Do the mechanisms that govern syntactic choices differ between original and translated language? A corpus-based translation study of PP placement in Dutch and German

Gert De Sutter & Marc Van de Velde

University College Ghent / Ghent University

1. Introduction

In recent years, several corpus-based translation studies have dealt with the linguistic relationship between original texts and translated texts in a specific language. It was found repeatedly that language use in original and translated texts differs systematically on all linguistic levels, i.e. on the lexical (e.g., Kenny 2001, Paloposki 2001, Laviosa 2002), the morpho-syntactic (e.g., Puurtinen 1998, Olohan & Baker 2000, Olohan 2003, Konšalová 2007) as well as on the discursive (Mason 2000) level. As most of these differences occur independently of the source and target language, i.e. the influence of the source and target linguistic system cannot be called in to explain these differences, translation scholars have begun to explore the internal mechanisms of the translation process itself as the cause of the observed differences between original and translated language. Four frequently researched internal translation mechanisms or principles, which are held to be universal, are explicitation, simplification, normalization and levelling out (cf. Baker 1993 and 1996).

Notwithstanding the significant and important achievements of this strand of research for translation studies and linguistics, there are, however, some analytical and methodological issues that need to be addressed.

First, corpus-based translation studies show a bias towards English. Obviously, if one

wants to maintain the universal character of the translation principles mentioned above, more research is needed on other languages.

Second, very few studies use statistical techniques to check whether the observed differences are significant. Whereas in mainstream corpus linguistics all sorts of monovariate, bivariate and multivariate statistical techniques are used for checking the representativity and validity of the obtained results, translation scholars often restrict themselves to presenting absolute and relative figures. However, given the fact that results are inevitably drawn on a sample of translations (as opposed to the complete population of translations), it is indispensable to question the representativity and validity of the results: to what extent would the results be the same if a different sample was drawn from the same population? In other words: how confident can one be that the obtained results are representative and valid for the complete population? By means of statistics, these issues can be tackled in a systematic, objective and reliable way.

Third, corpus-based research of all kinds of variation in original and translated texts is mostly restricted to comparing the distribution of linguistic variants in original and translated texts, without investigating the factors that influence this distribution. Olohan and Baker (2000), for instance, report in their classic paper on optional *that* (as in *I don't believe (that) he did this*) that explicit *that* (vs. implicit or zero *that*) is used more often in translated texts than in original texts, thereby providing evidence for the explicitation universal. However, what remains uninvestigated, are the language-internal and language-external factors that guide language users in choosing between explicit and implicit *that*. Research in variational linguistics has made clear that the choice between competing forms, whether they are lexical, morphosyntactic or discursive in nature, are usually governed by different types of factors (e.g., Arnold et al. 2000, Grondelaers 2000, Gries 2003, De Sutter 2005, Diessel & Tomasello 2005). The obvious

question, then, is: does the set of factors that influences a given variation phenomenon differ between translated texts and original texts? To put it somewhat differently: are the distributional differences between original and translated texts reflected (or even caused) by differences in the underlying cognitive-functional system that determines the linguistic choices? If such underlying differences can be detected, can they be accounted for by the translation universals mentioned above?

The aim of this study is to answer these questions in a case study which addresses a type of syntactic variation that occurs both in German and Dutch, viz. PP placement (see section 2 for further details). PP placement has been studied widely in German and Dutch linguistics, however, an in-depth comparison of the factors that trigger PP placement in original and translated language has not yet been conducted. Building on a balanced corpus of literary Dutch and German (see section 3 for an overview of the corpus materials), the following research questions will therefore be answered:

- Are there any distributional differences between original and translated texts (section 4.1)?

- What is the effect of the factor *definiteness of the PP* on PP placement? Does the size and direction of the effect differ between original and translated texts (section 4.2)?

- What is the effect of the factor *function of the PP* on PP placement? Does the size and direction of the effect differ between original and translated texts (section 4.3)?

- What is the effect of the factor *clause type* on PP placement? Does the size and direction of the effect differ between original and translated texts (section 4.4)?

The answers to these questions will be verified statistically and interpreted qualitatively against the background of what is already known about translation universals and the cognitive-

functional functions of PP placement in Dutch and German. Thus, the focus of the present study can be characterized as a quantitative and qualitative corpus-based translation study. Because of space limitations, no attempt will be made to compare Dutch and German in a contrastive way.

2. PP placement in Dutch and German

Dutch and German syntax are characterized by the so-called brace construction (Van de Velde 1973, Haeseryn 1997). This is a discontinuous construction in which the verbal elements take fixed positions in the clause. In main clauses, the finite verb takes the second or first position (this is called the first pole of the brace construction), the infinite verbs and/or verbal particles occur at the end of the clause (the second pole). If no infinite verbs or verbal particles are present in the clause, the second pole remains empty. The non-verbal constituents in the clause are distributed around these two verbal poles in a prefield (the position just before the first pole), the middle field (the position in between the poles) and the postfield (the position after the second pole). In the Dutch example (1), the first pole is taken by the finite verb *begint* ('begins'), the second pole by the infinite verb *te praten* ('to talk'). The prefield is taken by the personal pronoun *hij* ('he'), the middle field by the prepositional phrase *met Benting* ('with Benting'), and the postfield by the prepositional phrase *over de politieke toestand* ('about the political condition').

(1)   [Hij]$_{prefield}$ **[begint]**$_{1st\,pole}$ [met Benting]$_{middle\,field}$ **[te praten]**$_{2nd\,pole}$ [over de politieke toestand]$_{postfield}$
  'He begins to talk with Benting about the political condition'

The brace construction in Dutch and German subordinate clauses deviates somewhat from the brace construction in main clauses. Instead of the finite verb, the first pole in subordinate clauses is taken by the conjunction; if not present, the first position remains empty. The second pole is

taken by the verbal elements (finite, infinite verbs as well as verbal particles), which converge at the end or near to the end of the clause.

(2) **[ob]**_{1ste pole} [ich das Kind]_{middle field} **[bewahren konnte]**_{2nd pole} [vor unserer Sprache]_{postfield}
   'whether I could protect the child against our language'

In the German example (2), the first pole is taken by the conjunction *ob* ('whether'), the second pole by the verbal complex *bewahren konnte* ('could protect'). The prefield is never realized in subordinate clauses, as the conjunction takes the first position in the clause. The middle field is realized by the noun phrase *ich das Kind* ('I the child') and the postfield by the prepositional phrase *vor unserer Sprache* ('against our language').

The position of prepositional phrases (further: PP's) in the Dutch and German brace construction is flexible. Language users may put PP's either in the middle field or in the postfield.[1] In example (1) and (2), which are repeated as example (3a) and (4a), the PP's *over de politieke toestand* ('about the political situation') and *vor unserer Sprache* ('against our language') are placed in the postfield, in example (3b) and (4b) they are placed in the middle field (PP's are underlined and the verbal poles are demarcated by pipes).

(3) a. *Hij |begint| met Benting |te praten| <u>over de politieke toestand</u>*
     b. *Hij |begint| met Benting <u>over de politieke toestand</u> |te praten|*

   'He begins to talk with Benting'

(4) a. *|ob| ich das Kind |bewahren konnte| <u>vor unserer Sprache</u>*
     b. *|ob| ich das Kind <u>vor unserer Sprache</u> |bewahren konnte|*

   'whether I could protect the child against our language'

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[1] For the sake of completeness, it should be mentioned that PP's can also be placed in the prefield. However, in this

PP's in the postfield ((3a) and (4a)) are traditionally said to be extraposed, i.e. placed outside of the brace. In the remainder of this text, we will refer to this as *PP extraposition*. PP's that are located in the middle field will be referred to as *PP in middle field.*

Previous empirical analyses have pointed out that (i) the general distribution of PP placement differs significantly between Dutch and German, as Dutch uses PP extraposition more often than German (e.g., van Haeringen 1956, Van de Velde 1973, Haeseryn 1998); (ii) PP placement is not a case of free variation, as different factors have found to be influencing the choice. The most frequently mentioned factors are definiteness of PP, function of PP, clause type, heaviness of PP, stress, discursive proximity, register, gender and social class. Table 1 summarizes the effect of these factors as found in previous work on original Dutch texts. German PP extraposition is less well-studied: (i) analyses of German PP extraposition are mostly not separated from other types of extraposition and (ii) corpus studies are less systematic and profound (e.g., Rath 1965, Hoberg 1981 and Zebrowska 2007). Reasons for the discrepancy between the Dutch and German research tradition may be found in the fact that PP extraposition occurs less frequently in German than in Dutch, so that quite often German grammarians consider PP extraposition to be marked and therefore less appropriate for linguistic study.

Factor	Dutch
Definiteness of PP	Probability of PP extraposition increases when PP is indefinite (vs. definite) *[Jansen 1978]*
Function of PP	Probability of PP extraposition increases when PP functions as an object (vs. adjunct) *[Jansen 1978]*
Clause type	There is no association between PP extraposition and clause type (main vs.

study the structural variation is limited to the variation between middle field and postfield.

	subordinate clause) *[Jansen 1978]*
Heaviness of PP	Probability of PP extraposition correlates positively with the length of the PP *[Jansen 1978, 1979, Braecke 1990]*
Stress	There is no association between PP extraposition and accentuation of PP (accented vs. non-accented PP) *[Jansen 1978]*
Discursive proximity	Probability of PP extraposition increases when an anaphor in the next clause refers to the PP *[Jansen 1978]*
Register	Probability of PP extraposition increases in formal texts (vs. informal texts) *[Jansen 1978]*
Gender	Probability of PP extraposition increases when language user is male (vs. female language users) *[Jansen 1978]*
Social class	Probability of PP extraposition increases when language user belongs to lower class (vs. high class) *[Jansen 1978]*

Table 1: List of factors found relevant in determining the choice between presence vs. absence of PP extraposition in Dutch.

The effects mentioned in table 1 are mostly interpreted in either purely syntactic terms (lightening the brace) or in semantic (idiomaticity), prosodic (accent distribution) or discursive terms (information distribution) (e.g., De Schutter 1976, Jansen 1978 & 1979, Haeseryn et al. 1997, Braecke 1990, Jansen & Wijnands 2004, Van Canegem-Ardijns 2006).

3. Data

The analysis of PP placement in Dutch and German original and translated texts is based on a balanced corpus of 40 original and translated literary Dutch and German novels. As can be seen in table 2, the corpus is structured along two dimensions, viz. language (German vs. Dutch) and language variety (original vs. translated), yielding four main corpus components: Dutch original

texts, German original texts, Dutch translated texts and German translated texts. Each of these components is equally represented in the corpus, i.e. they all contain 10 different novels by 10 different authors. By doing so, it was hoped to rule out as much individual variation as possible (cf. Jansen 1978). In order to increase the comparability of the German and Dutch original texts, texts were chosen from the same period (1950-1970) and the same type of register (fine literature), thereby excluding a potential underlying influence of register or diachronic variation. Additionally, the translated texts in the corpus are direct translations of the novels in the original components of the corpus, thereby increasing the comparability of the corpus components even more. Thus, the translated texts in the Dutch translated component are translations of the original German novels that were selected for the original component. Conversely, the translated texts in the German translated component are translations of the original Dutch novels that were selected for the original component.

	German	Dutch
Original	F. Dürrenmatt	I. Michiels
	H. Böll	J. Vandeloo
	W. Hildesheimer	P. van Aken
	P. Weiss	J. Daisne
	G. Kunert	L.P. Boon
	U. Johnson	H. Haasse
	G. Grass	W.F. Hermans
	S. Lenz	J. Hamelink
	J. Lind	J. Wolkers
	I. Bachmann	H. Mulisch

Translated	Michiels [Piper][2]	F. Dürrenmatt [Boey]
	J. Vandeloo [Hermanowski]	H. Böll [V.d. Plas]
	P. van Aken [Dinger-Hinterkausen]	W. Hildesheimer [Etty]
	J. Daisne [Hermanowski]	P. Weiss [Schuur]
	L.P. Boon [Dinger-Hinterkausen]	G. Kunert [Salomons]
	H. Haasse [Tichy]	U. Johnson [Cornips]
	W.F. Hermans [Piron]	G. Grass [Manger]
	J. Hamelink [Hillner]	S. Lenz [Coutinho]
	J. Wolkers [Hillner]	J. Lind [Coutinho]
	H. Mulisch [Loets]	I. Dachmann [Mulder]

Table 2: Overview of the corpus of literary Dutch and German.

From the corpus of literary texts, we first selected the first 250 sentences of each of the 40 novels (resulting in a derived corpus of 10000 clauses). All PP's located in the middle field or in extraposition of these 10000 clauses were then retrieved, which resulted in 4238 observations, 2318 (54.70%) of which in Dutch and 1920 (45.30%) in German. The difference between the number of PP's in Dutch and German is statistically significant ($\chi^2 = 37.19$, df = 1, p < .0001) and can be attributed to the fact that German is a case language, whereas Dutch is not (anymore). As a consequence, German language users can use morphological case for marking grammatical function, next to prepositions, whereas Dutch language users can only resort to prepositions.

After retrieving the data, they were annotated for the dependent variable (PP placement) and for the three independent factors under scrutiny: definiteness of PP, function of PP and clause type. The software used for the statistical analyses to be presented below is R 2.7.0

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[2] In between square brackets is the name of the translator.

(2008). It is important to note that the focus will be on the interpretation of the analyses, not on the technical details (cf. Agresti 1996), and that all statistical analyses used in the remainder of this article are not a goal in their own right; they are simply tools which enable us, based on our (limited) sample of 4238 clauses, to make reliable claims about the population of all clauses with PP's in the middle field or in extraposition. For all statistical tests performed in this study, significance cut-off level is set at .05: all p-values smaller than .05 indicate statistical significance, p-values larger than .05 indicate non-significance.

4. Results and discussion

We analyzed the data in four steps. In the first step, we checked by means of a chi-squared analysis whether PP placement differs significantly in original vs. translated language. Additionally, if a significant difference was detected, an odds ratio (O.R.) was computed. O.R.'s range from 0 to $+ \infty$, thereby indicating what the exact size and direction of the difference is: the value 1 signifies 'no statistical association', values < 1 and > 1 signify a negative and a positive association respectively (i.e. the direction of the effect); values farther from 1 represent larger effect sizes. Thus, O.R. values of 1.75 and 4.65 both indicate positive associations, the latter value, however, shows the largest effect. This part of the investigation will answer the question whether the findings by a.o. Olohan & Baker (2000) – i.e. translated and original language exhibit different syntactic preferences – can be verified for another type of syntactic variation in two other Germanic languages.

In the following three steps, the effect of each of the three selected factors on PP placement is investigated: do definiteness of the PP, PP function and clause type affect the position of Dutch and German PP's? Here too, chi-squared analyses and O.R.'s are computed to find out whether each factor has a significant effect and, if it does, what the size and direction of

the effect is. If a certain factor has more than two values (cf. PP function below), we computed

adjusted standardized residuals to find out which value has the largest impact on PP placement.

This part of the investigation answers the new question whether PP placement in translated and

original language is influenced by the same factors. A negative answer would imply that

translated and original language are not only different in choosing other syntactic alternatives,

but also in the underlying cognitive-functional mechanisms that determine the choice between

these alternatives.

4.1 PP placement in translated and original texts: general distribution

Graph 1 shows the distribution of the two PP positions in original and translated German. As can

be seen, the majority of the PP's are placed in the middle field, irrespective of whether they are

translated or original. However, in translated German, PP's occur even more frequently in the

middle field (95.63%), compared to original German (91.63%). The difference between original

and translated German is statistically significant ($\chi^2 = 12.51$, d.f. = 1, p < .001), and yields an

O.R. of 2 (C.I. = 1.35 - 2.95)[3]. This means that the probability of PP's occurring in extraposition

is twice as large in original compared to translated German. Thus, just like Olohan & Baker

(2000), it was found that original and translated German have significantly different syntactic

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[3] Since an O.R. is computed on the basis of a sample (i.c. a sample of 4238 observations), one needs to check

whether this O.R. is representative for the larger population (i.e. all PP's in original and translated Dutch and

German that are placed in the middle field or in extraposition). To that end, a confidence interval (C.I.) is calculated.

This shows the range of values in which one can find with 95% certainty the true population O.R. The closer the

limiting values of a confidence interval, the more precise the population O.R. can be determined. If the value '1' (no

association') is not in the interval, one can say with 95% certainty that the association between variables is

significant.

preferences. An explanation for this difference will be provided together with an explanation for the results of PP placement in Dutch.

Graph 1: PP placement in original and translated German.

Graph 2: PP placement in original and translated Dutch.
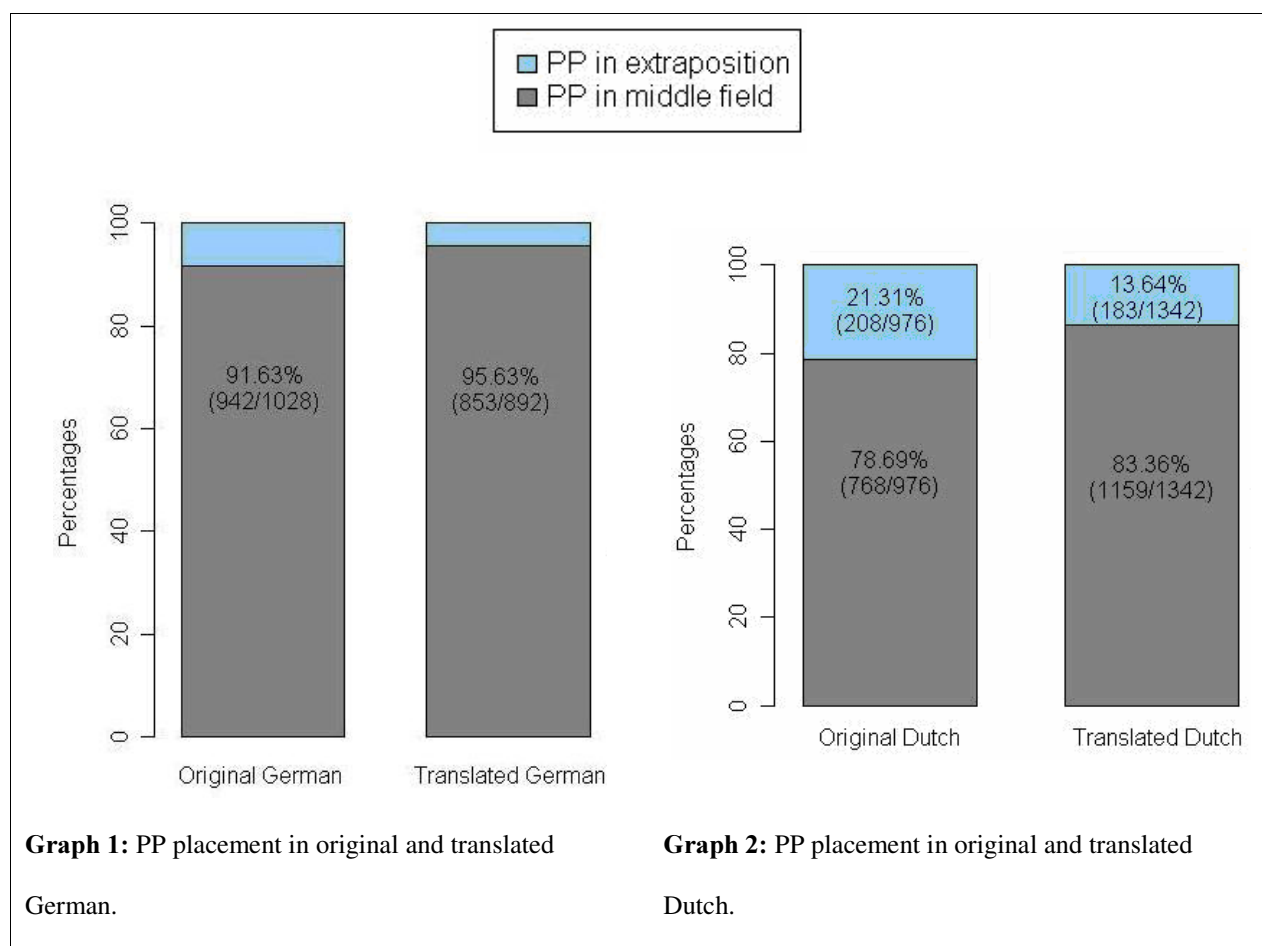
Graph 2, representing PP placement in original and translated Dutch, shows first of all that Dutch uses PP extraposition more frequently than German. This observation is in conformity with the findings in a.o. van Haeringen (1956), Van de Velde (1973), Haeseryn (1998). However, given the non-contrastive nature of this paper, we will not elaborate on this issue. Graph 2 moreover shows a similar pattern as graph 1, i.e. original Dutch puts PP's more frequently in extraposition than translated Dutch. This difference is statistically significant ($\chi^2 = 23.74$, d.f. = 1, p < .0001), and yields an O.R. = 1.72 (C.I. = 1.38 - 2.13), signifying that the probability of PP's occurring in extraposition is 72% as large in original compared to translated Dutch. Here too, then, Olohan &

Baker's (2000) findings about different syntactic preferences can be confirmed.

The question arises, then, why translated Dutch and German exhibit a clear preference for PP's in the middle field. First, let's turn to the Dutch data. One of the answers might be interference of source language. Recall that the source language of the Dutch translated texts in our corpus is German, and that German, in general, displays a more outspoken preference for PP's in the middle field. The observation, then, that in translated Dutch PP's are more often placed in the middle field, could be interpreted as a reflection of the German preference for middle field placement. Translators, in other words, are (either consciously or unconsciously) influenced by the syntactic preferences in the source language, as a consequence of which translated Dutch moves away from the syntactic preferences of original Dutch, taking a position in between original Dutch and (original) German. Graph 3 shows this position in between.
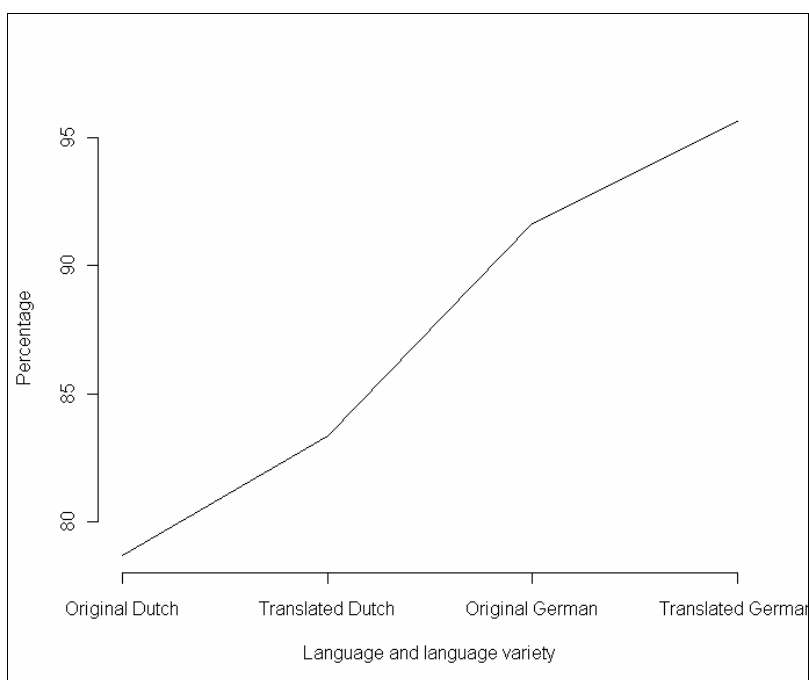
Graph 3: PP placement in original and translated German and Dutch.

Graph 3 moreover shows that the same line of argument cannot be used for the explanation of

the different syntactic behaviour of translated German. If translated German would be influenced by its source language, i.c. Dutch, then one would expect that it uses PP extraposition more often than original German, since PP extraposition is used more frequently in Dutch. However, as graph 3 clearly shows, translated German uses even less PP-extrapositions than original German. An alternative explanation of this observation might be found in the translation universal *normalization*. According to Baker (1996: 176-177), normalization refers to the 'tendency to conform to patterns and practices which are typical of the target language, even to the point of exaggerating them'. Indeed, this appears to have occurred during the translation from Dutch to German: being aware of the different syntactic preferences of German, translators try to comply with this (acquired / intuitive) idea, by translating Dutch clauses containing PP extraposition into German clauses without PP extraposition, thereby almost ignoring the possibility of PP variation in German.

Even though these explanations seem plausible at first sight, other explanations must be considered as well. To give only one other possible explanation, consider the functional principle of information distribution in the clause that has been proposed to explain variation in PP placement (see e.g., Haeseryn et al. 1997: 1365-1366, Patocka 1997: 353). According to this principle, PP extraposition is used as a focus position, i.e. PP's in extraposition receive additional prominence. If this principle is active in both original and translated language, it is not inconceivable that translators have the tendency to decrease or augment the prominence of PP's during the act of translation (by replacing PP's in the middle field to extraposition or vice versa). In other words, the superficial differences between original and translated languages in PP placement may be due to interference or translation universals like normalization, as suggested above, but it might also be the case that these differences are triggered by underlying functional

principles that guide translators, as well as other language users, in choosing between linguistic alternatives. Hence, translation scholars need to realize that superficial differences might have an indirect explanation, as different types of factors and the principles they represent affect the choice language users make during (original and translated) language production. This underscores the importance of investigating the determining factors of linguistic variation in general and syntactic variation in particular. In the following three paragraphs, three frequently mentioned factors of PP placement are investigated in order to verify these ideas.

4.2 The effect of definiteness on PP placement

Graph 4 and 5 show the distribution of the two PP positions relative to the definiteness of the PP. Graph 4, where the German data are represented, shows both for original and translated German that indefinite PP's have greater probability of appearing in extraposition. The difference in PP placement between definite and indefinite PP's is statistically significant, both for original (χ^2 = 3.97, d.f. = 1, p < .05; O.R. = 0.62, C.I. = 0.38 – 0.99) and translated German (χ^2 = 4.99, d.f. = 1, p < .03; O.R. = 0.47, C.I. = 0.23 – 0.92). The O.R.'s for original (0.62) and translated (0.47) German indicate that the odds of definite PP's in extraposition are (1 / 0.62 = 1.61) 62% and (1 / 0.47 = 2.13) 213% (or more than twice) lower than the odds of indefinite PP's in extraposition.

These results suggest that the factor *definiteness* works both in original and translated German in a similar way, since the factor reaches statistical significance in both language varieties and the O.R.'s point out that the size (0.62 and 0.47) and the direction in which the factor works are similar (in both varieties, definite PP's have a greater probability of appearing in extraposition). By means of the Breslow-Day statistic, we can statistically confirm that the factor works in a similar way in both varieties. If this statistic, which verifies whether two O.R.'s are homogeneous, yields a non-significant result, this means that O.R.'s are homogeneous (thus

indicating that the effect sizes of a given factor are similar). The O.R.'s that represent the effect of the factor *definiteness* on PP placement indeed appear to be homogeneous, as the Breslow-Day statistic shows a non-significant result (Br-D $\chi^2 = 0.40$, d.f. $= 1$, $p > .05$).
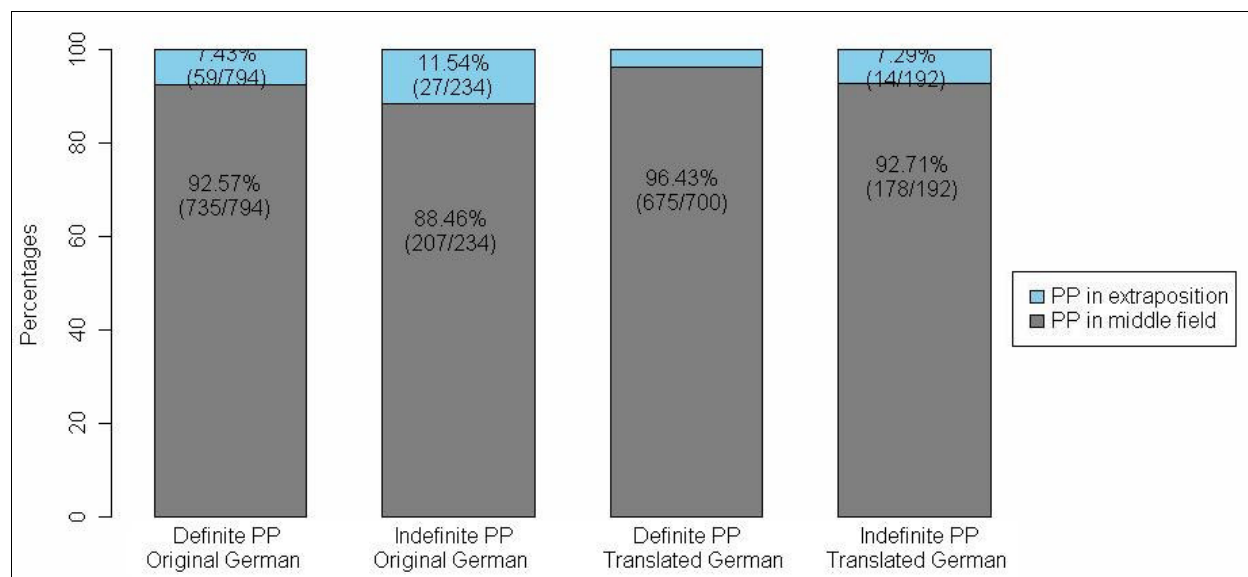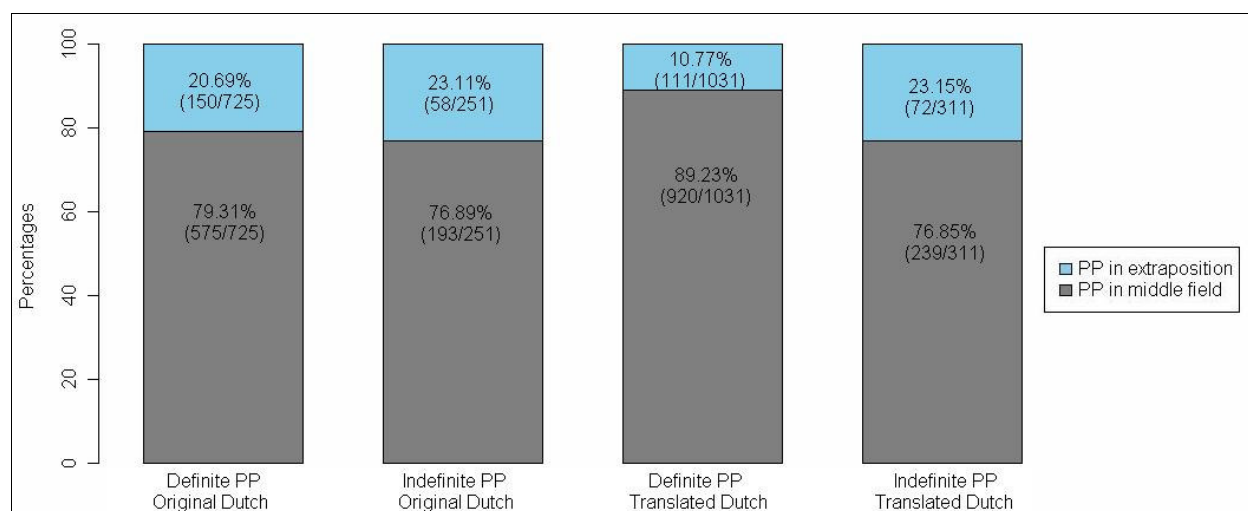

Graph 4: Distribution of PP position in original and translated German as a function of definiteness of PP.

The effect of definiteness of PP on PP placement may be explained by means of the functional principle of information distribution that was presented in the previous section. Since indefiniteness is a reliable marker of new information (e.g., Prince 1981, Grondelaers 2000, Gundel, et al. 1993), and new information is more likely to be focalized, it is obvious that the focalizing function of extraposition is then more often used by indefinite PP's than definite PP's (which represent given information).

Now, let us turn to the Dutch data. On the basis of graph 5, one might think – at first sight – that the factor *definiteness* works in the same way as in German: both in original and translated Dutch, indefinite PP's appear more frequently in extraposition. However, the difference in placement of definite and indefinite PP's in original Dutch is so small, that is not statistically

significant ($\chi^2 = 0.65$, d.f. = 1, p > .05). In translated Dutch, on the contrary, the difference *is* statistically significant; the O.R. moreover indicates that the odds of definite PP's in extraposition are (1 / 0.40 =) 2.5 times higher than the odds of indefinite PP's in extraposition ($\chi^2 = 31.12$, d.f. = 1, p < .0001; O.R. = 0.40, C.I. = 0.29 – 0.56).

Unlike the German data, then, the results of the Dutch data suggest that the factor *definiteness* does not work in the same way in original as in translated Dutch. The Breslow-Day statistic for the homogeneity of O.R.'s confirms this observation. The O.R.'s that represent the effect of the factor *definiteness* on PP placement in original and translated Dutch are not homogeneous, as the Breslow-Day statistic shows a significant result (Br-D $\chi^2 = 10.25$, d.f. = 1, p < .002). This leads to the important conclusion that, at least for the effect of the factor *definiteness*, translated and original Dutch are not only different in choosing other syntactic alternatives, but also in the underlying influence of the factor *definiteness*.

Graph 5: Distribution of PP position in original and translated Dutch as a function of definiteness of PP.

The question arises, then, why definiteness affects PP placement in translated Dutch[4], but not in original Dutch. A possible explanation for this difference might once again be found in source language interference: since the translated Dutch texts are translated from German texts, and original German exhibited a significant difference in PP placement between definite and indefinite PP's, the translator might have transferred this difference into the Dutch translations. If this would turn out to be the case, this would imply that translators can not only be influenced by the superficial syntactic preferences of the source language, but also by the conditioning factors that determine these preferences. Obviously, this explanation, whether plausible or not, has to be considered a hypothesis for future research rather than the final explanation. In the concluding section, ideas for future research that delve deeper into this issue are discussed.

4.3 The effect of function on PP placement

For the investigation of the effect of PP function on PP placement, PP's were classified in four different categories: complement 1, complement 2, adjunct 1 and adjunct 2. PP's functioning as complements are subcategorized by the main verb, they complete the meaning of the verb (in the form of thematic arguments as agent, patient,…). Adjuncts are not subcategorized by the main verb, they operate as satellites, both syntactically as well as semantically (such as adverbial phrases of time or place), as a result of which they can be attached to very different verbs (cf. Somers 1984, Storrer 2003). Complement 1 categories are indirect objects, agentive objects or

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[4] The difference between PP placement of indefinite and definite PP's in translated Dutch may be explained on the basis of the same functional principle of information distribution as the difference in German: extraposition, as a syntactic means for focalization , is more prone to be used by new information, linguistically marked by indefinite determiners, than by given information (marked by definite determiners).

prepositional objects (cf. example 5), complement 2 categories are necessary adverbial phrases

of direction and place (cf. example 6). We separated these categories, as complement 2 is a

transitional category in between complements and adjuncts. Syntactically, it belongs to the

complement category, as it is subcategorized by the main verb, semantically, however it shows

strong connections to the adjunct category, describing the circumstances under which the event

referred to by the verb takes place. This category includes so-called necessary adverbial phrases

of place and direction.

(5) *Dass sie sich fürchteten <u>vor der Zukunft</u>* [source text: P. Weiss]
     'that they were afraid of the future'

(6) *Deze blinde fotograaf bleek te wonen <u>in het smalste huis van de stad, dat tussen twee enorme, hoge herenhuizen inlag</u>* [source text: W.F. Hermans]
     'This blind photographer appeared to live in one of the most narrow houses in the city, which lied in between two enormous, high mansions'

The adjunct 1 category consists of adverbial phrases that modify the main verb of the clause

(degree, direction, duration, manner, means, qualification; example 7), the adjunct 2 category

comprises adverbial phrases that modify the complete clause (time, concession, cause, goal,

reason, modality, place, consequence; example 8).

(7) *Ik had ondertussen rondgekeken <u>naar de schilderijen die iets beter waren dan deze uit de wachtzaal</u>* [source text: L.-P. Boon]
     'In the meanwhile, I looked around at the paintings, which were somewhat better than these in the waiting room'

(8) *Wer <u>in jener Nacht</u> über Ins und Erlach fuhr* [source text: F. Dürrenmatt]
     'Who sailed down Ins and Erlach during that night'

Graph 6 shows how the functional categories are dispersed over the two PP positions in original

German. PP's functioning as indirect objects, agentive objects or prepositional objects

(complement 1) occur most frequently in extraposition (15.60%), followed by clause modifying

adjuncts (adjunct 2; 11.93%), verb modifying adjuncts (adjunct 1; 6.74%) and syntactically

necessary adverbial phrases of direction and place (complement 2; 1.61%). The overall

distribution of the different functional categories is highly significant (χ^2 = 30.88, d.f. = 3, p <

.0001)[5]. The adjusted standardized residuals show that PP's functioning as syntactically

necessary adverbial phrases of direction and place (complement 2) occur less often in

extraposition than expected (resid = 4.41), whereas PP's functioning as indirect objects, agentive

objects or prepositional objects (complement 1; resid = -3.34) and clause modifying adjuncts

(adjunct 2; resid = -2.82) occur more frequently in extraposition than expected. In other words,

this means that it is especially the deviant behaviour of the complement 2 category that causes

the overall distribution to be statistically significant. Now, one could argue that the inclusion of

the complement 2 category is questionable, as it appears to refuse any kind of variation to an

extreme extent. Redoing the chi-squared analysis without the complement 2 category, however,

reveals that the statistical significance is retained (χ^2 = 9.32, d.f. = 2, p < .01). This means, then,

that even without the extreme category of complement 2, PP function has a clear effect on the

choice of PP placement in original German. A partitioned chi-squared test moreover elucidates

that the difference between the two adjunct categories is significant, so that these cannot be

grouped together. In other words, clause modifying adjuncts and verb modifying adjuncts have

another, unique effect on PP placement, just as complement 1 has.

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[5] O.R.'s cannot be computed here, since the factor *PP function* has more than two levels.
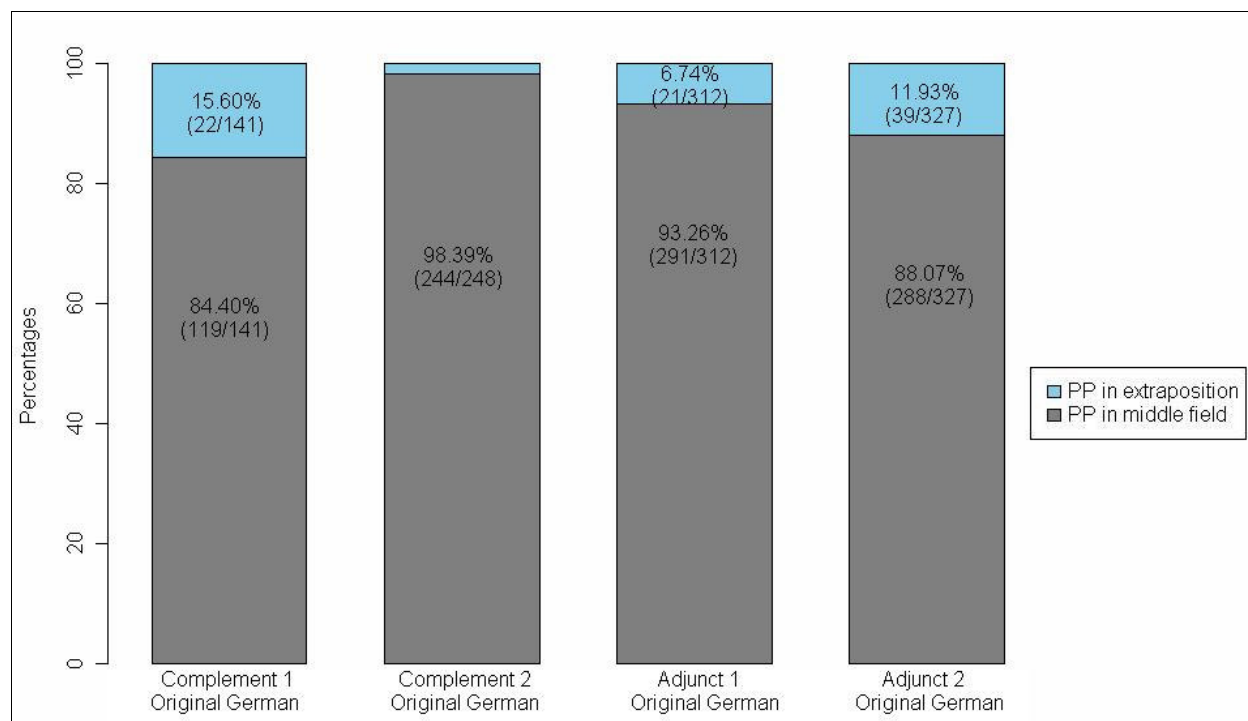
Graph 6: Distribution of PP position in original German as a function of PP function.

The effect of PP function on PP placement may, at least partly, be explained by means of the functional principle of focalization. Complement 1, being a syntactically and semantically integral part of the clause, is most prone to the extraposition for focalization reasons. The behaviour of complement 2, being almost completely resistant to the extraposition, may be explained by the semantic-syntactic principle of inherence (Haeseryn et al. 197: 1245). This principle, which accounts for a lot of word order phenomena in Dutch and German, says that elements that have a close semantic link with the verb, such as necessary adverbial phrases of place or direction (complement 2), are placed preferably close to the left of the second pole. This principle might also explain why verb modifying adjuncts (adjunct 1), i.e. adjuncts that are closely related to the verb, are more resistant to extraposition than clause modifying adjuncts (adjunct 2).

Of course, this inherence principle also affects the complement 1 category, since indirect objects, prepositional objects and agentive objects are subcategorized by the verb, and hence have a close semantic link with the verb. The preferred position for complement 1 is indeed the position left to the second pole, the position that is reserved for prominent phrases. However, by removing the semantically and syntactically important phrases to the position right to the second pole (the extraposition), unexpectedness is triggered, as a consequence of which these phrases, which form an integral part of the clause and are therefore necessary parts in order to process the clause, receive even more prominence, comparable to a contrastive effect. Thus, it appears to be the case that the functional principle may override the inherence principle in order to make essential parts of the clause even more prominent.

The question why clause modifying adjuncts are placed second most in extraposition is less easy to answer, since these categories are less likely to be focalized (consider for instance examples 9 and 10; see also Verhagen 1979).

(9)   *Die er sich freigenommen hatte <u>zur Beschaffung der Papiere</u>* [source text: S. Lenz]
      'Which he took in order to get the documents'

(10) Als zijzelf dat mocht doen <u>op het bureau van prof. Ehling</u> [source text: J. Daisne]
      'If she herself was allowed to do that in prof. Ehling's office'

In (9) and (10), the underlined clause modifying adjuncts of goal and place cannot be considered focalized, but are rather afterthoughts, parts of information that is added at the end of the clause, but are not crucial. Indeed, previous research already hypothesized that the extraposition can also serve as a position for afterthoughts (e.g., Haeseryn et al. 1997: 1365-1366). This leads to the rather tedious situation that extraposition can be used to serve two rather opposite functions (most important part of the clause vs. less important part of the clause). Future research has to make clear to what extent this remains tenable.

The effect of PP function on PP placement in translated German is visualized in graph 7. Compared to the situation in original German, several things attract attention. First, there is an overall lower amount of PP extraposition, which can be traced back to the general preference of translated texts to place PP's in the middle field (cf. section 4.1). Second, both adjunct categories occur most frequently in extraposition (adjunct 2: 7.38%., adjunct 1: 5.98%), whereas in original German, the complement 1 category was most dominant; in translated German, complement 1 occupies only the third position (3.91%). As in original German, complement 2 resists the extraposition the most in translated German (0.35%).

The overall distribution of the different functional categories is highly significant ($\chi^2 = 18.55$, d.f. = 3, p < .001). The adjusted standardized residuals show that PP's functioning as syntactically necessary adverbial phrases of direction and place (complement 2) occur less often in extraposition than expected (resid = 3.99), whereas PP's functioning as clause modifying adjuncts (adjunct 2; resid = -3.11) occur more frequently in extraposition than expected. The other two functional categories have residuals < 2, signifying that they not really contribute to the statistical significance of the overall distribution. Redoing the chi-squared analysis without the complement 2 category, as above, reveals that the statistical significance is not retained ($\chi^2 = 1.88$, d.f. = 2, p > .05).
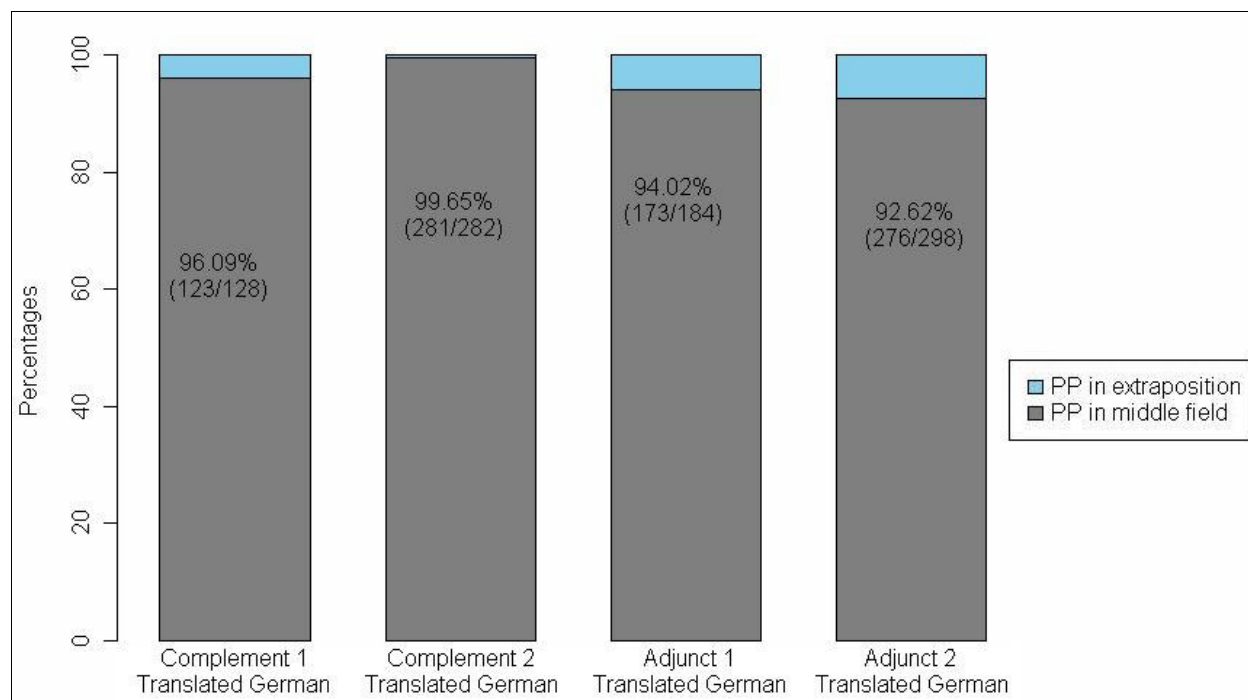
Graph 7: Distribution of PP position in translated German as a function of PP function.

This means, then, that the statistical significance of the effect of PP function in translated German is completely due to the deviant behaviour of the complement 2 category. A partitioned chi-square test confirms this: the real difference in graph 7 is the difference between complement 2 and the other categories. The difference graph 7 visualizes, then, is the difference between those PP functions that allow for placement variation and the PP function that does not. If one accepts the argument that functional categories that do not allow for variation should be left out of the study (given the explicit aim of the study to investigate linguistic variation in translated and original texts), one can only conclude that there is no effect of PP function in translated language. This leads to a similar conclusion as in the previous section on the effect of definiteness in original and translated Dutch: translated and original German are not only different in choosing other syntactic alternatives, but also in the underlying influence of the factor *PP function*. It is unclear to us why this difference exists. As will become clear in the

remainder of this section, it is hard to use source language interference or one of the translation

universals as an explanation for the difference between original and translated German. One

other possible explanation might be the strong bias in translated German toward non-

extraposition, as a consequence of which too little data remain to obtain a statistically significant

result.
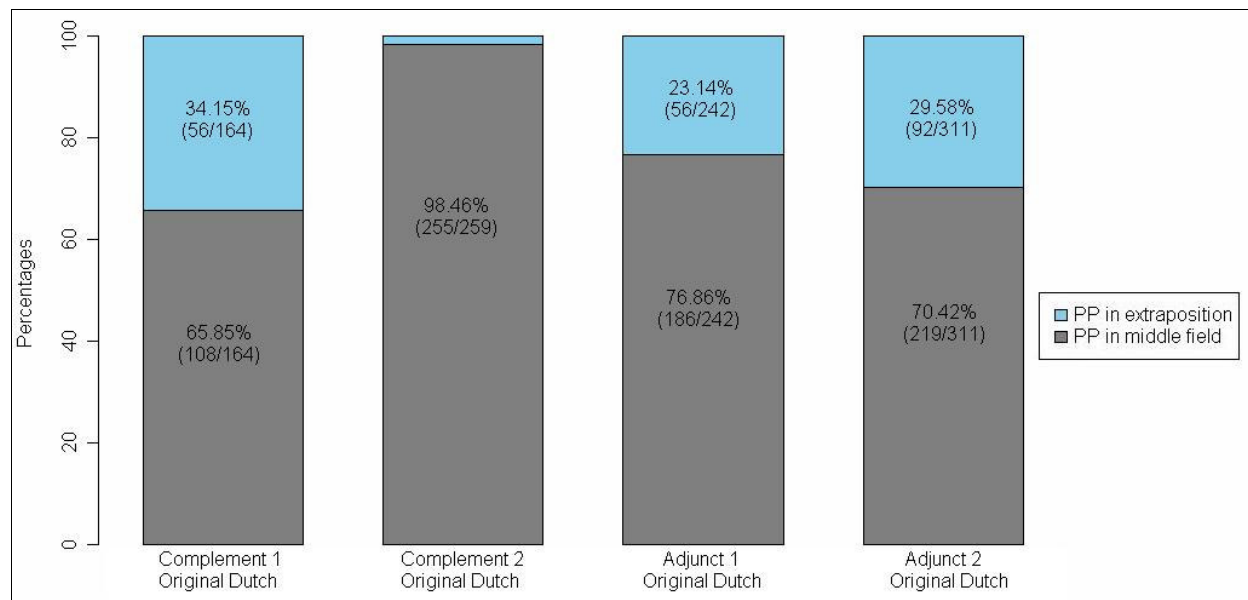
Graph 8: Distribution of PP position in original Dutch as a function of PP function.

Graph 8 shows how the functional categories are dispersed over the two PP positions in original

Dutch. PP's functioning as indirect objects, agentive objects or prepositional objects

(complement 1) occur most frequently in extraposition (34.15%), followed by clause modifying

adjuncts (adjunct 2; 29.58%), verb modifying adjuncts (adjunct 1; 23.14%) and syntactically

necessary adverbial phrases of direction and place (complement 2; 1.54%). The overall

distribution of the different functional categories is not only highly significant (χ^2 = 89.63, d.f. =

3, p < .0001), it also perfectly resembles the situation in original German. The adjusted

standardized residuals show that PP's functioning as syntactically necessary adverbial phrases of

direction and place (complement 2) occur less often in extraposition than expected (resid = 9.06), whereas indirect objects, prepositional objects and agentive objects (complement 1; resid = -4.40) and clause modifying adjuncts (adjunct 2; resid = -4.32) occur more frequently in extraposition than expected. As in original German, the deviant behaviour of the complement 2 category contributes the most to the overall significance of the factor PP function. Redoing the chi-squared analysis without the complement 2 category shows that the statistical significance is retained ($\chi^2 = 6.16$, d.f. = 2, p < .05). Thus, even without the extreme category of complement 2, PP function has a clear effect on the choice of PP placement in original German. A partitioned chi-squared test moreover elucidates that the difference between the complement 1 and adjunct 2 is not statistically significant, so that these can be grouped together. The three functional categories that remain, then, are complement 1/adjunct2, adjunct 1, and complement 2.

As to the explanation of this effect, one can easily adopt the inherence principle to account for the behaviour of complement 2. The difference between adjunct 2 on the one hand and complement1 / adjunct 1 on the other, can be explained by the same functional principles mentioned for the German data: complement 1 has a greater tendency to appear in extraposition for focalization reasons, adjunct 2 for afterthought reasons, whereas adjunct 1 is more tied to the position just before the second pole because of the inherence principle.

Finally, graph 9 shows the distribution of the four functional categories in translated Dutch. PP's functioning as indirect objects, agentive objects or prepositional objects (complement 1) occur most frequently in extraposition (27.48%), followed by verb modifying adjuncts (adjunct 1; 17.49%), clause modifying adjuncts (adjunct 2; 16.98%) and syntactically necessary adverbial phrases of direction and place (complement 2; 1.64%). The overall distribution of the different functional categories is highly significant ($\chi^2 = 106.68$, d.f. = 3, p <

.0001). The adjusted standardized residuals show that PP's functioning as syntactically necessary adverbial phrases of direction and place (complement 2) occur less often in extraposition than expected (resid = 9.66), whereas indirect objects, prepositional objects and agentive objects (complement 1; resid = -6.58), verb modifying adjuncts (adjunct 1; resid = -3.06) and clause modifying adjuncts (adjunct 2; resid = -2.21) occur more frequently in extraposition than expected. Redoing the chi-squared analysis without the complement 2 category shows that statistical significance is retained (χ^2 = 9.63, d.f. = 2, p < .01). Thus, even without the extreme category of complement 2, PP function has a clear effect on the choice of PP placement in translated Dutch. A partitioned chi-squared test moreover indicates that the difference between the adjunct 1 and adjunct 2 category is not statistically significant, so that these can be grouped together. The three functional categories that remain, then, are complement 1, adjunct 1/2, and complement 2.
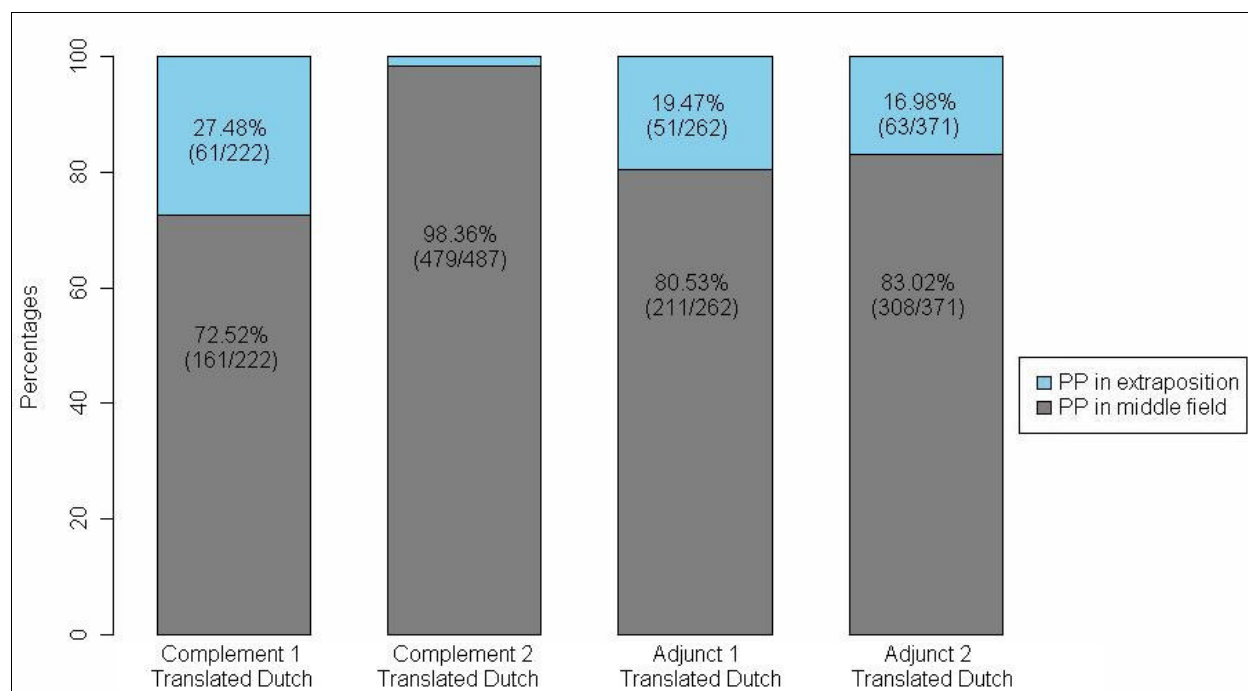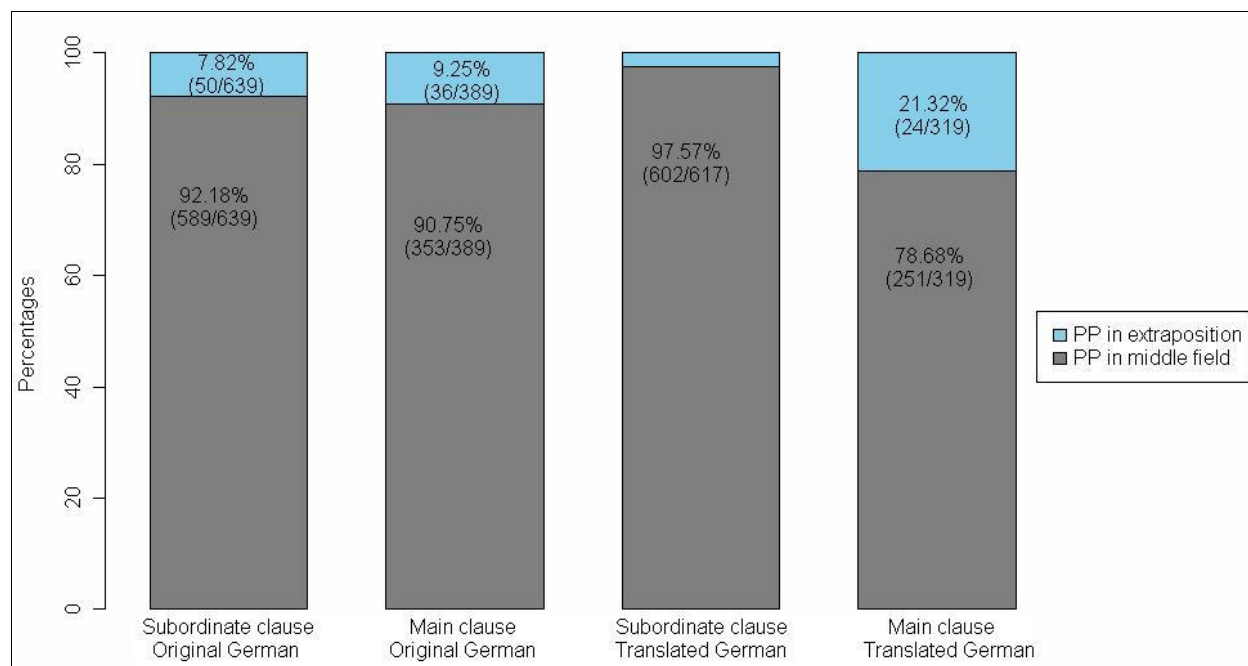

Graph 9: Distribution of PP position in translated Dutch as a function of PP function.

The explanation of this effect becomes familiar: the complement 1 category is most frequently extraposed for focalization reasons, the complement 2 category is most resistant to extraposition because of the inherence principle.

Let us briefly sum up. In German, an effect of PP function was only found in original German, not in translated German, whereas in Dutch, both translated and original texts experience the effect of PP function on PP placement. The conclusion, then, is that the underlying influence of determining factors can differ between original and translated language, but does not need so.

4.4 The effect of clause type on PP placement

Graph 10 shows the distribution of the two PP positions in German relative to the clause type in which the PP is located, i.e. main clause or subordinate clause. Overall, PP's located in main clauses occur most frequently in extraposition. However, the difference between main and subordinate clauses in original German is much smaller than the difference in translated German. More particularly, it is so small, that is not statistically significant ($\chi^2 = 0.64$, d.f. = 1, p > .05). In translated German, on the contrary, the difference *is* statistically significant; the O.R. moreover indicates that the odds of PP's in extraposition are (1 / 0.26 =) 3.85 times higher when PP's are located in main clauses (vs. subordinate clauses) ($\chi^2 = 18.04$, d.f. = 1, p < .0001; O.R. = 0.26, C.I. = 0.13 – 0.56). The different behaviour of the clause type factor in original vs. translated German is statistically confirmed by the Breslow-Day statistic (Br-D $\chi^2 = 8.40$, d.f. = 1, p < .004), so that we once again can conclude that the underlying determinants of syntactic variation in original language need not be identical to the determinants in translated language. In the conclusion, we will come back to this.
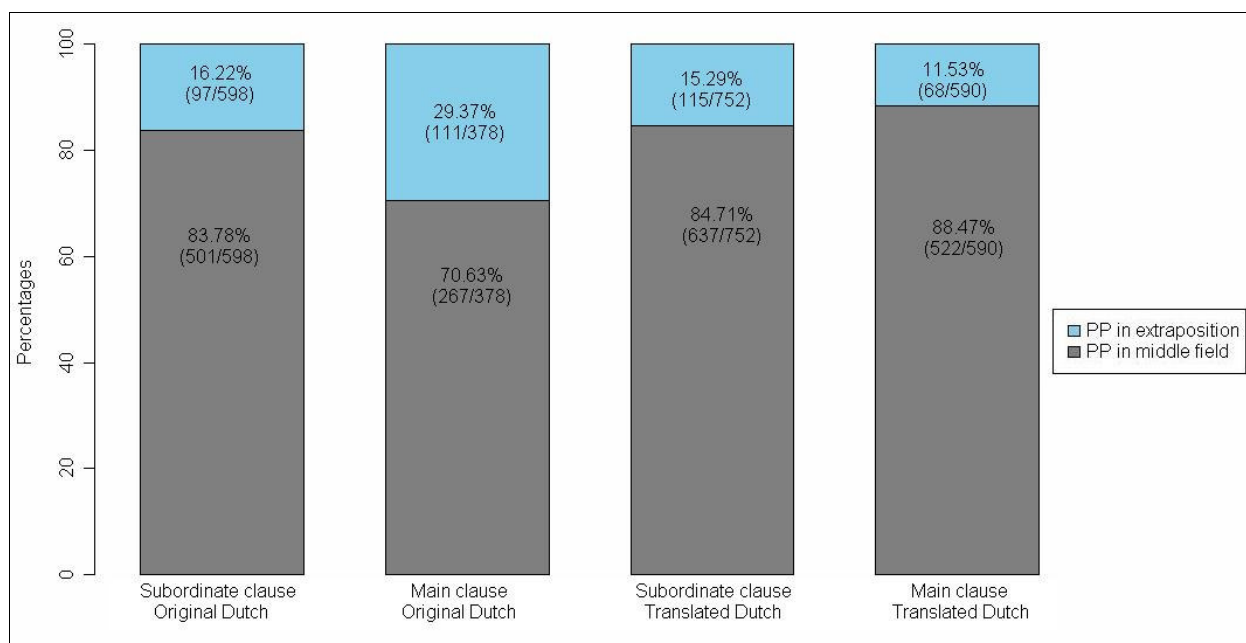
Graph 10: Distribution of PP position in original and translated German as a function of clause type.

Two questions arise: first, why is there an effect of clause type in translated German, but not in original German? Second, how must this effect in translated German be understood? The first question will be dealt with after presenting the Dutch results, an answer to the second question is not immediately obvious as it is unclear how the clause type difference could be related to differences in information distribution. Why, for instance, are main clauses more prone to place PP's in extraposition than subordinate clauses? Of course, other explanatory devices than information distribution can be considered in order to account for the observed difference in clause type. Future research has to elaborate on this.

Graph 11 shows the distribution of the two PP positions in Dutch relative to the clause type in which the PP is located. As can be seen, PP placement in main and subordinate clauses differs substantially in original and translated Dutch: in original Dutch, extraposition occurs most frequently in main clauses (29.37% vs. 16.22% in subordinate clauses), in translated Dutch on

the other hand, extraposition occurs most frequently in subordinate clauses (15.29% vs. 11.53% in main clauses). The difference in PP placement between PP's located in main clauses and PP's located in subordinate clauses is statistically significant, both for original χ^2 = 23.86, d.f. = 1, p < .0001; O.R. = 0.47, C.I. = 0.34 – 0.64) and translated Dutch (χ^2 = 3.98, d.f. = 1, p < .05; O.R. = 1.39, C.I. = 1.01 – 1.90). The O.R. for original Dutch (0.47) indicates that the odds of PP's in extraposition are (1 / 0.47 =) 2.13 times higher when PP's are located in main clauses (vs. subordinate clauses). In translated Dutch on the other hand, O.R. (1.39) indicates that the odds of PP's in extraposition are 39% times higher when PP's are located in subordinate clauses (vs. main clauses). Just as the German results, here too the explanation remains unclear.

Graph 11: Distribution of PP position in original and translated Dutch as a function of clause type.

The different behaviour of the clause type factor in original vs. translated Dutch is statistically confirmed by the Breslow-Day statistic (Br-D χ^2 = 23.23, d.f. = 1, p < .0001), so that we once more can conclude that the underlying determinants of syntactic variation in original language

need not be identical to the determinants in translated language.

The question arises, then, why clause type affects PP placement in translated German, but not in original German, and why the effect of clause type differs size and direction in original and translated Dutch. A possible explanation for the former difference might once again be found in source language interference: since the translated German texts are translated from Dutch texts, and original Dutch exhibited a significant difference in PP placement between main and subordinate clauses, the translator might have transferred this difference into the German translations. If this would turn out to be the case, this would once again imply that translators can not only be influenced by the superficial syntactic preferences of the source language, but also by the conditioning factors that determine these preferences.

The latter difference is less straightforward to explain. However, here too source language interference might have played a role: since the translated Dutch texts are translated from German texts, and original German exhibited no significant difference in PP placement between main and subordinate clauses, the translator might have transferred this difference to some extent into the Dutch translation. If one compares the distributions of the original German data and the translated Dutch data in graph 10 and 11, it is remarkable how similar these distributions are. Nevertheless, if this difference is indeed transferred to the Dutch translation, something else must have happened too, as the difference between main and subordinate clauses is just significant. Possibly, a process of normalization might have played here too: being aware of the different syntactic preferences in German main and subordinate clauses, translators might have tried to comply with this (acquired / intuitive) idea, by massively translating German subordinate clause PP's in extraposition into Dutch subordinate clauses without PP extraposition. Here again, this explanation has to be considered a hypothesis for future research.

5. Conclusions

Building on the achievements of recent corpus-based translation studies into original and translated language, the present study tackled the question whether the underlying principles that guide language users to choose between different linguistic options differ between original and translated language. More particularly, three frequently mentioned factors governing PP placement in original and translated Dutch and German were investigated: definiteness of the PP, PP function and clause type. The results of the analyses have shown that (i) translated Dutch and translated German exhibit significantly less PP extraposition than their original counterparts, which was attributed to source language interference and normalization, and (ii) the three factors (sometimes) have different effects on original vs. translated language, both in Dutch and German:

- The factor *definiteness* affects PP placement in original and translated German in a similar way; in Dutch, it only affects translated texts, not original texts.

- The factor *PP function* affects PP placement in original and translated Dutch in a similar way; in German, it only affects original texts, not translated texts.

- The factor *PP function* affects PP placement in original and translated Dutch, however in a different way; in German, it only affects translated texts, not original texts.

The most important conclusions to be drawn from this research are the following: (i) syntactic differences between original and translated texts do not only occur in English, but also in other West-Germanic languages, such as Dutch and German; (ii) the use of several types of bivariate and stratified statistical techniques has enabled us to check which patterns and tendencies are reliable enough, i.e. are representative for the larger population, to draw conclusions on; (iii) not only the distribution of linguistic variants differs in original and translated texts, the factors that

influence this distribution differ too, although this does not need to be the case, as can be seen in the summary of research conclusions above. Moreover, this paper has revealed that typical translation phenomena, such as source language influence and normalization also influence the subtle language-internal factors that govern syntactic variation.

As it has been repeatedly observed throughout the paper, several issues remain to be addressed in further research. First, the results of the present study have to be verified for other types of syntactic variation in all kinds of languages. Not only corpus-based analyses such as the one here, but also experimental work is needed in order to shed more light on the topics addressed in this paper. For instance, experimental work might scrutinize the transfer of subtle language-internal mechanisms from one language to another more in detail. Second, new factors have to be introduced and their effect has to be tested on PP placement (e.g., region, register, author/translator; inherence, heaviness, intonation pattern). Third, the relationship between the factors studied here and other determining factors of PP placement has to be scrutinized in order to figure out what the relative impact of each of the factors is. Finally, an adequate explanatory model for PP placement and the differences between original and translated language has to be developed.

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Appendix: contents of the literary corpus used for this study

German original texts

Friedrich Dürrenmatt, *Der Richter und sein Henker*. Reinbek 1969 [1952[1]].

Heinrich Böll, *Ansichten eines Clowns*. München, 1970[9] [1963[1]].

Wolfgang Hildesheimer, *Tynset*. Frankfurt/Hamburg 1970 [1965[1]].

Peter Weiss, *Abschied von den Eltern*. Frankfurt 1965[5] [1961[1]].

Günter Kunert, *Im Namen der Hüte*. München 1970 [1967[1]].

Uwe Johnson, *Zwei Ansichten*. Reinbek 1968 [1965[1]].

Günter Grass, *Katz und Maus*. Reinbek 1963 [1961[1]].

Siegfried Lenz, *Der Mann im Strom*. München 1970[6] [1957[1]].

Jakov Lind, *Landschaft in beton*. Neuwied-berlin 1963.

Ingeborg Bachmann, *Alles*. In: das dreissigste Jahr. München 1970[4] [1961[1]].

Dutch original texts

Ivo Michiels, *Het afscheid*. Amsterdam-Antwerpen 1960[2] [1957[1]].

Jos Vandeloo, *Het gevaar*. Brussel 1960.

Piet van Aken, *Zondaars en sterren*. In: Zes Vlaamse novellen. Rotterdam / 's Gravenhage 1952.

Johan Daisne, *Lago maggiore*. Brussel-Den Haag 1965[3] [1957[1]].

Louis Paul Boon. *Maagpijn*. In: Boontje's Twee spoken. Amsterdam 1956[3] [1952[1]].

Hella Haasse, *De ingewijden*. Amsterdam 1967[1] [1957[1]].

Willem Frederik Hermans, *De blinde fotograaf*. In: een landingspoging op Newfoundland en andere verhalen. Amsterdam 1966.

Jacques Hamelink, *Een schijndode maan*. In: Horror vacui. Amsterdam 1967[2] [1966[1]].

Jan Wolkers, *Een roos van vlees*. Amsterdam 1970[16] [1963[1]].

Harry Mulisch, *De diamant*. Amsterdam 1966[7] [1954[1]].

German translated texts (source language: Dutch)

Ivo Michiels, *Der Abschied*. Gütersloh 1960 [translated by: A. Piper].

Jos Vandeloo, *Gefahr*. Wiesbaden 1961 [translated by: G. Hermanowski].

Piet van Aken, *Sünder und Sterne*. In: Flämische Erzählungen. Köln-Olten 1967 [translated by: M. Dinger-Hinterkausen].

Johan Daisne, *Lago maggiore*. Würzburg 1957 [translated by: G. Hermanowski].

Louis Paul Boon. *Magenleiden*. In: Flämische Erzählungen. Köln-Olten 1967 [translated by: M. Dinger-Hinterkausen].

Hella Haasse, *Die Eingeweihten*. Tübingen 1961 [translated by: J. Tichy].

Willem Frederik Hermans, *Der blinde Photograph*. In: Niederländische Erzähler der Gegenwart. Stuttgart 1966 [translated by: J. Piron].

Jacques Hamelink, *Ein scheintoter Mond*. In: Horror vacui. Erzählungen. Frankfurt 1967 [translated by: J. Hillner].

Jan Wolkers, *Eine Rose von Fleisch*. München 1967 [translated by: J. Hillner].

Harry Mulisch, *Der diamant*. Hamburg 1961 [translated by: D. Loets].

Dutch translated texts (source language: German)

Friedrich Dürrenmatt, *De rechter en zijn beul*. Leuven 1970 [translated by: J. Boey].

Heinrich Böll, *Meningen van een clown*. Amsterdam-Brussel 1967[3] [translated by: M. van der Plas].

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