

Dealing with common ground in Human Translation and Neural Machine Translation: A case study on Italian equivalents of German Modal Particles

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Abstract

The purpose of this chapter is to examine the neural machine translation of modal particles and to compare it to human translation. The quantitatively-oriented study focuses on Italian lexical translation equivalents of German *eben* and *einfach*. The two modal particles have similar meaning, as the speaker uses both to underline the obvious character of their utterance. The study is based on a sample of human translations of literary texts as well as on the neural machine translations of these texts generated by Google Translate and DeepL. It will be analyzed to what extent the lexical translation equivalents proposed by the human translators and the NMT tools reflect the modal meaning of *eben* and *einfach* and provide information on the existence of modal particles in Italian.

Keywords

neural machine translation, human translation, machine translationese, modal particles, focus particles

1 Introduction

The translation of German modal particles¹ has been an important field of investigation in Romance linguistics (see e.g. Métrich and Heinrich 2016; Sinner 2017). So far, studies have only been based on human translations, while research on the neural machine translation (in short, NMTs) of these features is still rare, despite the rapid increase in linguistic research on the output of NMTs. Previous cross-linguistic studies have often been based upon the assumption that modal particles represent a peculiarity of continental Germanic languages and that the pragmatic effect of these features had to be expressed by functional equivalent means in Romance (Waltereit 2006). However, recent studies have confirmed the occurrence of modal particles in the Romance languages, for example in French (see e.g. Waltereit 2004; Schoonjans 2014; Meisnitzer and Wocker 2017; Meier 2024) and Spanish (see e.g. Meisnitzer and Gerards 2016). In Italian Coniglio

¹ German modal particles are *aber, auch, bloß, denn, doch, eben, etwa, halt, ja, mal, man, nicht, nur, schon, vielleicht, wohl, eh, eigentlich, einfach, erst, ruhig* and *überhaupt* (Müller 2014; Cognola and Moroni 2022). However, there are different opinions on the extension of the inventory of German modal particles (Schoonjans 2013) and on the designation of this class of words, which are also called *Abtönungspartikeln, modale Partikeln, Satzpartikeln, Existimatoren* and *Einstellungspartikeln* (Diewald 2007).

(2008; 2011) and Meier (2022) assume the existence of modal particles, whose number and use nonetheless is less important than in German. Other researchers also conclude that some Italian lexemes can behave like modal particles (see, among many others, Held 1988; Squartini 2013; Thaler 2016; 2018; 2020a; 2020b; Haßler 2018; Favaro 2019; 2020; 2021; Cognola and Moroni 2022).

The aim of this chapter is to examine the NMT of German modal particles into Italian and to compare it to human translation. My study is quantitatively-oriented and focuses on the Italian lexical translation equivalents of German *eben* and *einfach*. These particles have similar procedural meaning, as the speaker uses both to mark their utterance as obvious information. In this study, I want to analyze to what extent human translation equivalents and NMT equivalents reflect the modal meaning of these lexemes and provide information on the existence of modal particles in Italian. The study is based on a self-assembled subcorpus of human translations of German literary texts into Italian as well as on two subcorpora containing the NMTs of these texts provided by Google Translate (GT) and DeepL (DL).²

2 What are Modal Particles? – A catalogue of criteria

Fundamental to the contrastive study of modal particles is the question of how to define this class of words. My research is guided by works which take into account a bundle of functional and formal properties typically associated with German modal particles, applying them to the analysis of Romance candidates. The catalogue of criteria used in my study is based on the one proposed by Meisnitzer and Gerards (2016), who, drawing on the cognitive-functional approach of Abraham (2009; 2011; 2020) and Leiss (2012), define modal particles as *foreign consciousness aligners*. The term implies that by using a modal particle the speaker does not only assess the truth value of their own utterance (*self-consciousness of the speaker*). They also provide an assessment of the knowledge that the addressee supposedly has of what has been said (*foreign consciousness of the addressee*). Since the addressee can react to the speaker's assessment, modal particles are common ground management operators which contribute to the sharing and continuous modification of mutually known information in communication (Grosz 2016; Repp 2013). For instance, in *Chi avrà poi telefonato?* ['Who might have called?'; trans. with DeepL³] (example from Coniglio 2008: 112), *poi* expresses the speaker's concern or interest with regard to the information being asked for. Following Coniglio (2008) as well as Cognola and Cruschina (2021), *poi* signals

² I am not interested in investigating the quality of the translations provided by GT and DL. For a general outline of machine translation quality measurements, see e.g. Moorkens et al. (2018) and Koehn (2020: 41–64). With NMT, evaluations are often based on parameters such as adequacy and fluency (see e.g. Macken et al. 2019). Moreover, the output of NMT systems is widely assessed on the basis of automatic evaluation metrics (see e.g. Tivosanis 2018), such as the *BiLingual Evaluation Understudy* (BLEU, Papineni et al. 2002).

³ All translations included in this article were performed using DeepL, unless stated otherwise.

that the speaker is not able to find an answer, nor is the addressee, according to the speaker's assumption.⁴ The speaker thus indicates that they do not necessarily expect an answer from the addressee. Modal particles are thus expressions of interactional modality and help to direct the conversation between the speaker and the addressee (Haßler 2018).

Moreover, according to Meisnitzer and Gerards (2016), modal particles are polyfunctional elements, that is, they have homophonous counterparts in other word classes (e.g. *poi* is also an adverb of time, as in *bisogna agire subito, poi sarà troppo tardi* ['we must act now, then it will be too late']). These lexemes are the source lexemes from which modal particles have emerged through a process of metonymization (Waltereit 2004). This semantic change is a gradual one. Consequently, as it is well documented in empirical studies (see e.g. Meisnitzer and Wocker 2017), there can be found bridging contexts in which the meaning of the source lexeme is still present (Heine 2002). Compared to their source lexemes, modal particles have lost semantic substance, but at the same time they have gained pragmatic force. As a result, modal particles have influence over the sentence as a whole and modify its illocutionary force, rather than its propositional content.

In their catalogue, Meisnitzer and Gerards (2016) also list formal characteristics. Modal particles are generally unstressed and cannot be negated; they can neither be inflected, nor can they be modified, nor are they gradable. Modal particles cannot be used as a one-word utterance, nor can they stand alone as an answer to a question, nor can they be the object of a question. Modal particles cannot be coordinated, but they can be combined, following certain conventionalized distributions. Moreover, German modal particles display complete syntactic integration and are almost exclusively confined to the clausal middle field, that is, they occur between the left and right sentence brackets (*Man kann halt nicht draußen sitzen* ['You just can't sit outside'], example from Thurmair 1989: 124). For Italian, Coniglio (2008; 2011) highlights that modal particles also tend to occur in a sentence-internal position, after the conjugated verb and before the unconjugated verb (*Chi avrà poi telefonato?* ['Who might have called?'], example from Coniglio 2008: 112). However, Italian modal particles can also be found in other positions, thus showing a higher degree of syntactic mobility (*Cosa mai avrà detto a quella ragazza?* ['What might he have said to that girl?'], example from Coniglio 2011: 80; *Cosa ha detto, poi?* ['What might he have said?'], example from Cardinaletti 2011: 516). Hence, while syntactic integration is an important feature of German modal particles, most of the Italian items considered as modal particles are not always syntactically integrated and do not have a fixed sentential position.

⁴ According to Coniglio (2008: 111), *poi* can also be used rhetorically to underline that the answer is known to both the speaker and the addressee.

3 Modal Particles in Human Translation and NMT

Following e.g. Haßler (2001), human translation is to be understood as a form of written language contact which is closely linked to the translator and their competence in several languages. In a cognitive linguistic view, translation involves reflecting on and comparing languages in the translator's multilingual mind and demands a constant conscious shift between languages (Onysko 2019: 38). Furthermore, according to Sinner (2017), human translation is largely determined by the translator's interpretation of the source language text and their stylistic preferences in the target language. These general features of translated texts also play out in the field of the translation of German modal particles into Italian, as illustrated in previous empirical research (see e.g. Masi 1996; Ortu 1998; Cognola and Moroni 2022; Meier 2022).⁵ These studies provide lists of functional equivalents, showing that German modal particles are translated by a multitude of different lexical (e.g. personal pronouns, adverbs), morphological (e.g. future and conditional morphemes) and syntactic features (e.g. right dislocation) (Métrich and Heinrich 2016). These equivalents do not constitute a formal paradigm and seem to have little to do with one another. They all are partial equivalents, which are more or less close to the meaning of the modal particle in the source language. In line with Sinner (2017), it can be assumed that the large range of translation equivalents is only partly due to the abstract meaning and the high context sensitivity of modal particles. It also results from the translation process itself, which is strongly determined by the linguistic dispositions of the single translator. Moreover, modal particles are often not translated at all, which gives the misleading impression that they do not exist in the target language (Waltereit 2006).

If modal particles constitute a challenging feature for human translators, this also holds true for NMT services, such as the systems provided by GT and DL. These devices are based on transformer architectures trained on large corpora (Monti 2019), that is, large samples of translated texts compiled by specialized crawlers which automatically search the Internet for translation training data. Put somewhat simply, most state-of-the-art NMT systems, e.g. Google Neural Machine Translation (GNMT), translate whole sentences at a time, rather than just word by word and use this broader context to figure out the most relevant translation (Rescigno et al. 2020). This approach can particularly take account of the functioning of modal particles as foreign consciousness aligners. As the term implies, modal particles operate beyond the sentence level and contribute to the meta-discursive integration of an utterance into conversation (Haßler 2018); that is, modal particles are to be understood as collaboratively marked constructions between the speaker and the addressee. This feature makes the analysis of the NMT of modal particles particularly interesting, as in natural language processing “analysing the discourse structure is an open and very hard research problem”

⁵ Note that only few studies have focused on the translation of potential Italian modal particles into German. For a detailed bibliography, see Métrich and Heinrich (2016).

(Koehn 2020: 9). In fact, it seems that “[t]here is not much consensus about the right formalisms here and even trained human annotators cannot agree very well on which discourse relationships to assign to a given text” (Koehn 2020: 10).

4 Experimental setup

While there are many German modal particles to consider, I focus only on *eben* and *einfach*. This selection is due to the fact that I have already conducted a quantitative-oriented research on the human translation of these modal particles into Italian (Meier 2022). This offers me a useful starting point for further comparisons with NMTs in the present study. As outlined above, *eben* and *einfach* have similar meaning, since the speaker uses both to underline the obvious character of their utterance (Thurmair 1989: 134). However, the modal particles show substantial differences in terms of foreign consciousness alignment. With *eben*, the speaker signals that the information provided is not only obvious to them, but also to the addressee (1).

- (1) Der Wal ist eben ein Säugetier [‘Well, the whale is a mammal’]
(example from Thurmair 1989: 124)

With *einfach*, in contrast, the speaker implies that the information is only obvious to them, but seemingly not to the addressee (2):

- (2) Warum kann er einfach nicht den Mund halten? [‘Why can’t he just keep his mouth shut?’] (example from Thurmair 1989: 131)

Moreover, *eben* and *einfach* display different degrees of semantic bleaching (Autenrieth 2002: 47), which correspond to different degrees of discourse routinization (Detges and Waltereit 2016).⁶ While the modal use of *eben* is already documented in the 16th century, modal *einfach* is only attested in the 18th century (Molnár 2002: 23). As noticed by Thurmair (1989: 128) for *einfach*, the lexical meaning of the source lexeme, the adjective/adverb *einfach* (‘simple’, ‘simply’), can still be identified in discursive contexts in which the lexeme is used as a modal particle. In the case of *eben*, by contrast, the semantics of the source lexeme, the adjective *eben* (‘smooth, straight’), is almost bleached.

My self-assembled subcorpus of human translations was compiled following the assumption that modal particles are a characteristic feature of the language of communicative immediacy (Koch and Oesterreicher 2011: 63). Due to the lack of suitable German-Italian translation corpora of spoken language, the

⁶ Detges and Waltereit (2016: 637) define *routinization* as follows: “Routinization makes a linguistic sign more frequent, and progressively rules out alternatives and choices [...], thereby constraining the sign’s paradigmatic and syntagmatic variability. At the same time, it detracts from the sign’s phonetic and semantic strength. Routinization is not a feature of language itself – it is rooted in language use”.

translation corpus includes literary texts in which the authors tend to make a mimetic-imitative use of spoken language. The subcorpus comprises twenty literary texts originally written in German and published between 1983 and 2015. The texts cover novels, mostly popular detective novels or teenager and young adult literature, as well as theatre plays.⁷ The Italian translations were all produced between 1997 and 2016, that is, before machine translation services have begun to switch from statistical systems to neural networks since end 2016 (Koehn 2020: 39–40⁸). To counter-balance the influence of stylistic preferences, all translations were carried out by different translators, whose mother tongue is Italian. The translations were published as printed books, some of which are also available as chargeable e-books. Since the translations included in my corpus are not freely accessible online, I assume that web crawlers cannot collect them as training data for NMT systems. However, this cannot be proved, since, in general, NMT services do not indicate the precise sources of their training data.

To generate the subcorpora of machine translations, I used two freely available NMT tools, that is, GT and DL. Launched in 2003 as a statistical machine translation system, GT was initially trained on the Europarl Parallel Corpus. The Google service switched to a NMT system in November 2016.⁹ DL was launched in August 2017 as a genuine NMT system which was initially based on the Linguee database.¹⁰

As far as the methodology is concerned, all passages of the German literary texts containing modal *eben* and *einfach* were translated individually, pasting them manually into the online masks of GT and DL. To account for the use of modal particles as foreign consciousness aligners, it was important to provide sufficient discursive context for the NMT engines. The source language passages therefore comprise the sentence in which the modal particle occurs as well as the five preceding and following sentences. All these passages were translated only once in each tool and on the same day (15 August 2023), to avoid possible evolutions in the output of the NMT tools.¹¹ For the same reason, I did not provide the engines with an evaluation of the generated translations. Even though the exact nature of the training data of GT and DL is unknown, it should be noted that none of these tools has been specially trained for the translation of literary texts.

⁷ See the list of the German original texts and their Italian translations in the bibliography. Note that the sample of human translations used for the present study covers only partly the one analysed in Meier (2022).

⁸ According to Koehn (2020: 40), “[w]ithin a year or two, the entire research field of machine translation went neural. To give some indication of the speed of change: at the shared task for machine translation organized by WMT [Workshop on Machine Translation], only one pure neural machine translation system was submitted in 2015. It was competitive but underperformed traditional statistical systems. A year later, in 2016, a neural machine translation system won in almost all language pairs. In 2017, almost all submissions were neural machine translation systems.”

⁹ See <https://blog.google/products/translate/found-translation-more-accurate-fluent-sentences-google-translate/> (last accessed 30.1.2024)

¹⁰ For the history of DeepL see https://www.deepl.com/press.html#press_history_article (last accessed 30.1.2024).

¹¹ Due to the length of the source language passage, DL did not suggest alternative translations.

5 Results

5.1 Number and distribution of lexical equivalent types

In the analysis, I focus only on lexical translation equivalents and on the non-translation of modal particles. Morphologic and syntactic equivalents as well as cases in which the translated passages deviated considerably from the source language text were excluded. My analysis covers the occurrence of *eben* and *einfach* in all illocutionary types with which these items can be used as modal particles, that is, assertives and directives (Thurmair 1989: 199–123; 1989: 131–134). In this section, I describe some quantitative results, focusing on the number and distribution of the lexical equivalent types of modal *eben* and *einfach*.

Table 1 provides an overview of the absolute frequencies of the modal *eben* and *einfach* tokens found in the German texts, where *einfach* occurs one and half times more often than *eben*.

Table 1: Number of modal particle tokens in the German source language texts.

| <i>eben</i> (N) | <i>einfach</i> (N) |
|--------------------|-----------------------|
| 178 | 264 |

As can be observed based on Table 2, the human translated texts include less equivalent types for *eben* than for *einfach*, which is congruent with the fact that modal *eben* occurs less often than *einfach*. Moreover, the NMTs show lesser variety in terms of lexical equivalents when compared to the human translated texts. The NMT thus leads to a decrease in the number of lexical equivalent types. This tendency is generally stronger for GT than for DL and in both tools it is more pronounced for *einfach* than for *eben*. According to Vanmassenhove et al. (2019), the reduction of lexical variety is a phenomenon that can be related to the notion of *machine translationese*, which has become used to refer to characteristic linguistic differences between machine translated language on the one hand and both untranslated language and human translated language on the other hand (De Clercq et al. 2021).¹²

Table 2: Number of lexical equivalent types (incl. non-translation).

| <i>eben</i> (N) | | | <i>einfach</i> (N) | | |
|--------------------|----|----|-----------------------|----|----|
| human translations | DL | GT | human translations | DL | GT |
| 15 | 12 | 9 | 24 | 9 | 6 |

¹² The term *translationese* was first employed by Gellerstam (1986) to account for linguistic divergences between original and human translated texts.

Table 3 shows the different lexical equivalent types found for each German modal particle in the subcorpora under study.

Table 3: Lexical equivalent types of *eben* and *einfach*.

| human translations | <i>eben</i> | | <i>einfach</i> | | |
|------------------------|----------------------|----------------------|---------------------------|----------------------|----------------------|
| | DL | GT | human translations | DL | GT |
| <i>appena</i> | <i>allora</i> | <i>affatto</i> | <i>affatto</i> | <i>appena</i> | <i>basta</i> |
| <i>appunto</i> | <i>appena</i> | <i>appena</i> | <i>assolutamente</i> | <i>basta</i> | <i>facile</i> |
| <i>be'</i> | <i>basta</i> | <i>basta</i> | <i>basta</i> | <i>facile</i> | <i>proprio</i> |
| <i>davvero</i> | <i>così</i> | <i>dopotutto</i> | <i>certo</i> | <i>proprio</i> | <i>semplicemente</i> |
| <i>e</i> | <i>dopotutto</i> | <i>per niente</i> | <i>con più leggerezza</i> | <i>pure</i> | <i>solo</i> |
| <i>ecco</i> | <i>ecco</i> | <i>proprio</i> | <i>davvero</i> | <i>semplicemente</i> | |
| <i>evidentemente</i> | <i>esattamente</i> | <i>semplicemente</i> | <i>e allora perché</i> | <i>solo</i> | |
| <i>in effetti</i> | <i>precisamente</i> | <i>solo</i> | <i>e stop</i> | <i>sufficiente</i> | |
| <i>insomma</i> | <i>proprio</i> | | <i>fare altro che</i> | | |
| <i>la verità è che</i> | <i>semplicemente</i> | | <i>fare meglio</i> | | |
| <i>proprio</i> | <i>solo</i> | | <i>finalmente</i> | | |
| <i>pure</i> | | | <i>in fondo</i> | | |
| <i>solo</i> | | | <i>in nessun modo</i> | | |
| <i>volere dire</i> | | | <i>in qualche modo</i> | | |
| | | | <i>ma</i> | | |
| | | | <i>magari</i> | | |
| | | | <i>per forza</i> | | |
| | | | <i>proprio</i> | | |
| | | | <i>pure</i> | | |
| | | | <i>semplicemente</i> | | |
| | | | <i>senza dubbio</i> | | |
| | | | <i>solo</i> | | |
| | | | <i>sufficiente</i> | | |
| | | | <i>volere dire</i> | | |

In the data the non-translation of modal particles is the most common translation strategy, whose frequency is generally higher for *eben* than for *einfach*, where the semantics of the source lexeme is more apparent than in case of *eben*.¹³ As illustrated in Table 4, the NMTs do not automatically lead to a higher translation rate, which can be seen as some evidence for the fact that the NMT tools do not simply transfer the German source texts word by word. Only in case of *einfach*, the GT generated texts show a significant increase of the translation rate. Interestingly, as will be shown more in detail in Section 5.3, this is not due to an overrepresentation of the literal equivalent *semplicemente*, but to a high occurrence of *solo* equivalents.

Table 4: Frequency of the non-translation of German modal particles.

| human translations | <i>eben</i> % (N) | | <i>einfach</i> % (N) | | |
|--------------------|----------------------|---------------|-------------------------|---------------|---------------|
| | DL | GT | human translations | DL | GT |
| 73,0 (130) | 73,0 (130) | 70,8 (126) | 55,7 (147) | 58,3 (154) | 45,1 (119) |

¹³ Apparently, this result is in line with Schoonjans and Feytaerts' (2010) hypothesis that the frequency of the non-translation of modal particles can be seen as an indicator of their degree of semantic bleaching. However, the hypothesis relies only on source language factors, whereas target language structures and norms as well as other typical features of translations, such as the tendency towards simplification, which may also play out on the non-translation, are left aside.

Table 5 shows the number of cases in which the human translations and the NMTs provide lexical equivalents for the same source language passage. In other words, a lexical equivalent can be found both in the human translation and the NMT of the same German text passage. Importantly, these equivalents need not be of the same type. In the data the relative frequency of these co-occurrences is generally higher for *einfach* than for *eben*. But otherwise, the results are quite similar across the NMT tools: for each of the modal particles under study, GT and DL show almost the same frequency of co-occurrences.

Table 5: Frequency of co-occurrences of lexical equivalents in the human translation and the NMT of the same German text passage.

| | DL | | | GT | | |
|----------------|--------------------------------|------------------------------|------------------------|--------------------------------|------------------------------|------------------------|
| | lex. equiv. in hum. tr. and DL | lex. equiv. only in hum. tr. | lex. equiv. only in DL | lex. equiv. in hum. tr. and GT | lex. equiv. only in hum. tr. | lex. equiv. only in GT |
| <i>eben</i> | 29,8 | 35,1 | 35,1 | 28,2 | 32,1 | 39,7 |
| % (N) | (22) | (26) | (26) | (22) | (25) | (31) |
| <i>einfach</i> | 35,4 | 35,9 | 28,7 | 39,4 | 21,1 | 39,5 |
| % (N) | (58) | (59) | (47) | (76) | (41) | (76) |

The data allows to further highlight that when human translations and NMTs provide equivalents for the same German text passage, the number of cases in which these equivalents are of the same type is significantly higher for *einfach* than for *eben*. Moreover, for *eben*, the analysis reveals no clear difference between GT (14%) and DL (18%), whereas for *einfach*, there are significantly more co-occurrences in DL (55%) than in GT (43%). Table 6 presents an overview of the different equivalent types found both in the human translation and the NMT of the same German text passage. Regarding the absolute number of co-occurrences of each lexical equivalent type, the results reveal again no major differences between the tools.

Table 6: Frequency of lexical equivalent types co-occurring in the human translation and the NMT of the same German text passage.

| | DL and human translation | GT and human translation |
|-----------------------|--|--|
| <i>eben</i> (N) | <i>appena</i> (1), <i>proprio</i> (2), <i>solo</i> (1) | <i>appena</i> (1), <i>proprio</i> (1), <i>solo</i> (1) |
| <i>einfach</i> (N) | <i>basta</i> (3), <i>proprio</i> (1), <i>semplicemente</i> (25), <i>solo</i> (3) | <i>basta</i> (2), <i>proprio</i> (1), <i>semplicemente</i> (22), <i>solo</i> (8) |

Table 7 reports the quantitative data related to the number of cases in which GT and DL offer lexical equivalents (which again need not be of the same type) for the same German text passage. A comparison across the modal particles shows that the number of co-occurrences is higher for *einfach* than for *eben*.

Table 7: Frequency of co-occurrences of lexical equivalents in the GT and DL translation of the same German text passage.

| | lexical equivalents in DL and GT | lexical equivalent only in DL | lexical equivalent only in GT |
|-------------------------|-------------------------------------|----------------------------------|----------------------------------|
| <i>eben</i> % (N) | 35,2 (26) | 29,6 (22) | 35,2 (26) |
| <i>einfach</i> % (N) | 46,6 (81) | 12,6 (22) | 40,8 (71) |

Finally, when GT and DL propose lexical equivalents for the same German text passage, the percentage of cases in which these equivalents are of the same type is as high for *einfach* (70%) than for *eben* (70%). Table 8 shows the different equivalent types co-occurring in the GT and DL translation of the same German text passage.

Table 8: Frequency of lexical equivalent types co-occurring in the GT and DL translation of the same German text passage.

| | |
|-----------------------|--|
| <i>eben</i> (N) | <i>dopotutto</i> (1), <i>proprio</i> (3), <i>semplicemente</i> (1), <i>solo</i> (13) |
| <i>einfach</i> (N) | <i>basta</i> (7), <i>facile</i> (1), <i>proprio</i> (1), <i>semplicemente</i> (28), <i>solo</i> (20) |

Overall, the comparison of the two German modal particles shows that both NMT engines correspond more often with the human translations regarding the context of occurrence of *einfach* equivalents. In the same vein, the NMTs converge more often with respect to the context of occurrence of *einfach* equivalents. These tendencies become even more apparent when considering only identical equivalent types. While GT and DL generate a large number of translations in which the proposed *einfach* equivalent of the German text passage is exactly the same across the three subcorpora, this picture does only partly apply to *eben*. In contrast, moving to a comparison of the two NMTs tools, no major differences in the frequency of co-occurrences of lexical equivalents across *eben* and *einfach* can be found.

In the next two sections, a more fine grained analysis of the retrieved translation equivalents is provided. The following comparisons between the subcorpora focus on the most frequent translation equivalents found for each of the German modal particles under study, illustrating thus reoccurring and typical phenomena.

5.2 Lexical translation equivalents of *eben*

As reported in Table 9, the frequency analysis of the Italian equivalents of *eben* reveals important differences between the human translations and the NMTs. The data is ordered following the alphabetical order of the lexical equivalents found in the subcorpora.

Table 9: Frequency of *eben* lexical equivalents.

| | human translations % (N) | DL % (N) | GT % (N) |
|------------------------|-----------------------------|---------------|---------------|
| non-translation | 73,0 (130) | 73,0 (130) | 70,8 (126) |
| <i>affatto</i> | 0,0 (0) | 0,0 (0) | 0,6 (1) |
| <i>allora</i> | 0,0 (0) | 0,6 (1) | 0,0 (0) |
| <i>appena</i> | 0,6 (1) | 0,6 (1) | 1,7 (3) |
| <i>appunto</i> | 11,1 (20) | 0,0 (0) | 0,0 (0) |
| <i>basta</i> | 0,0 (0) | 1,1 (2) | 0,6 (1) |
| <i>be'</i> | 0,6 (1) | 0,0 (0) | 0,0 (0) |
| <i>così</i> | 0,0 (0) | 0,6 (1) | 0,0 (0) |
| <i>davvero</i> | 0,6 (1) | 0,0 (0) | 0,0 (0) |
| <i>dopotutto</i> | 0,0 (0) | 0,6 (1) | 0,6 (1) |
| <i>e</i> | 0,6 (1) | 0,0 (0) | 0,0 (0) |
| <i>ecco</i> | 0,6 (1) | 0,6 (1) | 0,0 (0) |
| <i>esattamente</i> | 0,0 (0) | 1,1 (2) | 0,0 (0) |
| <i>evidentemente</i> | 0,6 (1) | 0,0 (0) | 0,0 (0) |
| <i>in effetti</i> | 0,6 (1) | 0,0 (0) | 0,0 (0) |
| <i>insomma</i> | 1,7 (3) | 0,0 (0) | 0,0 (0) |
| <i>la verità è che</i> | 0,6 (1) | 0,0 (0) | 0,0 (0) |
| <i>per niente</i> | 0,0 (0) | 0,0 (0) | 0,6 (1) |
| <i>precisamente</i> | 0,0 (0) | 0,6 (1) | 0,0 (0) |
| <i>proprio</i> | 5,0 (9) | 5,5 (10) | 3,3 (6) |
| <i>pure</i> | 1,1 (2) | 0,0 (0) | 0,0 (0) |
| <i>semplicemente</i> | 0,0 (0) | 3,4 (6) | 3,4 (6) |
| <i>solo</i> | 1,7 (3) | 12,4 (22) | 18,5 (33) |
| <i>volere dire</i> | 1,7 (3) | 0,0 (0) | 0,0 (0) |

A first difference concerns the use of *appunto*, which is the most frequent equivalent type in the human translations, but which does not occur in the NMTs. The examples from the human translations indicate that *appunto* is used to encode interactional modality and expresses a foreign consciousness alignment which is similar to that of *eben*. Following Meier (2022), modal uses of *appunto* are also

documented in spoken Italian,¹⁴ where they occur in two illocutionary contexts which are also present in the human translations. First, modal *appunto* occurs in directives, as illustrated in (3), where B presents the utterance as an obvious consequence of a state of affairs which A can immediately deduce from the precedent course of conversation. From a syntactic point of view, *appunto* stands at the left of the conjugated verb and is used as a parenthetical element which is, as signaled by the commas, not completely integrated into the sentence. In my data, this rather weak sentential integration can be found with all directives, where *appunto* is always placed at the left of the conjugated verb. In the NMT generated by GT, by contrast, any marker of common ground management can be found.

- (3a) A: Mein lieber Gereon, Journalismus ist ein Tagesgeschäft. Da wird schnell vergessen.
 B: Dann musst du eben dafür sorgen, dass man sich wieder erinnert! (*Fisch*)
 A: ‘My dear Gereon, journalism is a day-to-day business. One forgets easily.’
 B: ‘Then you just have to make sure that people remember again’
- (3b) A: Mio caro Gereon, il giornalismo è una faccenda di un giorno. Viene dimenticata in fretta.
 B: Allora, appunto, devi fare in modo che venga ricordata di nuovo! (human translation)
 A: ‘My dear Gereon, journalism is a one-day affair. One forgets quickly.’
 B: ‘Then, indeed, you must ensure that one remembers again!’
- (3c) A: Mio caro Gereon, il giornalismo è un lavoro quotidiano. È facile dimenticare.
 B: Allora devi assicurarti che la gente ricordi! (GT)
 A: ‘My dear Gereon, journalism is a daily job. It is easy to forget.’
 B: ‘Then you have to make sure people remember!’

Second, in the human translations modal *appunto* also occurs in assertives conveying explanations which are presented as mutually known information. This

¹⁴ Some authors have mentioned *appunto* as a modal particle candidate, e.g. Radtke (1983), Masi (1996), Coniglio (2008), Berruto (2015) and Cognola and Moroni (2022), who, though, do not give any further information on the meaning of the particle and the communicative contexts in which it occurs. Note that *appunto* also functions as a response particle (Held 1988) and as a focus particle, namely as an *identificatore anaforico non enfatico* (Andorno 2000: 89). In the literature, focus particles are defined by a combination of semantic and formal properties. They interact with the focused part of the sentence and are syntactically mobile and transcategorical elements (König 1991). The use of *appunto* as focus particle, as in *X: Non temere, ci penso io. – Y: Appunto questo mi preoccupa* [X: ‘Don’t worry, I’ll take care of it. – Y: Exactly that worries me’] (example from Andorno 2000: 89), is not attested in my data.

is exemplified in (4), where the speaker alludes to the well-known stereotype that everyday police work is rather boring. In the NMT generated by DL, the modal meaning of *eben* is not reproduced. This omission does not change the truth value of the proposition of the sentence, but only its illocution. In other words, in the DL translation the speaker does not seek to reconfirm general knowledge by means of foreign consciousness alignment.

- (4a) Eigentlich kein Tag, um in einem Auto zu sitzen und einen Hauseingang im Auge zu behalten. Aber so war der Polizeialltag eben: in erster Linie langweilig (*Fisch*)
 ‘Not really a day for sitting in a car and keeping an eye on a house entrance. But that’s how police work was: boring first and foremost’
- (4b) Non proprio la giornata adatta per rimanere seduti dentro un’auto e tenere d’occhio un portone. Ma così, appunto, era la vita quotidiana nella polizia: anzitutto noiosa (human translation)
 ‘Not exactly the day to sit inside a car and keep an eye on a door. But such, indeed, was daily life in the police: first of all boring’
- (4c) In realtà, non è un giorno in cui si sta seduti in macchina a sorvegliare l’ingresso di una casa. Ma la vita quotidiana della polizia era così: prima di tutto noiosa (DL)
 ‘In reality, it is not a day when one sits in a car guarding the entrance to a house. But the daily life of the police was like that: first of all boring’

In (4), *appunto* is again a parenthetical element positioned before the conjugated verb. However, when used in assertives, it can also be found in a sentence-internal position or in a sentence final position, displaying a relatively high degree of syntagmatic variability, as shown in Table 10.

Table 10: Frequency of the syntactic positions of modal *appunto* in assertives.

| | human translation % (N) | DL % (N) | GT % (N) |
|---|----------------------------|-------------|-------------|
| before the conjugated verb | 40,0 (8) | 0,0 (0) | 0,0 (0) |
| after the conjugated verb (and before the unconjugated verb) | 40,0 (8) | 0,0 (0) | 0,0 (0) |
| after the unconjugated verb | 20,0 (4) | 0,0 (0) | 0,0 (0) |

Another fundamental difference between the subcorpora concerns the use of *solo*, which is the most frequent *eben* equivalent proposed by GT and DL, whereas it is hardly ever used by the human translators (see Table 9). In many of the GT and DL translations, *solo* functions as a common ground management operator which

occurs in a sentence-internal position after the conjugated verb. This syntactic feature is common to the two contexts of occurrence of modal *solo* identified in the data. The first concerns directives, which *solo* marks as an obvious action the addressee should undertake. Similar to *eben*, *solo* is used to overtly mark emphasis on a taken for granted directive, which, according to Favaro (2021: 188–189), is presented as being obvious to both the speaker and the addressee. This type of foreign consciousness alignment is illustrated by the NMTs generated by GT in (5) and DL in (6):

- (5a) Scheiße, fahr mal hier Kudamm raus, ist jetzt auch scheißegal, fahren wir eben über den Kudamm, immer noch besser als Wilmersdorf (*Bruder*)
 ‘Shit, drive out here on Kudamm, it doesn’t matter now, let’s just take Kudamm, still better than Wilmersdorf’
- (5b) Merda, guida qui Kudamm, non gliene frega niente ora, guidiamo solo sul Kudamm, ancora meglio di Wilmersdorf (GT)
 ‘Shit, drive here on Kudamm, don’t give a damn now, we simply drive on Kudamm, still better than Wilmersdorf’
- (6a) Erika wird eine Zahlungsfrist erhalten, soll sie eben ihre Privatstunden ausbauen (*Klavierspielerin*)
 ‘Erika will be given a grace period to pay, well, she should just expand her private lessons’
 à
- (6b) Erika riceverà una scadenza per il pagamento, dovrebbe solo espandere le sue lezioni private (DL)
 ‘Erika will receive a payment deadline, she should just expand her private lessons’

Following Favaro (2021: 199), the modal use of *solo* in directives is diatopically marked and constitutes a typical feature of the regional variety of Italian spoken in Piedmont. Hence, in comparison to examples coming from non-translated texts of Italian, the NMT tools seem to propose a less restrictive use of *solo*, reducing (or even abandoning) the construction’s diatopic specificity. In (5) and (6), the German source language texts do not convey any form of regional markedness, so that in principle there is no need to choose a diatopically marked form in the target language text. From the perspective of Sampson (2016), it can be argued that the NMTs act creatively (in the sense of *F-creativity*),¹⁵ because they generate a

¹⁵ Sampson (2016: 19) distinguishes between *E-creativity* and *F-creativity*: “Let me describe activities which characteristically produce examples drawn from a fixed and known (even if infinitely large) range as ‘F-creative’, and activities which characteristically produce examples that enlarge our understanding of the range of possible products of the activity as ‘E-creative’. (F chosen as standing for ‘fixed’, E for ‘enlarging’ or ‘extending’).”

diatopic-unspecific use of modal *solo* which is derived from an already established, but regionally restricted use.

A second context of occurrence of modal *solo* can be identified in the NMTs, where it figures in assertives providing an evaluation of a state of affairs. According to Favaro (2021: 190), the speaker presents these assertions as they should be obvious to the addressee, signaling some common knowledge which is assumed to be entertained by them and the addressee. Unlike in directives, the modal use of *solo* in assertives is not attributable to a specific diatopic variety, “thus resulting as a feature which can be found in the standard variety and/or in different regional varieties spoken across the peninsula” (Favaro 2021: 200). Given the absence of diatopic restrictions, it follows that in case of assertives, the NMTs do not entail a creative use of *solo*. As can be observed in (7), both GT and DL provide translations including modal *solo*, whereas in the human translation the meaning of *eben* is reproduced by the evidential sentence adverb *evidentemente* (Haßler 2018). The fact that the speaker assumes to be present some shared knowledge in the common ground is also underlined by the fierce undertone with which they respond to the addressee.

- (7a) “Na ja, es interessiert mich eben”, sagte er ungewollt heftig (*Bruder*)
 ““Well, I’m just interested,” he said unintentionally vehemently’
- (7b) “Be’, evidentemente mi interessa” disse con asprezza involontaria
 (human translation)
 ““Well, I obviously care,” he said with unintentional harshness’
- (7c) “Beh, sono solo interessato”, disse involontariamente violentemente
 (GT)
 ““Well, I’m just interested,” he said involuntarily violently’
- (7d) “Beh, sono solo interessato”, disse con involontaria veemenza (DL)
 ““Well, I’m just interested,” he said with unintentional vehemence’

Moreover, the NMT tools provide translations in which *solo* does not function as a modal particle, but as a restrictive focus particle (De Cesare and Sanromán Vilas 2020), that is, the source lexeme from which modal *solo* has emerged through a process of metonymization. In these cases, *solo* no longer refers to the speech act conveyed by the utterance, but it focuses on a specific sentence constituent. From a semantic point of view, restrictive focus particles express the idea that no potential alternative to the value of the element in focus is valid (De Cesare 2015). As illustrated in Table 11, the tendency to translate modal *eben* by the focus particle *solo* is almost as strong in GT as in DL.

Table 11: Frequency of modal and focus particle uses of *solo*.

| | human translations % (N) | DL % (N) | GT % (N) |
|----------------------------|-----------------------------|--------------|--------------|
| modal particle <i>solo</i> | 0,0 (0) | 81,8 (18) | 85,3 (29) |
| focus particle <i>solo</i> | 100,0 (3) | 18,2 (4) | 14,7 (5) |

In the data the shift from modal *eben* to the focus particle *solo* is only attested in assertives. A case in point is (8), where the foreign consciousness alignment expressed in the German text is no longer present in the NMT generated by GT, since *solo* focuses only on the prepositional phrase “per Gerhard” [‘for Gerhard’].

- (8a) Den Körper durchlief ein Zittern – aber das war auch alles. Er senkte den Kopf, als würde er sich dann eben für Gerhard an die Decke kleben lassen (*Mann*)
 ‘A tremor ran through his body – but that was all. He lowered his head as if he was going to be glued to the ceiling for Gerhard’
- (8b) Un tremito percorse il suo corpo, ma questo fu tutto. Abbassò la testa, come se volesse lasciarsi incollare al soffitto solo per Gerhard (GT)
 ‘A tremor ran through his body, but that was all. He lowered his head, as if he wanted to let himself be glued to the ceiling just for Gerhard’

The few *solo* equivalents found in the human translations are all focus particles, as shown in (9), where *solo* focuses on the noun phrase “un vecchio pazzo come me” [‘an old fool like me’] and not on the sentence as a whole.

- (9a) sey versichert, daß ich dich noch immer ganz närrisch liebe, wie es einem alten narren wie mir eben anstehen will (*Mozart*)
 ‘be assured that I still love you like a fool, as only an old fool like me can do’
- (9b) Sii certa che ti amo ancora come un pazzo pazzamente innamorato, come solo un vecchio pazzo come me può innamorarsi (human translation)
 ‘Be sure that I still love you as madly in love as only an old fool like me can fall in love’

In the data alternations between modal and focus particle uses can also be observed for *proprio*, which is another possible, though less frequent *eben* equivalent (see Table 9). In the subcorpora, *proprio* is used as a foreign consciousness aligner with which the speaker assures the addressee of the truth of their utterance (De Cesare 2000: 103–104). In contrast to *eben*, modal *proprio* only implies the correctness of a proposition, but not its obvious character. The translations thus express a foreign

consciousness alignment, whose semantics is different from that of *eben*. In the NMT generated by GT in (8), modal *proprio* occurs after the conjugated verb, as it is the case for all examples found in the data. Interestingly, the human translator reproduces *eben* with *davvero*, which is, following De Cesare (2000), quasi synonymic to *proprio*. That is, with modal *davvero* “il locutore [...] vuole garantire la verità/fattività della asserzione” [‘the speaker [...] wants to guarantee the truth/factuality of the assertion’; my trans.] (De Cesare 2000: 104).¹⁶ Thus, it follows that modal *davvero* covers only partly the semantics of modal *eben*.

- (10a) Gern, nur allzu gern, gibt die Mutti nach, sie kann ihrer Tochter eben nicht ernsthaft böse sein (*Klavierspielerin*)
 ‘The mummy is only too happy to give in, she just can’t be seriously angry with her daughter’
- (10b) La mamma si piega volentieri, eccome, non riesce a essere davvero arrabbiata con la figlia (human translation)
 ‘The mummy bends over gladly, she can’t really be angry with her daughter’
- (10c) Volentieri, fin troppo volentieri, la madre cede, non riesce proprio ad arrabbiarsi seriamente con la figlia (GT)
 ‘Willingly, all too willingly, the mother gives in, she just cannot get seriously angry with her daughter’

A similar case is (11), where *proprio* figures in the human translation, whereas *solo* occurs in the NMT generated by DL, expressing a foreign consciousness alignment which, in contrast to *proprio*, is more congruent with the one of *eben*:

- (11a) Vertane Zeit. Andererseits gut, dass Plisch und Plum es nicht bei ihm gefunden hatten. Er musste sich eben in Geduld üben (*Fisch*)
 ‘Wasted time. On the other hand, it was a good thing that Plisch and Plum hadn’t found it with him. He just had to be patient’
- (11b) Tempo perso. D’altro canto era un bene che Stanlio e Ollio non lo avessero trovato tra le sue cose. Doveva proprio portare pazienza (human translation)
 ‘Lost time. On the other hand, it was good that Laurel and Hardy had not found it among his things. He really had to be patient’

¹⁶ Note that *davvero* can also function as a focus particle (De Cesare 2000).

- (11c) Tempo sprecato. D'altra parte, era un bene che Plisch e Plum non l'avessero trovato su di lui. Doveva solo esercitare la pazienza (DL)
 'Time wasted. On the other hand, it was good that Plisch and Plum had not found it on him. He just had to exercise patience'

In the two NMT subcorpora, the tendency to translate modal *eben* by a focus particle is generally stronger for *proprio* than for *solo*. However, in case of *proprio* the foreign consciousness alignment conveyed in the German text is expressed more often in DL than in GT, as shown in Table 12.

Table 12: Frequency of modal and focus particle uses of *proprio*.

| | human translation % (N) | DL % (N) | GT % (N) |
|----------------------------------|----------------------------|-------------|-------------|
| modal particle <i>proprio</i> | 55,6 (5) | 50,0 (5) | 33,3 (2) |
| focus particle <i>proprio</i> | 44,4 (4) | 50,0 (5) | 66,7 (4) |

When used as a focus particle, *proprio* conveys an emphasizing meaning (De Cesare 2000: 102–103). In the data these uses only occur in assertives, as in the NMT generated by GT in (12). Here *proprio* focuses on the adverb phrase *così*, which is embedded in the copula clause of an informative-presupposition cleft (*i-p-cleft*).¹⁷ According to Prince (1978), *i-p-clefts* present the information in the subordinate, relative(-like) clause as being presupposed, that is, generally known. As a consequence, in (12) the modal meaning of *eben* is reproduced first and foremost by a syntactic equivalent rather than by a lexical one.

- (12a) Sie zuckte die Achseln, als wolle sie sagen: “Was soll’s. So ist das eben” (*Fisch*)
 ‘She shrugged her shoulders as if to say, “What the hell. That’s just the way it is”’
- (12b) Scrollò le spalle, come per dire: “Che dobbiamo fare, è così” (human translation)
 ‘He shrugged his shoulders, as if to say, “What should we do, that’s how it is”’

¹⁷ Following De Cesare (2017: 537), a cleft construction such as *È mio fratello che ha la macchina* [‘It is my brother who has the car’] “is a biclausal sentence structure, consisting of a copula clause and a relative(-like) clause. Semantically, clefts are specificational constructions associated with an exhaustive interpretation. Pragmatically, clefts can play a variety of functions, which are mostly related to focusing”.

- (12c) Lei scrollò le spalle come per dire: “Che diamine. È proprio così che vanno le cose” (GT)
 ‘She shrugged her shoulders as if to say, “What the heck. That’s just the way it is”’

5.3 Lexical translation equivalents of *einfach*

Table 13 reports the results of the frequency analysis of the translation equivalents of *einfach*. Again the data is ordered following the alphabetical order of the equivalents identified in the subcorpora. In contrast to *eben*, the NMTs reproduce or reinforce the tendencies found in the human translations.

Table 13: Frequency of *einfach* lexical equivalents.

| | human translations % (N) | DL % (N) | GT % (N) |
|---------------------------|-----------------------------|---------------|---------------|
| non-translation | 55,7 (147) | 58,3 (154) | 45,1 (119) |
| <i>affatto</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>appena</i> | 0,0 (0) | 1,9 (5) | 0,0 (0) |
| <i>assolutamente</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>basta</i> | 3,4 (9) | 5,7 (15) | 4,2 (11) |
| <i>certo</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>con più leggerezza</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>davvero</i> | 1,1 (3) | 0,0 (0) | 0,0 (0) |
| <i>e allora perché</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>e stop</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>facile</i> | 0,0 (0) | 0,4 (1) | 0,4 (1) |
| <i>fare altro che</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>fare meglio</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>finalmente</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>in fondo</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>in nessun modo</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>in qualche modo</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>ma</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>magari</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |

| | | | |
|----------------------|--------------|--------------|--------------|
| <i>per forza</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>proprio</i> | 2,3 (6) | 1,1 (3) | 3,0 (8) |
| <i>pure</i> | 0,4 (1) | 0,4 (1) | 0,0 (0) |
| <i>semplicemente</i> | 23,3 (62) | 22,4 (59) | 25,0 (66) |
| <i>senza dubbio</i> | 0,4 (1) | 0,0 (0) | 0,0 (0) |
| <i>solo</i> | 6,0 (16) | 9,5 (25) | 22,4 (59) |
| <i>sufficiente</i> | 0,4 (1) | 0,4 (1) | 0,0 (0) |
| <i>volere dire</i> | 1,1 (3) | 0,0 (0) | 0,0 (0) |

A first convergence can be observed for *semplicemente*, which is the most frequent *einfach* equivalent across the subcorpora.¹⁸ Almost all of the examples found in the data suggest that *semplicemente* functions, similar to *einfach*, as a foreign consciousness aligner with which the speaker signals that a state of affairs is obvious for them, but supposedly not for the addressee. Importantly, previous research (Meier 2022) has shown that such modal uses of *semplicemente* are solidly attested in spoken Italian, where they occur in two illocutionary contexts. These are also present in the data under study. A first context is the use of modal *semplicemente* in directives, for example in commands and instructions which have the character of advice. *Semplicemente* directives are presented as simple solutions to a problem previously mentioned by the addressee. As a result, the action to be undertaken is only obvious to the speaker, but they do not ascribe this knowledge to the addressee. A case in point is (13), where modal *semplicemente* occurs in the human translation and the NMTs. Like in all other directive contexts identified in the data, *semplicemente* is positioned immediately after the conjugated verb.

(13a) Das ist doch bloß deine Schuld, dass die sich so aufregt, du kannst ihr doch einfach sagen, dass du gehört hast, dass Freddie ein paar Tage verreist ist (*Tabor*)

‘It’s only your fault that she’s so upset, you can just tell her that you’ve heard that Freddie’s away for a few days’

(13b) È solo colpa tua se lei si agita tanto, dille semplicemente che hai sentito che Freddie è partito per un paio di giorni, e la faccenda è sistemata! (human translation)

‘It’s only your fault that she gets so worked up, just tell her that you heard that Freddie left for a couple of days, and the matter is settled’

¹⁸ Note that *semplicemente* is also used as an *eben* equivalent (see Table 9). However, it is not present in the human translations and it occurs only rarely in the NMTs.

- (13c) È solo colpa tua se è così arrabbiata, puoi semplicemente dirle che hai saputo che Freddie è andato via per qualche giorno (DL)
 ‘It is only your fault that she is so angry, you can simply tell her that you heard that Freddie went away for a few days’
- (13d) È solo colpa tua se è così arrabbiata, puoi semplicemente dirle che hai sentito che Freddie è andato via per qualche giorno (GT)
 ‘It is only your fault that she is so angry, you can simply tell her that you heard that Freddie went away for a few days’

Interestingly, the human translator deviates from the source language text, adding the coordinate sentence *e la faccenda è sistemata* [‘and the matter is settled’] to the end of the controversy between the speaker and the addressee. This emphatic assertion signals that no further discussion is needed and expresses a closing effect which modal *einfach* has on the conversation in the German source language text (Thurmair 1989: 133).¹⁹ In other words, the presentation of a directive as an obvious solution to a problem potentially keeps the addressee from pursuing the discussion on that issue. We find thus a redundant marking of this closing effect in the human translation, since modal *semplicemente* also gives emphasis to the directive and strengthens its illocutionary force.

In the subcorpora modal *semplicemente* occurs in a second illocutionary context, that is, assertives in which the speaker makes an evaluation of a state of affairs. As a foreign conscious aligner, *semplicemente* signals that this evaluation is not based on general knowledge, presenting it as being obvious only to the speaker. As shown by the human and the DL translated text in (14), the speaker refers to information which they consider as not being present in the common ground with the addressee. More precisely, they introduce their personal opinion on the behavior of a group of people who are not present in the conversation.

- (14a) Vielleicht sind sie einfach nur zu dämlich. Das ist jedenfalls meine Theorie (*Fisch*)
 ‘Maybe they are just too stupid. That’s my theory anyway’

¹⁹ Prototypically, the closing effect of *einfach* on conversations can also be expressed by the Italian equivalent *basta*, which indeed occurs in all three subcorpora, as shown in the following example: “Mein Mut ist begrenzt. Und ... ich will nicht unhöflich sein.” “Frag doch einfach.” Ich lachte und schüttelte bedauernd den Kopf [“My courage is limited. And ... I don’t want to be rude.” “Why don’t you just ask?” I laughed and shook my head regretfully.] (*Flußpferd*); “Il mio coraggio ha dei limiti. E... non voglio essere scortese.” “Chiedilo e basta.” Risi e scossi il capo dispiaciuto (human translation) [“My courage has its limits. And... I don’t want to be rude.” “Just ask.” I laughed and shook my head apologetically.; “Il mio coraggio è limitato. E... non voglio essere scortese.” “Basta chiedere.” Risi e scossi la testa con rammarico (DL) [“My courage is limited. And... I don’t want to be rude.” “Just ask.” I laughed and shook my head regretfully.]; “Il mio coraggio è limitato. E... non intendo essere scortese.” “Chiedi e basta.” Risi e scossi la testa con rammarico (GT) [“My courage is limited. And... I don’t mean to be rude.” “Just ask.” I laughed and shook my head regretfully].

- (14b) Forse sono semplicemente troppo stupidi. Questa comunque è la mia teoria (human translation)
‘Perhaps they are simply too stupid. This however is my theory’
- (14c) Forse sono semplicemente troppo stupidi. Almeno questa è la mia teoria (GT)
‘Perhaps they are simply too stupid. At least that is my theory’

The data shows that modal *semplicemente* displays a higher degree of syntactic mobility in assertives than in directives. When used in assertives, *semplicemente* is mainly positioned after the conjugated verb, as illustrated in (14). However, it may also occur in a sentence initial position, where it is not always completely integrated into the sentence, as signaled by the commas in the DL translation in (15). As shown in Meier (2022), these syntactic features are also attested in non-translated language, that is, spoken Italian.

- (15a) Wahrscheinlich liegen die Ursachen dafür in seiner Frühzeit in Berlin. Er hatte einfach nie andere Frauen kennengelernt, und er mochte sie (*Fisch*)
‘The reasons for this probably lie in his early days in Berlin. He had simply never met other women, and he liked them’
- (15b) Forse la causa va ricercata nei suoi trascorsi a Berlino. Semplicemente era l’unico tipo di donne che conosceva e gli piaceva (human translation)
‘Perhaps the cause lies in his background in Berlin. It was simply the only kind of women he knew and liked’
- (15c) Probabilmente le ragioni di ciò risiedono nei suoi primi giorni a Berlino. Semplicemente, non aveva mai incontrato altre donne e gli piacevano (DL)
‘Probably the reasons for this lay in his early days in Berlin. He had simply never met any other women and liked them’
- (15d) Le ragioni di ciò probabilmente risiedono nei suoi primi giorni a Berlino. Semplicemente non aveva incontrato altre donne e gli piacevano (GT)
‘The reasons for this probably lay in his early days in Berlin. He simply had not met any other women and liked them’

As illustrated in Table 14, the analysis reveals no clear difference between the syntactic distributions of *semplicemente* in the three subcorpora. This observation is in line with what has been shown in Section 5.2: the NMTs do generally not entail (important) variation in the syntactic position of the translation equivalents.

Table 14: Frequency of the syntactic positions of modal *semplicemente* in assertives.

| | human translation % (N) | DL % (N) | GT % (N) |
|--|----------------------------|--------------|--------------|
| before the conjugated verb | 32,1 (20) | 31,0 (18) | 38,5 (25) |
| after the conjugated verb (and before the unconjugated verb) | 67,9 (42) | 69,0 (41) | 61,5 (41) |
| after the unconjugated verb | 0,0 (0) | 0,0 (0) | 0,0 (0) |

Semplicemente shows another common point with the translation equivalents described in 5.2: in the data *semplicemente* is not only used modally. In fact, it can also function as a focus particle with which the speaker expresses qualitative restrictions, as in *Questo quadro ha semplicemente un valore storico* [‘This painting is simply of historical value’] (example from Andorno 2000: 86). The difference between the two uses can be observed in (16). In the human translation and the GT translated text *semplicemente* displays a modal function with scope on the sentence as a whole, whereas in the DL translation the interpretation of *solo* as a modal particle is ruled out: it is used as a focus modifier whose scope is limited to the prepositional phrase “come capro espiatorio” [‘as a scapegoat’].

- (16a) Nein, ich glaube nicht, dass Kasperek das wahre Ziel des Mörders war, der ihm etwas anhängen wollte – Katharina war das primäre Ziel, und Kasperek sollte einfach nur als Sündenbock herhalten (*Todesurteil*)
‘No, I don’t think Kasperek was the real target of the murderer who wanted to frame him – Katharina was the primary target, and Kasperek was simply the scapegoat’
- (16b) No, non credo che il vero obiettivo dell’assassino fosse Kasperek, che volesse colpirlo... L’obiettivo primario era Katharina e Kasperek doveva semplicemente servire da capro espiatorio (human translation)
‘No, I don’t think the killer’s real target was Kasperek, that he wanted to hit him... The primary target was Katharina, and Kasperek was simply to serve as a scapegoat’
- (16c) No, non credo che Kasperek fosse il vero obiettivo dell’assassino che voleva incastrarlo – Katharina era l’obiettivo principale e Kasperek doveva essere usato semplicemente come capro espiatorio (DL)
‘No, I don’t think Kasperek was the real target of the killer who wanted to frame him – Katharina was the main target and Kasperek was to be used simply as a scapegoat’

(16d) No, non credo che Kasperek fosse il vero obiettivo dell'assassino che stava cercando di incastrarlo: Katharina era l'obiettivo principale e Kasperek doveva semplicemente essere usato come capro espiatorio (GT)

'No, I don't think Kasperek was the real target of the murderer who was trying to frame him: Katharina was the main target and Kasperek was simply to be used as a scapegoat'

In the data the use of *semplicemente* as focus particle is restricted to assertive contexts. It only occurs in the NMTs generated by DL, where it is extremely rare, as can be observed based on Table 15.

Table 15: Frequency of modal and focus particle uses of *semplicemente*.

| | human translation % (N) | DL % (N) | GT % (N) |
|--|----------------------------|--------------|---------------|
| modal particle <i>semplicemente</i> | 100,0 (62) | 94,9 (56) | 100,0 (66) |
| focus particle <i>semplicemente</i> | 0,0 (0) | 5,1 (3) | 0,0 (0) |

Another important result of the frequency analysis of the translation equivalents of *einfach* concerns the use of *solo*. The quantitative analysis shows that *solo* is solidly documented in the human translations and it becomes even more prominent in the NMTs, especially in GT (see Table 13). Here it is attested almost four times more often than in the human translations. The data shows that modal *solo* occurs predominantly in directive contexts, where the translations convey a type of common ground management which differs from the one operated in the source language text. While *einfach* implies that a state of affairs is only obvious for the speaker, modal *solo* marks, as I pointed out in Section 5.2, a taken for granted directive, which is presented as being obvious to the speaker and the addressee. An example is (17), where the speaker provides a solution to a problem mentioned beforehand by the addressee. Thus, it follows that the action to be undertaken can only be obvious to the speaker. The human translator takes into account this situation by using *semplicemente*, whereas the two NMTs tools propose modal *solo*, marking the directive as also being obvious to the addressee, which apparently is not possible in the conversational context under study.

(17a) "Tibor hat mich nur brockenweise über die Verhältnisse hier informiert, drum weiß ich nicht, wie ich Sie ansprechen soll." Worauf sie selbstbewusst antwortete: "Sagen Sie einfach Prinzessin zu mir" (Flusspferd)

"Tibor has only told me bits and pieces about the situation here, so I don't know how to address you." To what she replied confidently: "Just call me Princess"

- (17b) “Tibor mi ha dato solo informazioni frammentarie sulle regole vigenti qui, per cui non so come devo rivolgermi a lei.” Al che mi rispose, sicura di sé: “Mi chiami semplicemente principessa” (human translation)
“Tibor has given me only fragmentary information about the rules in force here, so I don’t know how I should address you.” To which she replied, confidently, “Just call me princess”
- (17c) “Tibor mi ha informato solo a spizzichi e bocconi sulle condizioni di questo posto, quindi non so come rivolgermi a voi”. Al che lei rispose con sicurezza: “Chiamami solo principessa” (DT)
“Tibor has only informed me in bits and pieces about the condition of this place, so I don’t know how to address you.” To which she replied confidently, “Just call me princess”
- (17d) “Tibor mi ha dato solo frammenti di informazioni sulla situazione qui, quindi non so come rivolgermi a te”. A cui lei ha risposto con sicurezza, “Chiamami solo Principessa” (GT)
“Tibor only gave me fragments of information about the situation here, so I don’t know how to address you.” To which she replied confidently, “Just call me Princess”

Like in (5) and (6) in Section 5.2, the German text in (17) is not characterized by regional markedness. Again the NMTs seem to facilitate the establishment of a less restrictive use of *solo* in directives, diminishing the construction’s diatopic specificity. Moreover, in the data modal *solo* also occurs in assertive contexts, as in (18). Comparable to (17), we find again different cognitive configurations in the German source language text on the one hand, where *einfach* expresses an assumed lack of common ground between the speaker and the addressee, and in the NMT generated by GT on the other hand, where *solo* signals the existence of an assumed common ground between the interlocutors.

- (18a) Kann ich mir nicht vorstellen. Er hat einfach zu viele Freunde bei der Armee. Schwelgen in alten Zeiten. Mag sein, dass sie sich ab und zu was erzählen, aber zusammenarbeiten? (*Fisch*)
‘I can’t imagine that. He simply has too many friends in the army. Reveling in old times. They might tell each other something from time to time, but working together?’

- (18b) Non riesco a immaginare. Ha solo troppi amici nell'esercito. Goditi i vecchi tempi. Potrebbero parlarsi di tanto in tanto, ma lavorare insieme? No! (GT)
 'I can't imagine. He just has too many friends in the army. Enjoy the old days. They might talk to each other from time to time, but work together? No!'

Similar to *eben*, the results point to the fact that *solo*, when occurring as an *einfach* equivalent in assertives, also functions as a focus particle. This is illustrated by (19) and (20), in which the focus modifier is present respectively in the human translation and the NMT generated by DL. In both examples, the interpretation as modal particle is ruled out, since *solo* does not take scope on the sentence as a whole, but only on a noun phrase, namely "i comunisti" ['the communists'] in (17) and "un pezzo di carta con delle balle sopra" ['a piece of paper with baloney on it'] in (18):

- (19a) Wenn ein Polizeibeamter am Bülowplatz erschossen wurde, dann mussten es einfach Kommunisten gewesen sein (*Fisch*)
 'If a police officer was shot dead on Bülowplatz, then it simply must have been communists'
- (19b) Se un agente di polizia veniva ucciso in Bülowplatz, potevano essere stati solo i comunisti (human translation)
 'If a police officer was being killed on Bülowplatz, it could only have been communists'
- (20a) Und ich meine – wenn es einfach irgendein Zettel gewesen wäre mit irgendeinem Quark drauf (*Tschick*)
 'And I mean – if it had just been any piece of paper with baloney on it'
- (20b) E voglio dire – se fosse stato solo un pezzo di carta con delle balle sopra (DL)
 'And I mean – if it was just a piece of paper with baloney on it'

The quantitative data reported in Table 16 reveals that in the subcorpora *solo* only rarely occurs as focus particle. This function is generally more present in the human translations than in the NMTs generated by DL and GT. While the focus modifier use is exclusively restricted to assertive contexts, modal *solo* occurs, as shown above, in directives and assertives.

Table 16: Frequency of modal and focus particle uses of *solo*.

| | human translations % (N) | DL % (N) | GT % (N) |
|----------------------------|-----------------------------|--------------|--------------|
| modal particle <i>solo</i> | 62,5 (10) | 83,3 (20) | 89,5 (51) |
| focus particle <i>solo</i> | 37,5 (6) | 16,7 (4) | 10,5 (6) |

6 Conclusion

In this contribution, I investigated lexical equivalents of modal particles in German to Italian NMTs in comparison with human translations. While German offers many modal particles to consider, the focus in the present study was on *eben* and *einfach*. Both modal particles mark an utterance as obvious information but operate differently in the common ground between the speaker and the addressee. A self-assembled corpus of German literary texts was translated into Italian, using the NMT systems of GT and DL, and compared to the Italian human translations of the same German texts.

The discussion of the results of my quantitative-orientated study revealed important differences between the NMTs and the human translations. Even though GT and DL provide a number of lexical equivalents which mark a foreign consciousness alignment that is similar, or at least partly similar, to that expressed in the German source texts, both NMTs rely on a more restricted paradigm of equivalents than the human translations. This is particularly evident in relation to *appunto*, which only occurs in the human translations. But also in terms of the quantitative distribution of the equivalent types, the NMTs' output is more homogenous. Alongside *semplimente*, this becomes especially apparent in case of *solo*. While its modal use is only rarely attested in the human translations, it is highly frequent in the NMTs of both *eben* and *einfach*, becoming thus a sort of *passe-partout* equivalent. Apparently, the NMTs appear to have difficulty dealing with complex common ground configurations for whose correct interpretation the recourse on world knowledge is indispensable. However, despite – or perhaps because of – the limitation to a small set of equivalent types, the NMTs show innovative aspects. Compared to the human translations, they include more unusual – or creative – patterns of use, reducing pragmatic restrictions which regulate the acceptability and markedness of certain features in original Italian untranslated texts. I observed this for the modal use of *solo* in directives.

The analysis uncovered also similarities between the NMTs and the human translations. Both reproduce distinctive syntactic patterns of Italian modal particles, for instance a higher degree of syntactic mobility and a lower degree of sentential integration. Overall, the NMTs and the human translations do not entail important variation in the syntactic behavior of the lexical equivalents under study. Moreover, the shift from German modal particle to Italian focus particle is another common characteristic of the NMTs and the human translations. In the subcorpora this shift occurs only in assertives, where the expression of interactional modality is

generally less explicit than in directives. Compared to the human translations, the NMTs seem thus to reproduce already existing patterns whose presence can certainly be explained with regard to the underlying data on which DL and GT have been trained.

In conclusion, both NMT tools show greater consistency with the human translations of *einfach* than those of *eben*. The latter particle is less frequent in the German source language texts and its human translations display a more balanced distribution of low frequent equivalent types as compared to *einfach*, where *semplicemente* is widely dominant. To better explain the diverging results for *eben* and *einfach*, it would be necessary to check if this more balanced distribution of low frequent equivalent types is also present in the training data of the NMT systems under study. In fact, the lack or the scarce presence of certain equivalent types in the training data could be a reason for the differences between the NMTs and the human translations of modal *eben*. More research is needed to be done in this direction. In fact, future studies on the NMT of German modal particles into the Romance languages have to consider the question of the composition of the training data more in detail to get a fuller comprehension of the generated set of equivalent types.

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