

Corpus linguistics has first been applied to translation. In 1995, Armstrong was the first to put forward the idea of corpus-based interpreting studies (Correia, 2018). This suggestion was further developed by Shlesinger (1988) in her contribution for the above-mentioned special issue of *Meta*. This paper was the only one "which addressed the application of a corpus-driven methodology to the study of interpreting" (Bendazzoli & Sandrelli, 2009, p.1). The advent of corpus linguistics, which focuses on the rigorous description of authentic data (Correia, 2018), allowed research on interpreting, conducted since 1950s, to shift from a prescriptive approach to a descriptive one.

CIS have been less advanced than CTS since the beginning:

> There is still a considerable gap between the two, both in terms of corpus size and availability and in terms of number of studies and pedagogical applications. This is probably due to the greater challenges and obstacles involved in setting up interpreting corpora, i.e. electronic corpora of transcribed speech events, which include an original […] speech and its parallel […] version into one or more foreign languages. (Bendazzoli & Sandrelli, 2009, p.1)

Firstly, collecting and transcribing spoken data is time-consuming. Secondly, as Pöchhacker (2008) points out, there is the limited access to authentic data (as cited in Bendazzoli & Sandrelli, 2009). Cencini (2002), Gile (1997) and Kalina (1994) also mention the difficulty to collaborate with conference organisers

and speakers, for confidentiality reasons, and professional interpreters, "who tend to perceive scientific research as attempts to evaluate the quality of their work" (as cited in Bendazzoli & Sandrelli, 2009, p.2). Then, Shlesinger (1998, as cited in Bendazzoli & Sandrelli, 2009) notes that many variables have to be taken into account to ensure the reliability of the results: the type of interpreter-mediated event; the interpreting mode; the variability concerning speakers and speeches; the interpreters themselves (they have got different trainings, different levels of expertise, etc.); the target audience (every audience has different expectations, e.g. the general public vs. experts). All these variables are important since they have an impact on the interpreting service. Finally, researchers have to decide how to transcribe and encode the data. That may also constitute a hurdle.

Early CIS were based on small *manual* corpora, i.e. "sample data and transcripts that could not be studied using corpus linguistics methods" (Bendazzoli & Sandrelli, 2009, p.3). Then, IT technicians, computational linguists and interpreting scholars worked together and compiled larger machine-readable corpora. General accessibility to these electronic corpora remained, however, rather limited (Bendazzoli & Sandrelli, 2009).

The first machine-readable corpus available to the scientific community was EPIC (the *European Parliament Interpreting Corpus*), which was created in 2004 by the Directionality Research Group in Forlì. They used speeches from the European Parliament (EP) plenary sessions to overcome the above-mentioned obstacles. Indeed, EP plenary sessions are in the public domain and "homogeneity of the data is ensured by the institutionalised setting (the plenary debates, with their procedures and routines) and the interpreters' selection process and working environment" (Bendazzoli & Sandrelli, 2009, p.3). EPIC is a trilingual (English, Spanish and Italian) parallel and comparable corpus that is publicly available online.

1.4 The intermodal corpus, a bridge between CTS and CIS

In recent years, we have noticed a rising interest in the comparison of translation and interpreting. Shlesinger (1998, as cited in Bernardini,

Ferraresi, & Miličević, 2016) was the first to suggest that comparable corpora in interpreting studies should cover not only interpreted texts and original speeches, but also *written* translations of such texts.

In the words of Gile (2004, as cited in Ferraresi, 2016, p.31):

> Since translation and interpreting share so much, the differences between them can help shed light on each, so that besides the autonomous investigation of their respective features, each step in the investigation of one can contribute valuable input towards investigation of the other.

Intermodal corpora, i.e. corpora consisting of parallel or comparable outputs of translation and interpreting (Bernardini, Ferraresi & Miličević, 2016), offer thus numerous insights, including a comparison between interpretational and translational output. If translated and interpreted target texts share the same source text, the corpus in question is called an *intermodal multiple-translation corpus*. A *multiple-translation corpus* (or MTC, for short) allows, by definition, "to observe and compare the strategies adopted by different translators […] when faced with the same input" (Ferraresi, 2016, pp.27-28). Note that compiling such intermodal MTCs is rather challenging due to the shortage of texts being both translated and interpreted in authentic settings (Bernardini, Ferraresi, & Miličević, 2016).

EP plenary session speeches were once again used to overcome this difficulty. In fact, the intermodal MTC named EPTIC (the *European Parliament Translation and Interpreting Corpus*) was initially based on the English <> Italian part of EPIC. In order to compile this unique corpus, Bernardini, Ferraresi and Miličević paired EPIC's transcripts of spoken data (namely the interpretations and their source speeches) with the corresponding written translations and their respective STs (Ferraresi, 2016). This was possible because, for each plenary session, the EP website published *verbatim reports* consisting of transcribed original speeches and their written translations into all EU languages (Ferraresi, 2016).

To conclude, despite being representative of a specialised domain and not of the general language, EP speeches are precious data for constructing intermodal corpora due to their authenticity, homogeneity and availability, the numerous languages represented and the guarantee that the translators and interpreters involved are accredited professionals (Vuorikoski, 2004, as cited in Bernardini, Ferraresi, & Miličević, 2016).

2 Literature review: the construct of calque

In this theoretical chapter, I focus on the construct of calque. Section 2.1 gives an overview of the literature with regard to the definition of calque. Section 2.2 deals with scholars' attitudes towards calques. In Section 2.3, I present the construct of literal translation and explain the differences between calque and literal translation. Section 2.4 then provides a brief review of a few representative studies in translation and interpreting studies. Finally, Section 2.5 outlines the causes of calques arising from the literature review presented in Sections 2.1 to 2.4.

2.1 Definitions: overview

In this section, I firstly outline Vinay and Darbelnet's perspective on calque (Section 2.1.1). Vinay and Darbelnet (1995) were among the first scholars to theorise the procedure of calque. More generally, their categorisation of translation procedures remains the most influential to date. Then, I complement this widely accepted definition of calque with the work of other authors, trying to identify the main emerging trends (see Sections 2.1.2, 2.1.3 and 2.1.4) while highlighting the similarities and dissimilarities with Vinay and Darbelnet's definition.

2.1.1 Vinay and Darbelnet (1995)

Vinay and Darbelnet (1995) distinguish two methods of translating: *direct* (or *literal*) and *oblique* translation. The first one consists in transposing the source language (SL) message element by element into the target language (TL). Translators use this method when they face structural or metalinguistic parallelisms (i.e. parallel concepts). However, in case of cross-linguistic differences, a literal translation may be considered unacceptable (with regard to lexis, meaning or word order). Translators must then opt for more complex procedures called *oblique translation methods*. Direct translation is said to be less difficult than oblique translation.

It is not uncommon for translators to notice lacunae, gaps, in the TL. **To overcome such lacunae and thus to reach equivalence**, they may choose to use a calque. According to Vinay and Darbelnet (1995, p.32, my emphasis), the calque falls into the direct translation method: "A calque is a special kind of

borrowing whereby a language borrows an expression form of another, but then **translates literally each of its elements**". The two scholars differentiate between a *lexical* and a *structural* calque: the lexical calque "respects the syntactic structure of the TL, whilst introducing **a new mode of expression**" while the structural calque "introduces **a new construction into the language**" (*ibid.*, my emphasis).

They illustrate their definition as follows:

1. Compliments of the Season! → Compliments de la saison ! (lexical calque)
2. The man in the street → L'homme dans la rue (lexical calque, instead of *le Français moyen* or *l'homme de la rue)*
3. Science-fiction → Science-fiction (structural calque)
4. Matrimony is a fifty-fifty association. → Le mariage est une association à cinquante-cinquante. (structural calque)

Vinay and Darbelnet (1995) further state that, if a calque eventually becomes an integral part of the TL, it may undergo a semantic change and turn into a *faux ami* (i.e. a false friend).

The following three defining features of calque, which find their origin in Vinay and Darbelnet (1995), are discussed in the following sections:

1) Aim: to overcome lacunae and to reach equivalence
2) Literal translation of each element
3) Introduction of a new mode of expression or a new construction into the language

2.1.2 Overcoming a difficulty

The authors discussed in the present section agree with Vinay and Darbelnet's idea that calques are used in order to solve problems encountered during the translation process.

Pym's (2016) categorisation of translation procedures does not aim to describe everything translators do but only to provide a set of solutions. The first two solutions, *copying words* and *copying structure*, partly fall within the concept of calque described above. As the eight types of translation solutions offered by Pym (see Appendix 1) are "going from simple to complex, from low-effort to high-effort, from close-to-the-text to greater translatorial intervention" (Pym, 2018, p.43), we may infer that copying words and copying structure are seen as simple, low-effort and close-to-the-text. It should also be noted that, his typology being purely pedagogical, Pym uses transparent and easy-to-understand labels:

> Copying Words, for example, is very forced when it has to cover various parts of words as well as ideograms — 'copying language' would be more accurate but the students tend to find it too vague, applicable to whole paragraphs or pages, or suggestive of dictation exercises. (Pym, 2018, pp.45-46)

Copying words is defined as "'transcription' in the broadest sense, where items from one language are brought across to another" (Pym, 2018, p.43). This category consists of three main sub-types: *copying sounds*, *copying morphology* and *copying script*. However, only one of those, copying morphology, comes close to the concept of calque. Pym (2016) gives no definition as such but I can infer from his examples that it involves translating SL morphemes: *football* becomes *balompié* (literally *ball-foot*) in Spanish and the Spanish *rascacielos* (literally *scratch-sky*) becomes *skyscraper* in English. Note that Pym (2016) also mentions straight imports (i.e. borrowings or loan words) in this sub-type. Vinay and Darbelnet (1995), by contrast, specify that calques always involve translation.

By copying structure, "syntactic or compositional structures are brought across from one language into another" (Pym, 2018, p.43). In this context, the term *structure* refers to "the relations between the expressions in a text, mostly with respect to order of presentation" (Pym, 2016, p.223). Pym (2016) warns us that the concept of copying structure is close to that of word-for-word literalism but that

they should not be confused. When we can easily reproduce the source text syntax in the target language, i.e. when word-for-word literalism is at play, there is no translation problem to be solved. Consequently, it does not require any solution type such as copying structure. I will come back to this translation solution in Section 2.1.3.

According to Chesterman (2016), calque belongs to production strategies (as opposed to comprehension strategies), which are goal- and problem-oriented. The scholar does not provide any definition of calque but we may infer from the cited examples that his conception is similar to that of Vinay and Darbelnet (1995).

5. (German) Übermensch → (English) Superman
6. (English) The man in the street → (French) L'homme dans la rue

However, Chesterman (2016), who distinguishes between three groups of translation strategies (syntactic/grammatical, semantic and pragmatic), classifies calques as syntactic strategies, i.e. strategies that "primarily manipulate form" (Chesterman, 2016, p.91). This sets him apart from Vinay and Darbelnet since, as stated by Pym (2016, p.177), "Vinay and Darbelnet had each of their solution types able to operate on three different levels (lexis, collocation, message)". Moreover, Chesterman uses *l'homme dans la rue* as a syntactic example while Vinay and Darbelnet (1995) classify it as a lexical calque. It should also be noted that Chesterman, in contrast with the other authors discussed in this section, groups loan and calque together under the same strategy even though the latter, unlike the former, involves translation. When he writes "the German term *Check-in-Bereich* for English *check-in area* combines both forms of loan", it can also be assumed that he considers calque as a type of loan. In this case, loan must be understood as an umbrella term encompassing calques and loans (in the sense of borrowing items without translating them).

In their 2016 paper, Meriläinen et al. present calques (referred to as loan translations) as a language contact phenomenon from three different perspectives

(translation studies, contact linguistics and second language acquisition research). I zoom in on translation studies here. Meriläinen et al. (2016, p.114, my emphasis) cite Leppihalme (2011), who defines loan translation as "a **lexical** phenomenon that produces **neologisms** in the target language", such as *kick sled* for the Finnish realia[1] *potkukelkka*[2] (= *kick* + *sled*). Cabré (2010), as cited in Meriläinen et al. (2016, p.114), argues that translators should use neologisms only when "all the possibilities of finding a *real* term have been exhausted". Hence, it can be inferred that a calque is a justified and accepted strategy in the case of lexical gaps in the target language. This is in line with Vinay and Darbelnet's idea of overcoming lacunae.

2.1.3 Unprecedented combination of words – Lack of idiomaticity in the target language

This second defining feature draws on two statements from Vinay and Darbelnet (1995): a lexical calque introduces **a new mode of expression** and a syntactic calque introduces **a new construction** into the target language. Several other scholars emphasise the fact that a calque constitutes an unprecedented combination of words/terms, that it lacks idiomaticity and even that it seems abnormal in the target language.

I start with Pym and his translation procedure called *copying structure* (for *copying words*, see Section 2.1.2 above). We know we are dealing with copying structure "when an unusual syntactic pattern is brought into the target language" (Pym, 2016, p.223). This solution type consists of three main sub-types: *copying prosodic features* (i.e. rhyme, rhythm, alliteration), *copying fixed phrases* (i.e. syntax, idioms, common expressions) and *copying text structure* (i.e. paragraph and major units of text organisation). Only one of them, copying fixed phrases, is related to the concept of calque. I use two examples from Pym (2016) by way of illustration:

[1] A realia is a culture-bound word.
[2] According to Wiktionary (2019), a kicksled is "a type of small sled consisting of a handlebar mounted on a pair of flexible metal runners. The driver stands on the runners and kicks the sled forward with one foot".

7. In the television series *Spartacus*, characters use Latin syntactic and metaphorical structures in English: *Open mouth and lend voice to tongue* (for *Tell me what you have to say*)
8. *Like a dog in a game of skittles* for the French *comme un chien dans un jeu de quilles* (example from Vinay and Darbelnet (1995) cited in Pym)

According to Hervey and Higgins (2002), a calque is a form of cultural transposition[3] that introduces a momentary foreignness, a moment of exoticism. They define calque as follows:

> A calque is an expression that consists of **TL words** and is **acceptable as TL syntax**, but is **unidiomatic in the TL** because it is **modelled on the structure of an SL expression**. This lack of idiomaticity may be purely **lexical** and relatively innocuous, or it may be more generally **grammatical**. (Hervey & Higgins, 2002, p.35, my emphasis)

The two scholars give several examples, including:

9. [ST] Vous sentez-vous une âme de sculpteur ? = [TT] Do you feel a spirit of sculptor? → Notice here the lack of *lexical idiomaticity*
10. [ST] Elle s'est vu remettre le bijou par le voleur lui-même. = [TT] She has seen herself to hand back the jewel by the thief himself. → Notice here the lack of *grammatical idiomaticity*

They point out, just like the many scholars presented here, that calques are different from cultural borrowings (also referred to as *loans* or *loan words*) since the latter are ST expressions imported as such in the TL. Finally, they draw a distinction between **bad** and **good** calques: "a bad calque imitates ST features to the point of being ungrammatical in the TL, while a good one compromises

[3] According to Hervey and Higgins (2002, p.33), the general term *cultural transposition* denotes "the main types and degrees of departure from literal translation that may be resorted to in transferring the contents of a ST from one culture into another".

between imitating ST features and offending against TL grammar" (Hervey & Higgins, 2002, p.35).

Humbley et al. (1999) describe a concept closely related to that of calque: calqued translation (*traduction-calque* in French). They define it as follows (Humbley et al., 1999, p.123, my emphasis):

1) A **type of literal translation** where the translator transfers the elements of the source text to the target text in such a way as to **reproduce** their **semantic**, **etymological**, and **temporal aspects**.
2) Any **product** of this translation strategy.

To illustrate this translation strategy, they give an example from the contemporary English translation of the *Tanakh*, in which "the wording remains very faithful to the phraseology of the original in comparison to many more modern translations" (*ibid.*). In "Come, curse me Jacob, come, tell Israel's doom!" (from Numbers, 23.6), we notice "the **unusual use of the indirect object** with the verb *curse*" (Humbley et al., 1999, p.123, my emphasis) while the New English Bible offers a more idiomatic translation: "Lay a curse for me on Jacob". This example shows that the notion of calqued translation falls into the second defining feature of calque described in this section, given that it introduces a new construction into the target language. Finally, it should be borne in mind that calqued translations are strongly source-oriented and constitute extreme cases of literal translation. They can, in fact, tend toward non-translation when improperly applied (Humbley et al., 1999).

In the field of terminology, Santoyo (1987) describes three types of calques: (1) those derived from a conceptual unit of generic reference, (2) those that reproduce a conceptual unit of specific reference, and (3) those that reproduce a conceptual unit with a metaphorical connotation. I focus on type 3 here. Types 1 and 2 will be discussed in Section 2.1.4 as they relate to literalism. Giraud (1973) calls type 3 *néologismes notionnels* because "they do not concern a word, but the expression

of an idea through an **unprecedented combination of terms**" (as cited in Santoyo, 1987, p.241, my translation & emphasis), as in *frogman* → *homme grenouille* (French); *blacklist* → *liste noire* (French); *heavy water* → *eau lourde* (French) // *aqua pesada* (Spanish); *acid rain* → *pluie acide* (French) // *lluvia acida* (Spanish). This type of calque was initially the only one considered by Santoyo. Indeed, during a panel discussion in 1984, he said: "The translation of a normal association of ideas never constitutes a calque […] Therefore the calque implies an unprecedented lexical and notional association in the SL [sic, TL], an association somehow 'abnormal', with a large amount of metaphorical and antithetical elements" (as cited in Santoyo, 1987, p.241, my translation).

In addition, when a TL word receives a new meaning derived from one of the meanings of a SL word, it can also be considered as a calque. Here are two examples from Spanish (Santoyo, 1987):

11. The noun *escalada* got the meaning "the process of becoming greater or more serious" (from the English *escalation*).
12. The verb *peinar* acquired the meaning "to search a place or an area very carefully in order to find something" (from the English *to comb*).

As Santoyo explains, the majority of calques in Italian, Spanish, Portuguese, etc. come from French, "regardless of whether they are specific to the French language or loan-translations from another language" (Santoyo, 1987, p.245, my translation). Generally speaking, the development of calques in Romance languages follows the following steps (Santoyo, 1987):

1) Apparition or prior existence of a term/phrase in a Romance language; alternatively, creation or prior existence of this term/phrase in a non-Romance language, usually German or English;
2) In the latter case, translation of the term/phrase into French. The translation then comes into common usage;

3) Fertilisation in the other Romance languages: translation of the French expression into these languages;
4) Internationalisation of the translated expression in the Romance world. Fertilisation in linguistic areas that are geographically close: Greek, Polish, Dutch, Basque, etc.;
5) Generalized international circulation of the term.

Parallel processes may also occur. Here are two examples cited in Santoyo (1987). The term *sleeping-car* first appeared in 1839. In 1875, its French translation appeared: *wagon-lit*. In turn, the French expression was loan-translated in Italian (*vagone-letto*), Catalan (*vago-llit*) and Spanish (*coche-cama*). All these calques use the French syntactic model: the vehicle comes first and then comes the most characteristic component. While the French translation generated calques in the languages of southern Europe, another wave of fertilisation crossed the northern linguistic areas. The calques were this time much more literal and closer to the original *sleeping-car*: function indicator (i.e. *sleeping*) + vehicle indicator, e.g. *slaap-wagen* (in Dutch), *Schlaf-wagen* (in German), *makuu-vaunu* (in Finnish), *sove-vogn* (in Danish). In the case of the American term *skyscraper*, the fertilisation and internationalisation process was reversed: here the French calque turns out to be the most literal. In French, *skyscraper* was loan-translated with *gratte-ciel*, hence generating *gratta-cielo* (in Italian), *grata-cels* (in Catalan), *rascacielos* (in Spanish), *aranhaceus* (in Portuguese) and *ουρανοξύστης* (in modern Greek). In German, however, the first part (*sky*) was replaced by *Wolke* (i.e. *cloud*): *Wolkenkratzer*. In turn, the German expression generated other calques: *wolkenkrabber* (in Dutch), *skyskrapa* (in Swedish), *skyskraber* (in Danish).

Santoyo's paper dates back to 1987 and at that time he had already noticed the growing number of calques and borrowings in Western languages. This phenomenon can be explained by a strong convergence of lifestyles and cultures, the proliferation of common objects and concepts but also by the development of international communications, the growing interest in studying languages and the many thousands of translated texts available. As Santoyo says, "it is as if a large

number of Western languages were currently moving at an accelerated pace towards an international terminology community" (1987, p.246, my translation). The increasing number of calques also shows that "borders and languages have achieved a high degree of permeability" (*ibid.*, my translation).

2.1.4 Literalism

> "A calque is a special kind of borrowing whereby a language borrows an expression form of another, but then **translates literally each of its elements**."
> (Vinay & Darbelnet, 1995, p.32, my emphasis)

On the basis of the above-mentioned quote from Vinay and Darbelnet (1995), I grouped all the scholars who refer explicitly to literal translation in their definitions of the construct of calque.

Calque is one of the translation procedures cited by Newmark (1988). Yet the author prefers to use the term *through-translation*. He describes it as "the literal translation of common collocations, names of organisations, the components of compounds (e.g. *superman*, *Übermensch*) and perhaps phrases (*compliments de la saison*, *compliments of the season*)" (Newmark, 1988, p.84). As noted by Newmark, "the most obvious examples of through-translations are the names of international organisations" (Newmark, 1988, p.84), e.g. *European Cultural Convention → Convention culturelle européenne*; *working party → commission d'enquête → Arbeitsausschuss*; *Committee on Trade and Development → Comité du Commerce et du Développement*; *International Labour Organization → Organisation internationale du Travail*. These organisations are generally known by their acronyms, which may remain in English and become internationalisms (e.g. *UNESCO*, *FAO*, *UNICEF*) or may be adapted in various languages (e.g. *WHO → OMS* (French) *→ WGO* (German); *NATO → OTAN* (French)) (Newmark, 1988). We may thus consider the latter as through-translations as well.

Through-translation also constitutes a relevant translation procedure when the translator is faced with national institutional terms. Indeed, as noted by Newmark

(1981, p.76), "important national institutional terms that are 'transparent' may be translated literally", as in *Assemblée nationale* → *National Assembly*; *Staatsrat* → *State Council*; *Volkskammer* → *People's Chamber*.

Newmark (1988) states that translators should not use through-translations if these are not recognised terms. Translators should not initiate them because in contiguous cultures through-translations sometimes fill in useful gaps (Newmark, 1988). In this regard, the author mentions that there is a considerable amount of tourist material with incorrect through-translations (such as *highest flourishing* and *programme building* (as cited in Newmark, 1988)). According to Newmark, they are evidence of *translationese*[4].

Finally, Newmark (1988) reports that, in some countries (pre-War Germany, Arabic-speaking countries, etc.), through-translations helped combat neologisms (the great majority of them being derived from ancient Greek and Latin), e.g. *television* → *Fernsehen*.

In the chapter entitled *Newmark and English pragmatism*, Pym notes that "calque has disappeared [from Newmark's translation procedures] insofar as it was related to syntax" (2016, p.166). What Pym means here is that syntactic, structural calques are not discussed by Newmark. Indeed, the definition of through-translation cited above does not cover syntax. It only includes individual words, compounds and set phrases. We can therefore conclude that Newmark's through-translation does not introduce any new construction into the TL and only affects lexis. This sets Newmark apart from Vinay and Darbelnet (1995).

In their study on Spanish economic discourse, Orts Llopis and Sánchez-Lafuente (2009) identify four types of neologisms, including adapted loans (also referred to as morphological calques) and calques. Each phenomenon reflects "a loan process from the ST" (Orts Llopis & Sánchez-Lafuente, 2009, p.136), which can

[4] Translationese is defined by Newmark (1988, p.285) as "a literal translation that does not produce the appropriate sense. Usually due to interference if the TL is not the translator's language of habitual use, or to automatic acceptance of dictionary meanings".

be explained by "the phenomenal influence of English as the language of international communication" (*ibid.*) and "the exceptional mobility of the language of commerce" (*ibid.*). They selected García-Yebra's (1984, as cited in Orts Llopis & Sánchez-Lafuente, 2009) definition of calque, making thus a distinction between adapted loans (*préstamos naturalizados*) and calques (*calcos*). Adapted loans, or morphological calques, are often used in economic context. They are presented as xenisms[5] that are "consolidated and made easier to use, an alien graphism being transformed into a pronounceable one" (Orts Llopis & Sánchez-Lafuente, 2009, p.137). Examples include *suap* for *swap*, *reitin* for *rating*, *securitización* for *securitization*. Regarding their definition of calque, a parallel can be drawn with Newmark (1988): calques are common collocations, names of organisations and components of compounds literally translated into the TL. Examples include *salto del gato muerto* for *dead cat's bounce*, *FMI* for *IMF*, *mercado oso* or *alcista* for *bear market*, *creador de mercado* for *market maker*.

The collective work *Terminologie de la traduction* (1999) proposes two definitions of the term *calque*:

1) A **translation procedure** where a translator **transfers a source language word** or an **expression** encountered in the source text **into the target text** using a **literal translation** of its component elements. Example: *mariage de convenance* becoming *marriage of convenience*
2) A **lexical item** that has been **formed by a literal translation of the component elements** of a foreign word. Example: *secretary general*

(Humbley et al., 1999, p.122, my emphasis)

Undoubtedly, the above-mentioned definitions mirror Vinay and Darbelnet's conception of calque even though the two scholars do not distinguish the process from the product.

[5] Xenism is "a term given for those borrowings that are incorporated into the target language by means of no phonological or morphological transformation" (Orts Llopis & Sánchez-Lafuente, 2009, p.136), e.g. *cash flow*, *hedge fund* in Spanish. This is a synonym of loan word.

Santoyo's (1987) third type of calque has already been discussed in length in Section 2.1.3. In this section, I address the other two types, which are both related to the third defining criterion of the construct of calque, i.e. literalism:

1) Calques derived from a conceptual unit of generic reference. They imply a direct (and almost always **literal**) **translation process**. For example, the French *produit national brut* comes from the English *gross national product*, which itself comes from the Spanish *producto nacional bruto*.
2) Calques that reproduce in the TL a conceptual unit of specific reference. For example, *Croix rouge*, *Maison blanche* (French), *Cruz Roja*, *Casa Blanca* (Spanish), *Croce Rossa*, *Casa Bianca* (Italian) are calques of *Red Cross* and *White House*. Although conceptual units of specific reference are almost always translated, these proper names may exceptionally "reject calques and keep their original form in the TL" (Santoyo, 1987, p.243, my translation), becoming SL borrowings. For example, the French *Mont-Blanc* remains unchanged in English and Spanish but becomes *Monte Bianco* in Italian.

Sewell (2001) proposes her own definition of calque: it is "the **very close**, but not necessarily word-for-word, **translation** into a target language (TL) using TL forms, of forms in a source language" (Sewell, 2001, p.608, my emphasis). She also discusses the related notions of cognate and false friend:

> **Intralinguistic cognates** are those words of a language which are formally related to one another, constituting a semasiological field, since each member of that field exhibits some form of the root common to all of them. Example: direct, director, direction.
> Similarly, all pairs of words across languages which are derived from a common root are **[interlingual] cognates**.
> Examples: appartment/appartement; director/directeur.
> Such interlingual cognates can occasionally be real friends […] but more often […] they can be false friends.

> **False friends** are words which look the same, or very similar, in two languages, but whose meanings are different.
>
> (Sewell, 2001, p.608, my emphasis)

According to the author, interlingual cognates and false friends may be the cause of calques "since both can induce direct word-substitution" (Sewell, 2001, p.609). In other words, choosing a cognate or a false friend may result in a TL calque (e.g. translating *collège* as *college*). Sewell (2001) argues that these types of calques can be avoided if translators pay close attention to meanings and make use of dictionaries where necessary. A difference emerges here with Vinay and Darbelnet (1995) since, in their opinion, it is the other way around: false friends may be a consequence of calquing, not a cause (see Section 2.1.1).

Chansou (1984) follows Haugen's (1950) definition of calque. Calque belongs to the category of loan-shifts, which entail replacing a SL form *totally* with a TL form: "Instead of substituting only one half of the word [in the case of a loan blend], the borrowers have here analysed and substituted both halves" (Haugen, 1950, as cited in Chansou, 1984, p.282). Calque is defined as the exact reproduction of a SL form, that is, a **literal translation** (Chansou, 1984). By way of illustration, Chansou (1984) gives examples from the *Comité d'étude des termes techniques français* (CETTF). For *trapped water* (drilling) the CETTF suggests *eau piégée*; for *dog leg* (oil industry), *patte de chien*; for *brushability* (painting techniques), *brossabilité*. Chansou further argues that Haugen's definition does not include all degrees of calque. Indeed, Haugen only refers to **literal calques**. However, we are sometimes led to modify one of the SL constituents so that the calque could be more easily assimilated in the TL. In this case, we use what Chansou calls a *calque aménagé*, an **arranged calque** (see examples below), which renders the SL expression more elegantly or more precisely than would a literal calque. It should be stressed that this aspect of calquing is only raised in Chansou's paper: the other authors presented in this chapter do not mention such arranged calques. Arranged calques possess varying degrees of freedom with respect to the SL model, as can be seen in the following examples: *homme de terrain* for *field*

worker; *liste d'adresses* for *mailing list*; *premier crayon* for *pencil test*; *moyenne de temps de bon fonctionnement* for *mean time between failures*. Literal and arranged calques belong to **calques of form**, which, as Chansou (1984) puts it, reproduce either exactly or approximately a SL model. Note that Chansou does not mention semantic calques in his 1984 paper.

In Jankūnaitė and Poštić (2017), calque is presented as "a unit created by **borrowing** the structure of foreign language elements (words or phrases) **with the replacement of its material fundament** by means of the new language" (p.108, my emphasis). A parallel can undoubtedly be drawn between this definition and Vinay and Darbelnet's: "A calque is a special kind of **borrowing** whereby a language borrows an expression form of another, but then **translates** literally each of **its elements**" (Vinay & Darbelnet, 1995, p.32, my emphasis). Jankūnaitė and Poštić (2017) do not oppose lexical and syntactic calques as do Vinay and Darbelnet (1995). Rather, they distinguish the following three types of calques:

1) *Morphological* calques, which reproduce the morphological structure of a word or phrase. Another term could be *root-for-root translations*.
2) *Semantic* calques (Jankūnaitė and Poštić (2017) do not provide any clear definition of this concept.)
3) *Phraseological* calques, which deal with idiomatic phrases.

2.1.5 Conclusion of the discussion

The notion of calque differs slightly from one author to another. Even the use of the term *calque* is not unanimous. Some authors prefer to use *copying morphology*, *copying fixed phrases*, *calqued translation*, *through-translation* or *loan translation*. Nevertheless, I could identify three main trends emerging from the various definitions (see Sections 2.1.2, 2.1.3 and 2.1.4). Besides, it should be noticed that a calque is always presented as a source-oriented translation strategy that can be applied locally.

The translator may choose to use a calque in order to solve problems encountered during the translation process (e.g. lacunae in the TL). This leads to an

unprecedented lexical and notional association in the TL. It may also be assumed that the use of calque is not always planned. It may result from the strong influence of the SL on the TL (for example, due to stress and pressure, see Section 2.4.2). Such calques often cause a lack of idiomaticity in the TL.

The notion of calque is different from the notion of borrowing (also known as loan word). Indeed, calque always involves translation, while borrowings are ST expressions imported as such in the TT. Pym (2016) and Chesterman (2016), however, group these two strategies under the same category.

Vinay and Darbelnet (1995) distinguish two types of calques: lexical and syntactic. Several authors take this binary vision, whereas some only consider the lexical (e.g. Meriläinen et al. (2016), Newmark (1988) and Humbley et al. (1999)) or the syntactic dimension of calque (e.g. Chesterman (2016) and Chansou (1984)). Jankūnaitė and Poštić (2017), for their part, distinguish three other types of calques: morphological, semantic and phraseological.

In very general terms, a calque is a translated item that reflects a loan process form the ST. It is the evidence of the local (syntactic or lexical) influence of the SL on the TL.

2.2 Opinion as to the use of calque

As shown in Sections 2.1.1 to 2.1.4, there are various definitions of the construct of calque, which share some key features (e.g. literalism). In addition, it is important to point out that authors' attitudes towards calques differ (see Table 1 below). While some authors recognise the usefulness of the procedure – in some contexts at least, such as technical terminology standardisation –, others view it as a weak, inappropriate translation solution. A third group of translation scholars take a more descriptive approach to the phenomenon, and do not comment on the usefulness or inappropriateness of the procedure.

In favour	Neutral	Against
- Sauvageot (as cited in Chansou, 1984) - Santoyo (1987)	- Pym (2016; 2018) - Chansou (1984) - CETTF (as cited in Chansou, 1984)	- Vinay and Darbelnet (1995) - Meriläinen et al. (2016)

Table 1 – Opinions as to the use of calque

Vinay and Darbelnet (1995) are quite resistant to calques. They advise translators "to use a word which already exists in the TL" (Sewell, 2001, p.608) or to neologise. In Vinay and Darbelnet's words (1995), this would prevent the use of awkward calques (e.g. translating *the man in the street* by *l'homme dans la rue* instead of *l'homme de la rue* or *le Français moyen*). While "the whole idea of neologising was historically abhorrent to the French" (Sewell, 2001, p.608), encouraging translators to do so clearly demonstrates how reluctant to calques Vinay and Darbelnet are.

Pym saying that Vinay and Darbelnet "were fighting a losing battle even as they spoke" (2016, p.25) shows a more neutral view of calques. Furthermore, Pym states that "despite its relatively infrequent use, Copying Structure is a major way in which **fixed expressions** [in the case of *copying fixed phrases*] and text formats [in the case of *copying text structure*] … **travel from culture to culture**" (Pym, 2016, p.224, my emphasis).

The *Comité d'étude des termes techniques français* (as cited in Chansou, 1984), in turn, uses calque whenever possible in order to facilitate communication between technicians from different countries. Calque maintains the international character of a term. However, reproducing SL models may result in unclear and vague denominations. Some calques may be understood only by a few technicians. In such cases, the CETTF opts for what Chansou calls a *création linguistique*. This neologism is considered as a free translation since it does not reproduce the SL form in any way. In fact, it is a denomination based entirely on the analysis of a concept (Chansou, 1984). Examples include *support élastique* or *articulation élastique* for *silent block* and *radioalignement de piste* for *localizer*

(vocabulary of aeronautics). All in all, it can be said that the CETTF expresses a neutral position and supports popularisation.

Likewise, Sauvageot's (as cited in Chansou, 1984) reasoning has to do with communication between specialised technicians. He argues that French neologisms should be avoided when referring to technical and scientific concepts that have already received a denomination in another language. Indeed, for technicians who know the original terminology, TL neologisms could be incomprehensible. In technical and scientific fields, priority should hence be given to calques, which enable terminology standardisation. According to Chansou (1984), calque is a mild form of borrowing that can easily be assimilated in the TL. In addition, since calque is easily recognised by specialists, it facilitates international communication in scientific and technical fields (Chansou, 1984). Yet he argues that one should adopt a sociolinguistic approach in order to make the right choice between calque and neologism because "the same equivalent may be motivated or unmotivated, transparent or unclear depending on the situation" (Chansou, 1984, p.285, my translation). Take, for example, the term *wildcat*: the calque *chat sauvage* would be the most transparent equivalent for a specialist of the oil industry, while the neologism *sondage d'exploration* would be better understood by a layperson.

Santoyo (1987) takes a positive view of calques, saying that they enrich the terminologies of Western languages without altering any of them. Indeed, calques "do not involve any innovation in the phonological, morphological and lexical systems of individual languages" (Santoyo, 1987, pp.246-247, my translation) since each of their elements is translated literally.

On the other hand, Meriläinen et al. (2016) consider that a translator should avoid calques as much as possible: "the ability to suppress and control for effects of cross-linguistic influence, including loan translation, is considered an integral part of a professional translator's competence" (Meriläinen et al., 2016, p.119).

Despite the difference of opinion depicted above, all scholars recognise that some calques may become standard and fully lexicalised in the TL. They therefore become integral elements of this TL and are listed in dictionaries. Here are some examples from Hervey and Higgins (2002): *flyweight* → *poids mouche*; *Kindergarten* → *jardin d'enfants*; *unidentified flying object* (*UFO*) → *objet volant non identifié* (*OVNI*).

2.3 Calque or literal translation? The construct of literal translation

In translation studies, *literal* translation and *free* translation are frequently opposed as two ends of the literality continuum (see e.g. Munday, 2016). To date, there is however no consensus on the definition of the construct of literal translation.

For some scholars, literal translation is a translation procedure or strategy that translators can apply either locally or to the whole text. In Vinay and Darbelnet (1995), for example, literal translation is presented as a translation procedure implementing a direct method of translating, alongside the use of calques. Although literal translations can sometimes be considered as ungrammatical, for Vinay and Darbelnet "literal, or word-for-word, translation is the direct transfer of a SL text into a **grammatically and idiomatically appropriate** TL text in which the translators' task is limited to observing the **adherence to the linguistic servitudes of the TL**" (1995, pp.33-34, my emphasis).

For others, literal translation is the default way of translating (e.g. Pym, 2018, pp.52-53; Newmark, 1988, pp.68-69). Pym, for example, uses the analogy of piloting planes. Literal translation does not feature among his translation solutions because it belongs to the *cruise mode*. Literalism or word-for-word translation is a standard translation procedure. However, if for one reason or another literal translation does not seem appropriate, the translator enters the *bump mode*, just like a pilot when there is air turbulence. In Pym (2016; 2018), the scholar proposes a typology of translation solutions, which help translators solve the problems

encountered in bump mode. Calque (even though Pym does not use this denomination) is one of those, unlike literal translation.

This shift from cruise mode to bump mode is in agreement with the *literal translation hypothesis* proposed by Chesterman (2011). It should be noted that Chesterman distinguishes a literal translation as such from the literal translation *hypothesis*. The former, unlike the latter, is the final product of a translation process. Since there is no obvious borderline between literal and non-literal translations, the definition of the term should be a comparative one: "a literal translation is one that is formally *closer* to its source than some other translation of the same source chunk, on given criteria" (Chesterman, 2011, p.26) but nevertheless grammatical. On the other hand, the literal translation hypothesis refers to the translation process itself and postulates that translators "proceed from more literal versions to less literal ones" (*ibid.*). This could be explained by the fact that translators' cognitive processes are influenced by formal features of the ST (*ibid.*). The source text may trigger the use of formally similar TL equivalents and this will result in the translator initially producing a more literal version.

In Halverson (2019), the first phase of production is called *default translation*. This construct has been put forward in order to isolate stretches of translation showing clear evidence of syntactic and semantic similarity (i.e. signs of literality, see below). Passages of default translation are indeed "more appropriate due to the unedited/unrevised status of the selections and the temporal primacy of the response" (Halverson, 2019, p.203). It may thus be inferred that literal translations are more likely to occur in the first stage of the translation process. This echoes Pym's cruise mode and Chesterman's literal translation hypothesis. Halverson (2019, p.202) cites the 2014 study by Schaeffer and Carl who suggest a set of three empirical measures to recognise literality:

1) Word order is identical in the ST and TT
2) Source and target items correspond one-to-one

3) Each source word has only one possible translated form in the given context[6]

Measures 1 and 2 identify syntactic similarity whereas measure 3 identifies semantic similarity. The two authors conclude that "low cognitive effort correlates with few translation alternatives and low distortion" (as cited in Halverson, 2019, p.204). This means that (formal and semantic) similarities between SL and TL lead to low cognitive effort, hence a high degree of literality. Schaeffer and Carl (2014) also find out that if the SL and the TL display a greater syntactic and semantic similarity, the translator will proceed more rapidly from reading to writing and will be more likely to opt for a literal translation. Conversely, it has been shown (by Schaeffer et al., 2018, as cited in Halverson, 2019) that less similar languages generate fewer literality effects.

As can be seen, the use of the term *literal* is heterogeneous. The meaning of *literal* sometimes comes close to the one of *default* (as in Halverson, 2015). By contrast, some authors use *literal translation* to refer to a composite of semantic and formal similarities (see Schaeffer & Carl, 2014), two different types of measures that are tested separately. This leads Halverson (2019) to get rid of the term *literal*. To avoid confusion, she opts for the term *default* when referring to the production phase and she decides to speak directly of *formal* and/or *semantic similarity*.

On the basis of what is described above, I would like to argue that a literal translation and a calque should be viewed as two different constructs. For Vinay and Darbelnet (1995), calque and literal translation are two different translation procedures, both belonging to the direct method of translating.

Pym (2018), in turn, claims that a calque should not be misunderstood as literalism or translating word-for-word. Indeed, literal translation belongs to the cruise mode

[6] As Schaeffer and Carl (2014, p.30) put it, "a source word can often be translated in many ways". In the case of a literal translation, however, the translator does not need to consider several translation choices. It entails less effort since there is no translation variant (Schaeffer & Carl, 2014). Only one target word has exactly the same meaning as the source word in the given context.

whereas calques belong to his typology of translation solutions. The latter are used when the cruise mode is not appropriate, i.e. fails to provide a viable TL equivalent for the item/structure under consideration. However, Pym (2016; 2018) does not use the term *calque*. He opts for the terms *copying words* and *copying structure*. The scholar adds that the copying words solution only concerns "words that are not in the standard repertoire of the target language" (Pym, 2018, p.52).

Newmark's (1988) and Pym's (2016; 2018) views are quite similar in the sense that literal translation is described as the default way of translating: "you only deviate from literal translation when there are good semantic and pragmatic reasons for doing so" (Newmark, as cited in Pym, 2016, p.167). Since Newmark expects the translator to stick conventionally to the structure/syntax of the ST, the scholar does not need to include structural or syntactic calques in his list of (local) translation procedures. However, lexical calques, called *through-translations*, do feature among Newmark's procedures. Finally, it should be stressed that Newmark (1988) describes literal translation as a translation method (i.e. it relates to whole texts) and through-translation as a procedure (i.e. it applies to sentences and smaller units of language).

According to his explanation of the literal translation hypothesis, I can infer that Chesterman (2011) also considers literal translation as a default translation method. In his 2016 book, he presents calques as syntactic production strategies. Production strategies are described as goal- and problem-oriented. This is thus in line with Pym's (2016; 2018) view: a calque is one possible strategy for overcoming problems encountered during the translation process.

2.4 Empirical investigations

Calques are under-researched in applied and empirical translation and interpreting studies. This section provides a brief review of a few representative studies: Pym (2018) in Section 2.4.1, Sewell (2001) in 2.4.2, Orts Llopis and Sánchez-Lafuente (2009) in 2.4.3, Jankūnaitė and Poštić (2017) in 2.4.4, and Dailidėnaitė and Volynec (2017) in 2.4.5. Note that this section is not meant to be exhaustive. It is merely a sample of relevant studies.

2.4.1 Pym (2018)

Pym taught his typology of translation solutions (see Pym, 2016 & 2018; see Appendix 1) in two Master's seminars and reported on his experiments in a paper published in 2018. His aim was to identify the pedagogical strengths and weaknesses of his typology in order to see how it could be improved (or at least which points would need particular attention when teaching) and determine whether it could be applied to several languages (the seminars were taught in the US and in South Africa).

The first phase of the seminar consisted of a warm-up exercise "in which the students had to suggest solutions for 18 problems" (Pym, 2018, p.49). Then, Pym presented and explained his typology using the warm-up examples by way of illustration. In the third phase, the students had to identify the solutions (following Pym's typology) used in one of their own translations. Finally, they were asked to write answers on "whether it was easy to distinguish between the solution types and how the categories could be improved" (Pym, 2018, p.52). Here, I only focus on the students' feedback on the two solutions related to calques, namely copying words and copying structure.

One student wrote "'copying words' is a little nonsensical for closely related languages like English and French, which have a large number of cognates" (as cited in Pym, 2018, p.52). This comment underlies a serious misunderstanding: some students thought the typology was designed to describe everything translators do, whereas it was "just a set of ways to solve problems that occur in 'bump' mode" (Pym, 2018, p.52), i.e. when translators face a given translation difficulty. Pym (2018) therefore concludes that the instructor should emphasise that copying words "strictly concerns **words** that are **not in the standard repertoire** of the target language" (*ibid.*, my emphasis).

One Chinese student said "[…] we often re-segment the original long sentence into several short ones, so basically resegmentation is used. But in those short sentences, we adopt the **literal translation, i.e. copying words**" (as cited in Pym,

2018, p.53, my emphasis). Here copying words is mistaken for literalism. The differences between literalism, or literal translation, and calque have been discussed in Section 2.3.

In addition, a student of Japanese wrote a quite valid comment (as cited in Pym, 2018, p.53):

> Japanese copies a lot of English words, and then chops them up so they aren't so long in Japanese […] so I wasn't sure if that still counted as copying words as they would be largely unrecognisable to native English-speakers.

As the categories are open-ended, Pym (2018) suggests adding *hybrid word formation* as a sub-type of copying words because "there is no need to exclude language-specific solution types" (Pym, 2018, p.53).

As regards copying structure, students complained about the use of the very broad term *structure*. According to Pym (2018), the instructor should then compensate the lack of clarity with examples (of syntactic calques, etc.).

2.4.2 Sewell (2001)

Sewell, who teaches English-to-French translation, explains that she helps her students master French lexis and syntax while her colleague (who teaches French-to-English translation) "wages a continuing battle against calque" (Sewell, 2001, p.607). This led her to wonder: "is it the case that calque occurs more frequently when students translate into English (L1 for the majority) than when they translate into French?" (Sewell, 2001, p.609). Because the calques we are dealing with here are considered as erroneous, the author redefines, for the purpose of her study, the calque as the *inappropriate* very close translation into a TL, using TL forms, of SL forms. She specifies that her paper focuses on true calques, thereby excluding non-target forms (such as *un acte de revenge*[7] for *an*

[7] *Acte de vengeance* is the appropriate target form.

act of revenge) as well as indirect translations (e.g. erroneously translating *the opening titles* as *les crédits* because one thought it had the same meaning as the English word *credits*, a synonym for *opening titles*).

Sewell examines two texts translated by 26 students without recourse to dictionaries. The English source text is a newspaper article about the British television game show *Mastermind* while the French source text is an excerpt from *La Femme adultère* by Albert Camus.

As regards calques occurring in the English TT, “none of these calques appears to be due to a misunderstanding of the French, and only rarely was it clear, among the calques, that there was inadequate mastery of English” (Sewell, 2001, p.612). All the collected calques result from surface translation, i.e. “the translators have gone straight from Source Text (ST) to Target Text (TT)” (*ibid.*). Nevertheless, in class, students were taught to analyse and paraphrase the ST. Surface translation should only be a first step in the translation process. It can be hypothesised that under pressure students opt for a more mechanical word-for-word transfer.

There were more calques when translating into L1 English: 26 calques were made into French (9 different items) and 132 were made into English (18 different items). At first, Sewell thought that the larger amount of English calques was due to the greater number of English L1 speakers, assuming they “might be less able to monitor their output in their own language than in a foreign one” (Sewell, 2001, p.614). Yet the data refutes her assumptions: all the English L2 speakers also made more calques into English. Moreover, according to the ANOVA test, the students’ L1 does not impact the number of calques produced either in French or in English (Sewell, 2001).

Another interesting observation is that the more proficient speakers of French tend to calque more than the others. As regards translation into French, an ANOVA shows that the above-average students made slightly more calques (but the result

was not statistically significant). When it comes to translation into English, these above-average students calqued considerably more than the others (Sewell, 2001). Finally we learn that, among the non-French L1 speakers, "those with a high degree of bilingualism based on communicative needs" (Sewell, 2001, p.614) made more calques into English (between 7 and 10). This can be explained by the fact that they had learned French in a French-speaking environment, without realising that the French linguistic system was different and independent from the English one.

2.4.3 Orts Llopis and Sánchez-Lafuente (2009)

Orts Llopis and Sánchez-Lafuente (2009), who examine English borrowings in Spanish economic discourse, compile a monolingual ad hoc corpus with electronic samples from three online periodicals. Their corpus contains three subcorpora, one for each periodical. In their study, the two authors analyse incorporations in the shape of xenisms, combinations of loan + equivalence/adaptation, and calques. Here, I summarise their analyses regarding calques only.

First of all, Orts Llopis and Sánchez-Lafuente consult three financial bilingual glossaries and list the ten most habitual calques used in Spanish (as well as their English original). Thereafter, the two authors search these ten calques in their corpus by means of two corpus processors, namely Wordsmith 5.0 and Monoconc Pro. They calculate the frequency of each calque in the three subcorpora and analyse the co-text in which they appear.

The calques with the highest frequency value are *burbuja*, *bajista* and *alcista*. *Burbuja* (i.e. bubble) appears on its own or with qualifiers (*tecnológica*, *inmobiliaria*) and also in conjunction with verbs or nouns such as *estallido*, *estallar*, *pinchazo* or *explotar*. This demonstrates "the current internalization of the metaphoric word in English, bubble, into its Spanish equivalent, with all its connotations" (Orts Llopis and Sánchez-Lafuente, 2009, p.147). Then, *bajista* (i.e. bear market) and *alcista* (i.e. bull market) occur with nouns like *directriz*, *estrategia*, *tendencia*, and/or with xenisms like *rolling* or *rally*.

Finally, it should be noted that the incorporation of new words depends on contextual factors:

> The results show that the more specialized and less biased character of the publication, the higher deployment of xenisms with high degree of assimilation occurs. Results tend to be the reverse **if the periodical is aimed at a lay audience**, where **calques**, reformulations and expansions **are the norm**. (Orts Llopis & Sánchez-Lafuente, 2009, p.155, my emphasis)

2.4.4 Jankūnaitė and Poštić (2017)

In their empirical study, the two authors collect manually 129 samples of Russian syntactic calques by reading the comments left by readers after the most important news posted on two popular Lithuanian daily news sites. They opt for comments on the Internet because they reflect spoken language and, as Jankūnaitė and Poštić (2017, p.108) put it, "people tend to pay more attention to the correctness of the language when writing than when speaking" (thereby insinuating that calques are not grammatically correct or standard?).

In short, they compare so-called syntactic calques with their Russian equivalents in order to see the influence of the Russian syntax (an identical Russian equivalent serving as a proof of calquing). They also consult the State Commission of the Lithuanian Language to know if the analysed calques are used in standard Lithuanian.

Jankūnaitė and Poštić conclude that, although all of the identified Russian syntactic calques are "considered inapplicable in standard Lithuanian language" (Jankūnaitė & Poštić, 2017, p.122), they are commonly used in Lithuanian. Here is an example of syntactic calque containing the preposition *pas* and the verb *klausti* (*to ask*, in English):

13. (Lithuanian comment) Norieciau pa**klausti pas tuos** zurnaliukscius kodel jie neparaso apie tai kad Potrosenka atsisake isileisti JT policijos padalinius???

The Russian equivalent of the phrase *klausti pas tuos* is Спросить у тех. According to the State Commission of Lithuanian Language, using *pas* next to *klausti* in order to express the addressee of the action is not correct. The construction *klausti ko* should be used instead.

This calquing tendency is due to Lithuania historical background and the interactions with Slavic nations. In a nutshell, russification, polonisation, code-switching[8] and the integration of nations changed the structure of the Lithuanian language so much that it had to be taught again after Lithuanian independence in 1991 (Jankūnaitė & Poštić, 2017). As demonstrated by Jankūnaitė & Poštić's study, Russian calques are still common in Lithuanian (especially in the spoken language), and this despite the standards set in order to remove the inadequate borrowings.

2.4.5 Dailidėnaitė and Volynec (2017)

Dailidėnaitė and Volynec's (2017) experimental study identifies the influence of lexical interference[9] on directionality and quality of simultaneous interpreting.

Four second year interpreting students take part in the experiment. They are asked to interpret four speeches: two speeches into English (their L2) and two speeches into Lithuanian (their L1). The 16 interpretations are recorded and transcribed. Dailidėnaitė and Volynec then evaluate the transcribed texts and put the cases of lexical interference into three groups according to Viezzi's (2009, as cited in Dailidėnaitė & Volynec, 2017) four main aims of simultaneous interpreting: *equivalence*, *accuracy*, *adequacy* and *clarity*. The first group contains cases that change the meaning (*not equivalent* and *inaccurate*, according to Viezzi (*ibid*.)). The second group is cases that do not change the meaning but distort the understanding (*inadequate*). The third group is made up of cases that contaminate the fluency of the TL (*unclear*). These three groups represent three different levels

[8] The practice of changing between languages when you are speaking (Oxford Advanced Learner's Dictionary, 2019)

[9] Lexical interference is defined as the "transposition of lexical categories from the source language into the target language" (Dailidėnaitė & Volynec, 2017, p.36).

of gravity of lexical interference in interpreting. Since the cases of the first group do not fulfil the two most important aims of interpreting (according to Garwoord, 2004, as cited in Dailidėnaitė & Volynec, 2017), they are always considered signs of poor quality in Dailidėnaitė and Volynec's (2017) paper. Endemic cases of lexical interference undermining the understanding of the ST are also evidence of poor quality. However, in Dailidėnaitė and Volynec's opinion, cases of the third group do not affect badly the quality of the interpretation.

After a quantitative and qualitative analysis of the results, the two scholars discover that interpretations into L1 contain less cases of lexical interference, have less damaging lexical interference and are thus of a better quality overall. In interpretations into English (L2), lexical interference generally undermines the understanding of the original message, whereas in interpretations into Lithuanian (L1), it usually contaminates the fluency of the TL. The changes in meaning are rare in both interpreting directions (Dailidėnaitė & Volynec, 2017).

Dailidėnaitė and Volynec (2017) discover five types of interference. I focus on their findings regarding calques only. Calques are identified in both interpreting directions. They may change the meaning of the original message and confuse the listener. Here is an example found in an interpretation from Lithuanian into English (Dailidėnaitė & Volynec, 2017, p.46):

14. [...] upė skiria Jordaniją ir **Vakarų Krantą** […] (Original)
    [...] Jordan and the **Western Bank** are separated by the river [...] (Interpretation)
    [...] Jordan and the **West Bank** are separated by the river [...] (Correct version)

In Lithuanian *Vakarų* (i.e. West) is an attribute of *Krantą* (i.e. Bank). The interpreter calqued the original utterance and used the attribute *Western* instead of *West*. Such a calque may mislead the listener. One may think that the speaker refers to

the Western part of the country, whereas *Vakarų Krantą* (i.e. the West Bank) is a specific territory (Dailidėnaitė & Volynec, 2017).

It has also been noticed that, when interpreting into their mother tongue, participants "always used borrowings and calques for international words" (Dailidėnaitė & Volynec, 2017, p.47). They did not use Lithuanian synonyms. For example, interpreters translated *liposuction* into *liposakcijos* and *context* into *kontekste*. Calquing international words may confuse the listener since the Lithuanian equivalents (*riebalų nusiurbimo* and *patirtimi*, respectively) are much more common.

Calques could be explained by the fact that, under constraints, inexperienced interpreters do not detach from the lexis of the source language. As pointed out by Dailidėnaitė and Volynec (2017, p.47), "reformulation of an utterance […] would have helped to convey the message without distorting the understanding".

2.4.6 Conclusion of the section

Taking into account the above-mentioned studies, it can be stated that very few empirical investigations focus exclusively on calques. Besides, studies mentioning calques are rare in interpreting studies.

Some studies are corpus-based (e.g. Orts Llopis & Sánchez-Lafuente, 2009) and others are not (e.g. Pym, 2018; Dailidėnaitė & Volynec, 2017). Nevertheless, there is, to my knowledge, no large-scale corpus-based study dedicated to calques in the literature.

As demonstrated above, calques do not only concern Romance (such as French and Spanish) and Germanic languages (English) but also Baltic (Lithuanian) and Slavic languages (Russian).

Finally, note that three (out of five) experiments (see 2.4.1, 2.4.2 and 2.4.5) took place in the classroom. Since learning translation strategies is part of translation students' curriculum, these strategies are a research topic of considerable interest

to professors (e.g. Pym (2018)). In addition, students' translations and interpretations are said to be easier to collect than professionals'. This limited access to authentic data could be explained by the fact that professional interpreters, for example, "tend to perceive scientific research as attempts to evaluate the quality of their work" (Cencini, 2002; Gile, 1997; Kalina, 1994, as cited in Bendazzoli & Sandrelli, 2009, p.2). It could also be assumed that beginners are more prone to calque (erroneously) than expert translators/interpreters. This gave rise to several researches involving students' output (including Sewell, 2001 and Dailidėnaitė & Volynec, 2017).

2.5 The causes of calques: a brief overview

On the basis of the literature review presented in Sections 2.1 to 2.4 above, we see that calques can be caused by several factors:

- Gaps in the TL lexicon → need for new words (Vinay & Darbelnet, 1995; Meriläinen et al. 2016)
- Interlingual cognates (Sewell, 2001)
- Lack of awareness of the independence of two different linguistic systems → system transfer (Sewell, 2001)
- The phenomenal influence of English as the language of international communication (Orts Llopis & Sánchez-Lafuente, 2009)
- Languages' high degree of permeability (Santoyo, 1987): e.g. the exceptional mobility of the language of commerce (Orts Llopis & Sánchez-Lafuente, 2009)
- Terminology standardisation in technical and scientific fields (which enables communication between specialised technicians from different countries) (Chansou, 1984)
- The convergence of lifestyles and cultures (Santoyo, 1987)
- The development of international communication (Santoyo, 1987) (which itself leads to language contact and cross-linguistic influence)
- Historical background and the influence of superior neighbouring countries (Jankūnaitė & Poštić, 2017)

- Pressure/stress → more mechanical word-for-word transfer → calques (Sewell, 2001; Dailidėnaitė & Volynec, 2017)
- Contextual factors: e.g. if a periodical is aimed at a lay audience, calques tend to be the norm (Orts Llopis & Sánchez-Lafuente, 2009)
- Lack of experience (Dailidėnaitė & Volynec, 2017)

3 Noun concatenations in English and French

The present chapter is structured as follows. Section 3.1 is devoted to nominal compounds and noun concatenations, while Section 3.2 offers a contrastive overview of the NN pattern in English and French. Two corpus-based studies on noun concatenations are presented in Section 3.3. Based on the literature review presented in the chapter, Section 3.4 introduces the research questions I aim to address in this dissertation.

3.1 Nominal compounds

This first section is divided into four parts: (1) an introduction, (2) a description of the different types of compounding, (3) an explanation of the differences between compounds and nonce formations, and (4) an overview of the typical features of compounding.

3.1.1 Introduction

Compounding can be defined as "a process of putting two bases together to form a larger word" (Bauer, Lieber, & Plag, 2013, p.442). The result of this word-formation process is called a *compound*. Syntactically, compounds are characterised by their head: if the **head** of the compound is a noun, the compound is a *nominal compound* (e.g. *film* ***society***).

Different types of nominal compounds are attested in English (Bauer et al., 2013): NN (e.g. *seat belt*), the most productive one, AN (e.g. *hothouse*, *fast-food*) and VN (e.g. *pickpocket*, *boarding pass*, *dump truck*, *think-tank*). There is also the NprepN pattern, which is very common in French (e.g. *sac à main*, *lunettes de soleil*) but marginal in English (e.g. *bird of prey*, *Secretary of State*) (Paillard, 2011, p.915). In addition, Bauer, Lieber and Plag (2013) mention the prepN compounding pattern (e.g. *afterthought*, *backseat*, *back-office*) but they argue that such constructions should be analysed as derived words rather than compounds (see Chapter 16 in Bauer et al., 2013).

As can be seen from the examples above, the spelling of compounds remains variable. Three possibilities are found in English (Bauer et al., 2013): *solid* compounds (e.g. *butterfly*), *hyphenated* compounds (e.g. *child-care*) and *spaced* compounds (e.g. *state official*). Some compounds even have three variants (e.g. *cellphone*, *cell-phone* or *cell phone*).

3.1.2 Types of compounding

As pointed out by Paillard (2000), among others, French compounds are generally left-headed (i.e. the *Romance* type), while English compounds are generally right-headed (i.e. the *Germanic* type): ***homme**-grenouille* vs. *frog**man***, ***puits** de pétrole* vs. *oil**well***.

The Romance type is rare in English and is normally due to the borrowing of the French NA pattern, as in ***court** martial* and ***Secretary** General* (Paillard, 2000). There are also exceptions to the right-headedness in NN constructions. For example, ***end**game* and ***peak** oil* can lead to a left-headed interpretation (Arnaud & Renner, 2014): “the **end** of the game” and “the **peak** of oil production”.

Some French compounds also show discrepancies in headedness (Arnaud & Renner, 2014). Nominal compounds with *radio* or *auto* as first component are right-headed instead of left-headed: *radio-**crochet***, *radio**phare***, *auto-**pont***. *Auto* and *radio* have indeed become *affixoids*, i.e. “affix-like morphemes [...] that still correspond to a lexeme” (Booij, 2007, as cited in Arnaud & Renner, 2014, p.3). Another exception to the Romance type could be *bidon**ville***.

3.1.3 Compounds vs. nonce formations

A distinction is usually made between lexicalised/institutionalised multi-words (i.e. compounds) (Examples 15 below) and non-institutionalised nonce formations (Examples 16) (Paillard, 2000; Bauer, 1983; Hohenhaus, 2005).

15. War criminal, free trade zone, arc-en-ciel
16. December contamination, ancient regime’s presidential guard leadership, voiture en panne

It can be inferred from this distinction that compounds are always lexicalised. Most of them are indeed established, fixed and included in dictionaries and terminological databases. Others are in fact neologisms that are in the process of being lexicalised (Bauer, 1983; Hohenhaus, 2005). By contrast, nonce formations are created ad hoc (Paillard, 2000). As such, they belong to syntax, rather than lexis.

In the framework of my dissertation, I will lump nominal compounds and nonce formations together under the umbrella term *noun concatenation*. This notion appears in the work of several scholars, including Bauer (1983) and Hohenhaus (2005). It should be noted that noun concatenation encompasses a wide range of constructions: NprepN, NN, [NN]N, [AN]N, A[NN] (and combinations thereof).

3.1.4 Defining features of compounding

The following two criteria from Paillard (2000) help distinguish between nominal compounds and (non-lexicalised) syntactic nominal phrases. The first criterion is stress. In established compounds, only one of the constituents should be stressed. This reflects the general trend for lexical units to have only one main stress (Paillard, 2000). English compounds usually have left-hand stress (e.g. *'hothouse*, *'tennis ball*), whereas French compounds usually have right-hand stress (e.g. *pot-au-'feu*, *idée 'fixe*). By contrast, every word is stressed in a nonce formation.

The second criterion is syntactic and contains three sub-criteria. Firstly, nominal compounds are inseparable, unlike nonce formations. The following constructions are erroneous: *assistance <u>très</u> sociale*, *lampe <u>puissante</u> de chevet*. It can thus be concluded that *assistance sociale* and *lampe de chevet* are nominal compounds. Secondly, a compound (e.g. *pomme de terre*) can be replaced by a single lexical unit (e.g. *carotte*). Note that the construction has to be replaced as a whole. One cannot replace only one constituent of the compound (e.g. *carotte de terre* is erroneous). Thirdly, the use of a predicate is impossible to paraphrase a compound. On the other hand, this is possible in the case of a nonce formation (see Examples 17 and 18 below, from Paillard, 2000, p.46).

17. Un garçon de la région → Ce garçon est de la région. *(correct = nonce formation)*
18. Un garçon de café → Ce garçon est de café. *(erroneous = compound)*

Another feature of compounding is the fact that compounds are not simple juxtapositions of words. Each compound has in fact its own micro-syntax. Compound constituents convey classical syntactic functions (Paillard, 2000): predicate + object (e.g. *cease-fire*), predicate + subject (e.g. *hovercraft*), object + modifier of place (e.g. *ashtray*), etc.

3.2 The NN pattern in English and French: a contrastive overview

The NN pattern, which is attested both in English and French, is much more productive and common in English (Paillard, 2000; Arnaud & Renner, 2014). In French, most English NN nominal units are translated with suffixed words (e.g. *ice cube* > *glaçon*), NprepN constructions (e.g. *handbag* > *sac à main*) or NA constructions (e.g. *city council* > *conseil municipal*) (Lefer & De Clerck, forthc., p.2; Paillard, 2000, pp.49-51; Paillard, 2011, pp.915-916; Arnaud & Renner, 2014, p.8).

As regards the French NprepN construction, Chuquet and Paillard (1987, p.185, my translation) point out that "the Romance type clarifies, with a preposition, the relationship between the constituents of the compound to some extent, while this relationship remains implicit in the Germanic type" (e.g. *tasse à thé* vs. *teacup*).

According to Benveniste (1974) and Corbin (1992; 1997), the NprepN construction concerns syntax rather than morphology. In other words, these two authors do not consider NprepN units (e.g. *sac à main*, *pomme de terre*) as compounds. However, according to the French tradition, the meaning of the French term *mot composé* (i.e. compound) "is extended to lexicalised multiword constructions, including $[NAdj]_N$[10] and $[N\ prep.\ N]_N$" (Arnaud & Renner, 2014, p.27). As outlined above, there has been an ongoing debate as to whether French NprepN constructions are

[10] Stands for *nominal (unit)*. Here, understand *NA nominal unit*.

proper compounds or lexicalised phrases, i.e. whether they are formed by morphology or by syntax (Paillard, 2011, p.915).

It is worth mentioning that the number of NN compounds by juxtaposition has recently been increasing in French. They are built on the Romance, left-headed pattern since they follow the French syntactic order (Paillard, 2011). For the moment, the French NN pattern corresponds almost exclusively to a location relationship (Chuquet & Paillard, 1987, p.186). Examples include *rayon hommes*, *coin cuisine*, *abribus*, *espace bagages*, etc. However, other NN units from the marketing and administrative jargon are also gaining ground (e.g. *compte épargne*) (Paillard, 2011, p.918). Note that prepositional variants are attested in many cases: *point presse* > *point de presse*, *village vacances* > *village de vacances*, etc. (Arnaud & Renner, 2014, p.27).

Recursion is possible both in English and French, for example *rack railway* > *chemin de fer à crémaillère* (Paillard, 2000, p.51). However, it should be mentioned that prepositional links have to be added between the constituents of the French concatenations (Chuquet & Paillard, 1987, p.187): *first-year linguistics course* > *cours* ***de*** *linguistique* ***de*** *première année*. Using too many prepositions often makes the output inelegant (Chuquet & Paillard, 1987): *Industrial Development Act Report* > *Rapport* ***sur*** *la loi* ***sur*** *le développement industriel*. The addition of prepositions may thus restrict the French recursion process for stylistic reasons.

Both English and French compounds constitute bases for derivation (Arnaud & Renner, 2014, p.21): *penman****ship***, *watercolour****ist***, *fil-de-fér****iste***, *mot-valis****age***, *contrôl****eur*** *qualité*, *quality control****ler***, *épargn****ant*** *retraite*, *retirement sav****er***, etc. The last four examples are cases of derivation from the head.

Pronominal anaphora to the non-head of the concatenation is incorrect both in English and French. This is what Arnaud and Renner (2014) call the *anaphoric islandhood*. Here are two examples (Arnaud & Renner, 2014, p.22):

19. The **sea** lions are disappearing. **It** is too heavily polluted.
20. Il y a pénurie de timbres-**poste**. En fait, **elle** n'en a pas fait imprimer assez.

An influence from syntax can be noticed among some English and French concatenations. These constructions may indeed include syntactic outputs, thus becoming phrasal compounds (Arnaud & Renner, 2014, pp.23-24). Examples include *wine and cheese party*, *fire and forget weapon*, *postage due stamp*, *conseiller presse et communication*, *responsable hygiène et sécurité* and *plan épargne salariale* (*ibid.*).

As regards pluralisation of concatenations, a general rule would be that plural is marked on the head (Arnaud & Renner, 2014). This implies an internal plural in French and an external plural in English: e.g. *œuf**s** cocotte*, *machine animal**s***. It should also be added that English units always have a single plural mark, while French units sometimes have two. In order to delve deeper into this, it is necessary to introduce the following notions: *subordinative*, *attributive*, *relational* and *coordinative*. They refer to the different categories of NN units (see Figure 2 below). Note that this categorisation (from Arnaud & Renner, 2014) applies to English and French lexicalised units as well as nonce formations.

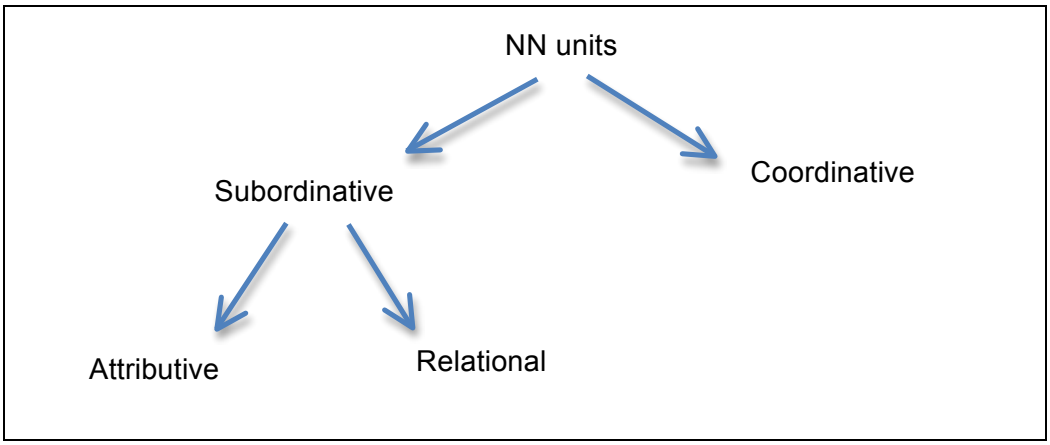

Figure 2 – Categories of NN units

The top division “subordinative vs. coordinative” rests on the presence (or absence) of a semantic non-head-to-head relation (Arnaud & Renner, 2014, p.4). In the presence of such a relation, the NN unit is subordinative (see Examples 21 & 22). In its absence, the unit is coordinative (see Examples 23 & 24). It can also be said that subordinative units have a hierarchical structure whereas coordinative units rather have a semantically flat, non-hierarchical structure (Arnaud & Renner, 2014, pp.4-5). For instance, since one could say “A *space rocket* is a type of rocket”, there is evidence of non-head-to-head relation and hierarchical structure. One could thus undoubtedly state that *space rocket* is subordinative.

21. Space rocket, birthday party, pearl necklace (= English subordinatives)
22. Pneu neige, menu enfant (= French subordinatives)
23. Space-time, writer-director-producer (= English coordinatives)
24. Chasseur-cueilleur, moissonneuse-batteuse-lieuse (= French coordinatives)

Subordinative units can be divided into two subgroups: attributive and relational. The semantic relation in the attributive units consists in “the attribution of features of the non-head to the head” (Arnaud & Renner, 2014, p.8), as in *bullet train*, *kidney beans*, *chapeau melon* and *pommes allumettes*. The relational units, however, do not exhibit any analogy in their non-head-to-head relation (e.g. *shower gel*). There are many possible semantic relations between the head and the non-head of relational units. Trying to characterise them all would be irrelevant. Nevertheless, an important feature is that the meaning of each relational unit could be represented by means of a **predication** (Arnaud & Renner, 2014). N1 and N2 could be the complements of the predication (as in 25 and 26) or the predicator and the internal/external argument (as in 27 and 28).

25. A *fire alarm* is an *alarm* that **is** against *fire*. → Two complements
26. Un *camion benne* est un *camion* qui **a** une *benne*. → Two complements
27. A *landslide* is *land* that ***slides***. (literally) → internal argument (N1) + predicator (N2)

28. Lors d'un *suivi client*, X ***suit*** le *client*. → predicator (N1) + external argument (N2)

As can be seen in the Examples 29 to 32 below, English NN and French relational NN have a single plural mark, while French attributive and coordinative NN tend to have two plural marks.

29. Machine animals, shower gels, bellflowers, mailboxes (= English NN)
30. Chevaux vapeur, œufs cocotte, ponts-canal, gels douche (= French relationals)
31. Animaux machines, pinces crocodiles (= French attributives)
32. Députés-maires, casques-micros, plombiers-zingueurs (= French coordinatives)

Another difference concerns the pluralisation of the non-head. In English, it is never pluralised, even if it has a multiple denotation. In French, however, the non-head is in the plural when it denotes several entities (Arnaud & Renner, 2014). Take for example a *bar code*, which consists of several bars. The non-head is pluralised in French (*un code-barre**s***), whereas it remains in the singular in English (*a bar code*).

3.3 Noun concatenations in corpus-based translation and interpreting studies

This section tackles two recent empirical studies conducted on noun concatenations in corpus-based translation and interpreting studies: Ghiselli (2018) and Lefer & De Clerck (forthc.).

3.3.1 Ghiselli (2018)

Ghiselli's (2018) paper is based on her graduation thesis (Ghiselli, 2015). She is interested in English complex noun phrases and their simultaneous interpretations in Italian. In her study, the term *complex noun phrases* corresponds to "structures where the noun head is preceded by two or more modifiers placed next to one another or linked by the conjunctions *and, or* and *but*" (Ghiselli, 2018, p.1). The

modifiers included in her analysis are adjectives, cardinal numbers, nouns, past participles, gerunds, possessives and adverbs. She extracts these complex noun phrases (as well as their interpretations) automatically from the EPIC corpus (*European Parliament Interpreting Corpus*, see Section 1.3). Then, she selects the results manually on the basis of exclusion and inclusion criteria. A total of 970 strings are analysed in her study.

Firstly, Ghiselli classifies the strings' translations according to Schjoldager's (1995) categories: *repetition*, *permutation*, *addition*, *deletion* and *substitution*. Since only 45% of the translated strings belong to Schjoldager's problematic categories[11], it could be said that the EU interpreters translated most of English noun phrases successfully. However, cases of incomplete and wrong translations are also rather common. This partially confirms the scholar's initial hypothesis: the translation of English complex noun phrases into Italian is indeed challenging for interpreters but they handle it well in the majority of cases.

The second aim of Ghiselli's research is to evaluate the extent to which the translation strategies are influenced by mode and speed of delivery. First, she observes that read texts contain more complex noun phrases. Indeed, complex noun phrases account for ca 10% of the read texts (versus ca 4% of the impromptu speeches and ca 8% of the mixed mode speeches). Second, she analyses the use of translation strategies according to speed of delivery. As regards speeches delivered at low speed, more than 60% of the target strings belong to categories of successful interpreting[12]. The most used strategy is repetition. Deletion accounts only for ca 3% of the source strings. Interpreters use permutation in nearly 30% of the cases, which means that they have time to translate and to reorganise the phrase elements. In speeches delivered at medium

[11] Including *deletion, generalizing substitution, overlapping substitution* and *substitution proper*. In these problematic categories, strings of nouns are lost or modified (Schjoldager, 1995).

[12] Including *repetition, permutation, addition, equivalent substitution, paraphrastic substitution* and *specifying substitution.* They give evidence of interpreters' control. In these successful categories, strings can be reordered (or not), reformulated and expanded (Schjoldager, 1995).

speed, ca. 60% of the target strings belong to categories of successful interpreting. Repetition remains the most frequently used strategy, but the percentage of deletion is three times larger than in the case of low delivery speed. As regards speeches delivered at high speed, the percentage of problematic strategies is, for the first time, higher than that of successful strategies (51.43% vs. 48.57%). Moreover, the use of deletion increases to ca 15%. Repetition is still the most used strategy, but its percentage drops to ca 30% (compared to ca 40% in the case of low delivery speed). It can thus be concluded that complex noun phrases are more difficult to translate in fast speeches. As pointed out by Ghiselli (2018, p.2), “texts delivered quickly present greater difficulties because of higher cognitive load for interpreters due to time constraints”.

The previous conclusion contradicts Shlesinger’s (2003) findings. Indeed, in her study of memory overload in the translation of noun strings in simultaneous interpreting from English to Hebrew, she observes that more modifiers are retained in texts delivered at a higher speed. However, it should be noted that Shlesinger’s research is based on experimental data (and not on actual conference presentations) and focuses only on adjectival modifiers. In addition, Ghiselli’s (2018) and Shlesinger’s (2003) analyses use different parameters for speed. By way of comparison: the high delivery rate is set at 140 words per minute (wpm) in Shlesinger’s study, while it is set at 180 wpm in EPIC. Ghiselli (2018) argues in this respect that, at such a high delivery speed (180 wpm), it may be difficult for the interpreter to coordinate listening and speaking, thus making the translation of complex noun phrases even more challenging.

In short, although complex noun phrases are mostly handled well by interpreters, their translation remains challenging. A further observation is that read texts contain more complex noun phrases than the other modes of delivery. Finally, it has been shown that interpreters experience more difficulties translating complex noun phrases when the source speech is delivered at high speed.

3.3.2 Lefer & De Clerck (forthc.)

In their forthcoming paper, Lefer and De Clerck analyse noun concatenations from an intermodal perspective. To do so, they use French and English subcorpora of the European Parliament Translation and Interpreting Corpus (EPTIC, see Chapter 4 for a comprehensive description of this corpus). More specifically, they extract manually all English strings of at least two nouns, including those preceded by an adjective and those followed by a prepositional phrase, as well as their spoken and written translations. Lefer and De Clerck are interested both in lexicalised units and nonce formations.

Their results indicate that in 94% of the cases, translators opt for a close equivalent in French. The English NN pattern is often translated with NprepN or NA, which is in line with Paillard (2000; 2011) (see Section 3.2). Also noteworthy is that the English [AN]N and [NN]N units are often translated with Nprep[NA] in French (e.g. *national unity government* > *gouvernement d'unité nationale*; *food traceability system* > *système de traçabilité alimentaire*) and that the English [NN]N pattern generates recursion in French with the Nprep[NprepN] pattern (e.g. *legality assurance system* > *système de vérification de la légalité*).

Unlike translators, the interpreters represented in EPTIC use several translation strategies: close translation (only in half of the cases), reduced translation (also known as simplification), omission and divergent translation (which implies a change in meaning). This trend can be explained by the time constraints and the cognitive overload experienced by simultaneous interpreters.

Lefer and De Clerck extract 106 cases of close translation among the interpreted data. Interestingly, in 65 of these cases the interpreters use exactly the same equivalent as the translators. A closer analysis of the data reveals that the source sequences are mostly lexicalised. Since these lexicalised compounds and multi-word terms have undoubtedly been memorised by the interpreters, they do not seem to cause any problem during the interpreting process.

Lefer and De Clerck further notice that interpreters tend to simplify the noun concatenations more often than translators (and this, independently of the syntactic pattern involved). Indeed, interpreters use a reduced translation, i.e. a simplified equivalent, in approximately one quarter of the cases.

Omissions and divergent translations account for about one quarter of the data. These two strategies cause loss or distortion of information for the members of Parliament who listen to the target (i.e. interpreted) speeches. Nevertheless, as Lefer and De Clerck point out, it should be kept in mind that in simultaneous interpreting "some omissions are strategic and can be considered 'legitimate'" (Gile, 1995, as cited in Lefer & De Clerck, forthc., p.10, my translation).

Finally, the two authors analyse disfluences. They observe that they often occur around the French equivalents of English noun concatenations (more precisely, in one out of seven cases). The disfluences consist of filled pauses (for the most part), false starts, empty pauses and discourse markers such as *alors* and *en fait* (which are usually combined with filled pauses). These disfluences are evidence that some noun concatenations generate a cognitive overload for the interpreters. Additionally, it has been found that the disfluences primarily occur around reduced and divergent translations. Lefer and De Clerck further demonstrate that the English noun concatenations causing the disfluences are (1) nonce formations (e.g. *British egg producer*), (2) lexicalised but infrequent concatenations (e.g. *European Forest Institute*) or (3) strings of minimum three words (e.g. *high-level food and feed safety system*).

In short, it can be concluded from their study that English noun concatenations constitute true stumbling blocks for interpreters translating into French. The omissions, simplifications, divergent translations and disfluences demonstrate this clearly.

3.4 Aims of the present study

In the framework of my Master's dissertation, I revisit the well-known contrast between English and French discussed in Sections 3.2 and 3.3.2, i.e. the

NN pattern. It has been shown by Ghiselli (2018) and Lefer and De Clerck (forthc.) that translating English noun concatenations represents a real challenge for interpreters. I have also shown in the literature review presented in Chapter 2 (Section 2.1.2) that the construct of calque can be used as a translation strategy to solve problems encountered during the translation process. Adopting the notion of *calqued noun concatenation*, I want to find out to what extent translators and interpreters opt for a calque when faced with a noun concatenation.

For the purpose of my study, I propose a new type of calque. In fact, I draw on Newmark's definition of calque: "the literal **translation of** common collocations, names of organisations, **the components of compounds** (e.g. *superman*, *Übermensch*) **and** perhaps **phrases** (*compliments de la saison*, *compliments of the season*)" (Newmark, 1988, p.84, my emphasis). The *compounds* and *phrases* dealt with in his definition could undoubtedly fall into the notion of noun concatenation (see Section 3.1.3). I thus came up with the idea of putting forward a type of calque specifically related to noun concatenations: the *calque of pattern* (*calque de patron*, in French). It can be defined as follows:

1) The process of copying the pattern, i.e. the syntactic structure, of a source language noun concatenation during the translation process.
2) The product of the above explained process.

Concretely, an English NN nominal unit translated with a NprepN or NN pattern in French is a case of calque of pattern. Indeed, the NN sequence has been kept in French. For example, *animal testing* (NN) becoming *test sur les animaux* (NprepN) in French constitutes a calque of pattern, whereas *animal testing* (NN) translated with *expérimentation animale* (NA) does not.

On the other hand, a French NprepN nominal unit translated with a NprepN construction in English is also a case of calque of pattern. Since the NN pattern is typical of English, opting for the NprepN pattern to translate a French NprepN unit mirrors a strong influence from the source language. For example, *maladie de la*

vache folle translated with *disease of the mad cow* definitely constitutes a calque of pattern. The translator should simply have reordered the noun constituents into *mad cow disease* ([NN]N), which would have sounded more natural and idiomatic. *Disease of the mad cow* introduces a momentary foreignness and, as discussed in Section 2.1.3, a lack of idiomaticity in the target language is a defining feature of calque.

Finally, it should be noted that two types of calques can co-exist in the same string of nouns, as in *test sur les animaux*. I have already explained the presence of the calque of pattern, but there is also a lexical calque: *test*. Even though *test* is part of the French lexicon, here, it is used under the influence of the English word *testing*. *Expérimentation* would have suited the context much better. *Test* thus introduces a "new mode of expression" (Vinay and Darbelnet, 1995, p.32), hence the presence of a lexical calque.

In the present framework, where English-to-French and French-to-English interpretations and translations are examined, it can be hypothesised that:

1) Interpreters use more calques than translators. In this study, this implies that:
   - English NN units will often be interpreted with NprepN units in French, whereas translators will rather opt for patterns such as NA.
   - When translating into English, interpreters will tend to reproduce the French NprepN pattern instead of reordering the noun constituents into a NN pattern. On the other hand, translators will tend to translate the French NprepN units with NN units, which are more typical of English. They will be less prone to being influenced by the French pattern containing a preposition.
2) Nonce formations generate more calques than lexicalised units.
3) Infrequent, rare compounds and multi-word terms generate more calques than high-frequency items.

First, the hypothesis that interpreted output contains more calques than translated output can be put forward because of the important time constraints of simultaneous interpreting, the high delivery speed of the source speeches (see Ghiselli, 2018; Shlesinger, 2003) and the resulting cognitive load experienced by interpreters (see Shlesinger, 2003; Lefer & De Clerck, forthc.). The second hypothesis is related to the fact that lexicalised units generally have fixed equivalents in the target language. These are included in dictionaries and terminological databases. It can be assumed that lexicalised units are studied or memorised over time by translators and interpreters (especially if the units occur frequently). This is in line with Lefer and De Clerck's (forthc.) finding that nonce formations cause more problems for interpreters than lexicalised units. Translators and interpreters can be expected to be more inclined to use translation solutions such as calques for nonce formations, where there is no ready-to-use equivalent. It is also hypothesised that, in addition to lexicalisation, frequency plays a role in the patterns observed in corpus data (Lefer & De Clerck, forthc.). It can indeed be expected that high-frequency compounds and multi-word terms are less often calqued than low-frequency items.

In order to test these hypotheses, I rely on the intermodal corpus named EPTIC (see Chapter 4). Note that hyphenated and solid compounds are not taken into account here. The focus is on spaced concatenations only.

4 Data

This chapter introduces the corpus used in the present dissertation: EPTIC (the *European Parliament Translation and Interpreting Corpus*), an ongoing collaborative corpus compilation project initiated by Bernardini and Ferraresi at the University of Bologna. The chapter also illustrates EPTIC's potential as a source of data for corpus-based translation and interpreting studies.

Section 4.1 describes the main features of EPTIC, while Section 4.2 presents how it is compiled. Section 4.3 provides a brief review of three empirical studies based on EPTIC. In the final section, I conclude the chapter with a critical assessment of this unique corpus resource.

4.1 Main features of EPTIC

In Section 1.4, I described EPTIC as an **intermodal multiple-translation corpus** (MTC) but it has other characteristics too. Before analysing them, it must be mentioned that texts collected in EPTIC date from the first half of 2011[13] and that four language combinations are represented (namely, English <> French, English <> Italian, English <> Polish and English <> Slovene). Since "English translations were produced first, and used by all other translation departments as source texts" (Ferraresi & Bernardini, 2019, p.125), each language pair features English in order to avoid cases of indirect translation. On that basis, I can state that EPTIC is a **multilingual** corpus.

EPTIC is also a **parallel** corpus since it aligns STs in language A and TTs in language B. Moreover, it is **bidirectional**: language A can be the SL as well as the TL. However, some argue that EPTIC is rather ***pseudo*-parallel**. Indeed, several EU officials confirmed that the translation of proceedings was solely based on the verbatim reports. And the latter undergo an editing process: addition of punctuation, removal of context-related comments and correction of mistakes such

[13] For financial reasons, the European Parliament unfortunately stopped translating verbatim reports in the second half of 2011. Therefore, the latest available data were selected (Ferraresi & Bernardini, 2019).

as false starts, unfinished sentences or mispronunciations (Ferraresi, 2016, p.33). Therefore, translated and interpreted outputs have slightly different STs.

Finally, EPTIC meets the criteria of a **comparable** corpus: all the collected texts belong to the same domain and register, they have approximately the same length and they cover the same period of time. On the one hand, it can be said that EPTIC is a **multilingual comparable** corpus. Since it includes subcorpora of different original languages, we can use EPTIC to see how several non-translated languages deal with the same domain or topic. On the other hand, EPTIC can also be described as a **monolingual comparable** corpus. Indeed, as the corpus is bidirectional, language A can be the SL as well as the TL. We can thus use EPTIC to compare translated and non-translated language.

4.2 Building EPTIC

First of all, we collected all the data from the European Parliament website: verbatim reports and their translations, videos of the speeches (with multi-audio tracks) and contextual information on speeches and speakers.

Then, we transcribed the oral components following specific editing conventions (see Appendix 2). We used the verbatim reports as a basis for the transcription of the original speeches and we started from scratch for the transcription of their interpretations (since the translations are performed independently of the interpreters' output). Even though sentences are not fully representative of the spoken language, we had to segment the transcripts in sentence-like units (Ferraresi & Bernardini, 2019) to enable text-to-text and text-to-video alignments (see further). Therefore, we inserted full stops and commas "taking into account prosodic and syntactic cues" (Ferraresi & Bernardini, 2019, p.128).

For each EPTIC text, we added metadata about the text itself, the context and the speaker. Appendix 3 summarises the metadata and annotation files we submitted

on SKEPTIC[14]. They make it possible to restrict queries on the basis of attributes assigned to speakers and speech events (Ferraresi & Bernardini, 2019).

Afterwards, EPTIC texts had to be aligned at sentence level. We used Intertext Editor to align them in a parallel perspective (STs <> TTs), in an intermodal perspective (translations <> interpretations) and, finally, in a multilingual perspective (TTs of the same ST in languages A <> B) (Ferraresi & Bernardini, 2019). Text-to-video alignment was also performed but I will not go into detail here.

Finally, EPTIC was part-of-speech tagged and lemmatised with TreeTagger, and then indexed with NoSketch Engine (Ferraresi, 2016). Note that indexing data is essential since it makes analyses and research possible.

4.3 Examples of empirical studies based on EPTIC

This section illustrates the potential of EPTIC through the lens of three different studies: Bernardini, Ferraresi and Miličević (2016) in Section 4.3.1, Ferraresi and Bernardini (2019) in 4.3.2, and Ferraresi (2016) in 4.3.3.

4.3.1 Lexical simplification in interpreting and translation from an intermodal perspective (Bernardini, Ferraresi, & Miličević, 2016)

As mentioned in Chapter 1, corpus-based translation studies and corpus-based interpreting studies are not only descriptive but also theoretical. In this case, they can be placed on the *medium-restricted* branch (since Bernardini, Ferraresi and Miličević compare written vs. spoken translations) and on the *problem-restricted* branch (since the authors discuss one of the translation universals proposed by Baker) (see Figure 1). Lexical simplification can be defined as follows:

> The hypothesized tendency for translators and interpreters to produce texts that are less informationally dense and less lexically varied than those produced by people writing or uttering their own texts or speeches in the same language, in similar circumstances. (Bernardini, Ferraresi, & Miličević, 2016, pp.7-8)

[14] SKEPTIC is an online platform allowing the collection and annotation procedure (Kajzer-Wietrzny & Ferraresi, 2019).

The aim of their paper is "to visualize how instances of oral and written, mediated and non-mediated discourse position themselves with respect to each other in terms of simplification parameters" (Bernardini, Ferraresi, & Miličević, 2016, p.20). To that end, they adopt an intermodal perspective (i.e. interpreted vs. translated English subcorpora and interpreted vs. translated Italian subcorpora) and a monolingual comparable perspective (i.e. translated vs. non-translated English/Italian subcorpora and interpreted vs. non-interpreted English/Italian subcorpora). In total, they do six sets of comparisons where four simplification parameters are tested (Bernardini, Ferraresi, & Miličević, 2016, p.8):

- Lexical density: the percentage of lexical versus grammatical words in a text;
- List head coverage: the percentage of corpus covered by the *n* top words of its frequency list;
- Core vocabulary coverage: the percentage of text covered by *n* most frequent words of the given language, established on the basis of a reference corpus;
- Mean sentence length: the average number of words per sentence in a text.

These parameters were proposed in 1998 by Laviosa and they have been replicated by several scholars since then (e.g. Sandrelli & Bendazzoli, 2005, and Kajzer-Wietrzny, 2012, all cited in Bernardini, Ferraresi, & Miličević, 2016).

On the intermodal perspective, the three researchers find out that interpreted texts are simpler than translated ones and that simplification parameters apply differently depending on the languages: "interpreters into English rely more on purely lexical[15] resources […] and interpreters into Italian on lexico-syntactic[16] ones" (Bernardini, Ferraresi, & Miličević, 2016, p.33). On the monolingual comparable perspective, it appears that "the mediated corpus component is

[15] I.e. larger use of frequent words and repetitions
[16] I.e. lower lexical density and mean sentence length

simpler than the corresponding non-mediated one" (Bernardini, Ferraresi, & Miličević, 2016, p.33): higher list head coverage in interpreted and translated English, shorter sentences in interpreted and translated Italian, etc. Finally, the structure of EPTIC allows the researchers to compare spoken and written non-mediated subcorpora. They find out that simplification is a feature both of orality and mediation, which is why "interpreted texts, being both spoken and mediated, occupy one extreme of the simplicity cline" (Bernardini, Ferraresi, & Miličević, 2016, p.34).

4.3.2 English borrowings in Italian and French (Ferraresi & Bernardini, 2019)

In this case, CTS and CIS can be placed on the *theoretical/rank-restricted* branch of the Holmes/Toury map (Figure 1) since the researchers are interested in a particular level of linguistic analysis (i.e. words).

The two scholars focus on the transcripts of speeches originally delivered in Italian and French. In doing so, they discover that Italian is more permeable to borrowings (or loan words) than French (Ferraresi & Bernardini, 2019). Then, they focus on interpreted and translated Italian and French. It appears that mediated languages contain more English loan words than non-mediated languages. They also find out that translated Italian contains more borrowings than interpreted Italian, which suggests that the use of borrowings "is probably not due to the difficulty of blocking interference when processing language in real-time" (Ferraresi & Bernardini, 2019, p.135). Finally, the researchers analyse parallel concordances and suggest that Italian translators "make a conscious choice when they let the English words through" (Ferraresi & Bernardini, 2019, p.136). According to their analyses, English borrowings in Italian might be signs of normalisation rather than signs of interference[17]. Indeed, as pointed out by Ferraresi and Bernardini (2019, p.135, my emphasis), "the very existence of *europeese*[18] could also result in a tendency for EU professionals to use English words in their peculiar variety of

[17] Interference occurs when "phenomena pertaining to the make-up of the source text tend to force themselves on the translators and be transferred to the target text" (Toury, 2012, p.310).

[18] Europeese is "a variety of Italian filled with obscure, technical words often borrowed from English" (Ferraresi & Bernardini, 2019, p.133).

Italian, **even when the same word is not there in the source speech/text**". However, their analyses do not constitute, strictly speaking, a case study. Therefore, no firm conclusion can be drawn.

4.3.3 EPTIC-based teaching materials on Italian collocations (Ferraresi, 2016)

Building task-based translation teaching materials on the basis of intermodal observations is undoubtedly an innovative approach at the time. In this 2016 paper, Ferraresi focuses more particularly on Italian collocations. CTS and CIS can here be placed on the *applied/translator training* branch of the Holmes/Toury map (Figure 1).

Ferraresi (2016) creates two activities based on the EPTIC corpus concordances. The first exercise (see Appendix 4) asks students to analyse intermodal concordance lines. It stimulates a debate on "the norms governing translators' and interpreters' decisions" (Ferraresi, 2016, p.42). Students can discuss whether these decisions result from conscious strategies or from task-related automatisms. The second exercise (see Appendix 5 for the instructions) makes students realise the constraints of the interpreting process. Then, students can compare their own decisions to those of the EU professionals featured in EPTIC, which may lead to a critical appraisal of the different translation solutions (Ferraresi, 2016).

4.4 Critical assessment

In Section 4.3, I demonstrated the potential of EPTIC as a research and didactic tool. However, it has a number of limitations too. First, EPTIC is "a single-genre corpus of parliamentary proceedings" (Ferraresi, 2016, p.43) and it is thus "arguably far less attractive to students than, say, MTCs [multiple-translation corpora] of literary texts" (*ibid.*). Second, another key limitation is undoubtedly its small size, which is, according to Bernardini et al. (2018), problematic for studying lexis and phraseology. Third, the rather small number of languages represented (5 out of the 24 EU official languages) is another weakness of the corpus, even though it must be added that very few parallel corpora are multilingual. The last two limitations are "due to the laboriousness of its [EPTIC's] development" (Ferraresi & Bernardini, 2019, p.137). Although Master's and Doctoral students

have joined the project and contributed to the compilation of the corpus, other linguists from diverse language backgrounds are needed in order to overcome these two limitations. In the words of Granger (2010, as cited in Ferraresi & Bernardini, 2019, p.137): “[w]e need more and better corpora for crosslinguistic research and as data collection is very time-consuming, there is a great deal to be gained from joining forces”.

5 Methodology

In this chapter, I explain how I built the two Excel databases on which the analyses are based. The first step, automatic extraction, is presented in Section 5.1. Section 5.2 focuses on manual data selection, while Section 5.3 deals with data coding.

5.1 Automatic extraction

In order to query the EPTIC corpus, I used the open source version of Sketch Engine, NoSketch Engine. I searched the corpus with the concordance tool. I adopted a parallel and intermodal approach since, for both Excel databases, I queried the spoken sources, the written sources, the interpretations and the translations. For the English-to-French database, I used the EPTIC subcorpora that we compiled in 2019 (see Chapter 4), whereas for the French-to-English database, I used the data collected by previous collaborators.

I selected the CQL (Corpus Query Language) query type and used CQL to search for two patterns: English NN and French NprepN sequences. Table 2 displays the two CQL queries as well as examples of output obtained with the NoSketch Engine.

Source language	CQL query	Spoken source	Written source	Interpretation	Translation
English	[tag="N*"] [tag="N*"]	Let us move towards more ***service liberalisation*** throughout the EU and throughout the globe.	Let us move towards more service liberalisation throughout the EU and throughout the globe.	Et ehm maintenant il faut davantage de libéralisation des services tant dans l'Union européenne que ... sur l'ensemble de la planète.	Allons vers une plus grande libéralisation des services dans toute l'UE et dans le monde entier.

French	[tag="NOM"] [tag="PRP"] [tag="NOM"]	Deuxièmement, le le ***gouvernement de transition*** n'est pas un gouvernement d'unité nationale.	Deuxièmement, le gouvernement de transition n'est pas un gouvernement d'unité nationale.	Secondly, the transitional government is not a national unity government.	Second, the transitional government is not a government of national unity.

Table 2 – CQL queries and examples of output

To compile the English-to-French dataset, I consulted all the result pages (76 hits in total). For the other translation direction, however, I opted for random sampling, as the query returned 372 hits. I consulted the first 160 hits, stemming from 25 different speeches. It may thus be assumed that the trends based on the French-to-English dataset are generalisable.

5.2 Data selection

After the automatic extraction, I manually selected the relevant instances and removed noise, i.e. the irrelevant occurrences that needed to be discarded. First, I needed to make sure that all the noun concatenations found in the spoken source language also appeared in the written source language; otherwise, I would not be able to compare interpretations and translations (if the source noun concatenations are not the same in speaking and in writing, their interpretations and translations will differ inevitably). Table 3 provides a summary of the different types of noise in the two source languages.

Source language	**Search query**	**Type of noise**	**Examples (from the source speeches)**
English	noun + noun	POS-tagging errors	We have to understand the consequences of ***printing money*** too cheaply.
			I enjoyed your view of the ***world today***, but it was perhaps rather more ironic.
			This ***means self-sufficiency***.
			Ireland went its own ***way back*** in

			was it 1921.
		Vocatives	Ehm thank you ***madam chairman***, by the time I sit down, 16 people will have died of starvation.
		Appositive elements	I found it very difficult to support my ***friend Ms*** Joly's report.
		When continuous nouns do not belong to the same phrase	We have put agriculture and ***food centre*** stage. [In this sentence, *centre stage* constitutes a noun concatenation, not *food centre*.]
French	noun + preposition + noun	POS-tagging errors	Ce même espoir est aujourd'***hui en train*** de naître.
		Concatenations such as "*nombre de* + noun"	On a aussi un certain ***nombre de questions*** ehm et de demandes.
		Numbers: *centaines*, *milliers*, *millions*	Ce sont quelques ***milliers d'espèces*** végétales et animales qui sont mises en danger alors que […].
			Enfin, la déforestation met en danger quelques centaines de ***millions de personnes*** qui, soit vivent dans les forêts, soit vivent de la forêt.
		One of the nouns and the preposition belong to a multiword (complex) preposition, which introduces a prepositional phrase.	On peut témoigner un certain ***ras-le-bol par rapport*** à ces crises à répétition.
			[…] alors que la Chine nous offre un grand boulevard en ***matière de corruption*** ou de pillage ?

			[…] dont le rôle devrait être renforcé en ***termes de coordination*** entre États membres […].
			C'est pour cela que je demande à la Commission qu'elle prenne l'argent de l'accord d'association et qu'elle mette cet argent au service de la liberté d'expression en Tunisie et non pas au ***service d'organisations*** gouvernementales tunisiennes.
		Occurrences such as "*ce type/genre de* + noun" or "*cette forme/sorte de* + noun"	Ce ***type d'incidents*** est absolument inacceptable.
		Occurrences such as "noun + *de nature* + adjective"	[…] durant ces 6 mois, près de 40 ***accords de nature*** législative ont été conclus entre le Parlement et le Conseil.
		When the NprepN sequence does not belong to the same phrase	[…] que j'ai entendu prononcer pour la première ***fois par monsieur*** Barroso.

Table 3 – Types of noise in the two source languages

In addition, I sometimes extended the NN and NprepN patterns. In other words, the datasets also contain more complex patterns stemming from the initial search queries (see Tables 4 and 5).

Category	**Extension of the core NN pattern**	**Examples**
Recursivity	(A)NNN	Poverty elimination programmes, Irish beef farming perspective

Noun concatenations containing one or more adjectives	(Adv)A[NN]	Very rigorous accession process, next debt crisis, global population growth, draconian maternity leave, European debt union
	[AN]N	One-stop shop idea
Noun concatenations containing the preposition *of*	NprepNN (Note: the NN unit can be modified by an adjective, or not, and subject to recursivity, or not)	System of tax neutrality, father of the Ugandan human rights movement, beginning of question time, extension of the EU microfinance facility
	NNprepN	Founder member of SMUG, carbon footprint of Brazilian beef

Table 4 – Extensions of the core NN pattern (English-to-French dataset)

As can be seen in Table 5, when there were prepositions located outside the core NprepN pattern, only *à* and *de* were selected. In addition, I also included adjectives, as in *gouvernement d'unité* ***nationale***, *criminels en col* ***blanc***, ***principal*** *élément de démocratie*, *commission d'enquête* ***indépendante*** and *accords de partenariat* ***économique intérimaires***. However, for the sake of brevity, I do not mention any adjective in the extended patterns in Table 5. Adjectives nevertheless appear among the examples.

Extension of the core NprepN pattern	Examples
Nprep[NprepN]	Politique de soutien à la démocratie, système de protection du consommateur, création de nouveaux cycles de gouvernance économique, processus de mise en œuvre, taxation des mouvements de capitaux
[NprepN]prepN	Point de vue des changements climatiques, mise en œuvre de l'accord, instrument de supervision du secteur financier, mise en place d'une véritable gouvernance forestière
NprepN *et* prepN	Situations de crise et de catastrophe naturelle,

	questions de gouvernance et de déséquilibre macro-économique
[NprepN]prep[NprepN]	Mise en place d'un commerce du bois, critères d'évaluation de durabilité des agrocarburants

Table 5 – Extensions of the core NprepN pattern (French-to-English dataset)

It should be mentioned that I did not break up extensions into smaller chunks. Each extension accounts for one occurrence in the Excel tables. Concretely, *mise en place d'un commerce du bois* and *extension of the EU microfinance facility* each account for one occurrence in the datasets, and not for three of them (*mise en place d'un commerce du bois* // *mise en place* // *commerce du bois*; *extension of the EU microfinance facility* // *EU microfinance facility* // *microfinance facility*). Also note that, if a nominal unit occurred several times in the EPTIC corpus, it has been included several times in the databases. All in all, the English-to-French dataset consists of 61 NN nominal units, while the French-to-English dataset comprises 90 NprepN nominal units.

5.3 Data coding

In this section, I explain how I structured the databases: frequency (5.3.1), lexicalisation (5.3.2) and category of rendition strategies (5.3.3). In Section 5.3.3, I describe and illustrate the taxonomy of rendition strategies used in this study, which is largely based on Wadensjö (2013).

5.3.1 Frequency of source noun concatenations: tool used

In order to determine the frequency per million words of each source noun concatenation, I used the concordance tool of Sketch Engine. More particularly, I used the advanced search interface and selected the phrase query type before encoding the noun concatenation I was looking for. For the English-to-French direction, I consulted *Europarl7, English* (Koehn, 2005; ca 54 million words), whereas for the French-to-English direction, I consulted its French counterpart, *Europarl7, French* (ca 59 million words). These two corpora contain original and translated language, which makes them representative of the European Parliament discourse as a whole.

In the case of more complex structures, such as embedded or combined noun concatenations (e.g. [système de [protection du consommateur]], [father of the Ugandan [[human rights] movement]]), I extracted the frequency of the whole noun concatenations and of all their constituents (see Table 6).

Embedded noun concatenations	Constituents	Frequency per million words
Système de protection du consommateur		0.05
	Protection du consommateur	5.66
Mise en place d'une véritable gouvernance forestière		0
	Mise en place	77.96
	Gouvernance forestière	0.23
Father of the Ugandan human rights movement		0.02
	Human rights movement	0.25
	Human rights	552.47
Irish beef farming perspective		0.02
	Beef farming	0.03

Table 6 – Frequency of embedded noun concatenations (illustration)

This also applies when determining the degree of lexicalisation of embedded noun concatenations (see Table 7 in 5.3.2).

5.3.2 Lexicalisation of source noun concatenations: tools used

If a noun concatenation is included in a terminological database or in a dictionary, it can be argued that it is lexicalised (see Hilpert, 2019 and Brinton & Traugott, 2005). For English noun concatenations, I consulted the Oxford English Dictionary (OED) as well as IATE, the EU terminological database (selecting English as SL and *all available languages* as TL). For French noun concatenations, I used IATE (this time, selecting French as SL and *all available languages* as TL) and Le Grand Robert dictionary. When a noun concatenation appeared in one of the two references, I considered it lexicalised.

It should be noted that a noun concatenation is considered as lexicalised if it appears as an entry or subentry in the case of dictionaries, and as an entry or as part of an entry in the case of IATE. For example, *food security* and *debt crisis* are considered as lexicalised since the former appears as such in IATE and the latter appears as part of *sovereign debt crisis*. In addition, if the noun concatenation I am looking for is in its plural form but appears in the singular in IATE (or in the dictionary), I also consider it lexicalised. However, this statement does not apply when the plural/singular difference concerns only one constituent of the concatenation: e.g. *protection du consommateur* is not lexicalised since IATE only lists *protection des consommateurs*.

Table 7 illustrates the lexicalisation (or lack thereof) of embedded noun concatenations.

Embedded noun concatenations	**Constituents**	**Lexicalised?**
Gouvernement d'unité nationale		Yes (IATE)
	Unité nationale	Yes (IATE)
Politique de soutien à la démocratie		No
	Soutien à la démocratie	Yes (IATE)
Critères d'évaluation de durabilité des agrocarburants		No
	Critères d'évaluation	Yes (IATE)
	Durabilité des agrocarburants	No
System of tax neutrality		No
	Tax neutrality	Yes (IATE)
Carbon footprint of Brazilian beef		No
	Carbon footprint	Yes (IATE + OED)
	Brazilian beef	No
Universal health insurance		No
	Health insurance	Yes (IATE + OED)

Table 7 – Lexicalisation of embedded noun concatenations (illustration)

5.3.3 Taxonomy of rendition strategies

The final step of data preparation consisted in analysing the French and English interpreting/translation equivalents and categorising them according to Wadensjö's (2013) taxonomy (see Table 8). In her 2013 book, she compares *originals* and *renditions*. She defines the latter as "a second, and thus, in a least some respect, a new version of an 'original'" (Wadensjö, 2013, p.107). Initially, Wadensjö's taxonomy of renditions concerned interpreted utterances. It is widely used in interpreting studies. Nevertheless, in my dissertation, it is extended to translation (see Lefer & De Clerck, forthc.).

Type of rendition	Definition	Examples from the English-to-French dataset	Examples from the French-to-English dataset
Close rendition	"The propositional content found explicitly expressed in the 'rendition' must be equally found in the preceding 'original'." (Wadensjö, 2013, p.107)	Euro crisis > crise de l'euro *(interpreting & translation)* Credit cycle > bulle du crédit *(translation)*	Accords de partenariat économique intérimaires > Interim Economic Partnership Agreements *(interpreting & translation)* Commission d'enquête indépendante > independent committee of inquiry *(interpreting)*
Divergent rendition	The propositional content of the rendition is not equivalent to that of the original. E.g. semantic shift, misinterpretation, false sense. (Wadensjö, 2013; Lefer & De Clerck, forthc.)	Agriculture policy > politique agricole commune *(interpreting)* [appropriate equivalents: politique de l'agriculture, politique agricole] Position paper > document d'opposition *(interpreting)* [appropriate equivalents: note de synthèse, document de synthèse]	Régimes de sécurité sociale > national health care systems *(interpreting)* [appropriate equivalent: social security systems] Véritable instrument de partenariat de développement > development instrument *(interpreting)* [appropriate equivalent: genuine instrument of development partnership]
Zero rendition	"Cases when 'originals' are left untranslated" (Wadensjö, 2013, p.108) Synonym: omission	Climate change consistency > Ø *(interpreting)*	Création de nouveaux cycles de gouvernance économique > Ø *(interpreting)*

Reduced rendition	"A 'reduced rendition' includes less explicitly expressed information than the preceding 'original' utterance." (Wadensjö, 2013, p.107)	Father of the Ugandan human rights movement > militant *(interpreting)* Court system > tribunal *(interpreting)*	Mandat de négociation > mandate *(interpreting)* Instrument de supervision du secteur financier > bodies for the financial sector *(interpreting)*
Expanded rendition	"An 'expanded rendition' includes more explicitly expressed information than the preceding 'original' utterance." (*ibid.*)	Very rigorous accession process > ce processus ehm est caractérisé par ehm de longues négociations *(interpreting)* Sea change > "tout subit dans la mer un changement" *(translation)*	Mise en place d'une véritable gouvernance forestière > set up a forest governance of the true meaning of the town *(interpreting)* Volonté de continuité > they want it to keep going *(translation)* Multiplication des terrains d'intervention > countless areas in which intervention is required *(translation)*

Table 8 – Corpus-driven taxonomy of rendition types based on Wadensjö (2013)

In cases of zero renditions, I will not be able to compare interpretations with translations. I will nevertheless try to find the reason(s) behind these omissions (see Section 6.3). Also noteworthy is that the detailed analysis of the close rendition category will allow me to test the three hypotheses put forward in Section 3.4.

6 Results and discussion

This chapter is dedicated to the analysis of the two Excel datasets. Section 6.1 provides an overview of the source noun concatenations identified in original English and French. Section 6.2 presents a quantitative analysis of the rendition of noun concatenations in simultaneous interpreting and written translation. In 6.3, I discuss the case of zero renditions, while in 6.4 I address the case of reduced renditions in interpreting. Then, Section 6.5 zooms in on cases where TL equivalents are the same both in interpreting and translation. Finally, Section 6.6 is devoted to the analysis of calques.

6.1 Overview of source noun concatenations in original English and French: patterns, frequencies and lexicalisation

This section is dedicated to the English and French noun concatenations identified in source speeches/texts. Figures 3 and 4[19] give an overview of the predominant patterns in original English and French. The different patterns have been presented in Section 5.2 (see Tables 4 and 5). Also, note that the total number of occurrences of each pattern is included in the figures.

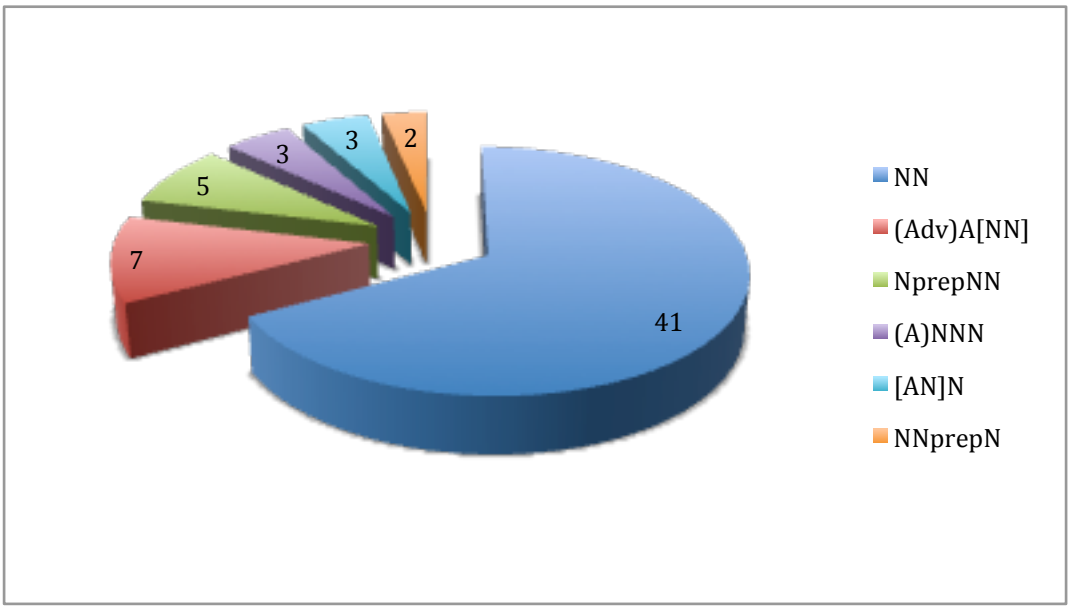

Figure 3 – Overview of the predominant patterns in original English

[19] As explained in Section 5.2, I do not mention any adjective in the French patterns (Figure 4), for the sake of brevity. Adjectives are, however, included in the dataset.

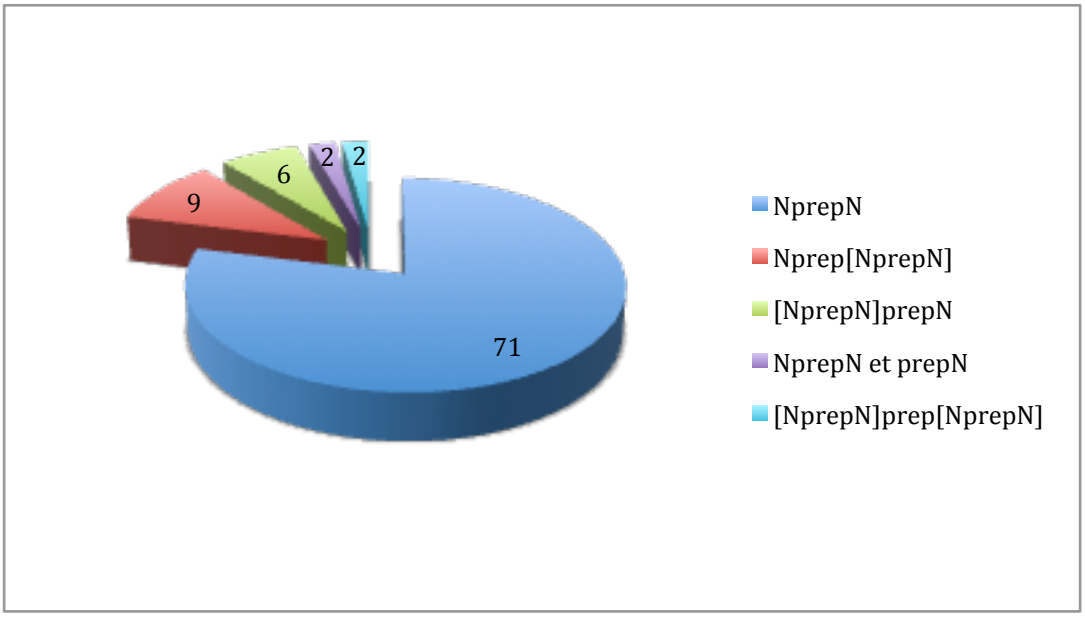

Figure 4 – Overview of the predominant patterns in original French

It can be seen from Figures 3 and 4 that the NN core pattern (e.g. *peace treaty*, *climate change*, *Community method*) and the NprepN core pattern (e.g. *liberté de parole*, *gouvernement de transition*, *accord d'association*) are the most frequent. In original English, the second most frequent pattern is (Adv)A[NN] (e.g. *global population growth*, *global food security*, *universal health insurance*), whereas in original French it is Nprep[NprepN] (e.g. *véritable instrument de partenariat de développement*, *dérogation aux règles d'origine*, *multiplication des terrains d'intervention*). The English NprepNN pattern (e.g. *system of tax neutrality*, *contraction of the accession treaty*) and the French [NprepN]prepN (e.g. *mise en œuvre de ces accords*) rank third.

Figures 5 and 6 display the relative frequency ranges (i.e. frequency per million words) of the source noun concatenations in Europarl7.

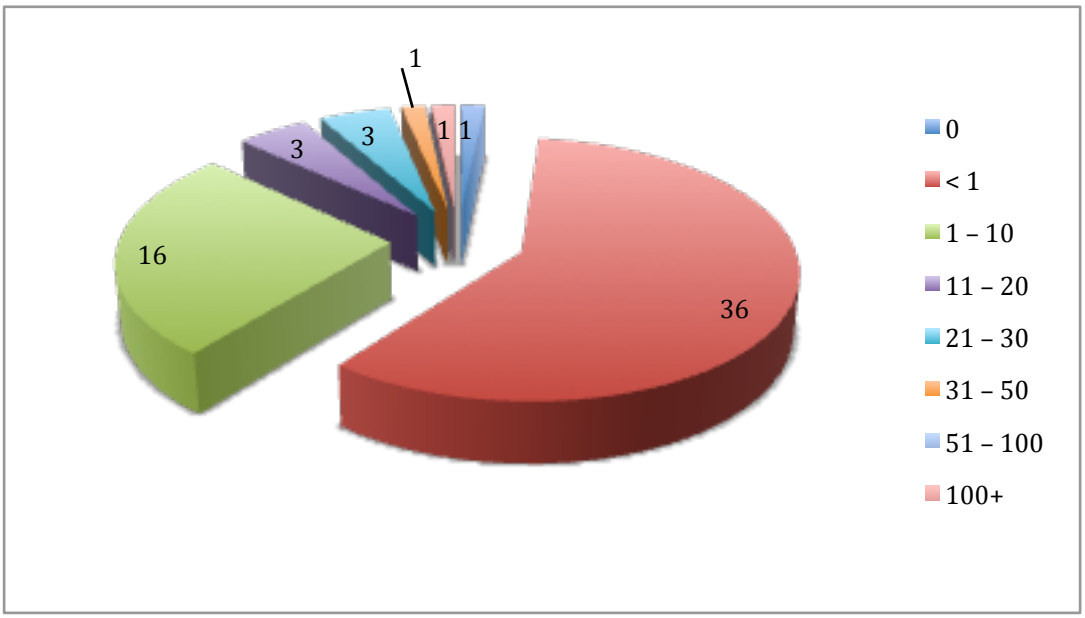

Figure 5 – Relative frequency ranges of the English source noun concatenations

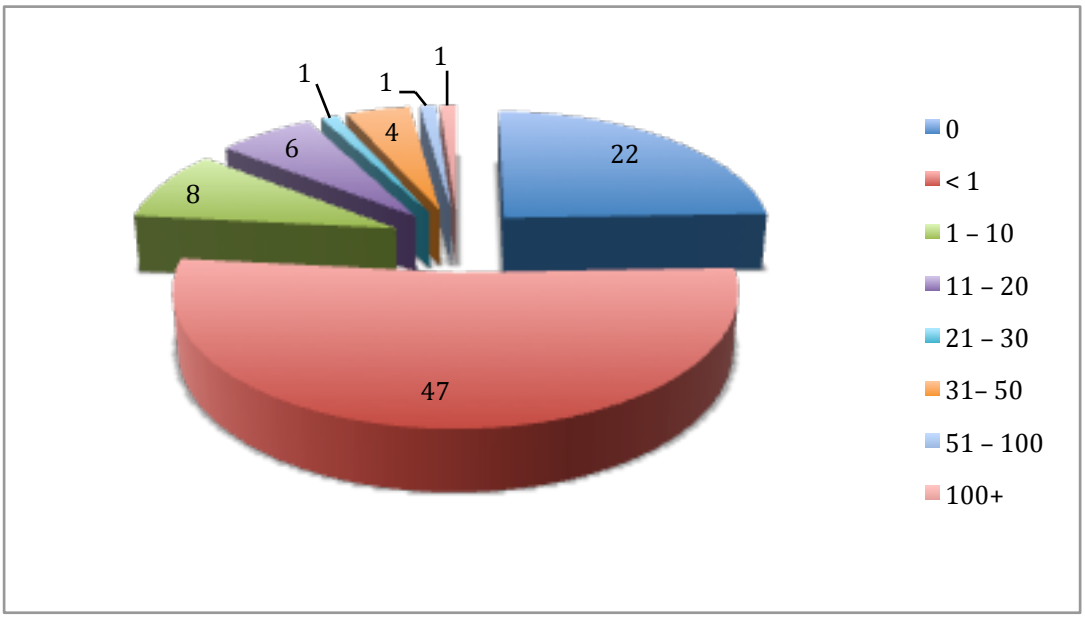

Figure 6 – Relative frequency ranges of the French source noun concatenations

In both languages, the most prevalent frequency range is < 1. It represents 59% of the English dataset and 52% of the French dataset. In English, the second most prevalent frequency range is 1 – 10 (it covers 26% of the dataset), whereas in French it is the 0 range (24%). As can be seen from these figures, most of the

noun concatenations under scrutiny in this study are low-frequency sequences in European parliamentary discourse.

Finally, note that most of the English source noun concatenations are lexicalised (59%), whereas the French dataset contains as many lexicalised as nonce formations. The (non-)lexicalised status of the source will be used to test my second hypothesis (Section 6.6.2). It will also be of relevance to the development of the calque cline (Section 6.6.4).

6.2 The rendition of noun concatenations in simultaneous interpreting and written translation: a quantitative overview

Tables 9 and 10 list the total number of occurrences, in tokens, and the corresponding proportion of each rendition type in the two translation directions (see Section 5.3.3 for a description of the rendition type taxonomy used here).

Type of Rendition	Occurrences		Percentage	
	Interp.	**Transl.**	**Interp.**	**Transl.**
Close	35	56	57%	92%
Reduced	8	2	13%	3%
Divergent	8	0	13%	0%
Expanded	4	3	7%	5%
Zero	6	0	10%	0%

Table 9 – Rendition types in English-to-French interpreting/translation

Type of Rendition	Occurrences		Percentage	
	Interp.	**Transl.**	**Interp.**	**Transl.**
Close	62	85	69%	95%
Reduced	13	1	15%	1%
Expanded	9	4	10%	4%

Zero	4	0	4%	0%
Divergent	2	0	2%	0%

Table 10 – Rendition types in French-to-English interpreting/translation

In the English-to-French translation direction, most of the source noun concatenations are translated/interpreted with a close rendition (see Examples 33 and 34). Nevertheless, this type of rendition occurs much more often in translation than in interpreting (92% vs. 57%). It can also be seen that divergent and zero renditions are quite frequent in interpreting, as they represent respectively 13% and 10% of the interpreters' output (see Examples 35 to 37).

33. *(EN)* The challenge for us as policy-makers is how we ... increase p- ***food production*** in a sustainable way, produce more from less, […]. → *(FR)* La ***production alimentaire*** doit se développer de façon durable en produisant davantage à partir de moins, […]. *(interpreting, close rendition)*
34. *(EN)* The ***carbon footprint of Brazilian beef*** is four times that of Irish beef, so please read this report. → *(FR)* L'***empreinte carbone du bœuf brésilien*** est quatre fois plus élevée que celle du bœuf irlandais, donc je vous en prie, lisez ce rapport. *(translation, close rendition)*
35. *(EN)* And my question is, in that context, could the Commission endorse other measures such as loan-guarantee schemes or indeed an ***extension of the EU microfinance facility***? → *(FR)* Et ma question est par conséquent la suivante : dans ce contexte, la Commission pourrait-elle soutenir des mesures telles que des garanties de prêt ou ehm une ***extension de la facilité d'investissement de l'Union européenne*** ? *(interpreting, divergent rendition)* [close rendition: extension de l'instrument de microfinancement européen]
36. *(EN)* Not only are we talking about ehm tax harmonisation, about a ***European debt union***, a- about automatic fiscal transfers, we're talking about the harmonisation of pensions. → *(FR)* Nous parlons non seulement … d'harmonisation fiscale … d'une ***dette européenne***, de transfert mais nous parlons aussi de l'harmonisation des

retraites […]. *(interpreting, divergent rendition)* [close rendition: union européenne de la dette]

37. *(EN)* But what we need to do, and I think it has happened since my report in the past mandates in this Parliament, we have put agriculture and food ***centre stage***. → *(FR)* Et je vous rappelle mon dernier … mon rapport lors de mon dernier mandat ici au Parlement. *(interpreting, zero rendition)* [close rendition: cœur des débats]

In the French-to-English translation direction, close rendition remains the most frequent rendition type (see Examples 38 and 39): it represents 95% of the translations and 69% of the interpretations. Zero and divergent renditions are not found in translation and are quite rare in interpreting (4% and 2%, respectively).

38. *(FR)* Bougez, donnez, montrez aux Tunisiens que maintenant la realpolitik, c'est la ***politique de soutien à la démocratie*** et non plus à la structure de la dictature. → *(EN)* Move, do something, give, show to the Tunisians that realpolitik now is a ***policy of supporting democracy*** and not for supporting dictators' structures. *(interpreting, close rendition)*
39. *(FR)* L'Union européenne doit suivre le processus électoral, veiller à ce qu'une ***commission d'enquête indépendante*** fasse toute la lumière sur ce qui s'est passé, sur les violences et la corruption. → *(EN)* The European Union must monitor the electoral process and make sure that an ***independent investigating committee*** sheds full light on what has happened – on the violence and the corruption. *(translation, close rendition)*

When comparing both translation directions, it can be noted that translators make use of close renditions in ca 95% of cases. They sometimes rely on expanded renditions and, rarely, on reduced renditions (see Examples 40 to 43), but there are no occurrences of zero or divergent renditions. Having more time to translate than interpreters, they can think carefully about the appropriate equivalent in the case of problematic source noun concatenations. By contrast, interpreters, who work under strict time constraints, are more prone to mistranslate or even omit a

passage (Ghiselli, 2018; Lefer & De Clerck, forthc.). In both translation directions, close and reduced renditions (see Examples 33, 38, 44 and 45) are the two rendition types that occur the most frequently in interpreters' output. My data therefore confirm those of Lefer and De Clerck (forthc., p.8, my translation): "The tendency to simplify noun sequences is much clearer in interpreting than in translation". Finally, noteworthy is that interpreters produce more divergent renditions when translating into French than into English (13% vs. 2%). English-to-French interpreting thus results in more misinterpretations than French-to-English interpreting. We might wonder whether the problem lies in the source language decoding or in the target language encoding: are English noun concatenations more difficult to process than French noun concatenations? Or does translating noun concatenations into French tend to cause more semantic shifts?

40. *(EN)* As a ***founder member of SMUG, Sexual Minorities Uganda***, he was condemned by a magazine called Rolling Stone, and won his case against them. → *(FR)* En tant que ***membre fondateur de l'organisation Sexual Minorities Uganda (SMUG)***, il a été condamné par un tabloïd appelé Rolling Stone, et a gagné son procès contre lui. *(translation, expanded rendition)*
41. *(FR)* Cette décision est surprenante, vu le rayonnement international de cet Institut Pikler et les autorités administratives hongroises ayant annoncé leur ***volonté de continuité*** dans les fonctions de celle-ci. → *(EN)* This decision is surprising given the international influence of the Pikler Institute and the fact that the Hungarian administrative authorities have said that ***they want it to keep going***. *(translation, expanded rendition)*
42. *(EN)* And, from an Irish beef farming perspective, you will decimate our livestock sector, a ***low income sector***. You will destroy our environment. → *(FR)* Dans le cas de l'élevage bovin irlandais, vous décimerez notre

secteur du bétail, qui est ***peu rentable***, et détruirez notre environnement. *(translation, reduced rendition[20])*

43. *(FR)* Aujourd'hui, certes, les choses sont encore difficiles et il peut y avoir ***valeur d'exemple*** pour le Maghreb dans ce qui se passe là-bas. → *(EN)* Things are still difficult today, it is true, and what is happening in the country may provide a good ***example*** for the Maghreb region. *(translation, reduced rendition)*
44. *(EN)* I have come to the view, having thought about it long and hard, that ... f- food security is a very important aspect ... of our ... ***global population growth***. → *(FR)* En effet après y avoir longuement réfléchi … il me semble que la sécurité alimentaire … revêt un aspect fondamental dans le cadre de la … ***croissance de la population***. *(interpreting, reduced rendition)*
45. *(FR)* Ce pays ACP bénéficie d'un accès préférentiel au marché européen, c'est-à-dire d'une exonération totale des droits de douane sur les ***conserves de thon*** qu'il exporte sur notre marché. → *(EN)* This country gets a privileged access to European markets, no customs duties at all on ***tuna*** exported here. *(interpreting, reduced rendition)*

6.3 The case of zero renditions

Whether in the English-to-French dataset or in the French-to-English dataset, it can be noticed that all the omissions are performed by interpreters. Tables 11 and 12 include the omitted source noun concatenations.

Source noun concatenation	Lexicalisation	Relative frequency in Europarl7
Car insurance	Yes	0.4
Food security	Yes	0.02
Irish beef farming perspective	No (beef farming = No)	0.02 (beef farming = 0.03)
Low income sector	No (low income = Yes)	0.02 (low income = 0.87)
Climate change consistency	No (climate change = Yes)	0.02 (climate change = 129.53)
Centre stage	Yes	2.44

Table 11 – Omitted source noun concatenations (English-to-French interpreting)

[20] In this example, I assume that the translator produced a reduced rendition in order to avoid the repetition of the word *secteur*. In English, conversely, the word *sector* does appear twice.

Source noun concatenation	Lexicalisation	Relative frequency in Europarl7
Espoir de liberté	No	0.06
Terrain de football	No	0.15
Création de nouveaux cycles de gouvernance économique	No (cycles de gouvernance économique = No) (gouvernance économique = Yes)	0.02 (cycles de gouvernance économique = 0.02) (gouvernance économique = 16.25)
Petit coup de pouce	No (coup de pouce = Yes)	0.21 (coup de pouce = 1.88)

Table 12 – Omitted source noun concatenations (French-to-English interpreting)

In total, I have identified ten zero renditions. Nine out of the ten source noun concatenations are low-frequency items in Europarl7 (frequency lower than 1 per million tokens) and seven are non-lexicalised in the SL.

As mentioned in Section 6.2, the time constraints inherent in interpreting play a major role in the presence of omissions in interpreters' output. Since interpreters feel pressed for time, in the case of complicated source elements, they are more prone to omit them in order not to lose the thread of the source speech. As pointed out by Ghiselli (2018, p.8), if the source speech is dense informationally, interpreters are more likely to forget some elements during the interpreting process. Omissions may thus be considered as evidence of interpreters' high cognitive load.

6.4 The case of reduced renditions in interpreting

The assumptions made in Section 6.3 may also apply in those cases where the interpreter relies on a reduced rendition while the translator uses a close rendition for the same concatenation (see Appendices 6 and 7).

A close look at the data reveals that, in several cases, adjectives are omitted in interpreting (e.g. ***draconian*** *maternity leave → congé maternité*; ***global*** *population growth → croissance de la population*; ***principal*** *élément de démocratie → democratic element*; *décisions* ***de base*** *→ decisions*; ***nouvelles*** *autorités de supervision financière → financial supervisory authorities*). Since the omission of

an adjective does not impede general understanding (Ghiselli, 2018, p.8), we may wonder whether this deletion is a deliberate translation strategy[21] (Gile, 1995), to relieve cognitive load, or not. Indeed, as Sunnari (1995, as cited in Ghiselli, 2018, p.8) points out, "expertise means knowing what can be left out without losing key ideas of the text". A study on adjectival vulnerability to deletion could be an interesting avenue for future research.

The reduced rendition of source noun concatenations such as *father of the Ugandan human rights movement*, *véritable instrument de partenariat de développement*, *situations de crise et de catastrophe naturelle*, *nouvel instrument de supervision du secteur financier* and *questions de gouvernance et de déséquilibre macro-économique* (Examples 46 to 50) supports Barbafina's (2003, as cited in Ghiselli, 2018), Ghiselli's (2018), and Lefer and De Clerck's (forthc.) conclusions: long noun sequences increase informational density and constitute stumbling blocks for interpreters.

46. *(EN)* The case of David Kato is an example of that. He was a man who was the regarded as the ***father of the Ugandan human rights movement***. A ***founder member of SMUG, Sexual Minorities Uganda***, condemned by a magazine called Rolling Stone, won his case against them. → *(FR)* Et ehm le meurtre de David Kato en est un symbole. Voilà un homme qui était ***militant***, un ***fondateur*** ehm ***de SMUG*** ehm qui a été condamné ehm par un magazine Rolling Stone. *(interpreting, reduced renditions)* [close renditions: père du mouvement ougandais des droits de l'homme // membre fondateur de Sexual Minorities Uganda (SMUG)]
47. *(FR)* Comment ne pas voir là l'illustration de ce que dénoncent, dans le Pacifique comme en Afrique, les acteurs de la société civile, à savoir qu'un certain nombre de pays ACP ont été contraints de signer des accords individuels faute de la Co- faute de la part de la Commission de v- d'avoir su faire des APE un ***véritable instrument de partenariat de développement*** ? → *(EN)* So this is obviously ehm something which civil

[21] According to Gile (1995, p.82, my translation, my emphasis), in simultaneous interpreting, "some omissions are **strategic** and may be considered legitimate".

society in Asia has and Africa have condemned the fact that some individual countries have been forced to sign agreement by the Commission. And because of the fact that th- the Commission haven't really managed the EPPs EPAs into a ***development instrument***. *(interpreting, reduced rendition)* [close rendition: genuine instrument of development partnership]

48. *(FR)* Les religions n'ont pas seulement l'obligation, mais aussi la compétence nécessaire pour intervenir rapidement dans les ***situations de crise*** et de c- ehm ***et de catastrophe naturelle***. J'invite le rapporteur à proposer un amendement oral pour reconnaître l'utilité et l'efficacité des acteurs qui fondent leur travail sur la foi chrétienne. → *(EN)* These people have ehm we we need to have a the the ability to ehm intervene in ***times of natural disaster***. I call on the rapporteur to accept an oral amendment to recognize the usefulness of those who are working under the banner of their Christian faith. *(interpreting, reduced rendition)* [close rendition: crisis and natural disaster situations]
49. *(FR)* Ainsi, notre Union s'est-elle dotée d'un ***nouvel instrument de supervision du secteur financier*** qui devrait lui éviter, espérons-le, la réédition de crises comme celle dont nous peinons encore à sortir. → *(EN)* Thus, it is that our Union has equipped itself with surprisingly ***new bodies for the financial sector*** which we all hope will help us stave off any recounts of the crisis we have just seen. *(interpreting, reduced rendition)* [close rendition: new instrument for the supervision of the financial sector]
50. *(FR)* Alors que les ***questions de gouvernance et de déséquilibre macro-économique*** sont également des questions mondiales, qu'on les discute notamment au G20, comment pourrions-nous rester crédibles et influents auprès de nos partenaires internationaux si nous n'étions même pas capables de les résoudre au niveau européen ? → *(EN)* So, if we are looking at ***economic imbalances and*** ehm ***economic governance***, we are going to ehm have to ensure that we remain credible and influential among our international partners. And how would that be possible if we can't even solve the problems at the European level? *(interpreting, reduced*

rendition) [close rendition: issues of governance and macro-economic imbalance]

It is also interesting to notice that in *ce type de munitions* (rendition of *cluster munitions*, see Example 51), the interpreter tried to compensate for the substantial loss of information (perhaps did he not know the exact French equivalent?) with the demonstrative determiner *ce* and the indefinite modifier *type* (see Ghiselli, 2018, p.7). From the context, we can indeed infer that the interpreter did not use *ce* with the aim of avoiding repetition: the notion of *cluster munitions* was not mentioned earlier in the source speech.

51. *(EN)* And there are those who think that hawkish Thai generals are using it to as an excuse to overthrow the government and to to cancel proposed elections for later this year. Be that as it may, this dispute, particularly looked at from a distance, should be solvable. It is not a major dispute and particularly I think, if the United Nations ... uses its mandate and its influence to bring about 3 things. One, an agreement to end ***cluster munitions***, two, to bring about a permanent ceasefire and if necessary, three, to deploy troops to oversee that ceasefire. → *(FR)* On interprète ehm de façon différente le temps qu'il choisit et certains pensent que ces militaires ehm veulent ehm l'utiliser comme prétexte ehm pour annuler ehm les élections prévues pour le début de l'année mais cette différend devrait pouvoir être résolu surtout si l'on voit les choses d'ici ce n'est pas un grand conflit surtout si les Nations unies ehm utilisent leur mandat pour faire appliquer 3 choses. D'abord, un accord pour mettre un terme à l'utilisation de ***ce type de munitions***. Deux, un cessez-le-feu et ensuite la le déploiement de troupes pour surveiller le cessez-le-feu. *(interpreting, reduced rendition)* [close rendition: sous-munitions]

6.5 Same equivalents in interpreting and translation: trends and observations

Appendices 8 and 9 display all the source noun concatenations that led to the same TL equivalents in interpreting and translation.

In total, 25 English noun concatenations and 41 French noun concatenations led to the same TL equivalents in translation and interpreting. This accounts for 41% of the English-to-French dataset and 46% of the French-to-English dataset. It should be noted that all these equivalents are **close renditions**, with the exception of *helping hand* (for *petit coup de main*) and *example* (for *valeur d'exemple*), which are reduced renditions.

The source noun concatenations leading to the same renditions in the two modalities are mainly short sequences (English NN core pattern or French NprepN core pattern), which are all lexicalised (Examples 52 to 54). This corroborates Lefer and De Clerck's (forthc., p.9) findings. When the source sequences are rather long (i.e. expanded patterns, see Sections 5.2 and 6.1) and ad hoc, they do contain lexicalised elements (e.g. *system of tax neutrality*, *next debt crisis*, *fonds d'investissement alternatifs*, *accords de partenariat économique intérimaires*). Therefore, I can conclude that **lexicalisation** is the main driving force behind the similar renditions in the two modalities. If the source noun concatenations are lexicalised, it can be assumed that interpreters and translators have memorised their equivalents over time.

52. *(EN)* I do not need to debate now why Israel is our ally, why it shares our common democratic values, why the ***security wall*** has actually reduced terrorist attacks and suicide bombers by over 90 percent, or why Israel has a free press and has free elections, unlike any of its neighbours. → *(FR)* Je ne veux pas maintenant entamer un débat sur pourquoi Israël est notre allié allié et partage nos valeurs démocratiques, pourquoi le ***mur de sécurité*** a réduit les attaques terroristes de 70 pour cent et pourquoi Israël a une ehm presse libre et des élections libres contrairement à ses voisins. *(interpreting)* // Il n'est pas nécessaire de débattre aujourd'hui des raisons qui font qu'Israël est notre allié, que le pays partage nos valeurs démocratiques communes, que le ***mur de sécurité*** a, de fait, réduit les attaques terroristes et les attentats suicides de plus de 90 pour cent, ou qu'Israël a une presse

libre et organise des élections libres, contrairement à n'importe lequel de ses voisins. *(translation)*

53. *(EN)* It was ironic because his next sentence was "and that is why in Europe, facing the euro crisis, we must reinforce the ***Community method***". → *(FR)* Et vous vous avez dit et c'est pour cela que en Europe face à la crise de l'euro nous devons renforcer la ***méthode communautaire***. *(interpreting)* // L'ironie réside dans sa phrase suivante, je cite: « et voilà pourquoi en Europe, face à la crise de l'euro, nous devons renforcer la ***méthode communautaire*** ». *(translation)*
54. *(FR)* La stratégie adoptée consiste en permanence à rassurer les créanciers des États surendettés en raison de la baisse de la fiscalité du capital et du recul de la croissance dû à la baisse du ***pouvoir d'achat*** et à l'austérité […]. → *(EN)* Now, the strategy adopted consists of reassuring the creditors of the offer indebted... estates, a drop in growth because of a drop in ***purchasing power*** and austerity […]. *(interpreting)* // The strategy adopted continuously entails reassuring the creditors of Member States that are heavily indebted because of a reduction in taxation on capital and a decline in growth due to a fall in ***purchasing power*** and austerity […]. *(translation)*

I have identified only a few exceptions to this lexicalisation trend: *proposition de convention*, *mouvement de fond*, *crises à répétition*, *valeur d'exemple*, *mécanismes de plaintes*, *euro crisis* and *service liberalisation*. None of these concatenations is frequent in the SL (frequency lower than 1 per million tokens). Hence, it can be argued that high **frequency** is not the reason why, despite their being non-lexicalised according to the criteria adopted in this study, they led to the same TL equivalents. Concerning *crises à répétition* and *mouvement de fond* (Examples 55 and 56), however, it is important to acknowledge that *à répétition* and *de fond* are two noun post-modifiers that occur frequently in French.

55. *(FR)* Madame la Présidente, monsieur le Commissaire, on peut faire état d'un certain ras-le-bol par rapport à ces ***crises à répétition***, dont une en

Belgique en 1999, très similaire à la crise actuelle et qui fut une crise à grand[e] échelle. → *(EN)* Thank you ehm Commissioner ehm I think that you can see that we're fed up with this ehm ***repeated crisis***. We had one in Belgium in 1999. It's very similar to this one ehm only bigger […]. *(interpreting)* // Madam President, Commissioner, one may note a certain exasperation in relation to these ***repeated crises***, of which there was one in Belgium in 1999, a large-scale crisis very similar to the current one. *(translation)*

56. *(FR)* Le mouvement auquel nous assistons est en réalité un ***mouvement de fond***. → *(EN)* […], so we are we are seeing a ***groundswell***. *(interpreting)* // The movement which we are witnessing is, in fact, a ***groundswell***. *(translation)*

6.6 Analysis of calques

For ease of reference, the hypotheses tested in this study are summarised again below (see Section 3.4 for a detailed discussion):

1) Interpreters use more calques than translators. In this study, this implies that:
   - English NN units will often be interpreted with NprepN units in French, whereas translators will rather opt for patterns such as NA.
   - When translating into English, interpreters will tend to reproduce the French NprepN pattern instead of reordering the noun constituents into a NN pattern. On the other hand, translators will tend to translate the French NprepN units with NN units, which are more typical of English. They will be less prone to being influenced by the French pattern containing a preposition.
2) Nonce formations generate more calques than lexicalised units.
3) Infrequent, rare compounds and multi-word terms generate more calques than high-frequency items.

Sections 6.6.1, 6.6.2 and 6.6.3 test each of the three hypotheses, while Section 6.6.4 addresses the concept of *calque cline*, which, to the best of my knowledge, has not been discussed in the literature yet.

6.6.1 Hypothesis 1

Appendices 10 and 11 display all the source noun concatenations that led to calques of pattern and/or lexical calques in interpreting and/or translation. As a reminder, a calque of pattern occurs when the pattern, i.e. the syntactic structure, of a source language noun concatenation is copied during the translation process (see Section 3.4). On the other hand, a lexical calque "respects the syntactic structure of the TL, whilst introducing a new mode of expression" (Vinay & Darbelnet, 1995, p.32; see Section 2.1.1).

The two following tables summarise appendices 10 and 11:

	Interpreting	**Translation**
Number of calques of pattern	29	38
Number of lexical calques	2	1
Total number of calques	31	39

Table 13 – Number of calques in English-to-French translation and interpreting

	Interpreting	**Translation**
Number of calques of pattern	27	31
Number of lexical calques	0	0
Total number of calques	27	31

Table 14 – Number of calques in French-to-English translation and interpreting

In total, 66% of the English source noun concatenations and 41% of the French source noun concatenations led to calques of pattern. This suggests that the English-to-French translation direction generates more calques.

The figures in Tables 13 and 14 invalidate my first hypothesis: there are slightly more calques, mostly calques of pattern, in translation than in interpreting (39 vs. 31 in the English-to-French direction and 31 vs. 27 in the French-to-English

direction). Nevertheless, these figures are somewhat misleading. If there are fewer calques in interpreting, it is because interpreters, unlike translators (who produced close renditions ca 95% of the time), made use of several translation methods (see Examples 57 to 60): zero, divergent and reduced renditions (see Section 6.2 for the proportion of each rendition type). As can be seen in my Excel datasets, almost all calques are found among the close renditions. Therefore, the fact that this rendition type occurs less often in interpreting prevents the potential occurrence of calques.

57. *(EN)* For example if there is a victim of the support office that it's easily acce- accessible that we have individuals who help in the hospital in the ***police cell*** with the court system. → *(FR)* Par exemple un bureau d'aide aux victimes ehm facilement accessible avec des personnes qui les aideraient à l'hôpital à la ***police*** au tribunal. (*divergent rendition*) [close rendition: cellule de détention]
58. *(EN)* The case of David Kato is an example of that. He was a man who was the regarded as the ***father of the Ugandan human rights movement***. A founder member of SMUG, Sexual Minorities Uganda, condemned by a magazine called Rolling Stone, won his case against them. → *(FR)* Et ehm le meurtre de David Kato en est un symbole. Voilà un homme qui était ***militant***, un fondateur ehm de SMUG ehm qui a été condamné ehm par un magazine Rolling Stone. (*reduced rendition*)
59. *(FR)* Nous avons une responsabilité, nous tous ici, parce qu'enfin... des Tunisiens, donc une partie du monde arabe, nous montrent que l'***espoir de liberté*** qui qu'on a vu en '89 dans les pays de l'Est, ce même espoir est aujourd'hui en train de naître dans un pays comme la Tunisie […]. → *(EN)* We have to show there are responsibilities , all of us here. Because when it comes down to it, the Tunisians and their by-parts of the Arab world is showing us, as we saw in 89 in the East of Europe, the same spirit is blowing through and inspiring Tunisia […]. (*zero rendition*)
60. *(FR)* Comment ne pas voir là l'illustration de ce que dénoncent, dans le Pacifique comme en Afrique, les acteurs de la société civile, à savoir qu'un

certain nombre de pays ACP ont été contraints de signer des accords individuels faute de la Co- faute de la part de la Commission de v- d'avoir su faire des APE un ***véritable instrument de partenariat de développement***? → *(EN)* So this is obviously ehm something which civil society in Asia has and Africa have condemned the fact that some individual countries have been forced to sign agreement by the Commission. And because of the fact that th- the Commission haven't really managed the EPPs EPAs into a ***development instrument***. (*reduced rendition*)

Furthermore, interpreters sometimes chose not to render source sequences with noun concatenations. Instead, they opted for verbs and paraphrases (see Examples 61 to 63), which, again, prevented them from producing calques.

61. *(FR)* Si nous voulons que cet accord permette la ***mise en place d'un commerce du bois*** réglementé, transparent, respectueux de l'environnement, au bénéfice des populations locales et non plus de quelques groupes plus ou moins légaux, l'Union européenne doit faire en sorte que les droits des populations locales et indigènes soient pleinement respectés, leur participation dans les consultations effective. → *(EN)* If we want this agreement to make it possible to ehm ***put in place a*** regulated ehm and transparent ehm ***timber trade***, which is respectful of the environment and helps the local people and not just a few ehm groups that are more or less in line with the law, then the European Union must make sure that the rights of the local and indigenous people are respected to the full and that they participated really in consultation.
62. *(EN)* And they are not joining willy-nilly. They are joining be- as a result of a a ***very rigorous accession process*** and Croatia has made much progress in that regard. → *(FR)* […] il est assez paradoxe que certains pays font la queue pour adhérer à l'Union européenne, et la ehm C- Croatie est là un cas de figure. Et et ehm ***ce processus*** ehm ***est caractérisé par*** ehm ***de longues négociations***.

63. *(EN)* We, in return, put 60 to 70 billion ... European taxpayers' moneys ... into ... developing countries for ***poverty elimination programmes***. → *(FR)* En retour … nous mettons 60 à 70 milliards ehm d'argent des contribuables européens que nous injectons dans les économies des pays en développement pour ***lutter contre la pauvreté***.

Table 15 includes cases where the translator relied on a calqued noun concatenation, while the interpreter made use of a non-calqued noun concatenation[22].

SL speech	TL interpreting	TL translation
Deuxièmement, le le gouvernement de transition n'est pas un ***gouvernement d'unité nationale***.	Secondly, the transitional government is not a ***national unity government***.	Second, the transitional government is not a ***government of national unity***.
Tant que, dans ces pays-là, le seul ou principal ***élément de démocratie***, ce sera le vote pour le Président, on le voit bien, l'histoire de la Côte d'Ivoire malheureusement nous le rappelle, on n'avancera pas suffisamment.	So, in these countries, the the only ***democratic e- element*** will the only democratic opportunities to vote in presidential elections and and, as we can see for example, Cameroon went last to make its efficient progress.	As long as the only or the main ***expression of democracy*** in those countries is the vote to elect the president, then as we have seen – as the history of Côte d'Ivoire unfortunately reminds us – we will not make sufficient progress.
J'espère que, pendant ce semestre, le Parlement européen et le Conseil adopteront les ***propositions de***	I hope that over the semester, the Parliament and the Council will adopt the ***economic governance proposals***...	I hope that, during this 6-month period, the European Parliament and the Council will adopt the ***proposals on economic***

[22] Here I have only looked at close renditions in order not to skew the results. As explained above, a reduced rendition, for example, inherently prevents the potential occurrence of calques.

gouvernance économique.		***governance***.

Table 15 – Cases of calqued noun concatenations in translation (and non-calqued noun concatenations in interpreting)

The TL equivalents displayed above are of equal value: the calques do not sound less natural in the TL. *National unity government* and *government of national unity* appear as such in IATE. Then, *democratic element* and *expression of democracy* both have a frequency of 0.16 pmw. Finally, *economic governance proposals* and *proposals on economic governance* also occur with similar frequency in Europarl7 (0.1 and 0.2 pmw, respectively). In my datasets, there are thus three cases where the translator is the only one who opts for a calque. The reversed scenario, however, happens eight times (see Table 16).

SL speech	TL interpreting	TL translation
We have equal e- equal opportunities for car insurance now due to another lunat- lunatic ehm judgment by European Court, which means if young women even could afford ehm could get a job, they couldn't afford to drive to it ... because they've just had their ***car insurance*** doubled.	Alors franchement … nous avons affaire à de nombreux verdicts complètement fous de la Cour de justice ce qui fait ehm ce qui fait qu'en fait ehm les femmes n'arrivent même pas à aller à leur travail tout simplement parce que l'***assurance de leur voiture*** est le double de ce que serait celle d'un homme.	Vous avez à présent l'égalité des chances en matière d'assurance automobile grâce à un autre arrêt de la Cour européenne, ce qui signifie que même si les jeunes femmes trouvaient un emploi, elles ne pourraient pas se permettre de s'y rendre en voiture parce qu'elles viennent juste de voir leur ***assurance automobile*** doubler.
I have come to the view, having thought about it long and hard, that ... f- food security is a very	En effet après y avoir longuement réfléchi … il me semble que la sécurité alimentaire … revêt un	Après mûre réflexion, j'en suis arrivé à considérer la sécurité alimentaire comme une facette

important aspect ... of our ... global ***population growth***.	aspect fondamental dans le cadre de la … ***croissance de la population***.	fondamentale de notre ***croissance démographique*** globale.
Il n'y a pas une ***base de démocratie***. La liberté d'expression, les médias, les radios, la télévision n'existent pas.	There's no ***basis for democracy***. The freedom of expression, the freedom of the media, the television, these do not exist […].	No ***democratic basis*** exists in the country. There is no freedom of expression, and the media, radio and television are not free.
L'Union européenne doit suivre le processus électoral, veiller à ce qu'une ***commission d'enquête*** indépendante fasse toute la lumière sur ce qui s'est passé, sur les violences et la corruption.	The European Union has to follow the electoral process to see to it that it can- independent ***committee of inquiry*** shows what has been done in terms of violence and corruption.	The European Union must monitor the electoral process and make sure that an independent ***investigating committee*** sheds full light on what has happened – on the violence and the corruption.
La présence des chrétiens partout est un ***facteur d'équilibre***, il faut donc absolument la défendre.	[…] the presence of Christians everywhere is a ***factor for balance***. ehm so we absolutely have to defend their rights.	The presence of Christians everywhere is a ***balancing factor***. Therefore, we really must defend it.
Les religions n'ont pas seulement l'obligation, mais aussi la compétence nécessaire pour intervenir rapidement dans les ***situations*** de crise et de c- ehm et ***de catastrophe naturelle***.	These people have ehm we we need to have a the the ability to ehm intervene in ***times of natural disaster***.	Religions have not just the obligation, but also the competence necessary to intervene rapidly in crisis and ***natural disaster situations***.
C'est un instrument important à côté de toutes les ***réformes***	This is an important instrument alongside all the ***reforms of economic***	It is an important instrument alongside all the ***economic***

de gouvernance économique et j'espère que la Belgique pourra, elle aussi, contribuer à le faire avancer plus vite et plus fort.	***governance*** and I hope that Belgium will be able to contribute to moving forward more quickly and more strongly.	***governance reforms*** and I hope that Belgium may also contribute to moving the process forward more quickly and more strongly.
Toutes les réponses à ces questions figurent désormais dans le ***projet de directive***.	The answers to all these questions can henceforth be found in the ***proposal for a directive***.	All the answers to these questions now appear in the ***draft directive***.

Table 16 – Cases of calqued noun concatenations in interpreting (and non-calqued noun concatenations in translation)

As can be seen above, translators favoured target-like structures, such as the use of adjectives (in French) and NN patterns (in English), while interpreters relied on calques of pattern. Indeed, in the third column, we notice the influence of the English NN pattern in French (e.g. *car insurance* → *assurance de leur voiture*; *population growth* → *croissance de la population*) and the use of the French NprepN construction in English (e.g. *basis **for** democracy*, *factor **for** balance*, *proposal **for** a directive*).

To conclude, we have seen that calques of pattern occur frequently in interpreting and in translation. Despite the (misleading) figures in Tables 13 and 14, the qualitative analysis presented in this section indicates that **translators are less influenced by SL patterns** than interpreters.

In this section, I have mainly discussed calques of pattern. It should however be pointed out that lexical calques are sometimes added to calques of pattern[23], as illustrated in Examples 64 to 66. Note that no lexical calque was identified in the French-to-English direction.

[23] In the following examples, lexical calques are in bold and calques of pattern are underlined.

64. *(EN)* And my question is, in that context, could the Commission endorse other measures such as loan-guarantee schemes or indeed an extension of the EU microfinance ***facility***? → *(FR)* Et ma question est par conséquent la suivante : dans ce contexte, la Commission pourrait-elle soutenir des mesures telles que des garanties de prêt ou ehm une extension de la ***facilité*** d'investissement de l'Union européenne ? *(interpreting)*
65. *(EN)* As the Austrian economist Ludwig von Mises said that if you make those bad decisions and create malinvestment, when the submarket corrects itself, we all lose out and the credit ***cycle*** bursts. → *(FR)* Comme un économiste autrichien l'a dit, c'est ainsi que l'on crée de mauvais investissements et c'est ainsi que nous perdons tous dans le marché et que le ***cycle*** des crédits explose. *(interpreting)*
66. *(EN)* Under the current constitutional arrangements, a referendum must be held within 30 days of the ***contraction*** of the accession treaty. → *(FR)* Selon les dispositions constitutionnelles actuelles, un référendum doit se tenir dans les 30 jours suivant la ***contraction*** du traité d'adhésion. *(translation)*

6.6.2 Hypothesis 2

Appendices 10 and 11 show that 46 out of the 77 source noun concatenations that led to calques (interpretations and translations combined) are nonce formations: 22 out of 40 for the English-to-French dataset and 24 out of 37 for the French-to-English dataset. This goes some way towards validating my second hypothesis. Nonce, ad hoc formations do indeed generate more calques than lexicalised units. By way of illustration, see Examples 67 to 70 below. All the source noun concatenations are non-lexicalised in the SL.

67. *(EN)* Without his expertise, I do not think we would have got a satisfactory conclusion on the ***comitology issue*** – a particularly difficult sticking point towards the end of the negotiations. → *(FR)* Sans son expertise, je ne pense pas que nous aurions connu une conclusion satisfaisante sur la ***question de comitologie*** – un point particulièrement difficile à débloquer pour conclure les négociations. *(translation, calque of pattern)*

68. *(EN)* The challenge for us as policy-makers is how we ... increase p- food production in a sustainable way, produce more from less, how we manage our stocks, how we deal with this issue that the Commissioner has identified of ***stock dislocation***. → *(FR)* La production alimentaire doit se développer de façon durable en produisant davantage à partir de moins, en gérant … les stocks … sans avoir un … ***déplacement, détérioration des stocks***. *(interpreting, calque of pattern)* [note: divergent rendition // close rendition: répartition des stocks]
69. *(FR)* Ainsi, notre Union s'est-elle dotée d'un nouvel instrument de supervision du secteur financier qui devrait lui éviter, espérons-le, la ***réédition de crises*** comme celle dont nous peinons encore à sortir. → *(EN)* The Union has equipped itself with a new instrument for the supervision of the financial sector, which should hopefully prevent the ***re-emergence of crises*** like the one we are still struggling to extricate ourselves from. *(translation, calque of pattern)*
70. *(FR)* Nous avons dit que nous avions la volonté de le faire, nous devons maintenant montrer que nous sommes effectivement capables d'en tenir à nos engagements politiques, sans les diluer, sans faiblir et sans nous laisser leurrer par de timides ***signes de reprise***. → *(EN)* We need to show that we are genuinely capable to keep our political commitments without watering them down, without weakening, without being ehm confused by these first ***signs of recovery***. *(interpreting, calque of pattern)* [note: divergent rendition // close rendition: tentative signs of recovery]

6.6.3 Hypothesis 3

Figures 7 and 8 show the relative frequency ranges (i.e. frequency per million words) of the source noun concatenations that led to calques in interpreting and/or translation. Note that the total number of occurrences is included in each figure.

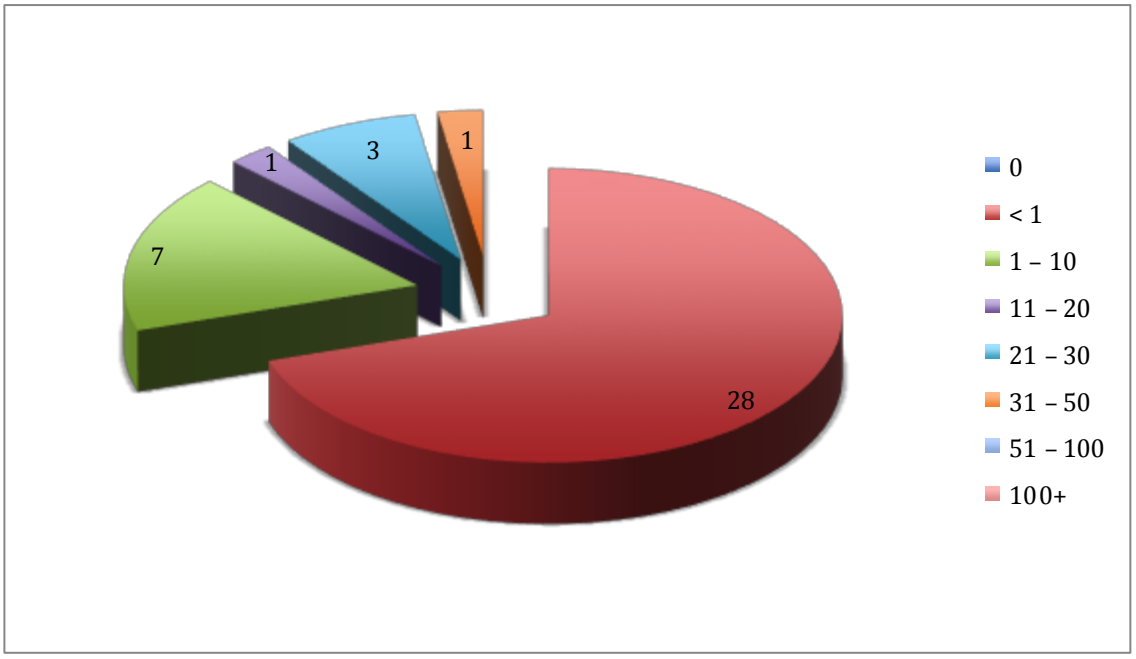

Figure 7 – Relative frequency ranges of the English source noun concatenations that led to calques in interpreting and/or translation

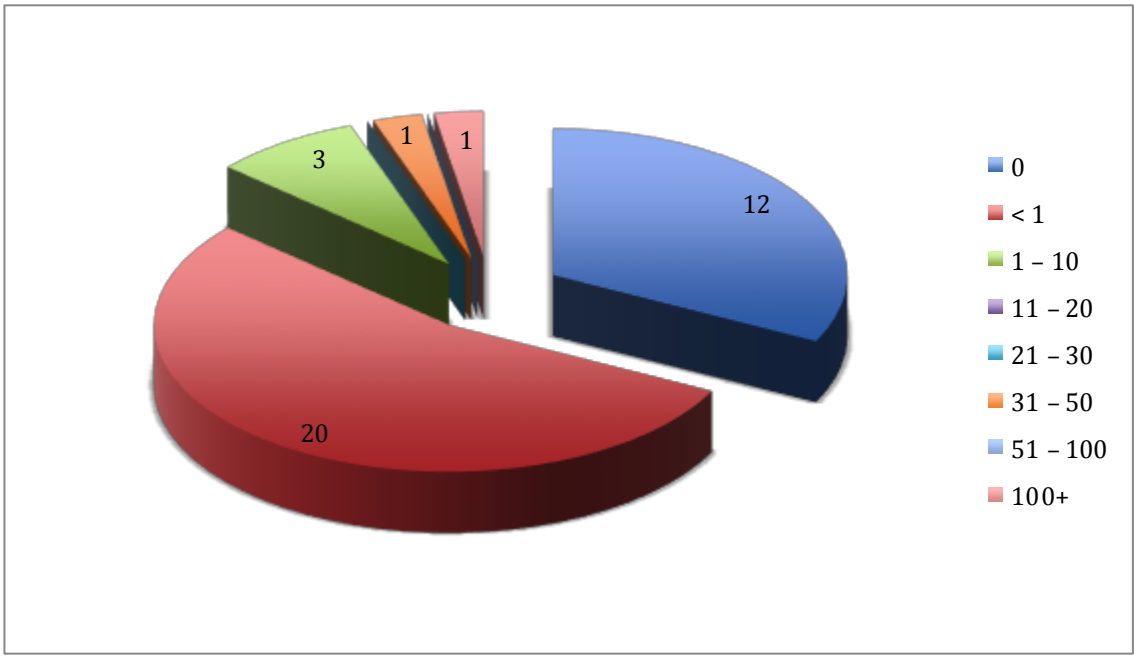

Figure 8 – Relative frequency ranges of the French source noun concatenations that led to calques in interpreting and/or translation

As displayed in Figures 7 and 8, the vast majority of the source noun concatenations that led to calques belong to the < 1 frequency range (see

Examples 71 and 72). This frequency range, which accounts for 59% of the English-to-French dataset and for 52% of the French-to-English dataset (see Figures 5 and 6), represents 70% of the English source noun concatenations and 54% of the French source noun concatenations causing calques. In addition, 32% of the French source noun concatenations leading to calques are even more rare in Europarl7 and belong to the 0 frequency range (see Example 73). This verifies my third hypothesis: infrequent compounds and multi-word terms do generate more calques than high-frequency items.

71. *(EN)* For many years, we've been telling the C- the islands of the Caribbean and other developing countries that they should diversify away from sugar and bananas and start to go up the ***value chain*** and start to get expertise when it comes to services. → *(FR)* Ça fait des années que l'on dit aux pays des Caraïbes et à d'autres pays en développement qu'ils doivent se diversifier par rapport au sucre et à la banane et qu'ils doivent essayer de participer ehm à la ***chaîne des valeurs*** et à se doter de d'expertises. *(interpreting, calque of pattern)* // Depuis des années, nous conseillons aux îles des Caraïbes et à d'autres pays en développement de diversifier leurs activités, en dehors du sucre et de la banane, de grimper les échelons de la ***chaîne de valeur*** et de renforcer leur expérience dans le secteur tertiaire. *(translation, calque of pattern)* [frequency of the source: 0.38 pmw]
72. *(FR)* Il a fallu qu'un jeune homme de 26 ans s'immole par le feu pour que le peuple tunisien se lève, qu'il n'ait plus peur, car il se sentait bien seul. L'***espoir de liberté*** y est né. → *(EN)* # young man, 26 years of age, to immolate himself for the people of Tunisia to raise themselves up. He wasn't afraid because he felt alone. The ***hope for freedom*** has been born. *(interpreting, calque of pattern)* // It took the self-immolation of a young man of 26 to make the Tunisian people rise up and no longer be afraid, because they felt quite alone. The ***hope of freedom*** has been born there. *(translation, calque of pattern[24])* [frequency of the source: 0.06 pmw]

[24] Note that the interpreter and the translator did not use the same preposition (*for* vs. *of*).

73. *(FR)* Vous savez que le Parlement vous a demandé ehm de de de d'intégrer ces enjeux dans les ***critères d'évaluation de durabilité des agrocarburants***. → *(EN)* […] because the Parliament asked you to integrate these issues into the a- ***assessment criteria when you are looking at sustainability of biofuels***. *(interpreting, one calque of pattern)* // As you know, Parliament has asked you to integrate these issues into the ***criteria for evaluating the sustainability of biofuels***. *(translation, two calques of pattern)* [frequency of the source: 0 pmw]

6.6.4 Calque cline

By analysing the datasets, I have found that the notion of calque is not static, but varies along a cline, as graphically displayed in Figure 9. The present section describes the calque cline and demonstrates how it can be used.

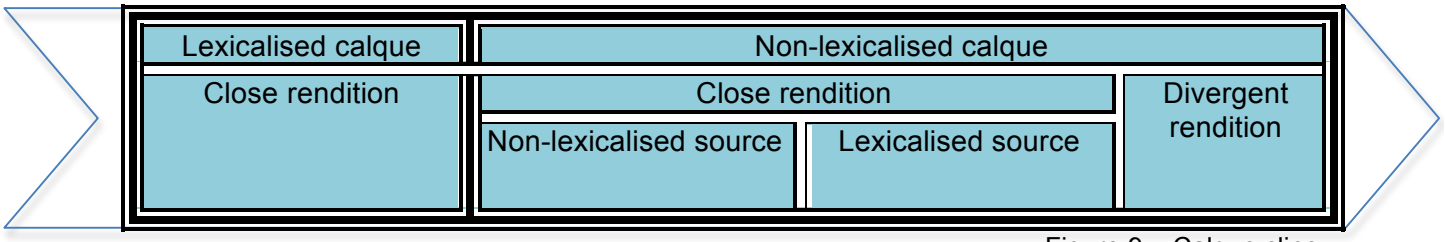

Figure 9 – Calque cline

As can be seen in the figure above, there are several levels of calques. The first one includes lexicalised calques. I have noticed in my datasets (see Appendices 12 and 13) that lexicalised calques are always close renditions.

In Example 74, *congé maternité* is a lexicalised calque of pattern. Indeed, it appears as such in IATE and the original NN sequence (*maternity* + *leave*) has been kept in French. In Example 75, *freedom of speech* is also a lexicalised calque of pattern. We can see the replication of the French NprepN sequence (*liberté* + *de* + *parole)*, and it is listed in IATE and in the Oxford English Dictionary. Both *congé maternité* and *freedom of speech* are close renditions since their propositional content is equivalent to that of the original (see Section 5.3.3 for the full definition). They do not cause any change in meaning. These two examples thus belong to the first level of calques (see Figure 9).

74. *(EN)* All that's happening with draconian ***maternity leave***, Madam, let me tell you, is that fewer and fewer young women in my country are getting jobs because you'd have to be stark staring mad to employ a young woman if you have a small business. → *(FR)* Ce qui se passe c'est que de moins en m- moins de jeunes femmes dans mon pays trouvent un travail tout simplement parce qu'il faudrait être complètement cinglé pour ehm engager une jeune femme dans une petite entreprise du fait du ***congé maternité***. *(interpreting)*
75. *(FR)* Et donc, sur la question du budget, mon avis est qu'on a sans doute manqué un peu d'audace en n'embrassant pas la proposition de convention qu'on aurait pu faire sur les ressources financières, mais le dossier des ressources propres est un dossier central dans les mois à venir et je compte beaucoup sur la Belgique – qui va récupérer, si je peux dire, une ***liberté de parole***, puisqu'elle ne représente plus l'ensemble des pays membres mais parle pour elle – pour faire avancer ce dossier. → *(EN)* Therefore, as regards the budget, my opinion is that we doubtless lacked boldness by not embracing the proposal for a convention we could have made on the financial resources, but the issue of own resources will be a central issue in the months ahead and I am very much counting on Belgium – which will recover, if you like, its ***freedom of speech***, since it no longer represents all the Member States but speaks for itself – to take this matter forward. *(translation)*

At the opposite end of the spectrum, there are non-lexicalised calques that cause divergent renditions. I have identified only two of them in my datasets but they are worth mentioning:

76. *(EN)* And my question is, in that context, could the Commission endorse other measures such as loan-guarantee schemes or indeed an extension of the ***EU microfinance facility***? → *(FR)* Et ma question est par conséquent la suivante : dans ce contexte, la Commission pourrait-elle soutenir des

mesures telles que des garanties de prêt ou ehm une extension de la ***facilité d'investissement de l'Union européenne*** ? *(interpreting)*

77. *(EN)* Under the current constitutional arrangements, a referendum must be held within 30 days of the ***contraction of the accession treaty***. → *(FR)* Selon les dispositions constitutionnelles actuelles, un référendum doit se tenir dans les 30 jours suivant la ***contraction du traité d'adhésion***. *(translation)*

In Examples 76 and 77, both the interpreter and the translator have been influenced by the source texts (*facility* and *contraction*). The French word *facilité* is used instead of *instrument* (a correct TL equivalent would be *extension de l'instrument de financement européen*) and *contraction* is used instead of *signature* (*signature du traité d'adhésion*). Such cases belong to the highest level of calques. Indeed, they alter the meaning of the original utterance and are likely to cause misunderstanding within the European Parliament. Note that, in both examples, the change in meaning is due to a lexical calque, and more particularly a false friend (Vinay & Darbelnet, 1995; Sewell, 2001; Van Roey, Granger, & Swallow, 1988). Presumably, calques of pattern do not imply such semantic changes.

Examples 78 and 79 are also instances of divergent rendition. The TL sentences contain no lexical calque but calques of pattern, since the English NN sequences have been kept in French (N**prep**N): *document* ***d'****opposition*, *détérioration* ***des*** *stocks*. In these cases, it should be noticed that the semantic change is not due to the use of calques, but to the wrong choice of words. Interpreters should have used, for example, *synthèse* instead of *opposition* and *répartition* instead of *détérioration*. Since, here, divergent rendition is not related to calques, Examples 78 and 79 cannot be placed at the end of the calque cline.

78. *(EN)* […] one of the crucial problems, and the Commission identified this in their ***position paper***, is that rising commodity prices, rising food prices are not and do not translate into higher farm incomes. → *(FR)* Un des

problèmes … essentiels que la Commission … a détecté dans son ***document*** de- … ***d' opposition***, c'est que l'augmentation des prix … agricoles ne se répercute pas … par une élévation du revenu des agriculteurs. *(interpreting)*

79. *(EN)* The challenge for us as policy-makers is how we ... increase p- food production in a sustainable way, produce more from less, how we manage our stocks, how we deal with this issue that the Commissioner has identified of ***stock dislocation***. → *(FR)* La production alimentaire doit se développer de façon durable en produisant davantage à partir de moins, en gérant … les stocks … sans avoir un … déplacement, ***détérioration des stocks***. *(interpreting)*

Between the two ends of the cline (Figure 9), there are non-lexicalised calques that render the meaning of the original utterance successfully (see Examples 80 to 84). They do not lead to semantic shifts or misinterpretations. Such calques are seen as appropriate depending on the situation.

80. *(EN)* […] which means if young women even could afford ehm could get a job, they couldn't afford to drive to it ... because they've just had their ***car insurance*** doubled. → *(FR)* ce qui fait ehm ce qui fait qu'en fait ehm les femmes n'arrivent même pas à aller à leur travail tout simplement parce que l'***assurance de leur voiture*** est le double de ce que serait celle d'un homme. *(interpreting)*
81. *(EN)* I don't need to have a debate now on why Israel is our ally, why it shares our common democratic values, why the ***security wall*** has actually reduced terrorist attacks, suicide bombers by over 90 percent, or why Israel has a free press and has free elections unlike any of its neighbours. → *(FR)* Je ne veux pas maintenant entamer un débat sur pourquoi Israël est notre allié allié et partage nos valeurs démocratiques, pourquoi le ***mur de sécurité*** a réduit les attaques terroristes de 70 pour cent et pourquoi Israël a une ehm presse libre et des élections libres contrairement à ses voisins. *(interpreting)*

82. *(EN)* We, in return, put 60 to 70 billion of European taxpayers' money into developing countries for ***poverty elimination programmes***. → *(FR)* En contrepartie, nous investissons de 60 à 70 milliards dans les pays en développement. Cet argent sort de la poche des contribuables européens et finance des ***programmes d'éradication de la pauvreté***. *(translation)*
83. *(FR)* La présence des chrétiens partout est un ***facteur d'équilibre***, il faut donc absolument la défendre. → *(EN)* […], the presence of Christians everywhere is a ***factor for balance***. ehm so we absolutely have to defend their rights. *(interpreting)*
84. *(FR)* L'accord obtenu au Conseil ECOFIN du 17 septembre dernier a permis la ***création de nouveaux cycles de gouvernance économique***, ce qu'on appelle le semestre européen. → *(EN)* The agreement obtained at the ECOFIN Council on 17th September resulted in the ***establishment of new cycles of economic governance***, known as the European Semester. *(translation)*

In Examples 82 and 84, the source noun concatenations (*poverty elimination programmes* and *création de nouveaux cycles de gouvernance économique*) are not lexicalised in the SL, but created ad hoc. They are formed by syntax. Therefore, we can also expect an ad hoc construction in the TL. The calques of pattern *programmes d'éradication de la pauvreté* and *establishment of new cycles of economic governance* are appropriate in this situation since they appear as the only solutions. There are no other equivalents that are lexicalised or attested in the TL.

Similarly, the non-lexicalised calque of pattern *mur de sécurité* appears as the only solution (Example 81), although *security wall* is lexicalised in English. No other equivalent is attested in French. Besides, the translator also opted for this rendition: “Il n'est pas nécessaire de débattre aujourd'hui des raisons qui font qu'Israël est notre allié, que le pays partage nos valeurs démocratiques communes, que le ***mur de sécurité*** a, de fait, réduit les attaques terroristes […]”.

In contrast, the lexicalised noun concatenation *car insurance* has been interpreted with the nonce formation *assurance de leur voiture* (Example 80), even though a lexicalised equivalent is available in the TL. *Assurance automobile*, which has been used by the translator (see Example 85 below), does not constitute a calque and appears both in IATE and in Le Grand Robert. To conclude, since there is a ready-to-use equivalent in the TL (*assurance automobile*), opting for an ad hoc construction such as *assurance de leur voiture* is not justified.

85. […], ce qui signifie que même si les jeunes femmes trouvaient un emploi, elles ne pourraient pas se permettre de s'y rendre en voiture parce qu'elles viennent juste de voir leur ***assurance automobile*** doubler. *(translation)*

Finally, in Example 83, the source noun concatenation (*facteur d'équilibre*) is listed in IATE but does not lead to any lexicalised equivalent in English. The interpreter suggested a calque of pattern, *factor for balance*, while the translator avoided calquing and opted for *balancing factor* (see Example 86). In Europarl7, there is no occurrence of *factor for balance*. *Balancing factor*, however, has a frequency of 0.12 pmw. Hence, the appropriateness of the interpreter's choice can be debatable since there is another solution available (*balancing factor*), which is slightly more fequent and avoids calquing.

86. The presence of Christians everywhere is a ***balancing factor***. Therefore, we really must defend it. *(translation)*

Note that the calque cline presented in this section (Figure 9) can be used to compare calques with each other. It could, for example, be argued that the translation *empreinte carbone* is preferable to the interpretation *empreinte CO2* (Examples 88 and 87). Both solutions are calques of pattern: they reproduce the English NN sequence. Nevertheless, since *empreinte carbone* is lexicalised, it belongs to the first level of the cline, whereas *empreinte CO2* belongs to the third level (i.e. it is a non-lexicalised calque that renders the original meaning sucessfully and has a lexicalised source). Similarly, one could prefer the

interpretation *tax on capital transactions* to the translation *tax on capital movements* (Examples 89 and 90), although both solutions convey the same meaning. Indeed, the first one is listed in IATE and thus belongs to the first level of the cline, while the second one belongs to the second level (i.e. a non-lexicalised calque of a non-lexicalised source). In more general terms, it can be argued that the lower the level, the less likely the calque is to be debatable.

87. *(EN)* The ***carbon footprint*** of Brazilian beef is four times that of Irish beef, so please read this report. → *(FR)* […] et ehm l'***empreinte*** ehm ***CO2*** du ehm bœuf ehm brésilien c'est quatre fois l'empreinte du bœuf irlandais. *(interpreting)*
88. *(EN)* The ***carbon footprint*** of Brazilian beef is four times that of Irish beef, so please read this report. → *(FR)* L'***empreinte carbone*** du bœuf brésilien est quatre fois plus élevée que celle du bœuf irlandais, donc je vous en prie, lisez ce rapport. *(translation)*
89. *(FR)* Par contre, vous avez en permanence refusé un débat sur la mise en place d'un fonds de développement social et environnemental, alimenté par une taxation des ***mouvements de capitaux***, par une harmonisation vers le haut de la fiscalité du capital, […]. → *(EN)* But you've refused a debate on the setting up of a social and environmental developmental fund fed by a ***tax on capital transactions*** via an upward harmonization of taxation, […]. *(interpreting)*
90. *(FR)* Par contre, vous avez en permanence refusé un débat sur la mise en place d'un fonds de développement social et environnemental, alimenté par une taxation des ***mouvements de capitaux***, par une harmonisation vers le haut de la fiscalité du capital, […]. → *(EN)* Yet you continuously refused to initiate a debate on the setting up of a social and environmental development fund financed by a ***tax on capital movements*** and the upward harmonisation of taxation on capital, […]. *(translation)*

In addition, the calque cline (Figure 9) can also explain the difference of opinion as to the use of calque (see Section 2.2). Scholars' position depends on which level

of the calque cline they look at. First of all, we have seen in Section 2.2 that Vinay and Darbelnet (1995) are quite reluctant to calques. They advise translators to use an already existing word or to neologise. They illustrate lexical calques as follows:

91. (EN) The man in the street → (FR) L'homme dans la rue
92. (EN) Compliments of the season → (FR) Compliments de la saison

Both translations belong to the fourth level of the calque cline: they are non-lexicalised calques causing divergent renditions. *L'homme dans la rue* (Example 91) totally changes the meaning of the original utterance. The equivalent *homme de la rue* should be used instead. Then, in Example 92, the French word *compliments* is a false friend of the English *compliments*. It should not be used in this context. Again, it causes misinterpretation. A more appropriate translation would be *bonnes fêtes de fin d'année*. Vinay and Darbelnet's negative position towards the use of calque is thus understandable since, as a translator, one could not approve a TL rendition that modifies the original meaning.

Pym, in turn, shows a more neutral view of calques. Unlike Vinay and Darbelnet, Pym (2016; 2018) does not address the semantic shifts that can be caused by calques. To illustrate his copying morphology translation solution, he uses the English *football*, which becomes *balompié* in Spanish, and the Spanish *rascacielos*, which becomes *skyscraper* in English. These examples are lexicalised close renditions (i.e. belonging to the first level of the cline). Then, he illustrates his copying fixed phrases category with examples from the second (Example 93) and third (Example 94) levels of the cline. Neither of these two examples is lexicalised. They are distinguished by their sources: the source of Example 94 is lexicalised, whereas that of Example 93 is not.

93. *Open mouth and lend voice to tongue* (understand "Tell me what you have to say") is used to imitate Latin syntactic and metaphorical structures (in the television series *Spartacus*)
94. (FR) Comme un chien dans un jeu de quilles → (EN) Like a dog in a game

of skittles

Likewise, Santoyo (1987) is in favour of calques. He distinguishes three types of calques: (1) those derived from a conceptual unit of generic reference, (2) those that reproduce a conceptual unit of specific reference, and (3) those that reproduce a conceptual unit with a metaphorical connotation (see Sections 2.1.3 and 2.1.4 for a detailed discussion). For each one of those, he proposes various examples (including 95 to 99), all belonging to the very first level of the calque cline. They are lexicalised calques that render successfully the meaning of the source.

95. (EN) Blacklist → (FR) Liste noire
96. (EN) Heavy water → (FR) Eau lourde
97. (SP) Producto nacional bruto → (EN) Gross national product → (FR) Produit national brut
98. (EN) Red Cross → (FR) Croix rouge
99. (EN) White house → (FR) Maison blanche

Finally, despite the difference of opinion depicted in Section 2.2, every scholar agrees that some calques may become standard and lexicalised in the TL: e.g. *poids mouche* for *flyweight* and *objet volant non identifié* for *unidentified flying object*. All these examples belong to the first level of the calque cline. No scholar calls the use of such calques into question. This mirrors the principle explained above: **the lower the level, the less likely the calque is to be debatable**.

Conclusion

The present dissertation contributes to translation and interpreting studies on three levels. The first contribution is theoretical. Even though the notion of calque is controversial in the literature, I could identify three recurrent defining criteria. Calques can be used in order to solve problems encountered during the translation process (1). Each element of the calque is translated literally from the ST (2), which results in an unprecedented combination of words in the TL (3). The construct of calque may thus cause a lack of idiomaticity in the TL. In very general terms, a calque is a translated item that reflects a loan process from the ST. It is the evidence of a local influence of the SL on the TL. Calque should hence be distinguished from borrowing and literal translation. For the purpose of my study, I have put forward a type of calque specifically related to noun concatenations: the calque of pattern. I define it as the process of copying the pattern, i.e. the syntactic structure, of a source language noun concatenation during the translation process. I have also created a data-informed calque cline, which graphically displays the variation of the notion of calque. This cline consisting of four levels can be used to compare calques with each other. It also helped me explain the difference of opinion as to the use of calque.

Secondly, from a descriptive point of view, my study provides four main findings. First of all, I have concluded that lexicalisation of the source is the main driving force behind the similar renditions in the two modalities. I have also noticed that all the same TL equivalents in translation and interpreting are close renditions. Then, the intial hypothesis that interpreters use more calques than translators is only partially confirmed in the data analysis from EPTIC. Indeed, a quantified analysis showed that slightly more calques were made in translation. However, the figures proved to be misleading and a qualitative analysis of the data eventually indicated that translators are less influenced by SL patterns than interpreters. The present study validates my second and third hypotheses: nonce formations do generate more calques than lexicalised units, and infrequent compounds and multi-word terms do produce more calques than high-frequency items. Finally, the data analysed in this dissertation suggests that the English-to-French translation

direction generates more calques than the other translation direction (66% vs. 41% of the source concatenations led to calques of pattern).

The third contribution is methodological. Just as Ferraresi (2016), Bernardini, Ferraresi and Miličević (2016), and Ferraresi and Bernardini (2019), I decided to compare translators' and interpreters' outputs. The intermodal nature of EPTIC has proved extremely rewarding in terms of the insights it can offer. Combining translation and interpreting data allowed me to investigate intermodal variation in the use of calques. In addition, it enabled me to compare, for each source noun concatenation, two TL equivalents. Whenever both of them constituted calques, I wondered which one was the most appropriate depending on the situation. I therefore came up with the idea of establishing an innovative cline for comparing calques with each other. Nevertheless, there are also downsides to such an intermodal approach. It created some difficulties while listing and analysing calqued interpretations. In my study, I have found out that, due to time constraints and high cognitive load, interpreters often make use of reduced, divergent and zero renditions in addition to close renditions. Since calques are mostly found among close renditions, I could identify only a few calqued interpretations and this somewhat skewed the figures regarding interpreters' and translators' use of calques.

Of course, the present study also has its own limitations. Because of its small-sized dataset, it offers no statistical treatment but a more qualitative, exploratory study. Furthermore, this dissertation analyses calques through the lens of only one phenomenon, i.e. noun concatenations. Another limitation is related to the very nature of EPTIC: since it is a single-genre corpus of parliamentary proceedings, all the data included in the study belong to the same register. Finally, only one language pair (but two translation directions) is examined.

In the light of the above-mentioned limitations, one could state that enlarging the empirical basis to other domains and registers is needed to develop a better understanding of the use of calque. Similarly, conducting research on calques

through the lens of structures other than noun concatenations would be valuable. Another aspect that has not been investigated here and that could contribute to a more fine-grained approach is the analysis of disfluences. In this way, we could explore the link between calques and interpreters' high cognitive load. For future research, it would also be of great interest to link the present study with cognitive translatology and test Halverson's (2017) revised gravitational pull model. On the basis of my analyses, I can assume that the force of the three cognitive sources of translational effects (*gravitational pull*, i.e. source language salience, *magnetism*, i.e. target language salience, and *connectivity*, i.e. cross-linguistic link strength) is distributed equally among translators and interpreters. As regards translators' and interpreters' use of calque, gravitational pull is a priori the predominant cognitive force. Indeed, it is defined as "a force that makes it difficult for the translator to escape from the cognitive pull of highly salient representational elements in the source language" (Halverson, 2017, p.14) and it is said to generate interference in translation. It would be interesting to examine empirically which cognitive forces cause translators and interpreters to calque (and to what extent). In addition, taking concatenated nouns and calques (and more particularly calques of pattern) as test cases for Halverson's (2017) model would be innovative and meaningful since there are very few empirical contributions focusing on structures above the morpheme or word level (Halverson, 2017, p.40).

Appendices

- Appendix 1 – A typology of translation solution types for many languages (cf. Pym, 2018, p.45)

Cruise mode (normal use of language skills, reference resources, parallel texts, intuition — anything prior to bump mode — so no special solutions are needed)		
Copying	Copying Words	Copying sounds Copying morphology Copying script …
	Copying Structure	Copying prosodic features Copying fixed phrases Copying text structure …
Expression Change	Perspective Change	Changing sentence focus Changing semantic focus Changing voice Renaming an object …
	Density Change	Generalisation / Specification Explicitation / Implicitation Multiple Translation…
	Resegmentation	Joining sentences Cutting sentences Re-paragraphing…
	Compensation	New level of expression New place in text (notes, paratexts) …
	Cultural Correspondence	Corresponding idioms Corresponding units of measurement, currency, etc. Relocation of culture-specific referents …
Material Change	Text Tailoring	Correction / censorship / updating Omission of material Addition of material …

- Appendix 2 – EPTIC's editing conventions (cf. Kajzer-Wietrzny & Ferraresi, 2019, pp.7-8)

Text Feature	Example	Editing convention
Punctuation		*Based on syntax and intonation*
Truncated words	propo	*propo-*
	pro posal	*proposal /pro_posal/*
Disfluencies	preposal	*proposal /preposal/*
	pròposal	*proposal /pròposal/*
	prooposal	*proposal /prooposal/*
	eventuare	*evitare eventuali /eventuare/*
Pauses	filled	*ehm*
	empty	...
Interrupted speech		...
Numbers	numbers	*in figures*
	326,000,000	*326 million/millions/milioni*
	326,000,000,000	*326 billion/milliards/miliardi*
	34%	*34 percent/pour cent/per cento*
	years	*in figures*
	fractions	*in words*
	ordinals	*figures+st/nd/rd/th/er/ère/ème/o/a or Roman numerals*
Unclear bits		*#*
Language switching		*#*
Calques/Made-up words	manganelle	*{manganelle}*
Applause		*{applause}*
Capitalisation		*Refer to Interinstitutional style guides, official websites or monolingual dictionaries*
	European Commission	*Commission/Commission/Commissione*
	parliamentary commission	*commission/commission/commissione*
	member of the European Commission	*Commissioner/Commissaire/Commissario*
	member of a parliamentary commission	*commissioner/commissaire/commissario*
Acronyms and non-personal names		*Refer to Interinstitutional style guides or official websites*
Titles		*Mr/Mrs/Ms/sir/madam monsieur/madame/mademoiselle signor/signore/signora/pan/pani*

❖ Appendix 3 – Summary of metadata to be submitted on SKEPTIC (cf. Kajzer-Wietrzny & Ferraresi, 2019, pp.24-25)

Event

- speaker name = e.g. Tavares Rui [selected from a drop-down list]
- source language = [language of the original speech]
- speaker is native = Y/N [native = the speaker speaks in his country's official language]
- date (YYYY-MM-DD)
- topic = e.g. politics [selected from a drop-down list]
- specific topic = e.g. order of business [copied from the EP website]
- delivery = impromptu/ mixed/ read

Speaker

- speaker name = e.g. Tavares Rui [copied from the EP website]
- gender = M/ F
- country = e.g. Portugal [selected from a drop-down list]
- political function = e.g MEP [selected from a drop-down list]
- political group = e.g. GUE-NGL [selected from a drop-down list]

Spoken Sources	Written Sources	Spoken Targets	Written Targets
• duration= e.g. 79 [in seconds] • alignment file(s)	• alignment file(s)	• interpreter gender = M/F • interpreter native = Y/N • interpreter id = [optional] • duration = e.g. 67 [in seconds] • alignment file(s)	• alignment file(s)

- Appendix 4 – Pedagogical activity 1: concordance analysis (cf. Ferraresi, 2016, p.50)

Read the Italian translated and interpreted versions of the following excerpts from EU Parliamentary speeches delivered in English, and comment on the choices that were made. Are there any choices that you consider inappropriate or infelicitous? How would you explain to the translator/interpreter why you disagree with their choices? Can you provide alternative renderings that you believe would improve the Italian texts?

a)
ST: I call on the Commission to ensure that there is a proper and exhaustive investigation into this problem.
Translated TT: Mi appello alla Commissione affin ché assicuri lo svolgimento di indagini adeguate ed esaurienti sulla questione.
Interpreted TT: Mi rivolgo alla Commissione per assicurare che effettivamente ci sia un'investigazione molto approfondita in merito.

b)
ST: It would be most unfortunate if the Pakistani authorities were to believe that they can resolve the Tasman Spirit case by detaining the crew.
Translated TT: Sarebbe deplorevole se le autorità pakistane credessero di poter risolvere il caso della Tasman Spirit tenendo in carcere l'equipaggio.
Interpreted TT: Sarebbe stato un vero peccato se le autorità pakistane credessero veramente di poter risolvere questo caso della petroliera Tasman Spirit detenendo semplicemente l'equipaggio.

c)
ST: President Mesic, it is my great pleasure to welcome you here today, though this pleasure is clearly tinged with such great shared sadness at the news of the death of President Boris Trajkovski.
Translated TT: Presidente Mesic, è con grande piacere che le porgo il benvenuto qui oggi, sebbene questo piacere sia chiaramente venato di profondo rammarico per la notizia della morte del Presidente Boris Trajkovski.
Interpreted TT: Signor Presidente è un grande piacere per me darle il benvenuto qui quest'oggi benché chiaramente siamo colpiti da una grave tristezza data la notizia della morte del presidente Trajkovski.

- Appendix 5 – Pedagogical activity 2: translation of short passages (cf. Ferraresi, 2016, p.51)

Read the following excerpts from speeches delivered in English at the EU Parliament. First sight-translate them, then produce a written, revised version, using general language corpora of English and Italian (e.g.ukWaC anditWaC) for reference.

1)
I urge Russia to withdraw its troops from Transnistria, allow a peaceful reunification of Moldova and consign the Tiraspol gangster regime to the dustbins of history.

2)
The Council passed a grudging directive on long-term immigrants and one on family reunification.

❖ Appendix 6 – Cases of reduced rendition in interpreting and close rendition in translation (English-to-French dataset)

Source noun concatenation	**Lexicalisation**	**Relative frequency in Europarl7**	**Interpreting (reduced rendition)**	**Translation (close rendition)**
Cluster munitions	Yes	3.34	Ce type de munitions	Sous-munitions
Draconian maternity leave	No (maternity leave = Yes)	0.02 (maternity leave = 7.05)	Congé maternité	Congé de maternité draconien
Global population growth	No (population growth = Yes)	0.07 (population growth = 2.37)	Croissance de la population	Croissance démographique globale
Father of the Ugandan human rights movement	No (human rights movement = Yes) (human rights = Yes)	0.02 (human rights movement = 0.25) (human rights = 552.47)	Militant	Père du mouvement ougandais des droits de l'homme
Court system	Yes	0.41	Tribunal	Système judiciaire
Language group	Yes	0.03	Langues	Groupes linguistiques

❖ Appendix 7 – Cases of reduced rendition in interpreting and close rendition in translation (French-to-English dataset)

Source noun concatenation	**Lexicalisation**	**Relative frequency in Europarl7**	**Interpreting (reduced rendition)**	**Translation (close rendition)**
Principal élément de démocratie	No (élément de démocratie = No)	0.02 (élément de démocratie = 0.11)	Democratic element	Main expression of democracy
Véritable instrument de partenariat de développement	No (instrument de partenariat de développement = No) (partenariat de développement = Yes)	0.02 (instrument de partenariat de développement = 0.02) (partenariat de développement = 0.08)	Development instrument	Genuine instrument of development partnership
Mandat de	Yes	4.52	Mandate	Negotiating

négociation				mandate
Conserves de thon	Yes	0.29	Tuna	Canned tuna
Plan d'action	No	0	Action	Action plan
Situations de crise et de catastrophe naturelle	No (catastrophe naturelle = Yes)	0.02 (catastrophe naturelle = 5.21)	Times of natural disaster	Crisis and natural disaster situations
Instrument de supervision du secteur financier	No (instrument de supervision = No) (secteur financier = Yes)	0.02 (instrument de supervision = 0.03) (secteur financier = 8.7)	Bodies for the financial sector	Instrument for the supervision of the financial sector
Décisions de base	Yes	0.02	Decisions	Basic decisions
Questions de gouvernance et de déséquilibre macro-économique	No (déséquilibre macro-économique = Yes)	0.02 (déséquilibre macro-économique = 0.03)	Economic imbalances and economic governance	Issues of governance and macro-economic imbalance
Nouvelles autorités de supervision financière	No (autorités de supervision financière = Yes) (supervision financière = Yes)	0.02 (autorités de supervision financière = 0.03) (supervision financière = 0.93)	Financial supervisory authorities	New financial supervisory authorities
Processus de mise en œuvre	No (mise en œuvre = Yes)	0.12 (mise en œuvre = 34.14)	Implementation of this	Implementation process

- Appendix 8 – Same equivalents in English-to-French interpreting and translation

Only tokens are taken into consideration here. The reason for this is that in some cases, source noun concatenations occurring several times in the source speeches/texts have been interpreted/translated in different ways. Also, note that I do not make any distinction between plural and singular forms. For instance, I consider *partnership agreement* and *partnership agreements* as the same TL equivalent.

Source noun concatenation	**Lexicalisation**	**Relative frequency in Europarl7**	**TL equivalent**
Service liberalisation	No	0.05	Libéralisation des services
Security wall	Yes	0.41	Mur de sécurité
Peace treaty	Yes	0.66	Traité de paix
Framework	Yes	48.24	Programme-cadre

programme			
Climate change	Yes	129.53	Changement climatique
Subprime crisis	Yes	0.35	Crise des subprimes
System of tax neutrality	No (tax neutrality = Yes)	0.02 (tax neutrality = 0.12)	Système de neutralité fiscale
Tax evasion	Yes	5.58	Évasion fiscale
Tax neutrality	Yes	0.12	Neutralité fiscale
Tax harmonisation	Yes	3.24	Harmonisation fiscale
Euro crisis	No	0.54	Crise de l'euro
Community method	Yes	8.53	Méthode communautaire
Next debt crisis	No (debt crisis = Yes)	0.02 (debt crisis = 1.96)	Prochaine crise de la dette
Food security	Yes	17.04	Sécurité alimentaire
Question time (3 occurrences)	Yes	25.4	Heure de questions
Food policy	Yes	1.5	Politique alimentaire
Trade policy	Yes	15.89	Politique commerciale
Food production	Yes	9.63	Production alimentaire
Global food security	Yes (food security = Yes)	1.19 (food security = 17.04)	Sécurité alimentaire mondiale
Press freedom	Yes	3.89	Liberté de la presse
Support office	Yes	2.11	Bureau d'aide
Beginning of question time	No (question time = Yes)	0.13 (question time = 25.47)	Début de l'heure des questions
One-stop shop idea	No (one-stop shop = Yes)	0.03 (one-stop shop = 1.94)	Idée du guichet unique

- Appendix 9 – Same equivalents in French-to-English interpreting and translation

(Same comments as for Appendix 8)

Source noun concatenation	**Lexicalisation**	**Relative frequency in Europarl7**	**TL equivalent**
Liberté d'expression (2 occurrences)	Yes	0	Freedom of expression
Accord d'association	Yes	0	Association agreement
Gouvernement de	Yes	1.11	Transitional

transition			government
Politique de soutien à la démocratie	No (soutien à la démocratie = Yes)	0.09 (soutien à la démocratie = 0.56)	Policy of supporting democracy
Valeur d'exemple	No	0	Example
Système d'alerte	Yes	0	Alert system
Criminels en col-blanc	No (col-blanc = Yes)	0.03 (col-blanc = 0.18)	White-collar criminals
Accords de partenariat volontaire (5 occurrences)	Yes (partenariat volontaire = Yes)	0.18 (partenariat volontaire = 0.6)	Voluntary partnership agreements
Procédures de vérification indépendantes	No (procédures de vérification = Yes)	0.03 (procédures de vérification = 0.32)	Independent verification procedures
Point de vue	Yes	180.1	Point of view
Mise en œuvre de l'accord	Yes (mise en œuvre = Yes)	0 (mise en œuvre = 34.14)	Implementation of the agreement
Mise en œuvre de ces accords	No (mise en œuvre = Yes)	0.02 (mise en œuvre = 34.14)	Implementation of these agreements
Mise en œuvre spécifique	No (mise en œuvre = Yes)	0 (mise en œuvre = 34.14)	Specific implementation
Accords de partenariat	Yes	10.41	Partnership agreement(s)
Mécanismes de plaintes	No	0.05	Complaint mechanism(s)
Crises à répétition	No	0.05	Repeated crisis/crises
Pays en développement	Yes	83.48	Developing countries
Accords de partenariat économique intérimaires	No (accords de partenariat économique = Yes) (partenariat économique = Yes)	0.03 (accords de partenariat économique = 5.13) (partenariat économique = 8.84)	Interim Economic Partnership Agreements
Conserves de thon (2 occurrences)	Yes	0.29	Canned tuna
Droits de douane	Yes	11.27	Customs duties
Politique de développement	Yes	16.92	Development policy
Mouvement de fond	No	0.06	Groundswell
Politique de sécurité	Yes	15.38	Security policy
Plan d'action	Yes	0	Action plan
Entrée en vigueur	Yes	45.81	Entry into force
Fonds d'investissement alternatifs	Yes (fonds d'investissement = Yes)	0 (fonds d'investissement = 0)	Alternative investment funds

Agences de notation (2 occurrences)	Yes	10.49	Rating agencies
Mesures d'austérité	Yes	0	Austerity measures
Accord de libre-échange	Yes	8.94	Free trade agreement
Petit coup de main	No (coup de main = Yes)	0.02 (coup de main = 0.51)	Helping hand
Proposition de convention	No	0.38	Proposal for a convention
Pouvoir d'achat	Yes	0	Purchasing power
Victimes de violence	Yes	2.12	Victims of violence
Services d'intérêt général	Yes (intérêt général = Yes)	0 (intérêt général = 25.92)	Services of general interest

- Appendix 10 – Noun concatenations causing calques of pattern and lexical calques in English-to-Fench interpreting and translation

This table includes tokens. The * symbol indicates a divergent rendition.

Source noun concatenation	**Lexicalisation**	**Relative frequency in Europarl7**	**Interpreting**	**Calque?**	**Translation**	**Calque?**
Service liberalisation	No	0.05	Libéralisation **des** services	Pattern	Libéralisation **des** services	Pattern
Security wall	Yes	0.41	Mur **de** sécurité	Pattern	Mur **de** sécurité	Pattern
Peace treaty	Yes	0.66	Traité **de** paix	Pattern	Traité **de** paix	Pattern
Comitology issue	No	0.18	Question **de** la comitologie	Pattern	Question **de** comitologie	Pattern
Property rights	Yes	12.97	Propriétaires*	Ø	Droits **de** propriété	Pattern
Subprime crisis	Yes	0.35	Crise **des** subprimes	Pattern	Crise **des** subprimes	Pattern
Credit cycle	No	0.02	**Cycle des** crédits	Pattern + Lexical	Bulle **du** crédit	Pattern
Value chain	Yes	0.38	Chaîne **des** valeurs	Pattern	Chaîne **de** valeur	Pattern
European debt union	No (debt union = No)	0.02 (debt union = 0.07)	Dette européenne*	Ø	Union européenne **de** la dette	Pattern
Maternity leave	Yes	7.05	**Congé maternité**	Pattern	Congé **de** maternité	Pattern
Framework programme	Yes	48.24	**Programme-cadre**	Pattern	**Programme-cadre**	Pattern
Draconian	No	0.02	**Congé maternité**	Pattern	Congé **de**	Pattern

maternity leave	(maternity leave = Yes)	(maternity leave = 7.05)			maternité draconien	
Car insurance	Yes	0.4	Assurance **de** leur voiture	Pattern	Assurance automobile	Ø
Euro crisis	No	0.54	Crise **de** l'euro	Pattern	Crise **de** l'euro	Pattern
Next debt crisis	No (debt crisis = Yes)	0.02 (debt crisis = 1.96)	Prochaine crise **de** la dette	Pattern	Prochaine crise **de** la dette	Pattern
Poverty elimination programmes	No	0.02	Lutter contre la pauvreté	Ø	Programmes **d'**éradication **de** la pauvreté	Pattern
Global population growth	No (population growth = Yes)	0.07 (population growth = 2.37)	Croissance **de** la population	Pattern	Croissance démographique globale	Ø
Question time (3 occurrences)	Yes	25.4	Heure **de** questions	Pattern	Heure **de** questions	Pattern
Father of the Ugandan human rights movement	No (human rights movement = Yes) (human rights = Yes)	0.02 (human rights movement = 0.25) (human rights = 552.47)	Militant	Ø	Père du mouvement ougandais **des** droits **de** l'homme	Pattern
Sit-in protest	No	0.02	Passent la nuit dans…*	Ø	« sit-in » **en guise de** protestation	Pattern
Irish beef farming perspective	No (beef farming = No)	0.02 (beef farming = 0.03)	*Omission*	Ø	Cas **de** l'élevage bovin irlandais	Pattern
Livestock sector	Yes	2.21	Secteur **de** l'élevage	Pattern	Secteur **du** bétail	Pattern
Climate change consistency	No (climate change = Yes)	0.02 (climate change = 129.53)	*Omission*	Ø	Cohérence **en matière de** changement climatique	Pattern
Carbon footprint of Brazilian beef	No (carbon footprint = Yes) (Brazilian beef = No)	0.03 (carbon footprint = 0.77) (Brazilian beef = 0.64)	**Empreinte CO2** du bœuf brésilien	Pattern	**Empreinte carbone** du bœuf brésilien	Pattern
Position paper	Yes	0.35	Document **d'**opposition*	Pattern	Note **de** synthèse	Pattern
Stock dislocation	No	0.02	Déplacement, détérioration **des** stocks*	Pattern	Répartition **des** stocks	Pattern
Centre stage	Yes	2.44	*Omission*	Ø	Cœur **des** débats	Pattern

Agriculture policy	Yes	1.63	Politique agricole commune*	Ø	Politique **de** l'agriculture	Pattern
Press freedom	Yes	3.89	Liberté **de** la presse	Pattern	Liberté **de** la presse	Pattern
Universal health insurance	No (health insurance = Yes)	0.05 (health insurance = 4.08)	**Assurance soins de santé** universelle	Pattern	**Assurance santé** universelle	Pattern
Support office	Yes	2.11	Bureau **d'**aide	Pattern	Bureau **d'**aide	Pattern
Police cell	Yes	0.03	Police*	Ø	Cellules **de** détention	Pattern
Beginning of question time	No (question time = Yes)	0.13 (question time = 25.47)	Début de l'heure **des** questions	Pattern	Début de l'heure **des** questions	Pattern
One-stop shop idea	No (one-stop shop = Yes)	0.03 (one-stop shop = 1.94)	Idée **du** guichet unique	Pattern	Idée **du** guichet unique	Pattern
Extension of the EU microfinance facility	No (EU microfinance facility = No)	0.02 (EU microfinance facility = 0.03)	Extension de la **facilité d'**investissement **de** l'Union européenne*	Pattern + Lexical	Extension de l'instrument **de** microfinancement européen	Pattern
Contraction of the accession treaty	No (accession treaty = Y)	0.02 (accession treaty = 4.18)	Signature du traité **d'**adhésion	Pattern	**Contraction** du traité **d'**adhésion	Pattern + Lexical
EU accession	No	3.61	Adhésion **à** l'Union européenne	Pattern	Adhésion **à** l'UE	Pattern
Very rigorous accession process	No (accession process = No)	0.02 (accession process = 7.72)	Ce processus ehm est caractérisé par ehm de longues négociations	Ø	Procédure **d'**adhésion très rigoureuse	Pattern

- Appendix 11 – Noun concatenations causing calques of pattern and lexical calques in Fench-to-English interpreting and translation

This table includes tokens. The * symbol indicates a divergent rendition.

Source noun concatenation	**Lexicalisation**	**Relative frequency in Europarl7**	**Interpreting**	**Calque?**	**Translation**	**Calque?**
Base de démocratie	No	0.03	Basis **for** democracy	Pattern	Democratic basis	Ø
Liberté d'expression (2	Yes	0	Freedom **of** expression	Pattern	Freedom **of** expression	Pattern

occurrences)						
Gouvernement d'unité nationale	Yes (unité nationale = Yes)	0 (unité nationale = 1.85)	National unity government	Ø	Government **of** national unity	Pattern
Espoir de liberté	No	0.06	*Omission*	Ø	Hope **of** freedom	Pattern
Politique de soutien à la démocratie	No (soutien à la démocratie = Yes)	0.09 (soutien à la démocratie = 0.56)	Policy **of** supporting democracy	Pattern	Policy **of** supporting democracy	Pattern
Espoir de liberté	No	0.06	Hope **for** freedom	Pattern	Hope **of** freedom	Pattern
Commission d'enquête indépendante	Yes (commission d'enquête = Yes)	0 (commission d'enquête = 0)	Independent committee **of** inquiry	Pattern	Independent investigating committee	Ø
Point de vue des changements climatiques	No (point de vue = Yes) (changements climatiques = Yes)	0.02 (point de vue = 180.01) (changements climatiques = 18.47)	Climate change point **of** view	Pattern	Point **of** view **of** climate change	Pattern
Critères d'évaluation de durabilité des agrocarburants	No (critères d'évaluation = Yes) (durabilité des agrocarburants = No)	0 (critères d'évaluation = 0) (durabilité des agrocarburants = 0.02)	Assessment criteria when you are looking at sustainability **of** biofuels	Pattern	Criteria **for** evaluating the sustainability **of** biofuels	Pattern
Point de vue	Yes	180.01	Point **of** view	Pattern	Point **of** view	Pattern
Mise en œuvre de l'accord	Yes (mise en œuvre = Yes)	0 (mise en œuvre = 34.14)	Implementation **of** the agreement	Pattern	Implementation **of** the agreement	Pattern
Mise en œuvre des ces accords	No (mise en œuvre = Yes)	0.02 (mise en œuvre = 34.14)	Implementation **of** these agreements	Pattern	Implementation **of** these agreements	Pattern
Mise en place d'un commerce du bois	No (mise en place = Yes) (commerce du bois = Yes)	0 (mise en place = 77.96) (commerce du bois = 0.33)	Put in place a timber trade	Ø	Introduction **of** a timber trade	Pattern
Mise en place d'une véritable gouvernance forestière	No (mise en place = Yes) (gouvernance forestière = Yes)	0 (mise en place = 77.96) (gouvernance forestière = 0.23)	Set up a forest governance of the true meaning of the town	Ø	Introduction **of** real forest governance	Pattern
Principal élément de démocratie	No (élément de	0.02 (élément de	Democratic element	Ø	Main expression **of**	Pattern

	démocratie = No)	démocratie = 0.11)			democracy	
Mise en œuvre de ces accords	No (mise en œuvre = Yes)	0.02 (mise en œuvre = 34.14)	Implementation **of** these VPAs	Pattern	Implementation **of** these agreements	Pattern
Véritable instrument de partenariat de développement	No (instrument de partenariat de développement = No) (partenariat de développement = Yes)	0.02 (instrument de partenariat de développement = 0.02) (partenariat de développement = 0.08)	Development instrument	Ø	Genuine instrument **of** development partnership	Pattern
Règles d'origine	Yes	0	Rules **of** origin	Pattern	Rules **of** origin	Pattern
Dérogation aux règles d'origine	No (règles d'origine = Yes)	0 (règles d'origine = 0)	Exception **to** the rules **of** origin	Pattern	Derogation **from** the rules **of** origin	Pattern
Facteur d'équilibre	Yes	0	Factor **for** balance	Pattern	Balancing factor	Ø
Situations de crise et de catastrophe naturelle	No (catastrophe naturelle = Yes)	0.02 (catastrophe naturelle = 5.21)	Times **of** natural disaster	Pattern	Crisis and natural disaster situations	Ø
Entrée en vigueur	Yes	45.81	Entry **into** force	Pattern	Entry **into** force	Pattern
Instrument de supervision du secteur financier	No (instrument de supervision = No) (secteur financier = Yes)	0.02 (instrument de supervision = 0.03) (secteur financier = 8.7)	Bodies **for** the financial sector	Pattern	Instrument **for** the supervision **of** the financial sector	Pattern
Réédition de crises	No	0.02	Recounts **of** the crisis	Pattern	Re-emergence **of** crises	Pattern
Propositions de gouvernance économique	No (gouvernance économique = Yes)	0.08 (gouvernance économique = 16.25)	Economic governance proposals	Ø	Proposals **on** economic governance	Pattern
Questions de gouvernance et de déséquilibre macro-économique	No (déséquilibre macro-économique = Yes)	0.02 (déséquilibre macro-économique = 0.03)	Economic imbalances and economic governance	Ø	Issues **of** governance and macro-economic imbalance	Pattern
Création de nouveaux cycles de gouvernance économique	No (cycles de gouvernance économique = No) (gouvernance économique =	0.02 (cycles de gouvernance économique = 0.02) (gouvernance économique =	*Omission*	Ø	Establishment **of** new cycles **of** economic governance	Pattern

	Yes)	16.25)				
Timides signes de reprise	No (signes de reprise = No)	0.03 (signes de reprise = 0.35)	First signs **of** recovery*	Pattern	Tentative signs **of** recovery	Pattern
Proposition de convention	No	0.38	Proposal **for** a convention	Pattern	Proposal **for** a convention	Pattern
Liberté de parole	Yes	2.03	Be freer in its expression	Ø	Freedom **of** speech	Pattern
Réformes de gouvernance économique	No (gouvernance économique = Yes)	0.03 (gouvernance économique = 16.25)	Reforms **of** economic governance	Pattern	Economic governance reforms	Ø
Augmentation du temps de travail	No (temps de travail = Yes)	0.09 (temps de travail = 30.78)	Increase **of** working time	Pattern	Increase **in** working time	Pattern
Taxation des mouvements de capitaux	No (mouvements de capitaux = Yes)	0.27 (mouvements de capitaux = 2.33)	Tax **on** capital transactions	Pattern	Tax **on** capital movements	Pattern
Victimes de violences	Yes	2.12	Victims **of** violence	Pattern	Victims **of** violence	Pattern
Projet de directive	Yes	9.57	Proposal **for** a directive	Pattern	Draft directive	Ø
Services d'intérêt général	Yes (intérêt général = Yes)	0 (intérêt général = 25.92)	Services **of** general interest	Pattern	Services **of** general interest	Pattern

- Appendix 12 – Calques of the English-to-French dataset and their lexicalisation

This table mentions all the calques[25] identified in the TL equivalents of the noun concatenations displayed in my English-to-French dataset.

Calques in interpreting	**Lexicalised?**	**Type of rendition**	**Calques in translation**	**Lexicalised?**	**Type of rendition**
Libéralisation **des** services	Yes	Close	Libéralisation **des** services	Yes	Close
Mur **de** sécurité	No	Close	Mur **de** sécurité	No	Close
Traité **de** paix	Yes	Close	Traité **de** paix	Yes	Close
Question **de** la comitologie	No	Close	Question **de** comitologie	No	Close
Crise **des** subprimes	Yes	Close	Droits **de** propriété	Yes	Close
Cycle des crédits	No	Close	Crise **des** subprimes	Yes	Close

[25] NB Lexical calques and calques of pattern

Chaîne **des** valeurs	No	Close	Bulle **du** crédit	No	Close
Congé maternité	Yes	Close	Chaîne **de** valeur	Yes	Close
Programme-cadre	Yes	Close	Union européenne **de** la dette	No	Close
Assurance **de** leur voiture	No	Close	Congé **de** maternité	Yes	Close
Crise **de** l'euro	No	Close	**Programme-cadre**	Yes	Close
Crise **de** la dette	Yes	Close	Crise **de** l'euro	No	Close
Croissance **de** la population	Yes	Close	Crise **de** la dette	Yes	Close
Heure **de** questions	No	Close	Programmes **d'**éradication **de** la pauvreté	No	Close
Secteur **de** l'élevage	Yes	Close	Heure **de** questions	No	Close
Empreinte CO2	No	Close	Mouvement **des** droits **de** l'homme	No	Close
Document **d'**opposition	No	Divergent	« sit-in » **en guise de** protestation	No	Close
Détérioration **des** stocks	No	Divergent	Cas **de** l'élevage	No	Close
Liberté **de** la presse	Yes	Close	Secteur **du** bétail	No	Close
Assurance soins de santé	Yes	Close	Cohérence **en matière de** changement climatique	No	Close
Bureau **d'**aide	Yes	Close	**Empreinte carbone**	Yes	Close
Heure **des** questions	Yes	Close	Note **de** synthèse	Yes	Close
Idée **du** guichet unique	No	Close	Répartition **des** stocks	No	Close
Facilité d'investissement **de** l'Union européenne	No	Divergent	Cœur **des** débats	No	Close
Traité **d'**adhésion	Yes	Close	Politique **de** l'agriculture	No	Close
Adhésion **à** l'Union européenne	Yes	Close	Liberté **de** la presse	Yes	Close
			Assurance santé	Yes	Close
			Bureau **d'**aide	Yes	Close
			Cellules **de**	No	Close

			détention		
			Heure **des** questions	Yes	Close
			Idée **du** guichet unique	No	Close
			Instrument **de** microfinancement	Yes	Close
			Contraction du traité **d'**adhésion	No	Divergent
			Adhésion **à** l'UE	Yes	Close
			Procédure **d'**adhésion	Yes	Close

- Appendix 13 – Calques of the French-to-English dataset and their lexicalisation

This table mentions all the calques identified in the TL equivalents of the noun concatenations displayed in my French-to-English dataset.

Calques in interpreting	**Lexicalised?**	**Type of rendition**	**Calques in translation**	**Lexicalised?**	**Type of rendition**
Basis **for** democracy	No	Close	Freedom **of** expression	Yes	Close
Freedom **of** expression	Yes	Close	Government **of** national unity	Yes	Close
Policy **of** supporting democracy	No	Close	Hope **of** freedom	No	Close
Hope **for** freedom	No	Close	Policy **of** supporting democracy	No	Close
Committee **of** inquiry	Yes	Close	Point **of** view **of** climate change	No	Close
Sustainability **of** biofuels	Yes	Close	Criteria **for** evaluating the sustainability **of** biofuels	No	Close
Point **of** view	Yes	Close	Point **of** view	Yes	Close
Implementation **of** the agreement	Yes	Close	Implementation **of** the agreement	Yes	Close
Implementation **of** these agreements	No	Close	Implementation **of** these agreements	No	Close
Implementation **of** these VPAs	No	Expanded	Introduction **of** a timber trade	No	Close
Rules **of** origin	Yes	Close	Introduction **of**	No	Close

			forest governance		
Exception **to** the rules **of** origin	No	Close	Expression **of** democracy	No	Close
Factor **for** balance	No	Close	Instrument **of** development partnership	No	Close
Times **of** natural disaster	No	Reduced	Rules **of** origin	Yes	Close
Entry **into** force	Yes	Close	Derogation **from** the rules **of** origin	No	Close
Bodies **for** the financial sector	No	Reduced	Entry **into** force	Yes	Close
Recounts **of** the crisis	No	Close	Instrument **for** the supervision **of** the financial sector	No	Close
Signs **of** recovery	Yes	Close	Re-emergence **of** crises	No	Close
Proposal **for** a convention	No	Close	Proposals **on** economic governance	No	Close
Reforms **of** economic governance	No	Close	Issues **of** governance and macro-economic imbalance	No	Close
Increase **of** working time	No	Close	Establishment **of** new cycles **of** economic governance	No	Close
Tax **on** capital transactions	Yes	Close	Signs **of** recovery	Yes	Close
Victims **of** violence	Yes	Close	Proposal **for** a convention	No	Close
Proposal **for** a directive	Yes	Close	Freedom **of** speech	Yes	Close
Services **of** general interest	Yes	Close	Increase **in** working time	No	Close
			Tax **on** capital movements	No	Close
			Victims **of** violence	Yes	Close
			Services **of** general interest	Yes	Close

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