

# The Role of Translation Workflows in Overcoming Translation Difficulties: A Comparative Analysis of Human and Machine Translation (Post-Editing) Approaches

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## Abstract

This study investigates the impact of different translation workflows and underlying machine translation technologies on the translation techniques used in literary translations. We compare human translation, translation within a computer-assisted translation (CAT) tool, and machine translation post-editing (MTPE), alongside (unedited) neural machine translation (NMT) and large language models (LLMs). Using three short stories translated from English into Dutch, we annotated potential translation difficulties and the translation techniques that were employed to overcome them. Our analysis reveals differences in translation solutions across modalities, highlighting the influence of technology on the final translation. The findings suggest that while MTPE tends to produce more literal translations, human translators and CAT tools exhibit greater creativity and employ more non-literal translation techniques. Additionally, LLMs reduced the number of literal translation solutions compared to traditional NMT systems. While our study provides valuable insights, it is limited by the use of only three texts and a single language pair. Further research is needed to explore these dynamics across a broader range of texts and languages, to better understand the full impact of translation workflows and technologies on literary translation.

## 1 Introduction

A growing body of work is trying to understand how the experience of a reader is influenced by the characteristics of the (translated) text they are reading, and how those characteristics are in turn influenced by the translation process. For example, a low quality translation, where a translator exerted limited effort, was found to be harder to read than a high quality translation of the same source text

(Whyatt et al., 2023). A translation’s quality might, in part, be influenced by the extent to which a translator successfully handles elements in the source text that require creative solutions, i.e., elements that cannot be easily reproduced in the target language. Introducing more so-called creative shifts in a translation does not automatically lead to higher quality, but knowing when to introduce a creative shift versus when to ‘settle for’ a more literal reproduction of the source does (Bayer-Hohenwarter, 2011). More experienced translators also exhibit a wider range of translation strategies compared to novices (Dyachuk, 2014). Especially in the context of literary text, where creative use of language is the norm rather than the exception, the way translation problems are handled by a translator is likely to influence the reader’s experience.

In modern translation workflows, the translator is not the only factor to take into account, however. Even for literary translation, translators sometimes make use of CAT tools (Youdale and Rothwell, 2022) and the potential of machine translation (MT) is actively being explored (Hansen and Esperança-Rodier, 2022). The use of MT has been shown to negatively impact creativity for literary texts compared to human translation, even after post-editing (Guerberof-Arenas and Toral, 2022). Large language models (LLMs) are increasingly being used for translation as well, although they also seem to lead to products of reduced creativity compared to human translation (Zhang et al., 2024).

With the present work, we aim to improve our understanding of how different translation workflows can lead to differences in translation products for literary texts translated from English into Dutch. We start by identifying the textual units in the source texts that represent potential translation problems requiring creative solutions. Understanding translation problems is crucial from a translation process perspective, as they can lead to increased cognitive effort (Bayer-Hohenwarter, 2011). Additionally,

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the way translation problems are handled is likely influenced by access to technology, with MT potentially solving some problems but introducing new ones (Nitzke, 2019). From a translation product perspective, it is crucial to understand how differences in process lead to differences in product, as those differences are likely to lead to different reader experiences. More specifically, this study aims to answer the following research questions:

- RQ1: What are the typical English-Dutch translation problems for which non-literal translation techniques are used?
- RQ2: How do the translation techniques used differ between different translation modalities? (e.g. human translation, translation in a CAT tool and post-edited machine translation)?
- RQ3: How do the translation techniques used differ between neural machine translation systems and those based on large language models?

It should be noted that, over the years, different authors have used different terms to refer to the concept of translation techniques. We use the terminological distinctions articulated by Molina (2002) and use the term ‘translation strategy’ to refer to the mechanisms used by translators throughout the translation process to find a solution to the problems they face (for example a target-language oriented strategy), and the term ‘translation technique’ to refer to the result achieved in the translation product, which can be identified in the micro-units of the text. In the following sections, we first briefly introduce some of the work on translation difficulties and translation techniques, as well as their relationship to creativity, and the potential impact of translation technology. We then outline our methodology, results, and end with a discussion and conclusion summarising our main findings.

## 2 Related work

### 2.1 Translation difficulty and translation techniques

In translation studies, the term ‘difficulty’ can refer both to the cognitive effort involved in completing a task and the inherent difficulty of the task itself (Sun, 2015). Difficulties in translation can be of various kinds, including culture-specific problems, text-specific problems and challenges arising

from changes in the communicative situation (such as differences in place, time and the prior knowledge of the target language reader). Translation-specific difficulties often occur when there is a lack of equivalence between source and target language: something that can be expressed a certain way in one language but not in the other (Sun, 2015; Reiss, 1983). It is important to note, however, that the perception of difficulty is influenced by the expertise and language skills of the translators themselves and is to some extent subjective.

In the field of product-oriented translation studies, extensive research has been conducted on equivalence and translation techniques. In their seminal work, Vinay and Darbelnet (1958) introduced a taxonomy of translation procedures<sup>1</sup>, distinguishing between direct procedures (resembling word-for-word translations) and oblique procedures, employed when literal translation is inadequate. Zhai et al. (2018) annotated translation relations<sup>2</sup> in a trilingual parallel corpus (English, French, and Chinese) using a categorisation scheme inspired by Vinay and Darbelnet’s taxonomy and used this dataset to train a classifier that can distinguish between literal translations and other translation relations (Zhai et al., 2019).

### 2.2 Translation solutions and creativity

The idea of non-literal translations has been linked to the notion of creativity. Bayer-Hohenwarter (2011) labeled source text elements as having a low or high creative potential based on whether or not they could be reproduced easily in the target language and then studied how translation students and professionals handled those elements. Instances of abstraction, concretisation, and modification were considered to be ‘creative shifts’. There is considerable overlap between these categories and those defined by Zhai et al. (2018). The author found individual differences across participants and revealed that translators often apply creative strategies even for elements that can be reproduced almost literally (Bayer-Hohenwarter, 2011). She further stresses that increased creativity does not necessarily lead to increased quality, as translators can introduce creative shifts that contain errors, but that creativity is an indicator of translational flexibility.

<sup>1</sup>Vinay and Darbelnet used the term ‘translation procedures’ to refer to what we understand as ‘translation techniques’.

<sup>2</sup>Zhai and colleagues used the term ‘translation relations’.

## 2.3 Impact of technology on translation solutions and creativity

The use of translation technology can have an impact on the translation process and product (Dohererty, 2016). Working with a CAT tool can ensure that translators do not skip sentences and produce consistent translations, but can feel limiting in the sense that translators are forced to work sentence-by-sentence, especially where literary translation is concerned (Daems, 2022). Post-editing MT output has been shown to be cognitively less effortful than translating from scratch, suggesting that it offers some solutions to translation problems (Nitzke, 2019), yet MT output might also lead to decreased creativity. The specific style of a literary translator has been shown to be impacted by the use of MT output (Winters and Kenny, 2023). Furthermore, the quality of MT output depends on the source text, with certain literary texts proving more challenging than others, and MT output follows source text structures much more closely than human translations do (Webster et al., 2020; Vanmassenhove et al., 2021). The usefulness of MT also depends on the level of equivalence between source and target language. When translating multi-word units (MWU) between English and Dutch, for example, MT produces more errors for contrastive MWUs, and these are also harder to post-edit (Daems et al., 2018).

Inspired by Bayer-Hohenwarter, Guerberof-Arenas and Toral (2022) explored ‘units of creative potential’ in a literary source text (which they define as units that require the translators to use their high problem-solving capacity as opposed to those that are regarded as routine units that are standard in the translation practice) and found that human translations led to higher creativity scores compared to MT output and post-edited texts. In later work, they explored the impact of these differences in creativity on reader experience and found differences between Catalan and Dutch readers, with Catalan readers preferring HT over MT(PE) and Dutch readers preferring the original or sometimes the PE version over the HT version (Guerberof-Arenas and Toral, 2024). This indicates that while there is a relationship between translation workflow and creativity as well as between creativity and reading experience, this relationship is mediated by additional factors (such as reading language, language status, individual translators, and translation quality) that require more research to be properly

understood.

Previous work comparing the impact of translation workflow (human translation, CAT tool, post-editing) on textual characteristics in literary texts for English-Dutch showed that features such as sentence length, sentence alignment and lexical diversity were not as dissimilar between conditions as anticipated, but did indicate that certain MTPE texts were stylometrically similar to the original MT output, additionally suggesting that a more in-depth analysis of translation solutions is necessary to better understand these differences and similarities (Daems et al., 2024).

An additional factor to take into account is the potential influence of LLMs in future automated workflows. Recent work on Chinese-English literary translation suggests that ChatGPT produces more accurate and nuanced translations than DeepL (Sun, 2024). By performing a stylistic analysis using classification and clustering techniques on English-Chinese children’s literature, Kong and Macken (2025) show that certain LLMs are closer to human translation than to NMT, but also report performance variability between LLMs. A study comparing four different languages also found that LLMs outperformed NMT systems for literary translation (Zhang et al., 2024). On the other hand, the authors stress that human translations are still more diverse and less literal than LLM translations (Zhang et al., 2024). When used as an automated post-editing tool for literary texts, ChatGPT was found to fix fewer MT errors than human translators and also introduced additional problems in the final text (Macken, 2024). These findings suggest that as LLMs are likely to be used more in future literary translation workflows (given their potential improvements over NMT), it also becomes increasingly important to gain a better understanding of their limitations when it comes to handling translation problems.

## 3 Methodology

### 3.1 Data

In this study, we use a subset of the data collected in the DUAL-T project (Ruffo et al., 2024), consisting of Dutch translations of three short stories (*Rome*, *The Beautiful Girl in the Bookstore*, and *They Kept Driving Faster and Outran the Rain*) from the 2014 collection *One More Thing* by the American author B. J. Novak. The stories present elements of satire, humour, and absurdity, offering a critique

of modern life. These stories (approx. 950 source words in total) were translated by twenty-four experienced professional literary translators under three different conditions: (1) conventional translation using a word processing tool (Microsoft Word), (2) translation within a computer-assisted translation (CAT) environment using Trados Studio 2022, and (3) post-editing of a machine translation output.

Short stories were selected as the source texts because they are self-contained, manageable within a single session, and still pose a meaningful challenge for professional literary translators. Additionally, the stories needed to be part of an English-language collection with an existing Dutch translation, allowing for the creation of a translation memory (TM) containing the other short stories from *One More Thing* for use in the Trados Studio 2022 condition.

The experimental sessions were conducted either at Ghent University or at Leiden University. Each session took place in a lab and typically lasted 4 to 5 hours. Participants were supervised by one of the study’s authors, received a flat fee of €250 for their participation, and were reimbursed for travel expenses. After reading an information letter and signing a consent form, participant received a translation brief instructing them to translate the texts to the best of their ability, aiming for a quality as close to publishable as possible within the given experimental constraints.

For our analysis, we selected the translations produced by the nine most experienced translators, ensuring that each text had nine versions, with three translations per condition (three human translations, three post-edited versions and three CAT versions). The machine-translated versions used as the starting point for the post-editing task were generated in July 2023 using the commercial neural machine translation system DeepL.

We enriched the DUAL-T dataset by adding the published Dutch translation available for this collection (*Onverzameld Werk*, published by Agathon in 2014 and translated from English by Jevgenia Lodewijks, Lydia Meeder and Maarten van der Werf). In addition to the DeepL translation, we included two translations generated by two large language models (LLMs) in order to compare the performance of LLMs with neural machine translation (NMT). The LLM translations were produced using GPT-4o and Unbabel 7B in December 2024, following the simple prompt to “translate the text into Dutch”. The final data set thus consists of 13

	T1	T2	T3	Total
Multiword	34	23	13	70
Compounds	7	5	1	13
Fixed expr.	12	6	4	22
Idiomatic expr.	1	2	0	3
Light-verb constr.	1	0	2	3
Verb-particle constr.	13	10	6	29
Complex structure	20	12	12	44
Noun phrase	4	3	4	11
Syntactic structure	16	9	8	33
Cultural & linguistic variant	0	3	0	3
Cultural references	0	1	0	1
Linguistic variant	0	2	0	2
Colloquial language	4	2	7	13
Metaphor & original image	0	2	5	7
<b>Total</b>	<b>58</b>	<b>42</b>	<b>37</b>	<b>137</b>

Table 1: Overview of the different translation problems identified in the three texts

versions of each of the three source texts.

### 3.2 Potential translation problems

To annotate potential translation problems, we adopted a comprehensive and non-restrictive approach. We included all categories related to the ‘units of creative potential’ proposed by [Guerberof-Arenas and Toral \(2020\)](#). In addition, based on the work of [Sun \(2015\)](#), various types of multiword items, complex noun phrases and complex syntactic structures were included. Using this combined classification list, a total of 137 units were selected. The different types of problems identified in the three source texts are summarised in Table 1.

### 3.3 Translation techniques

To annotate the translation techniques, we slightly adapted the classification scheme of [Zhai et al. \(2018\)](#) and added an ‘untranslated’ category (see Appendix A<sup>3</sup> for all labels and their explanation). To improve the feasibility of the annotation task, and contrary to the approach of Zhai et al., we only annotated translation techniques for the potential translation problems identified in the first step.

To facilitate the annotation process, annotations were made using LabelStudio. Annotation guidelines<sup>4</sup> were developed based on the framework established by Zhai et al. The annotation work was carried out by a student with a degree in languages and literature, who is currently enrolled in a Masters in Translation. This student annotated all the texts, working in a sentence-by-sentence

<sup>3</sup>As the typology builds on the work of [Zhai et al. \(2018\)](#), we originally adopted their term ‘translation relations’ in our typology and in LabelStudio.

<sup>4</sup>The annotation guidelines are available upon request.



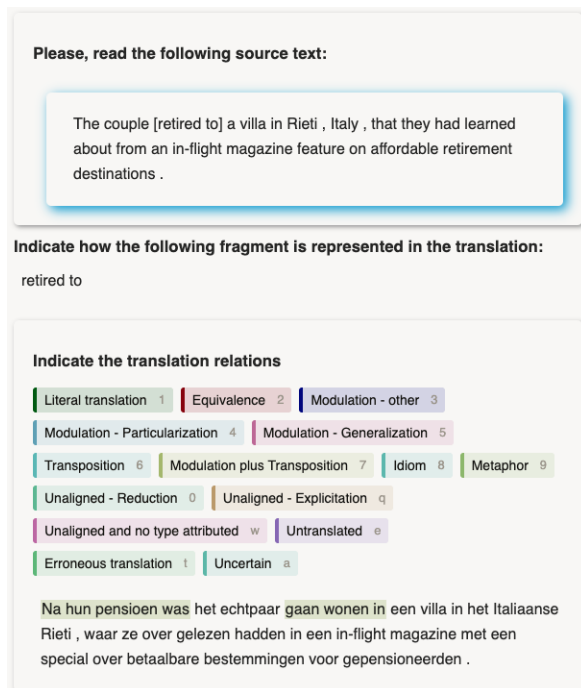


Figure 1: Annotation of translation techniques in Label Studio

view (source sentence followed by its respective translations for all translation modalities). For each potential translation problem, the student selected the corresponding translations and identified one or more translation techniques. Figure 1 presents an example of one annotation step. In this example, the verb-particle construction ‘*retired to*’ is translated as ‘*na hun pensioen was ... gaan wonen in*’ (En: ‘*After their retirement ... had gone to live in*’). This translation was labeled as ‘Modulation plus Transposition’ because part of the meaning of the verb ‘*retired*’ is expressed in the prepositional phrase (transposition), and the point of view has been changed as well (modulation).

The student maintained a record of difficult annotations. These difficult cases were subsequently reviewed and discussed with one of the authors, leading to refinements in the annotation guidelines based on their discussions. A total of 2,225 translation techniques were identified in the 39 translations (see Table 2), which corresponds to 33 hours of annotation work.

During the annotation process, a total of 14 errors were identified across all translations. Nine of these errors were found in translations done by professionals, which could be attributed to the limitations of the experimental conditions in which the translations were produced. It should also be noted that the manual annotation process only fo-

	T1	T2	T3	Total
Literal	334	321	221	876
Equivalence	223	142	197	562
Non-literal	283	139	163	585
Particularization	60	53	32	145
Generalization	46	21	22	89
Mod. other	90	43	30	163
Transposition	68	13	56	137
Mod. + Trans.	19	9	21	49
Metaphor	0	0	2	2
Unaligned	61	32	31	124
Reduction	31	19	13	63
Explication	23	11	7	41
No type attributed	7	2	11	20
Erroneous	4	7	3	14
Untranslated	5	19	8	32
Uncertain	9	15	8	32
<b>Total</b>	<b>919</b>	<b>675</b>	<b>631</b>	<b>2225</b>

Table 2: Overview of all labelled translation techniques in the three texts

cused on potential translation problems, rather than evaluating the translations in their entirety.

## 4 Results

### 4.1 English-Dutch translation difficulties requiring non-literal translation techniques

To answer RQ1, we adopt the hierarchy of translation techniques of Zhai et al. (2018), categorizing the translation techniques into four groups (literal, non-literal, equivalence and unaligned) by aggregating the different categories of modulation, transposition, idiom and metaphor into one group ‘non-literal’. Figure 2 shows the percentage of different groups per potential translation problem. From this figure we can see that more than 60% of the cases in the problem categories ‘linguistic variant’, ‘institutionalised phrases’ and ‘compound nouns’ were translated literally. Thus, these categories do not pose significant translation problems when translating from English into Dutch. Conversely, the categories ‘colloquial language’, ‘complex syntactic structure’, ‘metaphor and original image’, and ‘verb-particle constructions’ presented the lowest percentages of literal translation solutions and can thus be considered the most challenging cases. It should be noted that some categories did not occur frequently in the source texts (e.g. there were only three ‘idiomatic expressions’ and three ‘light verb constructions’, see Table 1), so some results should be interpreted with caution.

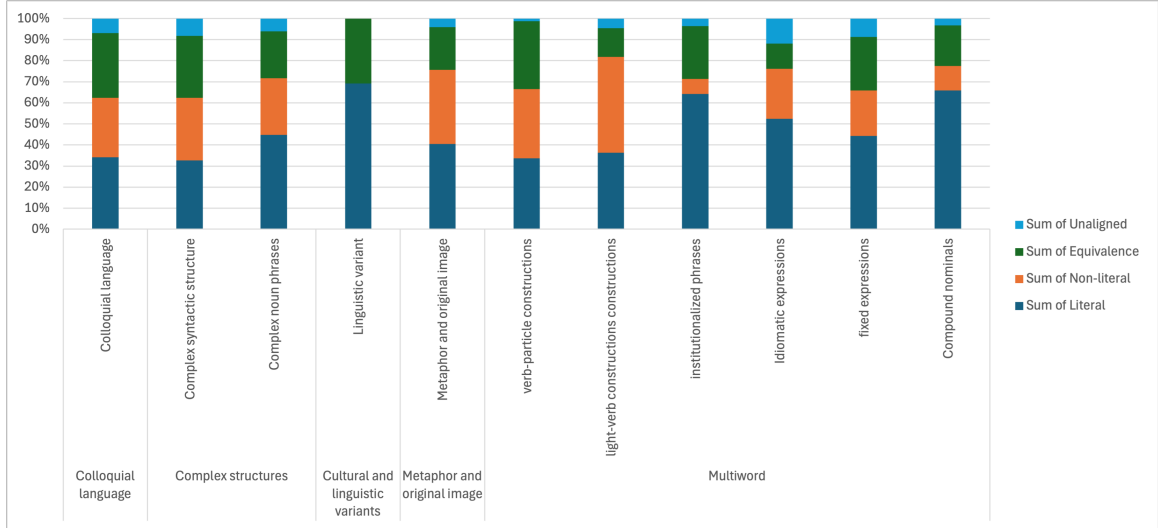


Figure 2: Percentage of different translation techniques per translation difficulty category

EN	She loved the kind of books you could buy in stores <b>that also sold things</b> .
MT	Ze hield van het soort boeken dat je kon kopen in winkels <b>die ook dingen verkochten</b> .
MTPE	Ze was dol op de boeken die je kon krijgen in van die winkels <b>die ook spullen verkochten</b> .
HT	Ze hield van het soort boeken dat je kon kopen in winkels <b>waar ook andere spullen werden verkocht</b> .
EN	It was about fifty minutes outside of Rome by car ...
MT	Het was ongeveer vijftig minuten buiten Rome met de auto ...
MTPE	Het lag op zo'n vijftig minuten rijden van Rome ...
HT	<b>Vanuit Rieti</b> was het ongeveer vijftig minuten rijden naar Rome ...

Table 3: Examples of ‘modulation - other’ and ‘explicitation’ in the human translation

## 4.2 Translation techniques across translation modalities

To address RQ2, we aggregated the translation techniques per translation condition across participants and texts. As can be seen in Figure 3, the post-edited texts contain the highest proportion of literal translation techniques compared to translations produced using a CAT tool or human translations produced using MS Word. In contrast, HT and CAT outputs displayed a greater use of non-literal techniques, with ‘modulation - other’ and ‘particularisation’ being the most frequently applied techniques in these conditions (see Figure 5 in Appendix B).

Looking more closely at the unaligned translations, we found that professional literary translators used more explicitations as a translation technique in the human translation condition (see Figure 6

in Appendix B), while reduction was the preferred technique in both the CAT and MTPE conditions. This could suggest that translators may be more inclined to elaborate on ambiguous or culturally specific elements when not constrained by a CAT tool text segmentation or by a pre-existing MT output.

In Table 3, we give two examples, in which the professional literary translator resp. used the non-standard translation technique of ‘modulation’ and ‘explicitation’. In the first example, the source sentence contains a construction with a non-human agent as subject in English (‘stores’), which is a construction that occurs frequently in English, but less so in Dutch. DeepL produced a very literal translation, which was edited in the post-editing condition, but the English construction was retained. The professional translator changed the perspective (HT: *winkels waar ook andere spullen werden verkocht*; En: *shops in which other stuff was also sold*). In the second example, the machine translation again produced a very literal translation, which was improved during post-editing. However, in the MS Word translation, the professional translator explicitly added the place of departure (*vanuit Rieti*; En: *from Rieti*), which was mentioned earlier in the text.

Nevertheless, when examining translation techniques across the three texts, the picture becomes less clear-cut. For example, Figure 7 in Appendix B illustrates considerable variation in translation techniques within the HT condition. However, it is possible to discern similar patterns in relation to each text. For example, T3 presents more inci-

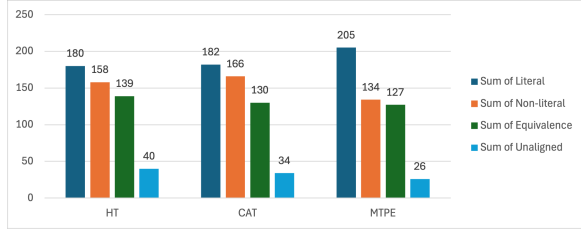


Figure 3: Number of different types of translation techniques across translation modalities

dences of equivalence and non-literal translations when compared to T2, where literal translations are the most common translation technique among all three translators in the HT condition, while more variability can be observed for T1.

Figure 8 shows considerable variation in translation techniques among individual translators. The published translation used as reference presented the lowest number of literal translation techniques. However, it is worth noting this may be attributed to the additional revision step in the publishing process.

Figures 9, 10 and 11 in Appendix B further show how text-specific characteristics might have had an impact on translation techniques. In particular, T1 (Figure 9) presents more pronounced differences between both the three translation conditions and individual translators. Conversely, the differences between T2 (Figure 10) and T3 (Figure 11) are less substantial. More specifically, for T2 literal translations were the preferred translation technique for all participants across all translation conditions. T3 presents more instances of equivalent and non-literal techniques in the HT and CAT conditions, while literal solutions are consistently higher in the MTPE workflow. Overall, these patterns seem to also be reflected in the reference translation. This suggests that the relationship between translation condition and translation techniques is mediated by both individual translator preferences and specific textual characteristics.

### 4.3 Translation techniques in NMT and LLMs

To answer RQ3, we look at the different translation techniques for each of the three MT systems. Figure 4 shows that the NMT system produced more literal translation techniques than the two LLM systems. The distribution of translation techniques between the two LLM systems is virtually identical, with both systems producing slightly more equivalent and non-literal solutions when compared to

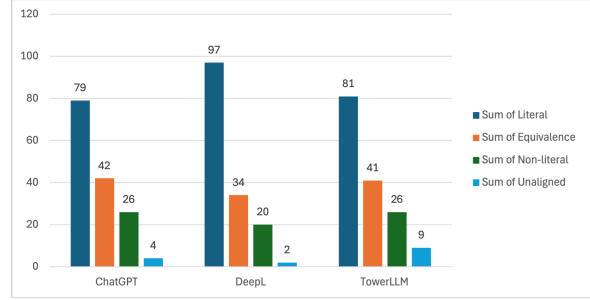


Figure 4: Translation techniques per MT system across text

the NMT system.

## 5 Discussion & Conclusion

To gain a better understanding of how different translation workflows influence translation products, we looked at potential translation problems and their solutions across different translation modalities (HT, CAT, MTPE, NMT, LLMs). To identify potential translation problems we relied on prior work on translation difficulties/challenges (Sun, 2015; Guerberof-Arenas and Toral, 2024). To categorize the translation techniques employed across various translation modalities, we used the classification framework developed by Zhai et al. (2018). We manually labelled all translation problems and translation techniques. This was a very time-consuming process. Future work could explore the potential of LLMs to identify translation problems and translation techniques.

Overall, the machine translation generated more literal translation solutions when compared to the HT or CAT translation condition. This aligns with previous research showing that NMT systems produce more literal translations and follow the structure of the source language more closely (Webster et al., 2020; Vanmassenhove et al., 2021). While post-editing slightly reduces the number of literal translation solutions when compared to raw MT and LLM output, the overall degree of literal translation techniques remained higher in the MTPE condition. This suggests that the initial machine translation output influences the final translation, with translators potentially hesitant to make substantial creative changes to the machine-provided solutions, which is in line with the findings of Castilho and Resende (2022) and Kolb (2024).

Our findings also revealed individual variations among professional translators working in the post-editing condition. This confirms earlier results

from a cluster analysis using bootstrap consensus trees in Stylo, which showed that most MTPE translations clustered together and showed some stylometric similarity with the MT output. However, some MTPE translations did not belong to the MTPE cluster, indicating that certain translators made more significant changes (Daems et al., 2024).

In addition, individual text characteristics were shown to have a considerable impact on translation techniques across all conditions. In fact, our analysis revealed varying patterns of translation techniques for each text, suggesting that certain textual features may present different types of translation challenges that influence translator decisions regardless of the workflow. This highlights the importance of considering text type and specific source text features when evaluating the potential benefits of different translation technologies.

It is also worth noting that our study focused on post-edited NMT output, whereas our comparative analysis suggests that LLMs produce less literal translations than traditional NMT systems. This raises the possibility that post-editing LLM-generated translations might lead to a reduction of literal translation techniques compared to MTPE.

To conclude, while our study provides valuable insights into how different translation workflows affect translation relations for literary texts, it also highlights the fact that the interplay between individual translator preferences, source text characteristics, and translation technology deserves further investigation, particularly as LLM-based translation continues to develop. More research is needed on individual variation among professional translators.

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## A Appendix: typology of translation techniques

<b>Translation technique / Translation relation</b>	<b>Explanation</b>
Literal translation	Word-for-word translation (including insertion or deletion of determiners, changes between singular and plural forms), or possible literal translation of some idioms; the underlying syntactic construction is similar in both languages
Equivalence	Non-literal translation of proverbs, idioms, fixed expressions or syntactical constructions (which cannot be transferred as such into the target language) OR semantic equivalence at the supra-lexical level, translation of terms
Modulation - Particularization	The translation is more precise or presents a more concrete sense
Modulation - Generalization	The translation is more general or neutral OR translation of an idiom by a non-fixed expression OR removal of a metaphorical image
Modulation - Other	Changing the point of view, either to circumvent a translation difficulty or to reveal a way of seeing things
Transposition	Translating words or expressions by using other grammatical categories (e.g. noun → verb) than the ones used in the source language, without altering the meaning of the utterance
Modulation plus Transposition	Any sub-type of Modulation combined with Transposition
Idiom	Translate a non-fixed expression by an idiom
Metaphor	Keep the same metaphorical image by using a non-literal translation OR introduce metaphorical expression to translate non-metaphor
Unaligned - Reduction	Remove deliberately certain content words in translation
Unaligned - Explicitation	Introduce clarifications that remain implicit in the source language
Unaligned – no type attributed	Translated words which don't correspond to any source words
Erroneous translation	Obvious translation error
Untranslated	Keep the source in the target to avoid the translation problem
Uncertain	Difficult example (not clear from annotation guidelines how to annotate this example)

## B Appendix: Additional figures

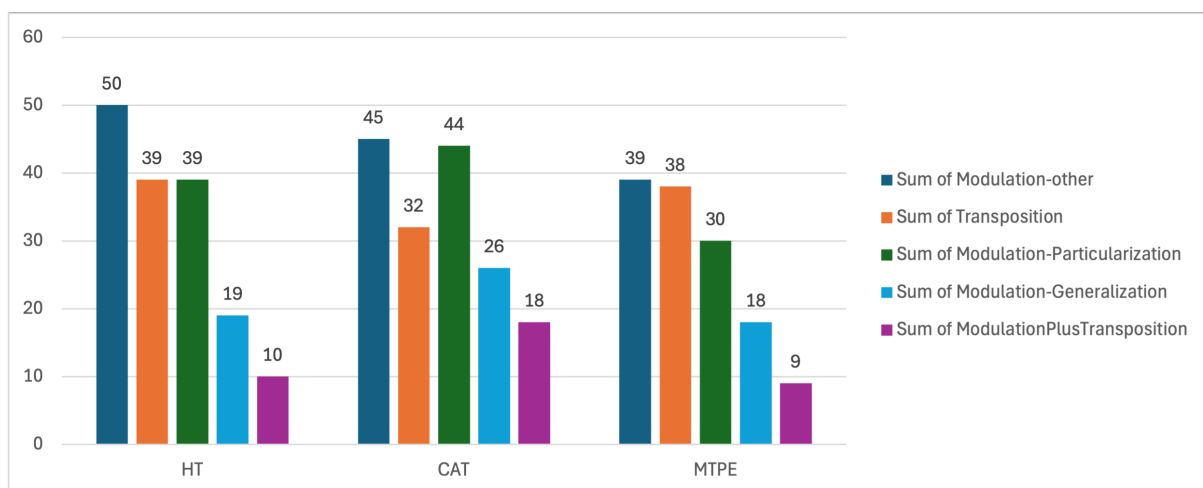


Figure 5: Number of different non-literal translation techniques across translation modalities

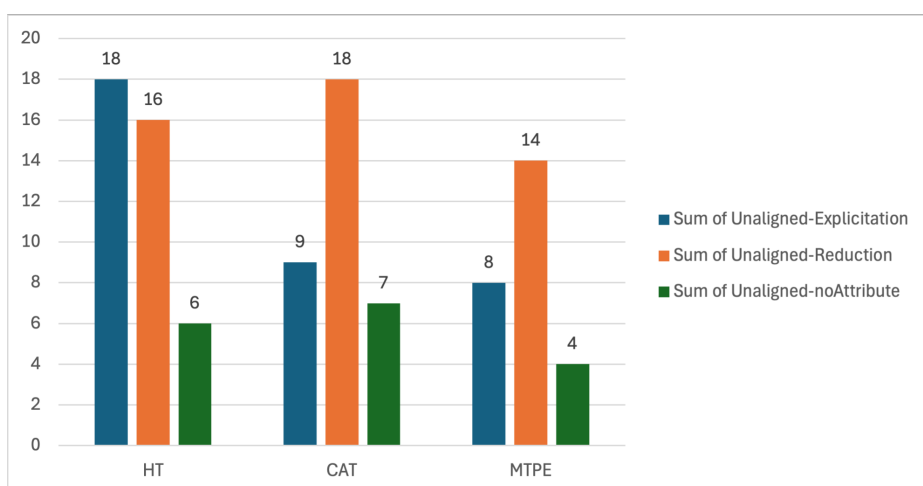


Figure 6: Number of different unaligned translation techniques across translation modalities

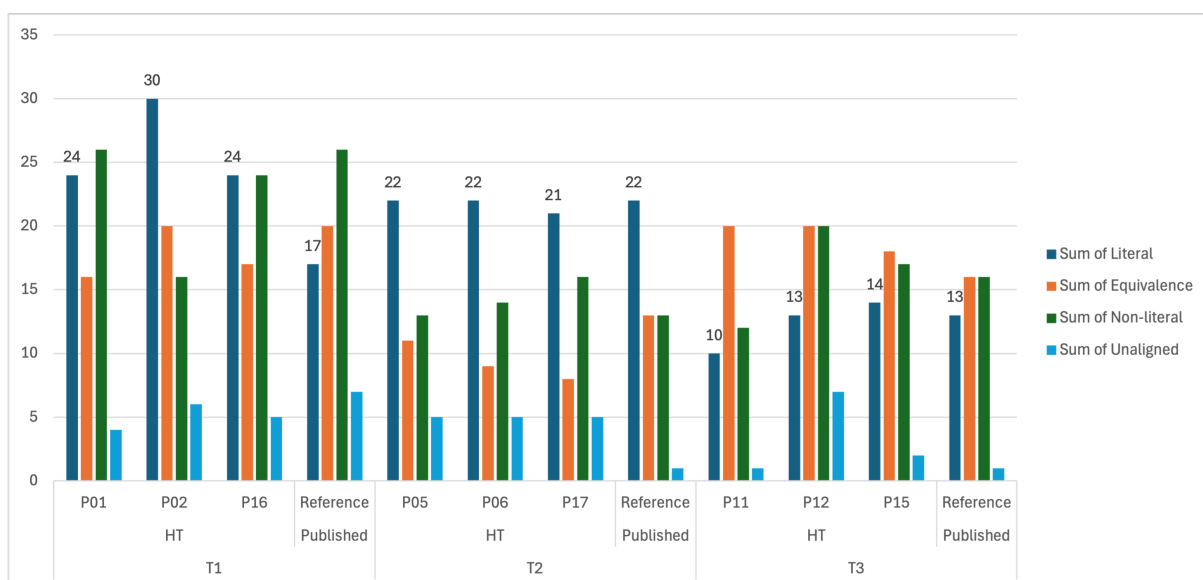


Figure 7: Translation techniques per text and participant, HT condition only

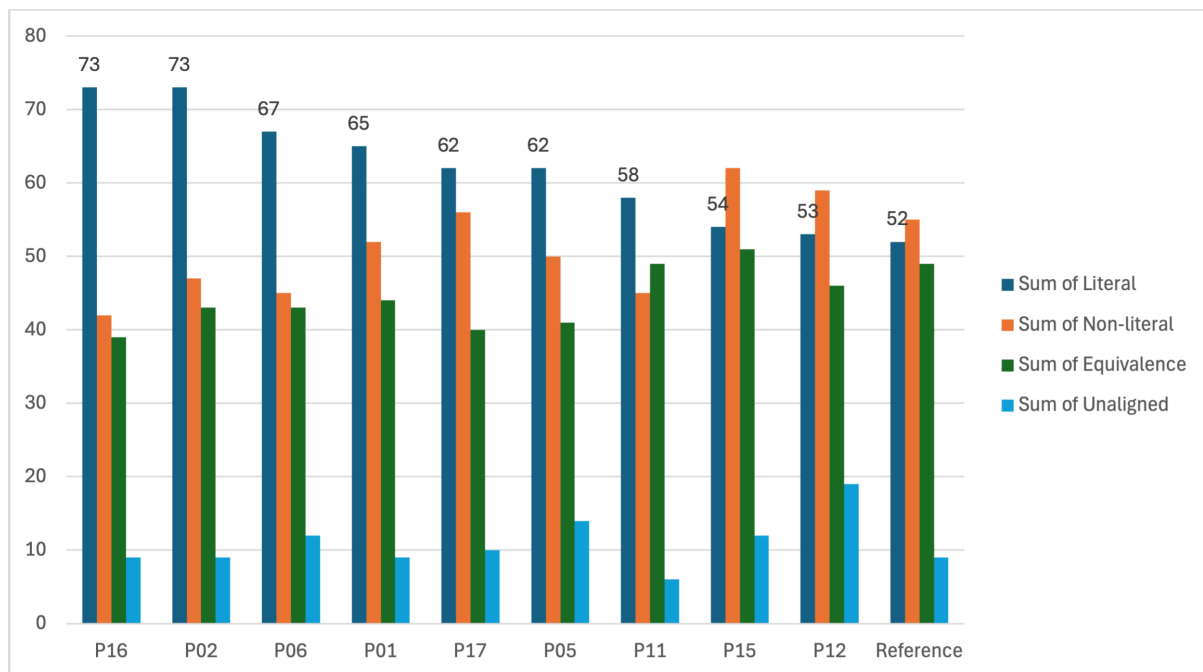


Figure 8: Translation techniques per participant across texts and conditions

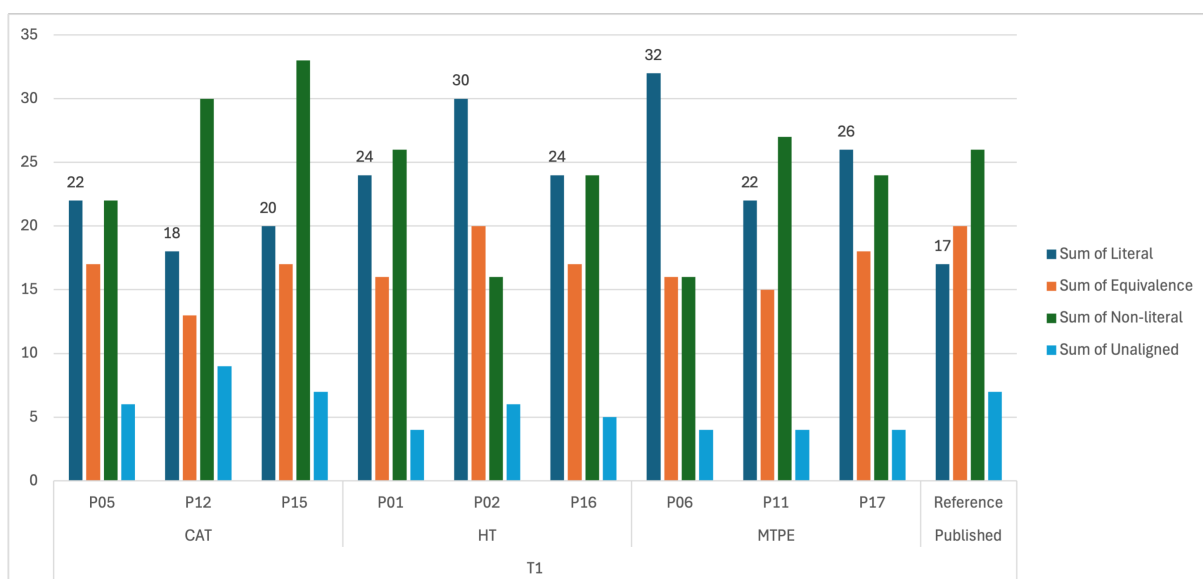


Figure 9: Translation techniques for Text 1



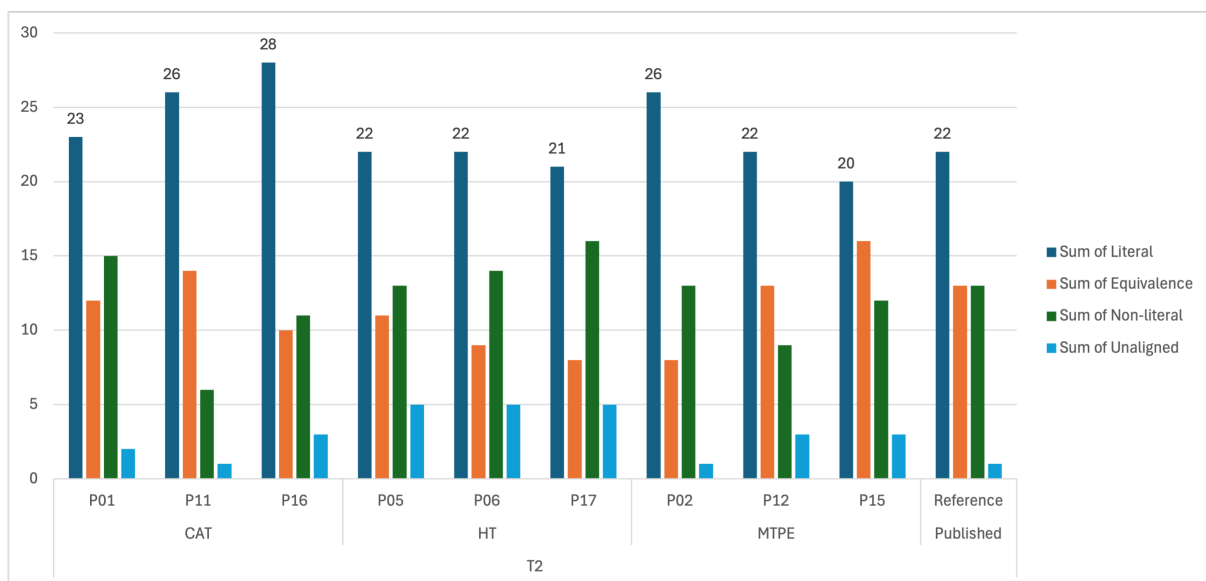


Figure 10: Translation techniques for Text 2

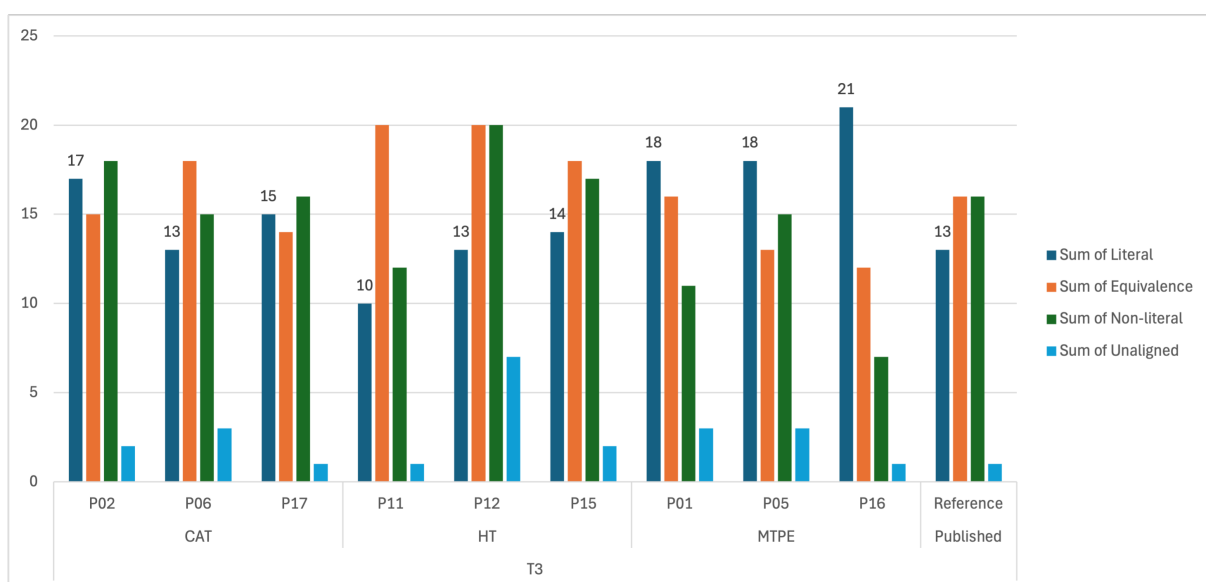


Figure 11: Translation techniques for Text 3