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4 The Gravitational Pull Hypothesis and the translation of formal and semantic diminutives into Catalan: A study based on the COVALT Corpus

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Abstract: This chapter aims to test the Gravitational Pull Hypothesis in relation to two types of diminutives – formal, that is, diminutive suffixes, and semantic, such as ‘adjective + noun’ – and their translation into Catalan from English and French. It draws on a previous study of the translation of diminutives into Spanish (Tello, under review), the relevant COVALT components, translation tasks carried out by professional translators, and data from reference books. In line with the previous study, the Catalan formal diminutive *-et* is found to be salient in comparison with other formal diminutives and with semantic diminutives in this language. By contrast, semantic diminutives are overwhelmingly salient in EN and FR. Translation tasks show that connectivity between semantic diminutives in the source languages and formal diminutives in Catalan is high (over 70 %) in both language combinations. On the basis of this evidence, two alternative translational effects are hypothesised. On the one hand, Catalan formal diminutives will be overrepresented in EN-CA and FR-CA if magnetism and connectivity prevail; on the other, they will be underrepresented if semantic diminutives are activated, that is, if gravitational pull prevails. Consequently, Catalan semantic diminutives will tend to be overrepresented, especially in FR-CA, due to the formal similarity of the semantic diminutive structure ‘*petit* + noun’ in both languages. The results of the analysis of the translated components in COVALT confirm the second hypothesis. This may be largely due to the fact that connectivity between EN and FR semantic diminutives and CA semantic diminutives is higher than connectivity between semantic diminutives in EN and FR and formal diminutives in CA. This contradicts the results of the translation tasks.

Keywords: Gravitational Pull Hypothesis, diminutives, onomasiological salience, COVALT, literary texts

1. Introduction

Romance and Germanic languages have diminutive suffixes, which are used to express both the smaller size of what the root they are attached to denotes, and different kinds of affectivity. However, suffixes are not the only linguistic

elements used for this purpose, as it is also very common to place an adjective before or after the noun to refer to the small size of something or someone, or to provide affective connotations. Although these two resources are present in the different languages, they are used in different ways. In Catalan, diminutive suffixes are very common, especially in the family context, but they also occur frequently in creative texts. In other languages, such as English or French, their use is limited. On the other hand, the use of the analytical pattern adjective + noun (e.g., *pequeño coche* ‘small car’) is common to all three languages and is very frequent in English and French (Trask 2000; Bidaud 2012).

A previous study (Tello, under review) analysed the use of formal versus semantic diminutives in English, French and Spanish, and their translation into Spanish. The present study, which focuses on Catalan as the target language (TL), is a continuation of that study and takes a similar approach to diminutives. It also uses English and French as source languages (SLs) and adds to the attempts to test the Gravitational Pull Hypothesis (GPH) by analysing the behaviour of translators when confronted with this linguistic feature. To this end, the theoretical framework proposed by the GPH and the English-Catalan (EN-CA) and French-Catalan (FR-CA) subcorpora will be used to carry out the analyses of both original texts and translations, as well as the comparable Catalan (CA) subcorpus of originals.

2. Diminution

The category of diminution has two forms: formal diminutives, i.e., diminutive suffixes, and semantic diminutives, i.e., those analytical structures formed by adjective + noun (or, conversely, a noun followed by an adjective). The focus of this analysis will be semantic, because we want to consider the translation of the category that alludes to the quality of ‘smallness’, not just the forms that materialise it independently. The analysis will focus on determining which of the two forms (formal or semantic) is more salient in the translations compared to the Catalan originals. As in the rest of the papers in this volume, salience is understood here in an onomasiological sense, i.e., it refers to the prominence of a diminutive form in relation to other similar forms within the category.

2.1. Diminution in Catalan

According to the *Gramàtica Normativa Valenciana* (GNV) of the Acadèmia Valenciana de la Llengua (AVL), the diminutive suffix par excellence in Catalan (and especially in the Western Valencian variant) is *-et/-eta/-ets/-etes*. However,

there are other, less productive suffixes in Catalan, which can be lexicalised in some cases, as in words such as *portella* ('small door, especially on a coach') or *sabatilla* ('sports shoe' or 'slipper'). Table 4.1 lists the diminutive suffixes in Catalan, according to the GNV, including the category of the base word to which they are added:

Table 4.1: Diminutive suffixes in Catalan (Gramàtica Normativa Valenciana)

Suffixes	Category	Examples
-ell/-ella/-ells/elles	N	<i>taulell</i> ('counter')
-et/-eta/-ets/-etes	N, Adj., Adv.	<i>cotxet</i> ('baby carriage')
-ill/-illa/-ills/-illes	N	<i>pastilla</i> ('tablet, pill' or bar of soap')
-í/-ina/-ins/-ins/-ines	N	<i>flautí</i> ('piccolo')
-iu/-iua/-ius/-iues	N, Adj., Adv.	<i>gotiu</i> ('little glass')
-ic/-ica/-ics/-iques	N, Adj.	<i>Vicentica</i> ('affective diminutive of the proper noun Vicenta')
-im	N	<i>polsim</i> ('fine powder' or 'a pinch of sth.')
-ús /-ussa/-ussos/-usses	N	<i>pelussa</i> ('down, fuzz or fluff')
-ó/-ona/-ons/-ones/-ones	N	<i>carreró</i> ('alley, narrow street')

As far as the use of diminutives in Catalan is concerned, there are some important aspects that need to be taken into account. Firstly, diminutives are also used with an affective value, which is why there are no affective suffixes as such. Secondly, it should be noted that derived words with evaluative suffixes generally have a high lexicalisation capacity in this language. The compositionality of the suffixed term is therefore opaque, because the diminutive value of the suffix is lost. Thus, as we have seen, the word *sabatilla*, for example, is no longer just the diminutive of *sabata* ('shoe') but becomes a word with an independent meaning that is included in general dictionaries ('light shoe for being at home' or 'light footwear for doing sports').

In addition to diminutive suffixes, diminutives can also be expressed semantically in Catalan through other commonly used structures, in particular the adjectives *petit*, *xicotet* or *menut*, placed after or before a noun (e.g., *llibre xicotet* 'small book', *petita burgesia* 'petty bourgeoisie', *filla menuda* 'younger daughter').

In Catalan these adjectives are usually placed after the noun when they restrict the meaning of the noun and, therefore, function as specifiers (e.g., *llibre petit* 'little/small book'). However, it is also possible to place the adjective before the noun when the adjective has an explanatory or evaluative (and

not restrictive) meaning, or also to emphasise an inherent or known aspect of the noun (e.g., *aquest petit problema* ‘this little problem’). Similarly, these adjectives can appear before the noun when they form part of phraseological units (especially collocations, locutions and idioms) with a certain degree of fixation or lexicalisation (e.g., *petita burgesia*). However, when they are used within phraseological units, they can also appear postposed as a lexicalised form (e.g.: *tindre molta lletra menuda* ‘to be very clever’).¹

Finally, we should bear in mind that the meaning of these adjectives can change depending on their position in relation to the noun. For example, in the sentence *El seu petit fill plorava* (‘His little son cried’), the adjective *petit* has an explanatory value, i.e., it indicates that the son was young or small in stature, whereas in the sentence *El seu fill petit plorava*, the position of the adjective after the noun changes the meaning (‘His youngest son cried’, i.e., the youngest of all the sons).

With regard to the use of the adjectives *petit*, *xicotet* and *menut* to express diminution in Catalan, it should be noted that the forms *petit* and *menut* are more convergent or typical of all dialectal variants of Catalan, while *xicotet* is more particularistic, as its range of use is more limited to the Western Valencian variant. However, in a previous study (Molés-Cases and Oltra Ripoll 2019), in which we analysed the linguistic model of the COVALT corpus in terms of various orthographic, lexical and morphosyntactic aspects, we were able to confirm that, although the model of the published translations that make up our corpus is generally more particularistic (i.e., it favours Valencian forms over those from other geographical areas of Catalan), in the case of the lexicon, a more convergent tendency towards other variants closer to Eastern Catalan was observed, especially when choosing between adjectives such as *petit* and *xicotet*, which are geosynonyms. In these cases, it was concluded that in the texts of the Valencian translations, the adjective *petit* (more typical of the Eastern dialects) was preferred to *xicotet* (characteristic of the Western Valencian variant) because the literary context demanded a more cultured use of the language, if possible (Bracho Lapiedra and Peña Martínez 2019, 36). Likewise, we can intuitively assume that this tendency could also have a normative basis, since in the 1990s (the period in which the translations that make up our corpus were made),

1 In Catalan, there are numerous restrictions on the position of the adjective within the noun phrase. This subsection includes some of them, but there are others, such as, for example, information structure. On this point, see Marco and Ferragud’s chapter in this volume.

the term *xicotet* was not as standardised in the Western Valencian variant as it is today.

Thus, although a priori we would expect a high frequency of the adjective *xicotet* in the translated components of the subcorpus (since they are Valencian translations), in the light of the results obtained in the studies cited above, we can envisage that the adjectives *petit* and *menut* will be more prevalent than *xicotet*, both in the Catalan originals (CA) and in the translations from English and French into Catalan (EN-CA and FR-CA).

2.2. Diminution in English and French

Schneider (2003, 85) identified fourteen diminutive suffixes in English, although some are rarely used or restricted to informal and dialectal use: *-a*, *-een*, *-er*, *-ette*, *-ie/-y/-ey/-ee*, *-kin*, *-le*, *-let*, *-ling*, *-o*, *-peg*, *-poo(h)*, *-pop*, *-s*. These suffixes are added to the base of words to form diminutives. They are most often added to nouns, but they can also be appended to other categories, such as adjectives, or to a reduced form of the base, as in *handkerchief* > *hank-y* > *hanky* (Trask 2000). Unlike the morphological process by which diminutive suffixes are formed in Catalan (Iannotti 2016), the dominant process in English is analytical (or syntactic) (Sicherl 2018). As in Catalan, there is a clear dependency between the functions of smallness and evaluation, but in English formal diminutives are far less productive, with the analytic pattern ‘*little/small/tiny/etc.* + noun’ most often used to express size and/or the emotional connotations conveyed by diminutive suffixes.

Apart from size and affective values, English diminutive suffixes are often used with proper names or with names that are abbreviated in informal contexts, as in *Thomas* > *Tommie*. When the speaker wants to be vague or express approximation or attenuation, the suffixes *-y* or *-ish* are often used: *green* > *green-ish* > *greenish* (Carter et al. 2011). Diminutive suffixes also have the function of shortening longer words (*bourgeois* > *boug-ie* > *bougie*) and, as in Spanish or Catalan, they are also used to convey understatement and to soften the awkwardness of certain words (*underwear* > *undies*). According to Sicherl (2018) and Schneider (2003), diminution can also be obtained by prefixation, compounding and reduplication, although these forms are less common (e.g., *miniskirt*, *baby boy*, *Annie-Pannie*). As noted above, diminutives in English are generally formed by the adjective + noun structure. The most common adjectives are usually ‘little’ and ‘small’, but others are used especially when affective connotations are to be added: *tiny*, *short*, *minuscule*, and *young*, *poor*, *ridiculous*, among others. For all these reasons,

we could expect this construction to activate the use of diminutive suffixes in Catalan translations.

As far as diminutive suffixes in French are concerned, the language has evolved in such a way that the diminutive suffixes in current use are not as productive as they were in the past. Some authors have pointed to a loss of suffix vitality compared to other Romance languages, such as Spanish (Bidaud 2012; Martín Zorraquino 2012). Klett (2015) notes that some French diminutive suffixes, such as *-ette*, can be used creatively, but most suffixed diminutives are lexicalised. Nevertheless, there are a number of diminutive suffixes: *-et/-ette*, *-on*, *-eau*, *-ule*, *-elle*, *-elette*, *-aut*, *-in*, *-ot*, *-ille*, *-iche*, among others, as in *fillette* ('little girl') or *chaton* ('kitty'). However, Bidaud (2012, 52) notes that 'from a strictly quantitative point of view, the vitality of French diminutive suffixes is almost non-existent compared to Spanish' [our translation]. Although diminutive suffixes are used in a similar way in both languages, Klett (2015) again asserts that in French their range extends only to expressions of familiarity and affection. According to Martín Zorraquino (2012), French diminutive suffixes tend towards semantic specialisation, which would explain why they often end up being lexicalised. This would be the reason why *petit* is the most commonly used adjective in everyday French, not only to convey diminution but also to express subjectivity. According to Kerbrat-Orecchioni (2004, cited in Martín Zorraquino 2012), *petit* not only conveys the meaning of 'smallness' but is also used as a symbolic minimiser of the words it accompanies. This meaning is also present in other Romance languages, such as Spanish, Catalan, Portuguese and Italian, and is related to politeness, since diminutives usually soften the words that they describe.

Besides *petit*, there are other adjectives that denote small size or have affective connotations, such as *court*, which also expresses the quality of being small, and others that express low intensity, such as *fin*, *menu*, and *mince* ('thin/fine, small, thin'); low value can be expressed by adjectives such as *insignificant* or *mediocre*, and low quantity by 'passager, léger, extrait, morceau, etc.' (Franco Arias 1979, 482). As in the case of translations with English as the SL, the frequent use of *petit* + noun in French could lead to a high probability of this construction being used in translations from French into Catalan.

To conclude this section, although the three languages in this study have diminutive suffixes, only Catalan uses them frequently. As for semantic diminutives, they are present in all three languages, but English and French use them as an almost unique way of expressing diminution.

3. Determining magnetism, gravitational pull and connectivity

After a theoretical review of the state of the art of our object of study, and to determine the degree of salience of the constructions that materialise the category of diminution in the TL (magnetism) and in the SL (gravitational pull), we will first carry out a quantitative analysis of the frequency of use of diminutives in the corpus of original texts in Catalan (CA). Then, to complement the data obtained, we will also collect the results of translation tasks on the use of diminutives carried out by professional translators, since the changes that occur in the translators' decision-making process during the tasks can provide us with information about the salience of certain structures, as we will explain below.

As in Tello (under review), this paper examines both diminutive suffixes and analytical structures formed by adjective + noun/noun + adjective. Both the diminutive and the affective value of diminutives are considered, as the two are often difficult to separate. Lexicalised diminutives, which have acquired their own meaning through use and therefore have their own dictionary entry, were excluded from the study.

The starting point of the previous study, supported by both scientific literature and grammars and translation manuals, was that formal diminutives would be underrepresented in Spanish translations for two reasons: (1) the scarce use of formal diminutives in English and French, which could be a stimulus for translators, and (2) the use of semantic diminutives in Spanish is also possible, even common, in non-translated texts. The theoretical framework proposed by Halverson and its key concepts were used to formulate hypotheses about translated language and, specifically, about diminutives. The study methodology consisted first in establishing salience by contrasting the diminutive forms of the languages involved (English, French, Spanish). The three subcorpora of original texts were consulted and it was found that in English and French the most salient forms were clearly the semantic diminutives, whereas in Spanish the balance was tilted towards the formal diminutives, especially *-ito* (*casita* 'little house').

Based on these initial results, the first hypothesis suggested that diminutive suffixes would be underrepresented in the English and French translations into Spanish compared to the diminutive suffixes in the original texts of the ES corpus. The second hypothesis, based on the high frequency of the structure 'adjective + noun' (semantic diminutives) in English and French, was that these forms would be overrepresented in the translations due to the influence of these languages. In the first case, this was based on the third factor of Halverson's thesis, i.e., the connectivity patterns reflecting the relationships between SL and TL elements, which would be expressed here as low connectivity between the structures in the

language pairs. In the second case, we assumed that the gravitational pull exerted by semantic diminutives in the SL would make translators more inclined towards this type of solution in Spanish. In this sense, the analyses of the EN-ES and FR-ES subcorpora showed that formal diminutives were underrepresented in English and French translations into Spanish compared to non-translated texts, while semantic diminutives were overrepresented.

The study then looked for connectivity within the semantic network of items expressing diminution, i.e., the existence and strength of links between elements. Connectivity is measured by means of the indicators proposed by the GPH to measure the effects of the strength of the links between elements, explained in the methodological chapter of this volume: source concentration and target concentration. In order to measure these indicators, it was first necessary to find out which elements in the original texts of the EN-ES and FR-ES subcorpora triggered the elements under study (diminutive suffixes) and, after quantifying them, to identify what solutions had been given in the translated texts to the most frequent triggers found. This made it possible to establish percentage values of connectivity and to draw conclusions about the strength of the links between the TL and SL elements.

This study enhances our previous work by adding the results of translation tasks carried out by professional translators in order to support the determination of salience of diminutives in Catalan. The results of the previous study will be compared to those obtained here in order to observe the differences that may exist in the translations of the two languages.

3.1. Salience in the TL (Catalan): Magnetism

Turning to the corpus to examine the frequency of use of Catalan diminutives, we focused on certain diminutives after a previous analysis showed that some Catalan diminutive suffixes with a more restricted use – such as *-i/-ina/-ins/-ines*, *-ús/-ussa/-ussos/-usses* and *-im* – produced very few results or formed lexicalised words and had to be excluded from the analysis. As far as salience is concerned, only one suffix, *-et*, is clearly salient, and its high frequency results in a clear predominance of formal diminutives over semantic diminutives. The other suffixes, *-iu*, *-iua*, *-ius*, *-iues* and *-ó*, *-ona*, *-ons*, *-ones*, *-ones*, occurred very infrequently, and in the case of *-ó* there were a large number of false positives. Of the semantic diminutives, only the combination ‘*petit* + noun’ obtained a higher representation, followed by ‘noun + *petit*’. The structure ‘noun + *menut*’, although not particularly salient, was used more frequently than the same structure with the adjective *xicotet*. Structures containing these adjectives before the noun

(‘*menut/xicotet* + noun’) also proved to be rare. When the number of matches was too high for analysis, the results were randomly thinned. The three components of the corpus under comparison are of different sizes, so the frequencies were normalised to matches per 1,000 words. Table 4.2 shows the frequency results for Catalan diminutives in CA (1,551,521 words)²:

Table 4.2: Frequency of use of diminutives in the subcorpus of original Catalan texts (CA)

Catalan diminutives in CA	Query matches	Thinning	Proper diminutives after thinning	Estimation of proper diminutives in query matches	Normalised frequency per 1,000 words
<i>-et, -eta, -ets, -etes</i>	7,445	700	222	2,361.13	1.52
<i>-iu, -iua, -ius, -iues</i>	1,515	700	1	2	0.001
<i>-ó, -ona, -ons, -ones, -ones</i>	18,186	700	0	0	-
<i>petit</i> + noun	281	281	280	280	0.18
noun + <i>petit</i>	58	58	58	58	0.04
<i>xicotet</i> + noun	7	7	7	7	0.005
noun + <i>xicotet</i>	7	7	7	7	0.005
<i>menut</i> + noun	7	7	2	2	0.001
noun + <i>menut</i>	75	75	72	72	0.05

Another way to check the salience of diminutives in the TL is through elicitation and/or translation tasks, which would complement our corpus data and the relevant content of reference works such as grammars and translation manuals. In the case of diminutives, only translation tasks were carried out. The main reason elicitation tasks were not used is that we did not consider it possible to design elicitation tasks that would give translators a sufficiently reliable basis

2 The search formulas used in the corpus were: (1) Query: [(pos=“N.+”) & (word=“+.et|.eta|.ets|.etes”)]; (2) Query: [(pos=“N.+”) & (word=“+.iu|.iua|.ius|.iues”)]; (3) Query: [(pos=“N.+”) & (word=“+.ó|.ona|.ons|.ones|.ones”)]; (4) Query: [word=“petit|petita|petits|petites”] + [pos=“N.+”]; (5) Query: [pos=“N.+”] + [word=“petit|petita|petits|petites|petites”]; (6) Query: [word=“xicotet|xicoteta|xicotets|xicotetes|xicotetes”] + [pos=“N.+”]; (7) Query: [pos=“N.+”] + [word=“xicotet|xicoteta|xicotets|xicotetes|xicotetes”]; (8) Query: [word=“menut|menuda|menuts|menudes”] + [pos=“N.+”]; (9) Query: [pos=“N.+”] + [word=“menut|menuda|menuts|menudes”].

for the use of diminutives. Thus, only translation tasks were carried out, with the aim of analysing the translation process. The results would provide clues with respect to two phenomena: salience, on the one hand, and connectivity, on the other. We will now focus on how these tasks helped to determine salience in TL.

As explained in the Methodology chapter, literary translators were recruited for the tasks because we needed to have a degree of comparability between the translators who produced the translations in the COVALT corpus and the translators who subsequently carried out the tasks. For these tasks, there were 5 translators for EN-CA and 4 translators for FR-CA. All of them were native Catalan speakers. The aim was to observe the translation process from English and French into Catalan, identifying the first translation options chosen by the translators as well as their subsequent revisions and final versions. The first options would be considered the most salient since we interpret them as the first solutions that come to mind when translators are confronted with diminutives. In other words, salience is operationalised here as the ease of access to the linguistic element in question. For example, if the majority of translators used a formal rather than a semantic diminutive as their first option, we could infer that formal diminutives have greater salience, which would help formulate our hypotheses.

The texts to be translated were short fragments, paragraphs or sentences of narrative fiction from the COVALT corpus. These fragments were chosen because they contained several examples of semantic, formal, lexicalised and implicit diminutives (e.g., *cannikin*, *petit nuage*, *ruelle*, etc.). In order to analyse the translation tasks, we took into account the type of solutions the translators provided and the process they went through to reach the final solution. To determine the former, an *ad hoc* classification was made on the basis of both the types of diminutives in the original texts and the translation solutions provided:

- Formal diminutives: those that use diminutive suffixes typical in Catalan.
- Semantic diminutives: those that use adjectives (especially *petit*) before or after a noun to indicate diminution.
- Lexicalised diminutives: formal diminutives that are included in the dictionary, for example, *carreró* ['alleyway'].
- Implicit diminutives: those whose diminutive value is implicit in the word or syntagm. For example, *sorra fina* ['fine sand'].
- No diminutives: cases in which the translator does not choose any diminutive at all in the TL.

In order to analyse the translation process and to obtain evidence of salience in the TL, the different translation solutions for each diminutive in the SL were noted

in order, as well as whether they were changed during the task, since translators sometimes gave different options that they considered more appropriate when revising their translations. Tables 4.3 and 4.4 show the results obtained in EN-CA and FR-CA for the translators' first and final choices, respectively.

Table 4.3: Results of the FR-CA and EN-CA translation tasks (first options)

Type of diminutive	EN-CA		FR-CA	
Formal diminutives	24	40.00 %	23	35.93 %
No diminutives	16	26.67 %	18	28.13 %
Semantic diminutives	11	18.33 %	11	17.18 %
Lexicalised diminutives	9	15.00 %	12	18.75 %
Implicit diminutives	0	-	0	-

Table 4.4: Results of the FR-CA and EN-CA translation tasks (final options)

Type of diminutive	EN-CA		FR-CA	
Formal diminutives	25	41.67 %	23	35.93 %
No diminutives	14	23.33 %	20	31.25 %
Semantic diminutives	12	20.00 %	11	17.18 %
Lexicalised diminutives	9	15.00 %	10	15.62 %
Implicit diminutives	0	-	0	-

These tables show the evolution of the translation solutions provided by the translators. The second and fourth columns show the number of times a particular solution was used, while the third and fifth columns show the percentages. Apart from the use of formal diminutives, which clearly proved to be the translators' preferred option, it is worth noting that each language pair behaved slightly differently, although the difference between the first and final options is not particularly significant in terms of the results. What is evident from this comparison is that the translators were clear about the solutions they were going to choose from the beginning of the translation process, and few changed their mind during the translation process.

As far as salience is concerned, the translation solutions support the prevalence of diminutive suffixes in Catalan over other structures, as this is the option preferred by translators in both language combinations, both as a first and a final solution. On this basis, we can consider formal diminutives to be the most prominent forms. Nevertheless, the percentage of solutions with

formal diminutives is not particularly high, as it does not reach 50 % in any case. The second most frequent choice, for translators working from both SLs, was non-diminutive forms, which were preferred to the semantic diminutives that are so common in Catalan. The third choice was to translate using semantic diminutives (*'petit + noun'/noun + petit*). Lexicalised diminutives were also used, although to a lesser extent, especially in cases where the diminutive was lexicalised in the SL (e.g., *fillette* translated as *xiqueta*). Finally, no translator used implicit diminutives in any case. Taking into account that the second most frequent option was to omit the diminutive, we can therefore conclude that, on the one hand, diminution as a semantic category is omitted to a relatively high degree in the translations (23 % in EN-CA and 31 % in FR-CA) and, on the other hand, in the balance between formal and semantic diminutives, the former prevail. Considering the two sources of evidence we have analysed, we can affirm that this is indicative of the salience of formal diminutives.

3.2. Salience in the SLs (English and French): Gravitational pull

After examining the frequency of use of different types of diminutives in CA, the ST components of the EN-CA and FR-CA subcorpora (1,131,061 and 540,741 words, respectively) were searched for the most common diminutives in the SLs, which meant looking for both diminutive suffixes and structures with the adjectives *little/small* in English and *petit* in French.³ As in the previous study, there were hardly any nouns with diminutive suffixes that were not lexicalised, which confirms the low salience of diminutive suffixes in these two languages. Analytic forms, however, were quite common, as can be seen in Tables 4.5 and 4.6.

3 The search formulas used in EN-CA were [word="little"] + [pos="N.+"], [word="small"] + [pos="N.+"] and [word="tiny"] + [pos="N.+"] to look for semantic diminutives; [(pos="N.+") & (word=".+ling|.+lings")], [(pos="N.+") & (word=".+y|.+ie|.+ies")], among others, to look for formal diminutives. The search formulas used in FR-CA were [word="petit|petite|petits|petites"] + [pos="N.+"] to look for semantic diminutives, and [(pos="N.+") & (word=".+eron|.+illon")], [(pos="N.+") & (word=".+ot|.+ots|.+otte|.+ottes")], among others, to look for formal diminutives.

Table 4.5: Frequency of use of diminutives in English

English Diminutives	Query matches	Thinning	Proper diminutives	Estimation of proper diminutives in query matches	Normalised frequency per 1,000 words
<i>-let</i>	173	173	0	0	-
<i>-y/-ie</i>	16,645	2,000	0	0	-
<i>-ling</i>	460	460	0	0	-
<i>-poo</i>	0	0	0	0	-
<i>-aster</i>	339	0	0	0	-
<i>-oc/-uc</i>	24	0	0	0	-
<i>small</i> + noun	281	281	281	281	0.25
<i>little</i> + noun	829	829	829	829	0.73

Table 4.6: Frequency of use of diminutives in French

FRENCH DIMINUTIVES	Query matches	Thinning	Proper diminutives	Estimation of proper diminutives in query matches	Normalised frequency per 1,000 words
<i>-ette</i>	1,057	1,057	3	3	0.012
<i>-on</i>	33	33	1	1	0.002
<i>-elle</i>	1,172	1,172	0	0	-
<i>-eau</i>	1,124	1,124	0	0	-
<i>-elet</i>	12	12	0	0	-
<i>-aut</i>	85	85	0	0	-
<i>-in</i>	4,036	4,036	0	0	-
<i>-otin</i>	1	1	0	0	-
<i>-eteau</i>	6	6	0	0	-
<i>-ot</i>	700	700	0	0	-
<i>-ille</i>	1,544	1,544	0	0	-
<i>-ole/-erole</i>	184	184	0	0	-
<i>-cule</i>	271	271	0	0	-
<i>-iche</i>	50	50	0	0	-
<i>petit</i> + noun	649	649	649		1.20

3.3. Connectivity patterns

It is difficult to determine the connectivity between SL and TL elements without first carrying out an analysis to identify and compare the source and target concentrations. Before that, we can only speculate, taking into account the information provided by reference works and similar studies in the literature, as in the case of our previous study, which focused on Spanish as a TL. The connectivity results of that study showed that neither the source concentration of the triggers of formal diminutives in EN-ES and FR-ES nor the target concentration of the translations of the main triggers ('little + noun'; '*petit* + noun') were high; therefore, there was a low degree of connectivity (UTC in EN-ES = 14.22 %; UTC in FR-ES = 30.61 %) between the Spanish diminutive suffixes *-ito* and *-illo* and their main triggers in EN and FR. In the previous study, no translation tasks were available to compare these results, but in this paper, the results of the translation tasks gave us information on the connectivity patterns between the forms in the languages of the study, which could be compared before analysing the triggers and their translation equivalents.

The results of the translation tasks – both the options that were chosen first (and thus the options that were considered most salient) and the final options – were presented in Section 3.1. The results in EN-CA and FR-CA were similar: the most frequently used solution was the formal diminutive in Catalan, non-diminutives were the second most frequent, and semantic diminutives the third. The results of the translation tasks show that the connectivity between expressions of diminution in the SLs (regardless of type) and formal diminutives is not weak. In order to quantify the strength of the connectivity between Catalan formal diminutives and the semantic diminutives of the SLs, the Unidirectional Translation Correspondence formula (UTC; Marco 2021) was applied to the values obtained in the translation tasks. The UTC aims to operationalise the degree of connectivity between the items of two components of a parallel corpus, as explained in the Methodology chapter of this volume, by means of the following formula:

$$\frac{(A_b + B_a) * 100}{(A_t + B_s)}$$

Thus, starting with EN-CA, this formula was applied to the formal diminutives (suffixes) of the target texts and to the semantic diminutives ('adjective + noun') of the source texts. Formal diminutives were used as translations of semantic

diminutives 22 times. Since the number of formal diminutives in the TMs was 25 and the number of semantic diminutives in the source texts was 7, which were used by 5 translators (= 35), the UTC of formal diminutives versus semantic diminutives in the EN-CA subcorpus would be $(22+22) \times 100 / (25+35) = 73.33\%$. This percentage indicates that the degree of connectivity between Catalan formal diminutives and English semantic diminutives is high.

In FR-CA, formal diminutives were used as translations of semantic diminutives 18 times. Since the number of formal diminutives in the target texts was 23 and the number of semantic diminutives in the source texts was 7, used by 4 translators (= 28), the UTC of formal diminutives versus semantic diminutives in the FR-CA subcorpus would be $(18+18) \times 100 / (23+28) = 70.59\%$. Although slightly lower than for EN-CA, this percentage would still indicate a high degree of connectivity between Catalan formal diminutives and French semantic diminutives.

4. Hypotheses

In the light of the previous results on the salience of diminutives in the SLs (English and French) and in the TL (Catalan), as well as on connectivity, we are in a position to formulate some hypotheses.

Analysis of the forms expressing diminution in the subcorpus of original Catalan texts (CA) shows that some Catalan diminutive suffixes included in grammars and other reference works have a more limited use (this is the case of the suffixes *-í/-ina/-ins/-ines*, *-ús/-ussa/-ussos/-usses* and *-im*) and therefore produced very few results in the searches. Even when one of these suffixes appeared it had to be excluded from our analysis because it turned out to be a lexicalised form. Only one suffix, *-et*, was clearly salient, as hardly any occurrences of the other suffixes were recorded (see Table 4.2). These results are in line with the tendency described in Catalan grammars, which state that the diminutive suffix par excellence in Catalan (and especially in the Western Valencian variant) is *-et*.

As for semantic diminutives, the combinations '*petit* + noun'/'noun + *petit*' were more frequently used in the original Catalan texts. We also found a certain frequency of use of the structure 'noun + *menut*'/'*menut* + noun', while a very low frequency was observed for the adjective *xicotet* (placed before or after the noun), as expected after consulting the results of previous studies (Molés-Cases and Oltra Ripoll 2019; Bracho Lapiedra and Peña Martínez 2019). In general, then, the corpus data show a clear predominance of formal diminutives over semantic

diminutives, which becomes even clearer when we express the distribution of both forms in percentage terms (87.48 % vs. 12.52 %).

This distribution is supported by the translation tasks carried out by professional translators, which showed that formal diminutives were the preferred option for both their first and final solutions, although the percentage of solutions with formal diminutives was not as high as in the CA data (it did not reach 50 % in any case, as can be seen in Tables 4.3 and 4.4). On the other hand, with regard to the structure of the semantic diminutive to express diminution in Catalan (*'petit + noun'/'noun + petit'* and its variants with *menut* or *xicotet*), the translation tasks showed that the second most common solution for translators from both languages was to use non-diminutive forms over semantic diminutives. The third most common solution was to translate with semantic diminutives (*petit, xicotet, menut + noun/noun + petit, xicotet, menut*) (see Tables 4.3 and 4.4). From these data, it can be concluded that the magnetism factor may lead to an overrepresentation of the diminutive suffix *-et* in texts translated into Catalan from English and French.

As far as the source languages are concerned, the number of occurrences of nouns with diminutive suffixes was very low in both the EN-CA and the FR-CA source components. We can therefore consider that this option is not salient in either of the two source languages, while the structures *'little/small + noun'* (in English) and *'petit + noun'* (in French) turned out to be the most frequent (see Tables 4.5 and 4.6). This was also the trend suggested by the reference works and grammars consulted (Sicherl 2018; Bidaud 2012; Martín Zorraquino 2012). It can be deduced, then, that these structures (semantic or analytic diminutives) exert a gravitational pull on the semantic networks of the SLs to which they belong, which could lead to the overrepresentation of their formal equivalents (especially *'petit + noun'/'noun + petit'*) in the TL. This tendency may be particularly significant in the case of the FR-CA subcorpus, given the clear similarity of the *'petit + noun'* structure between the two languages.

Finally, as seen in Section 3.3, the degree of connectivity between Catalan formal diminutives and English and French semantic diminutives is quite high (73.33 % and 70.59 %, respectively). This type of connectivity would clearly lead to an overrepresentation of the formal diminutives of the target language in EN-CA and FR-CA. It is worth recalling that the connectivity data obtained from the translation tasks contrast with the corpus data considered in the previous study, with Spanish as the target language. This is surprising, since intuitively one would say that the frequency of use of formal diminutives is quite similar in Spanish and Catalan, so the degree of connectivity with their triggers in English and French should also be similar.

Based on the above, we can formulate the following hypotheses:

1. If magnetism and connectivity prevail, Catalan diminutive suffixes will be overrepresented in translations from English and French into Catalan (EN-CA and FR-CA). If this is the case, the analytical structures '*petit* + noun' or 'noun + *petit*' will tend to be underrepresented in the translations.
2. If, on the contrary, gravitational pull proper prevails (i.e., the activation of the semantic diminutive structures 'adjective + noun' or 'noun + adjective', despite being neither very salient in CA nor particularly frequent in the translation tasks), formal diminutives will be underrepresented in translations from English and French into Catalan (EN-CA and FR-CA), while semantic diminutive structures will tend to be overrepresented, especially in FR-CA, due to the prominence of the structure '*little* + noun' in English and '*petit* + noun' in French to express diminution.

In order to validate or refute these hypotheses, in the following sections we will analyse the frequency of use of diminutives in the EN-CA and FR-CA subcorpora. In addition, in order to establish patterns of connectivity, we will look for the forms in each SL (English or French) that have given rise to the translation solutions, select the most frequent triggers and observe their equivalences by returning again to the translated texts.

5. Analysis of the frequency of diminutives in the EN-CA and FR-CA subcorpora

5.1. Magnetism and gravitational pull

Three diminutive suffixes were selected for analysis: *-et*, *-ó* and *-iu* (including gender and number inflections). However, the suffixes *-ó* and *-iu* did not yield any results in the corpus and were excluded from the analysis. The following results are presented for the suffix *-et* applied to nouns. Data were retrieved from the corpora using the Corpus Query Processor (CQP), and query matches had to be sifted manually, as they included lexical items ending in suffixes that are not diminutives at all or are not considered to be proper diminutives for the purpose of our study because they have been lexicalised and have a separate dictionary entry. As there were too many query matches for manual analysis, the results for the two components were randomly thinned. Thus, the actual number of concordance lines analysed was 500 for EN-CA and FR-CA, and 700 for CA.

The three components under comparison are different in size, so frequencies of occurrence were normalised to matches per 1,000 words. Table 4.7 shows

the comparison of frequencies of the suffix *-et* in the three components of the corpus: FR-CA, EN-CA and CA.

Table 4.7: Frequency of use of the suffix *-et* in the FR-CA, EN-CA and CA subcorpora

Suffix <i>-et, -eta, -ets, -etes</i>	Total number of words	Query matches	Proper diminutives (out of 500/ 700)	Estimated diminutives in the whole corpus	Normalised frequency per 1,000 words
Translations from French	566,998	2,580	44	227	0.40
Translations from English	1,343,631	5,405	126	1,362.06	1.01
Non-translations	1,551,521	7,445	222	2,361.13	1.52

According to the results for salience in the TL, the most frequent combinations of semantic diminutives in Catalan were, on the one hand, '*petit/a/s/es* + noun' and 'noun + *petit/a/s/es*' and, to a much lesser extent, 'noun + *menut/da/s/des*'. In fact, the latter form has been discarded in view of the insufficient results obtained from searches in the translation corpora. Thus, searches for '*petit* + noun' and for 'noun + *petit*' were carried out in the FR-CA and EN-CA translation components. The results are presented in Table 4.8.

Table 4.8: Frequency of use of the structures '*petit* + noun' and 'noun + *petit*' in the FR-CA, EN-CA and CA subcorpora

' <i>petit</i> + noun' / 'noun + <i>petit</i> '	Total number of words	Query matches	Proper diminutives	Estimated diminutives in the whole corpus	Normalised frequency per 1,000 words
Translations from French	566,998	285	282	282	0.50
Translations from English	1,343,631	277	273	273	0.20
Non-translations	1,551,521	339	338	338	0.22

Here, the results show a lower frequency of semantic diminutives in the EN-CA subcorpus, whereas the opposite is true in the FR-CA subcorpus. This phenomenon is probably due to the strong influence of the French '*petit* + noun' structure on the Catalan '*petit* + noun'.

Table 4.9 shows the above results expressed in absolute and relative frequencies.

Table 4.9: Absolute and relative frequency of formal and semantic diminutives in EN-CA, FR-CA and CA

	EN-CA		FR-CA		CA	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Formal diminutives (- <i>et</i>)	1,362.06	83,30337	227	44,59725	2,361.13	87,47745
Semantic diminutives (' <i>petit</i> + noun' / 'noun + <i>petit</i> ')	273	16,69663	282	55,40275	338	12,52255
	1,635.06		509		2,699.13	

Table 4.9 shows that there is a translation effect in both EN-CA and FR-CA, due to the attraction of semantic diminutives in English and French, since the percentages corresponding to these forms are higher in the translations than in the Catalan originals. The distribution in EN-CA is quite similar to that in CA: formal diminutives are by far the most predominant form. In FR-CA, on the other hand, the translation effect is so strong that the hierarchy is reversed, and semantic diminutives are more frequent than formal diminutives.

The chi-square test allows us to determine whether the differences observed in the above results are statistically significant. This test, applied to the values obtained for *-et* and '*petit* + noun' / 'noun + *petit*' in FR-CA and CA, gives a result of 505.04 ($df=1$, $p<0.001$), which indicates that the difference between the distributions of formal and semantic diminutives in these subcorpora is highly significant. Applied to EN-CA and CA (*-et* and '*little* + noun'), the test gives a value of 14.65 ($df=1$, $p<0.001$), which is much lower than the previous one but remains highly significant. In light of the chi-square results, it can be inferred that the translated texts make greater use of semantic diminutives than CA, especially in the case of FR-CA, while formal diminutives are used less in the translations.

With regard to our hypotheses, the chi-square results would clearly support the second hypothesis in the case of FR-CA, where the gravitational pull exerted by semantic diminutives would prevail. Consequently, formal diminutives (*-et*) would be underrepresented in translations from French into Catalan. In the case of EN-CA, the underrepresentation of formal diminutives in translations is less pronounced, but it reaches a high level of statistical significance, thus it can

also be said that formal diminutives are underrepresented in translations from English. The results of our previous study also showed an underrepresentation of formal diminutives (*-ito/-illo*) in the translated texts (in both EN-ES and FR-ES), which necessarily implied an overrepresentation of semantic diminutives (*‘pequeño + noun’ / ‘noun + pequeño’*) in both language combinations.

5.2. Connectivity results

In order to analyse the connectivity patterns between diminutives in FR-CA and EN-CA, we first focus on the EN-CA corpus, looking at which elements triggered Catalan diminutives (*-et*, *‘petit + noun’/‘noun + petit’*) and their source concentration. Prior to this analysis, the triggers are classified according to the types of results obtained in the corpus searches:

1. Semantic diminutives (*‘little/small/tiny/petit/minuscule, etc. + noun’*).
2. Non-diminutives: words that do not constitute diminutives in the SL.
3. Lexicalised diminutives: diminutives that are not included in the study because they have their own dictionary entry.
4. Other: words expressing different values, but which can imply small size as well, e.g., *‘jeune, short, young, court, etc. + noun’*.
5. Formal diminutives: words with diminutive suffixes in the SLs, such as *-y, -let, -ette, -on, etc.*

The results of the searches for triggers of *-et* in the original EN-CA texts are summarised in Table 4.10.

Table 4.10: Triggers of *-et* in EN-CA

EN-CA	<i>-et/-eta/-ets/-etes</i>	
Total triggers	126	Source concentration
1a. Semantic diminutives (<i>little + noun</i>)	32	25.40 %
1b. Semantic diminutives (<i>small + noun</i>)	11	8.73 %
2. Non-diminutives	53	42.06 %
3. Lexicalised diminutives	9	7.14 %
4. Other	16	12.70 %
5. Formal diminutives	0	
Misalignments	5	3.97 %

The 5,405 initial matches were thinned to 500, of which only 126 were words with the diminutive suffix *-et*. In classifying these, we found that the predominant

category of triggers for *-et* was non-diminutives (e.g., ‘ditty-box’ as a trigger for *capseta* or ‘palaver’ as a trigger for *boqueta*), with a source concentration of 42.06 %. The second most common triggers were semantic diminutives (34.13 %), e.g., ‘small spruce trees’ as a trigger for *arbrats*. In third place were triggers that fell within the category ‘Other’: ‘Young ladies’ triggered *jovenetes*. To a lesser extent, we found triggers that were lexicalised diminutives (e.g., ‘cubby’ is a trigger for *cadellet*), and finally there were no triggers that were formal diminutives.

In line with the results of the previous study, where the most frequent triggers of the Spanish suffixes *-ito* and *-illo* in the EN-ES subcorpus were non-diminutive words followed by semantic diminutives (with ‘little + noun’ also at the top), we found that the EN-CA subcorpus behaves identically for the triggers of *-et*. Next, the triggers of the Catalan structures ‘*petit* + noun’ and ‘noun + *petit*’ in the EN-CA originals were analysed and a different result was observed, as can be seen in Table 4.11.

Table 4.11: Triggers of ‘*petit* + noun’/‘noun + *petit*’ in EN-CA

EN-CA	<i>petit</i> + noun / noun + <i>petit</i>	
Total triggers	274	Source concentration
1a. Semantic diminutives (<i>little</i> + noun)	123	44.90 %
1b. Semantic diminutives (<i>small</i> + noun)	90	32.85 %
1c. Semantic diminutives (<i>tiny</i> + noun)	6	2.19 %
2. Non-diminutives	24	0.88 %
3. Lexicalised diminutives	0	0 %
4. Other	27	0.99 %
5. Formal diminutives	0	0 %
Misalignments	4	1.46 %

There were 249 matches for ‘*petit* + noun’ and 25 for ‘noun + *petit*’, making a total of 274. By far the most frequent triggers were semantic diminutives, with a source concentration of almost 80 % (e.g., ‘small beefburger’ triggered *hamburguesa petita*). No lexicalised diminutives or formal diminutives were found. As expected, the triggers of Catalan semantic diminutives are also English semantic diminutives.

The next step was to find the translation equivalents of the main triggers ‘*little/small* + noun’. The results, ranked according to frequency, are shown in Table 4.12:

Table 4.12: Matches for *little* / *small* in EN-CA (raw frequency and target concentration)

'little/small + noun'	Raw frequency	Target concentration
1. 'Petit/menut/xicotet + noun', 'noun + petit/menut/xicotet'	133	30.16 %
2. -et	129	29.25 %
3. Non-diminutives	116	26.30 %
4. Lexicalised diminutives	37	8.40 %
5. Other adjectives	23	5.22 %
Misalignments	3	0.68 %
Total	441	

When searching for the translation equivalents of 'little/small + noun', the number of results was found to be too high for manual analysis and was therefore reduced to 500 occurrences. These were manually analysed and 59 were discarded because 'little' and 'small' had adverbial value or were part of adverbial phrases. The analysis of the remaining 441 occurrences showed that *petit/menut/xicotet* + noun (especially *petit* in postpositional position) is the most frequent translation of 'little'/'small' + noun. Its target concentration was 30.16 % and we found it in cases like 'small oysters' translated as *ostres petites*. The second most frequent match is the diminutive suffix *-et* (with a very similar target concentration of 29.25 %), which occurs in numerous examples such as 'his little throat' translated as *la seua goleta*. In this category, there were two cases of the diminutive *-iu* (*porquiu*). With similar values, and in third place, we found cases where the diminutives 'little'/'small' + noun were translated by non-diminutives (with a target concentration of 26.30 %). An example of this is 'gave a little cry' translated as *cridà*. The lowest target concentration, below 10 %, was found for the category of lexicalised diminutives (*xiqueta*) and 'Other adjectives', i.e., those translations that include adjectives implying values of smallness, such as 'young', 'short', etc. One example was 'little lunch', translated as *menú barat*.

As we know, source concentration and target concentration provide only partial views of connectivity. The strength of the translation relations can best be seen in the UTC. The application of this formula to *-et* and the triggers 'little'/'small' + noun is detailed below.

Of the 126 cases of the Catalan formal diminutive *-et* found in the translations, 43 are triggered by the semantic diminutives 'little/small + noun'; and of the 441 cases of 'little/small + noun' in the original texts, 129 are translated by the formal diminutive *-et*. Therefore, the UTC will be $(43 + 129) \times 100 / (126 + 441) = 30.33 \%$. On the other hand, the application of this formula to the Catalan

semantic diminutive '*petit/menut/xicotet* + noun'/'noun + *petit/menut/xicotet*' and its triggers '*little/small* + noun' can be broken down as follows: of the 274 cases of '*petit/menut/xicotet* + noun' in the translations, 219 are triggered by the diminutives '*little/small/tiny* + noun'; and of the 441 cases of '*little/small* + noun' in the original English texts, 133 are translated by '*petit/menut/xicotet* + noun' or 'noun + *petit/menut/xicotet*'. The UTC will therefore be $(219 + 133) \times 100 / (274 + 441) = 49.23 \%$.

These percentages show that, according to the corpus results, the degree of connectivity between Catalan formal diminutives and their main triggers in EN-CA (i.e., semantic diminutives) is much lower than observed in the translation task results (30 % in the corpus versus more than 70 % in the translation tasks). In the previous study, we obtained a UTC between the Spanish formal diminutive *-ito* and its trigger, the English semantic diminutive '*little* + noun', of 14.22 %, indicating even lower connectivity. On the other hand, the connectivity observed in EN-CA between English semantic diminutives and Catalan semantic diminutives is much higher, at around 50 %. This difference in the degree of connectivity between English semantic diminutives and Catalan formal diminutives, on the one hand, and between English semantic diminutives and Catalan semantic diminutives, on the other, in favour of the latter, explains to a large extent the difference between the distributions of formal and semantic diminutives in CA and EN-CA. Moreover, the connectivity values observed in the corpus lead us to conclude that the predictive capacity of the translation tasks was rather low, since the results overestimate the degree of connectivity between English semantic diminutives and Catalan formal diminutives (the difference between 73 % in the tasks and 30 % in the corpus is very significant).

The same process was carried out for the FR-CA subcorpus. The results of the search for the triggers of *-et* in the original FR-CA texts are summarised in Table 4.13.

Table 4.13: Triggers of *-et* in FR-CA

FR-CA	<i>-et/-eta/-ets/-etes</i>	
Total triggers	129	Source concentration
1. Semantic diminutives (' <i>petit</i> + noun')	31	24.03 %
2. Non-diminutives	51	39.53 %
3. Lexicalised diminutives	9	6.97 %
4. Other	27	20.93 %
5. Formal diminutives	10	7.75 %
Misalignments	1	0.77 %

The 2,580 initial matches were thinned out to 500, of which 371 false positives were discarded, e.g., for proper names (e.g., *Londet*, *Natzaret*), lexicalised diminutives (e.g., *xiquet* ‘boy’, *basquet* ‘box’) or other words ending in *-et* that are not diminutives (e.g., *fet* ‘fact’, *dret* ‘right’).

Finally, there were 129 cases that actually contained the diminutive suffix *-et*. The classification of these cases shows that the dominant category of triggers of *-et* is ‘non-diminutives’ (e.g., *fille* as a trigger of *doneta* or *mouchoir* as a trigger of *mocadoret*; we also found French expressions that give rise to translations with equivalent phraseological units containing diminutives in Catalan: *faire son Médrano* as a trigger of *muntar el numeret* or *faire des clins d’oeil* as a trigger of *fer l’ullet*), with a source concentration of 39.53 %. The second most common triggers were semantic diminutives (24.03 %); for example, *petits chiens* was the trigger of *gossets*. Next were triggers in the category ‘Other’, which includes cases of words that can trigger the use of diminutives in the TM because of their semantic content (e.g., *jeune*, *court*, *un peu*, *léger*, etc.); for example, *un peu* triggered *una miqueta* on numerous occasions. The least common categories were formal diminutives (7.75 %), including, for example, *poupounette* as a trigger for *nineta*, and finally lexicalised diminutives, with a source concentration of 6.97 % (e.g., *tablettes* is a trigger for *tauletes*, *napperons* triggers translations such as *tovalletes* or *tapetets*).

As we can see, the results are very similar to those obtained in the EN-CA subcorpus (see Table 4.9), although there is a difference in the categories of formal diminutives (which are more common in the FR-CA subcorpus) and lexicalised diminutives (whose source concentration is higher in the EN-CA subcorpus).

We then analysed the triggers of the Catalan structures ‘*petit* + noun’ and ‘noun + *petit*’ in the FR-CA originals and observed the following results, detailed in Table 4.14:

Table 4.14: Triggers of ‘*petit* + noun’/‘noun + *petit*’ in FR-CA

FR-CA	‘ <i>petit</i> + noun’/‘noun + <i>petit</i> ’	
Total triggers	282	Source concentration
1a. Semantic diminutives (<i>petit</i> + noun)	254	90.07 %
1b. Semantic diminutives (<i>minuscule</i> + noun)	2	0.70 %
1c. Semantic diminutives (<i>menu</i> + noun)	1	0.35 %
2. Non-diminutives	9	3.19 %
3. Lexicalised diminutives	3	1.06 %
4. Other	11	3.90 %
5. Formal diminutives	2	0.70 %
Misalignments	0	0 %

Thus, 279 occurrences were obtained for the structure ‘*petit* + noun’, of which one was discarded because it was a lexicalised diminutive (*petita bourgeoisie/petite bourgeoisie*); all the others (278) were true positives. On the other hand, 6 instances of ‘noun + *petit*’ were found, of which 2 false positives were also discarded (e.g., because the term *petite* in French is a noun and not an adjective), giving a total of 282. As expected, the most frequent triggers were semantic diminutives, with an overwhelming source concentration of 91.12 % (e.g., *petite famille* triggered *petita família*), reflecting the similarity between the two languages (French and Catalan) in terms of this structure. It should be noted that, within this category, the predominance of the adjective *petit* in French stands out, although some examples of triggers with adjectives such as *minuscule* (0.70 %) and *menu* (0.35 %) were also found. Next, although with a much lower source concentration (3.90 %), is the category ‘Other’ (e.g., *moindres objets* triggered *petits objectes*), followed by ‘Non-diminutives’ (3.19 %; e.g., *pièce* triggered *petita sala*). Finally, in contrast to the EN-CA subcorpus, some lexicalised diminutives (1.06 %; e.g., *bosquet* triggered *petit bosc*) and formal diminutives (0.70 %, with terms such as *piécette* or *ariettes* triggering the translations *petita moneda* or *petites àries*) were found in the FR-CA subcorpus.

We then searched the FR-CA subcorpus for the translation equivalents of the main triggers (the semantic diminutives ‘*petit*, *minuscule*, *menu* + noun’) in order to determine their target concentration. The results are shown in Table 4.15:

Table 4.15: Matches for *petit/menu/minuscule* in FR-CA (raw frequency and target concentration)

‘ <i>Petit/menu/minuscule</i> + noun’	Raw frequency	Target concentration
1. ‘ <i>Petit/menut/xicotet</i> + noun’	207	42.76 %
2. <i>-et</i>	130	26.85 %
3. Non-diminutives	90	18.59 %
4. Other adjectives	26	5.37 %
5. Lexicalised diminutives	22	4.54 %
Misalignments	9	1.85 %
Total	484	

The results for the translation equivalents of ‘*petit/minuscule/menu* + noun’ were also too numerous for manual analysis, so we thinned them to 500 occurrences, all of which were analysed manually. Of these, 16 cases in which *petit* was part of lexicalised uses (e.g., *petit pois* translated as *pèsols*, *petit jour*

as *alba*, and *petit-déjeuner* as *desdejuni*) were discarded. The analysis of the remaining 484 results showed that ‘*petit/menut/xicotet* + noun’ (especially with *petit* before the noun, as it appears in the SL) is the most common translation of ‘*petit/menu/minuscule* + noun’. Specifically, its target concentration was 42.76 % and it is a structure that appears in very similar cases in both languages, as can be seen in the following examples: *petites doses* is translated as *petites dosis*, *petite famille* is translated as *petita família*, and *petit sourire* is translated as *petit somriure*. The second most common translation is the diminutive suffix *-et* (with a target concentration of 26.85 %), which appears in examples such as *petite ville*, translated as *poblet*, and *petits yeux*, translated as *ullets*. In third place, we found cases where the diminutive form ‘*petit/menu/minuscule* + noun’ was translated by words or expressions that are not diminutives in the TL (with a target concentration of 18.59 %), such as *petit magasin* translated as *merceria* or *petite ceinture* translated as *cinturó*. The final categories, with low target concentrations of less than 10 %, are ‘Others’ (5.37 %) and ‘Lexicalised diminutives’ (4.54 %). In the first of these categories, we find cases in which the original structure was translated by expressions which did not constitute diminutives in the TL, but which semantically denoted smallness, colloquialism or affectivity (e.g., *petit homme* translated as *insignificant home* or *petit pote* as *col·legui*); in the second, we find lexicalised expressions such as *petite fille* as *xiqueta* or *petit garçon* as *xiquet*.

The UTC formula was then applied, both to the structures with the formal diminutive *-et* and to the structures ‘*petit* + noun’, ‘noun + *petit*’ and their corresponding triggers ‘*petit/menu/minuscule* + noun’.

In the first case, of the 129 cases of *-et* in the Catalan translations, 31 are triggered by a French semantic diminutive (‘*petit* + noun’); and of the 484 cases of French semantic diminutives, 130 are translated by the Catalan formal diminutive. The application of the UTC formula would be as follows: $(31 + 130) \times 100 / (129 + 484) = 26.26 \%$. In the second case, in order to determine the connectivity between the Catalan semantic diminutives ‘*petit/menut/xicotet* + noun’/‘noun + *petit/menut/xicotet*’ and the French semantic diminutives ‘*petit* + noun’, we observed that, of the 282 cases of ‘*petit/menut/xicotet* + noun’ (or vice versa), 257 are triggered by a French semantic diminutive; and of the 484 cases of French semantic diminutives, 207 are translated by Catalan semantic diminutives. Therefore, the UTC would give the following result: $(257 + 207) \times 100 / (282 + 484) = 60.57 \%$.

According to these results, the degree of connectivity between Catalan diminutive forms and their main triggers is low in the case of the correspondence between the Catalan suffix *-et* and the French semantic diminutive *petit* + noun

(26.26 %), but it is relatively high between the structures '*petit/menut/xicotet* + noun' and '*petit* + noun' (60.57 %). On the other hand, in the previous study, the UTC between the formal diminutive *-ito* and its French trigger '*petit* + noun' was 30.61 %, which indicates a slightly higher degree of connectivity than that observed in this study for the equivalent formal diminutive in Catalan (26.26 %). Nevertheless, application of the UTC formula to the results of the translation tasks revealed high connectivity (around 70 %) between Catalan formal diminutives and French semantic diminutives. Thus, we are seeing a similar phenomenon to the one observed in the EN-CA subcorpus. On the one hand, the connectivity observed in FR-CA between French semantic diminutives and Catalan semantic diminutives largely explains the overrepresentation of the latter in comparison with CA. On the other hand, the translation tasks overestimate the connectivity between French semantic diminutives and Catalan formal diminutives, thus introducing a bias in the formulation of the hypotheses (specifically, in the first of the two alternative hypotheses), which does not correspond to the results of the corpus analysis. The connectivity is consistent with the gravitational pull of French semantic diminutives and not with the magnetism of Catalan formal diminutives, and this explains the differences in the distribution, whereby semantic diminutives occur more frequently in FR-CA than in CA.

6. Conclusions

As in the previous study (Tello, under review), in which the Spanish formal diminutive *-ito* was found to be the most salient according to the results of our corpus analysis, here we have demonstrated the magnetism of the Catalan formal diminutive *-et* in comparison to other formal diminutives and to semantic diminutives in this language. On this occasion, the results of translation tasks carried out by professional translators also confirmed the magnetism of *-et*, which was the most widely used diminutive. On the other hand, and as could be expected, this study also confirms the magnetism of analytical diminutives of the type '*little/small/petit* + noun' in English and French, which was observed in the previous study. Finally, in the translation tasks carried out by professional translators, the connectivity between semantic diminutives in the SLs and formal diminutives in Catalan was high in both EN-CA and FR-CA (over 70 %).

This evidence led us to formulate two alternative hypotheses. The first considered the possibility of an overrepresentation of Catalan formal diminutives (*-et*) in translations, and thus an underrepresentation of semantic diminutives if magnetism and connectivity prevailed. Conversely, the second hypothesis predicted the underrepresentation of formal diminutives in translations (and the

overrepresentation of semantic diminutives) if gravitational pull prevailed. The results of the previous study showed an underrepresentation of Spanish formal diminutives (*-ito/-illo*) in both EN-ES and FR-ES translated texts, whereas semantic diminutives (*'pequeño + noun'/'noun + pequeño'*) were overrepresented. Similar results are obtained in this paper, which leads us to confirm the second hypothesis, according to which there is an underrepresentation of the Catalan formal diminutive *-et* (and, consequently, an overrepresentation of the Catalan semantic diminutives) in both language pairs. The differences in the distribution of formal and semantic diminutives between the EN-CA and FR-CA translated components (83.30 %/16.69 % and 44.59 %/55.40 %, respectively), on the one hand, and the untranslated CA component (87.47 %/12.52 %), on the other, are due to two factors: the gravitational pull of English and French semantic diminutives, and the greater connectivity between the SL semantic diminutives and Catalan semantic diminutives than between the SL semantic diminutives and Catalan formal diminutives. This second factor, connectivity, contradicts the results of the translation tasks, in which formal diminutives prevailed over semantic diminutives in the translated Catalan texts. The results of both studies confirm that, despite the clear salience of formal diminutives in the TL, the gravitational pull exerted by semantic diminutives in the SLs (*'little/small + noun'* and *'petit + noun'*), together with the relatively high connectivity between these diminutives and their Catalan counterparts (49.23 % in EN-CA and 60.57 % in FR-CA), leaves its mark on the translators' decisions. This effect is most evident in the FR-CA language pair.

In conclusion, this study and the previous one together show that in both EN-ES and FR-ES, as well as in EN-CA and FR-CA, a translation effect is observed in the distribution of formal and semantic diminutives, which differs significantly in the four translated components from the distribution observed in the non-translated ES and CA components. The difference (and hence the translation effect) is that formal diminutives are underrepresented, and semantic diminutives are overrepresented in the translations. This occurs not because of, but in spite of, the magnetism of formal diminutives in the TLs (CA and ES). However, the fact that Hypothesis 2 is confirmed, and not Hypothesis 1, is due not only to the gravitational pull exerted by the English and French semantic diminutives but also to the relatively high connectivity between these forms and their Catalan counterparts. This was not predicted by either of the hypotheses: in the first, connectivity was aligned with magnetism, while in the second, gravitational pull acted against the other two factors. What the final results of the parallel corpus analysis show us is that connectivity is aligned with gravitational pull and not with magnetism. Since the prediction error regarding connectivity derives

from the translation tasks, we are forced to question the predictive capacity and therefore the validity of these tasks. It is possible that the fact that translators were presented with sentences containing a high concentration of diminutive expressions put them on alert and led them to the translation solution which, in their opinion (and also, according to the magnetism data), was more natural and normative in Catalan. The concentration of diminutive expressions may have introduced a bias that would not occur in a real translation situation, where diminutives appear far less frequently. This, of course, does not undermine the value of data from experimental tasks as a complement to the corpus data when testing the GPH, but it does call into question the design of the specific translation task used in this study, which must be revised in future work.

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