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Professional Translator vs. Google Translate: the case of Lars Larsen's Autobiography

Abstract

Wishing to contribute to a necessary discussion of how the task of translation should be conceptualised in our posthuman world, the paper investigates what characterises a professional translation completely unaided by translation technology and compares it with a translation generated by Google Translate (GT), a well-known and free neural machine translation (NMT), based on artificial intelligence (AI). The source text is Lars Larsen's Danish-language autobiography from 2004, assessed as particularly challenging to translate because of many instances of contextually and culturally embedded meaning. Analyses are carried out in three steps: (1) a textual analysis of the source text; (2) a skopos-theoretical analysis of the professional translation; and (3) comparative analyses of the two translations. In terms of wording, two thirds of the translations are assessed as sufficiently similar to conclude that these parts of the GT translation achieve professional translation quality. The remaining parts are sufficiently different to conclude that professional quality is not achieved by GT. The professional translator complies with professional ethics and Vermeer's hierarchy of rules and succeeds in solving all predefined translation problems, while this is not the case for GT. The reason may be that GT does not understand text in the real sense of the word, does not work situationally and goal-oriented and does not base decisions on professional expertise and ethics. While we are looking into a future with increasingly advanced translation technology, we should not lose sight of what is expected of a professional translation.

Keywords

Professional translation; neural machine translation (NMT); Google Translate (GT); professional translation quality criteria; skopos theory; source-text analysis; artificial intelligence (AI); contextually and culturally embedded meaning.

1. Introduction

With this paper, we wish to contribute to a necessary discussion of how professional translation in the posthuman age should be conceptualised. Not so long ago, professional translation was conceptualised as a cognitive, non-routine and complex task that only humans can carry out. Nowadays, in the wake of technological developments, we need to accept that this conceptualisation may no longer be valid (e.g. Frey & Osborne, 2017, p. 259; O'Thomas, 2017; Tieber, 2022). Since 2016, based on artificial intelligence (AI) and using increasingly large datasets, neural machine translation (NMT) has been taking over translation processes in the language industry to such an extent that human translators are often relegated to the role of post-editors (Christensen et al., 2022). From a product perspective, however, translation quality criteria should probably be the same as before AI-based translation technology kicked in.

Drawing on Vermeer's skopos theory (Reiss & Vermeer, 1984), we argue that professional translation should continue to be viewed as a service delivered to a customer, fulfilling a given

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purpose (skopos) in a particular context with a specified target audience in mind and based on professional ethics. Within a skopos-theoretical framework, our paper investigates a professional translation carried out in 2004, completely unaided by translation technology (see section 4.2), and compares this with an unedited translation generated in 2022 by Google Translate (GT). GT was chosen because it is a free, easily accessible and highly popular NMT, which is used both professionally and for other purposes on a regular basis by millions of people (Aguilar, 2023).

The source text (ST) of our study is Lars Larsen's rather unique autobiography (Larsen, 2004a). A well-known Danish entrepreneur and business magnate, Larsen founded and was the main owner of JYSK, an international chain of stores, headquartered in Jutland (Denmark) and specialised in selling quality bedding and other household articles at discount prices. His autobiography was distributed as a promotional gift to all Danish households on the occasion of the company's 25th anniversary. The book was translated into multiple languages, including English, by professional translators. We use the English-language translation (Larsen, 2004b) as a yardstick for professional translation quality in the GT-generated translation. Background knowledge for the analyses is provided by interviews with Larsen's then PR manager Carl Erik Stubkier (CES) and the English-language translator Lotte Kovdal (LK)¹. Background information is also found in contemporary book reviews and some news articles.

Though literary translators have begun to use various types of translation technology (e.g. Taivalkoski-Shilov & Koponen, 2023, and this volume), literary fiction and other creative genres are still regarded as particularly challenging to translate with the aid of technology. A main challenge is that translating such texts tends to involve the interpretation and rendition of textual features embedded in a given context and culture, by means of implicitness, ambiguity, vagueness, intertextuality or culture-specific references (e.g. Language Connections, n.d.; O'Brien & Ehrensberger-Dow, 2020). Professional translators can understand such textual features by means of intuition and associative thinking and are able to find appropriate translations using their training for strategic decision-making and creativity. GT and other NMTs are still greatly challenged by such features (Guerberof Arenas & Asimakoulas, 2023, and this volume; Guerberof Arenas & Toral, 2022; O'Brien & Ehrensberger-Dow, 2020; Toral & Way, 2018). Larsen's autobiography, which we regard as belonging to a literary genre, was chosen for its many embedded features.

Section 2 presents GT and discusses how it may be reaching human translation quality. Using skopos theory, section 3 defines what characterises professional translation, as opposed to what may be expected of GT. Section 4 reports on three analytical steps. Firstly, using Jakobson's model of verbal communication (Jakobson, 1960/1981), a textual analysis of Larsen's book was carried out to gain insights into textual features and references that might have been identified and analysed by LK. Secondly, drawing on insights from interviews with CES and LK and other background information, a skopos-theoretical analysis was carried out on LK's translation, with an emphasis on the situation and the perceived skopos. Thirdly, a GT translation of selected parts of Larsen's book was compared with corresponding parts of LK's translation. The translations were compared in terms of wording and textual length, in terms of the occurrence of grave mistakes, categorised as nonsensical translations or blatant mistranslations, and in terms of the adequacy of solutions to predefined translation problems, using Nord's conception of functional translation problems (e.g. Nord, 2018, pp. 59-60). Section 5 finishes the paper with a brief summary of the results and some concluding remarks.

¹ We are grateful to CES and LK for their willingness to talk to us and for allowing us to make use of their important and interesting insights into the circumstances of Larsen's unique book project. CES was interviewed on 7 June 2021 at JYSK's headquarters for approximately 80 minutes. LK was interviewed on 20 June 2021 in her home office for approximately 70 minutes.

2. Google Translate

As already mentioned, GT is an extremely popular NMT, freely available online and offering speedy translations between more than 130 languages to millions of people on a regular basis. GT is best used for the translation of short texts as it has a performance limit of 5,000 characters. GT was first launched in November 2006, when it only worked between English and Arabic, but other languages were soon to follow. As far as we know, Danish has been available on GT since September 2008. Other available machine-translation (MT) systems at the time were mainly rule-based (e.g., Systran and Apertium), but GT was launched with a statistical engine from the start (Turovsky, 2016) and was therefore faster and delivered better quality than other MTs at the time, as explained by Macduff Hughes, GT's chief engineer (Economist, 2017a). A statistical MT (SMT) uses predictive algorithms to analyse enormous linguistic datasets. The statistical version of GT used English as a go-between (pivot language) for translations of and into other languages, but this changed in November 2016, when GT was relaunched as an NMT (Aguilar, 2023; Wikipedia, 2023).

The NMT version of GT is described as a powerful AI-based translation engine “loosely modelled on the human brain” (Economist, 2017b). It uses an advanced type of machine learning, so-called deep learning², based on volumes of linguistic data to identify patterns and suggest translation proposals. Unlike an SMT, which translates in a word-for-word or phrase-for-phrase fashion, NMTs use the input sentence as the unit of translation and the surrounding text (the co-text) to factor which translation proposals are most acceptable (Forcada Zubizarreta, 2022b; Lee & Schuster, 2016, p. 1). It seems that NMTs typically use an encoder-decoder framework, which was pioneered by GT. The encoder processes the SL sentence and compresses it to a so-called context vector, which (supposedly) captures the meaning of the sentence. Based on “a weighted distribution” in the vector and a predictive algorithm, the decoder uses the context vector to map SL input directly on to TL output (Lee & Schuster, 2016, p. 2).

The output quality of GT and other NMTs is now sufficiently high to be deemed useful in many situations, mostly for personal use (gisting), but also for delivering draft translations to be post-edited in professional contexts (Forcada Zubizarreta, 2022b). The quality is especially improved when English is involved, due to increasing volumes of digitally available English-language data, but the quality of translations from and into languages with fewer available data, such as Danish, has also improved (Ramati & Pinchevski, 2018; Vincent, 2019). The output quality has increased particularly for grammaticality, fluency and, to a certain degree, accuracy (Macken et al., 2019). Some would even say that GT and other NMTs have begun to outperform human translators (e.g. Hassan et al., 2018, p. 2; Läubli et al., 2018; Pym & Torres-Simón, 2021), while others are adamant that this is not going to happen any day soon, and the reason for this is that NMTs lack human qualities. Thus, for instance, based on a qualitative study of GT translations between English, French, German and Chinese of various literary books, Hofstadter concludes that GT does not understand anything and therefore does not translate in the real sense of the word (Hofstadter, 2018, p. 16), which may explain why GT struggles to translate some contextual and culture-specific elements that professional translators are expected to deal with quite routinely.

It is important to point out that the relatively high output quality of GT is achieved by reusing data from publicly available online translation corpora, such as those provided by the United Nations or the European Union, or from web texts in multiple languages (Forcada Zubizarreta, 2022a; Language Connections, n.d.; Moorkens & Lewis, 2020, pp. 469-470). Legally, the owners of these translation corpora or web texts are afforded protection under copyright laws, but the legal risk for GT is now minimal because the harvested data is processed and fragmented into unrecognisable

² Deep learning is: “A type of machine learning considered to be in some way more dynamic or complete than others; esp. machine learning based on artificial neural networks in which multiple layers of processing are used to extract progressively more features from data” (Oxford English Dictionary, 2023).

units, making it almost impossible to prove ownership to such data (Forcada Zubizarreta, 2022a). This poses a serious ethical issue with using GT that is seldom discussed. Another serious issue with using GT relates to data privacy protected by EU's General Data Protection Regulation (GDPR) (European Parliament and the Council of the European Union, 2016). Thus, for instance, an ethical problem arises when users upload source material containing personal data that is appropriated by GT and used for data training.

3 Professional translation

GT is a disembodied AI system emulating human thinking (Massey, 2021); it cannot make conscious, strategic and ethical decisions based on cultural, contextual and other knowledge of the world. A professional translator is a human being who is able to make such decisions, using cognition, intuition and creativity. Like other professionals, professional translators are bound by professional ethics, such as diligence, accountability, integrity, confidentiality and accuracy in their work. From a business perspective, a professional translator is an individual who provides a paid-for translation service required by and delivered to a customer (ISO International Organization for Standardization, 2015; Mossop et al., 2020, p. 6). Though translation is an increasingly unregulated profession (e.g. Samuelsson-Brown, 2006, p. 89), professional translators are generally expected to have acquired translational skills and competences through education, training and/or experience, which entails that they are trained to use their intelligence and expertise, including how to use tools, to deliver translations of a certain standard (Schjoldager et al., 2010, pp. 114-118).

According to the Oxford English Dictionary, to 'translate' is: "To convert or render (a word, a work, an author, a language, etc.) into another language; to express or convey the meaning of (a word or text) *using equivalent words* in a different language" (Oxford English Dictionary, 2023, our emphasis). The dictionary also lists a number of related and more figurative senses of the verb (for instance, to adapt an idea from one context into another), but the definition quoted above is first on the list, and we think that it expresses how translation is understood by most people who have not studied or practised professional translation. It is therefore important to point out that translation involves much more than "using equivalent words", a fact that is generally acknowledged within translation studies. What is more, equivalence as a defining feature of translation is rejected by many translation scholars, notably within skopos theory (Reiss & Vermeer, 1984). Inspired by Holz-Mänttari's translational action theory (Holz-Mänttari, 1984), Vermeer (e.g. Vermeer, 1989/2000) defines translation as a particular type of communicative action, emphasising that – just like any other human action – translation is geared towards a specific purpose, which is always embedded in a given situation. The purpose of a translation is referred to as 'skopos', which is Greek for 'purpose'.

Skopos scholars focus on what the target text (TT) needs to achieve (e.g. Nord, 2005b, pp. 16-17). Rejecting the notion of equivalence, they prefer to discuss the expected degree of invariance between a TT and its ST in terms of adequacy or fidelity (e.g. Nord, 2018, pp. 33-36). To support a skopos approach to translation, Vermeer proposes a hierarchy of three translation rules (Nord, 2018, pp. 28-31): (1) The skopos rule, which stipulates that the TT must fulfil the designated purpose of the translation; (2) the rule of intratextual coherence, which stipulates that the TT must be translated in such a way that TT receivers can understand it; and (3) the fidelity rule or the rule of intertextual coherence, which stipulates that the TT must reflect the ST in an adequate way. It is important to note that skopos and intratextual coherence (in that order) are prioritised over ST fidelity.

When describing the ST as "an offer of information" (Vermeer, 1989/2000, p. 222), Vermeer argues that the ST is just one of several influences; he does not, as some critics have suggested, issue a *carte blanche* to translate without consideration of the form and content of the ST (Nord, 2018, p. 25; Schjoldager et al., 2010, pp. 158-159). On the contrary, as emphasised by Nord, the translation process should integrate a careful and thorough ST analysis (Nord, 2005a; 2018, pp. 58-59). The aim of this analysis is to provide valuable input for the translator's decision-making process, not least

regarding which strategies should be used to solve which translation problems (Nord, 2018, p. 59; Schjoldager et al., 2010, p. 174). As an addition to the general set of professional ethics mentioned above, Nord proposes an obligation of loyalty to parties with legitimate interests in the translation product, including ST sender, commissioner and TT receivers (Nord, 2018, p. 117).

Nord sets up a translation typology according to differing skopoi, building on Vermeer's discussion of documentary and instrumental translations (Vermeer, 1989/2000, pp. 231-232): If a translation is documentary, the skopos is to create a metafunctional TT: a text about a text, which makes the approach source-culture oriented (Nord, 2018, p. 46). If a translation is instrumental, the skopos is to achieve either the same function or a similar function as that of the ST, which makes the approach target-culture oriented (Nord, 2018, p. 48). While somewhat similar to previous dichotomies – such as Nida's formal vs. dynamic equivalence (Munday et al., 2022, pp. 56-57; Nida & Taber, 1974) – Nord's typology is essentially different in that neither translation type is inherently better than the other (Nord, 2005b, pp. 26-27).

While scholars sceptical of skopos theory argue that a purpose-oriented approach oversimplifies the task of translating literary genres and jeopardises the transfer of the originality of the ST (e.g. Nord, 2018, p. 112), Nord shows how different skopoi may produce different types of literary translations of the same text. Furthermore, pointing out that “the conventional translation type in literary prose seems to be documentary and exoticising” (Nord, 2018, p. 94), she recommends instrumental translation types for literary genres, giving translators more freedom to choose creative solutions to translation problems. Interestingly, though creativity is widely regarded as a distinctly human ability, the notion has not received much attention within translation studies (e.g. Guerberof Arenas & Toral, 2022, pp. 184-185). In a rare quantitative study of translational creativity, Guerberof Arenas and Toral (2022) compare human translations of an English-language short story by Kurt Vonnegut into Catalan and Dutch with those of an NMT. Defining translational creativity as the achievement of acceptability and novelty (inspired by Bayer-Hohenwarter & Kussmaul, 2020), Guerberof Arenas and Toral conclude that the human translations are more creative than those of the NMT, including post-edited versions (see also Guerberof Arenas & Asimakoulas, 2023; and this volume).

4 The case study

As already mentioned, Larsen's autobiography was chosen for our case study because it offers many examples of contextually and culturally embedded meaning, which is challenging to translate. In addition, the case of Larsen's book was useful because its professional translation (by LK) was carried out completely without translation technology. The first step of the analysis (4.1) was a textual analysis of Larsen's book in its own right. The second step (4.2) focused on the translation situation and the perceived skopos of LK's translation. With a view to ascertaining the professional quality of the GT translation, the third step (4.3) comprised several stages in which LK's translation of selected parts of Larsen's book were compared with the GT translation of these parts.

4.1 A textual analysis of the source text

To structure the ST analysis, we used Jakobson's classical model of verbal communication (Jakobson, 1960/1981; Schjoldager et al., 2010, pp. 21-25). Jakobson uses a conduit metaphor, representing communication as a transfer process in which a sender's message is sent and received (Grady, 1998). Though this model may be criticised for placing too much emphasis on the sender and too little on the receiver, we found the model useful because we focus on Larsen's intentions as a sender. The model comprises six communicative dimensions, which we refer to below as sender, situation, channel, receiver, text and style³.

³ Jakobson's own terms are (in the order of our own paper): addresser, context, contact, addressee, message and code.

Sender

Lars Larsen (1948-2019) is easily identifiable as the sender. His full name is mentioned twice in the title on the front page, which also suggests the genre as that of an autobiography, cited here from LK's translation: "Hello my name is Lars Larsen – I have a good offer. An autobiography by Lars Larsen" (Larsen, 2004b). We first wondered if Larsen was really the text producer, but CES (Larsen's PR manager) assured us that this was certainly the case and showed us Larsen's original, hand-written manuscript on display in an exhibition on JYSK history at the headquarters in Aarhus.

Larsen began with a single shop in 1979 in Aarhus, the largest town on the peninsula of Jylland (Jutland), which makes up the western part of Denmark. The business formula was to sell quality bedding and other household goods at reasonable prices. The company was called 'JYSK Sengetøjslager' [JUTLANDIC bedding storeroom]⁴. Larsen's choice of 'JYSK' in the name was a deliberate choice because it signalled Jutlandic values, which he expected would appeal to customers (Larsen, 2004a, p. 44). In Denmark, people from Jutland were (and probably still are) reputed to be down-to-earth, honest, hard-working, thrifty, modest and friendly, and Larsen took advantage of this (e.g. Laugesen, 1999). Perhaps this was also why Larsen preferred the unpretentious title of 'købmand', a traditional word for a tradesman or merchant, to the title of 'direktør' [managing director] or CEO, which he certainly was (Larsen, 2004a, p. 184). The word 'købmand' combines the Danish words for 'buying' and 'man' (cf. German: 'Kauffman'). According to an often-used Danish/English dictionary (Axelsen, 2010), 'købmand' may be translated into 'grocer', 'businessman', 'dealer', 'merchant', 'shopkeeper' or 'storekeeper'. However, for various reasons, in our case, 'grocer', 'dealer', 'shopkeeper' and 'storekeeper' do not convey the right connotations.

Despite his Jutlandic modesty, to cut advertising costs, Larsen used himself as the public face of JYSK, especially in a series of very short, but highly popular TV commercials, which were among the very first in Denmark. All commercials featured Larsen speaking in his well-known and characteristic Jutlandic dialect, always greeting viewers with "Go'daw" (Jutlandic for 'hello') and never failing to offer a "good offer". The front page of the book refers to these commercials by depicting a small TV screen (under the main title) with Larsen holding a feather and looking directly at two spectators on a sofa (Appendices 1 and 2).

Situation, channel and receivers

The autobiography was printed locally and inexpensively and was published on 1 April 2004 as part of a well-planned advertising campaign celebrating JYSK's 25th anniversary. Paperbacks were distributed for free to all Danish households (2,400,050 copies), while hardbacks were given to employees, business partners and friends in Denmark. Both versions may be regarded as the channel for Larsen's promotional message. According to an article in the Danish newspaper *Berlingske*, the book became the most read Danish book at the time (Kassebeer, 2004), and, based on an investigation conducted by SONAR⁵, approximately 800,000 Danes had read the book by May 2004, and just as many had read some of it. We therefore conclude that, as an advertising outlet, Larsen's book excelled.

Text and Style

Larsen's style is informal, often humorously understated and characterised by an abundance of witticisms. Richly illustrated by photographs, newspaper clips, JYSK advertisements and business documents, the book comprises a total of 192 pages, divided into 130 short and unnumbered chapters, narrating Larsen's personal and professional history. The book relays many personal anecdotes and internal JYSK jokes, and it is full of culture-specific references that readers are expected to be

⁴ In this article, glosses in English are provided in square brackets.

⁵ SONAR is a Danish market and opinion research company (<https://sonar.dk/>).

familiar with, such as places, people and historical events in Denmark. Though the aim of Larsen's autobiography was obviously promotional, several Danish newspapers and magazines reviewed it as a literary book. Most reviewers criticise Larsen's lack of literary style, but praise his humour and value the book as an account of Danish society from the 1970s and onwards (Tetzlaff, 2019/2004). A review in *Nordisk Litteratur* proclaims Larsen the "Duvet King of Denmark", praises the book for its "very special form of social realism prevalent in Jutland" and describes the content as a "fairy-tale about a crack-brained businessman from North Jutland" (Bager, 2005, p. 178).

4.2 The translation situation and the skopos

Using a skopos-theoretical framework, we analysed the professional translation situation and the perceived skopos, assuming that these should be used as a basis for the assessment of the human translation quality of GT.

Translation situation

According to the printer's inscription, 2,000 English-language translations were published. These were given to employees and business partners abroad, especially at JYSK's many international branches. LK is an authorised and fully qualified translator between Danish and English as well as Larsen's niece. When asked to translate the book, she was at the beginning of her career. As a professional translator, LK prefers to translate into Danish, her native language, but she also accepts work into English, as in the case of Larsen's book. Most of Larsen's family work or have worked for JYSK, including LK's mother and brothers, but, apart from the translation, LK has not worked for JYSK. A local translation company was in charge of all other translations of the book, but LK explains that Larsen and his wife preferred her for the English version.

As Larsen's niece, LK already knew Larsen's history and was also familiar with his business model, communicative style and sense of humour. It is therefore safe to conclude that it was easier for LK to understand the ST than for most other translators. However, as LK soon realised, translating the autobiography was quite challenging for many reasons, as mentioned in 4.1. LK found much help and inspiration in various bilingual and monolingual dictionaries, but she also benefitted from discussing difficult translation problems with a London-based colleague. Though some translation technology was available at the time, LK did not use it for Larsen's book because she did not expect it to be helpful. If she were to translate a similar ST today, she would probably look for inspiration on JYSK's own website, but their website had very little English-language content back then. In sum, as far as finding solutions to the many translation problems, LK was probably just as challenged as any other qualified native Danish translator between Danish and English.

Skopos

LK was not given specific instructions for the translation, but she knew that the Danish version was to be distributed to all Danish households, and she assumed that her translation was to be sent to business contacts and colleagues abroad, which was indeed the case. LK does not remember how much she considered the target audience while translating. Assuming that she must have operated on a perceived skopos, we asked her about various translation problems, inviting her to explain her reasoning. Thus, for instance, we asked LK about a particularly challenging problem that occurs when Larsen explains JYSK's basic values, written into an official document referred to as a "gåseæg" [goose egg], alluding to JYSK's many goose-feather duvets and pillows and also to the company's goose logo. The JYSK values are expressed by means of three Danish keywords, beginning with 'K' and abbreviated into 'KKK': "Købmand – Kollega – Korpsånd" [Tradesman – Colleague – Team spirit] (Larsen, 2004a, p. 186). It is not possible to find adequate English translations for all three keywords that begin with 'K', and even if it were, using the 'KKK' abbreviation in English risks raising some unfortunate associations (cf. the Ku Klux Klan). LK is

evidently aware of these problems⁶ and solves them with due consideration for the translation situation: “[...] we called our values KKK which stands for Købmand – Kollega – Korpsånd (Businessmanship - Collegueship – Team spirit)” (Larsen, 2004b, p. 186)⁷. Based on this and other translations discussed with LK, we conclude that she was influenced by a perceived skopos: to translate Larsen’s text in such a way that it could achieve a promotional and informative function similar to that of the ST. This indicates an instrumental approach.

4.3 Professional translation vs. Google Translate

We used selected parts of Larsen’s book for the comparative analyses, namely, the first part of the title and four chapters selected for their many types of translation problems (in Nord’s sense). Below, the selected parts will be referred to collectively as source-text data (ST-d). Table 1 gives an overview of ST-d, quoting the book title and chapter headings in LK’s translations (in quotation marks). The chapters are listed in chronological order, enumerated by letters A. to D. The chapters were subdivided into analytical segments, which were identified by means of full stops in the ST, except in a few cases that were identified by other means (in the book title, for instance). As shown in the final row of Table 1, a total of 128 segments were identified and analysed.

| | | | | | | |
|----------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|----------------|
| Data | Book title: “Hello my name is Lars Larsen” (front page) | A. “Dear employees, suppliers, family, friends, collaborators and everybody else who receive this book” (p. 5) | B. “Memorial Award of DKK 500 and ‘Tailored’ Clothes for my Confirmation” (pp. 22-24) | C. “You Can Only Die from Stress and Old Age” (pp. 183-184) | D. “Businessmanship – Collegueship – Team Spirit” (pp. 186-187) | Segments - all |
| Segments | 1 | 23 | 40 | 33 | 31 | 128 |

Table 1: Overview of source-text data (ST-d)

The book title has already been introduced in 4.1 and will be discussed further below. Chapter A. is a foreword signed by Larsen himself, thanking readers for their part in his growing business empire, explaining about the anniversary and announcing that the company name will now be shortened to just ‘JYSK’ for all outlets, except in Germany and Austria⁸ (Larsen, 2004a, p. 5). Chapter B. tells a typical story from Larsen’s impoverished childhood, growing up with a single mother and three older siblings: How a study grant made it possible for him to continue his schooling after the age of 14 and how he told “a little white lie” regarding a very inexpensive suit that he wore for his confirmation, claiming that it was “tailored” (Larsen, 2004b, p. 23). Chapter C. focuses on Larsen’s gradual withdrawal from the day-to-day running of JYSK, describing himself as a “young pensioner” who can pass on “experience to the next generation” (Larsen, 2004b, p. 183). Chapter D. comprises the last pages of the book and explains Larsen’s vision for JYSK, including the three keywords that are quoted in the chapter heading (also discussed in 4.2, above). ST-d was then mapped on to corresponding parts of LK’s translation, which will be referred to as TT-1. The GT translation of ST-d was generated in July 2022 and was also mapped on to ST-d. We will refer to the GT translation as TT-2.

⁶ We categorised such translation problems as language- and situation-related (see section 4.3).

⁷ The three keywords are still used by JYSK, but the English translations are now (2023): “Tradesman – Colleague – Corporate Spirit”. As far as we can see on their website, the abbreviation ‘KKK’ is no longer used in Danish or English (<https://job.jysk.dk/dk/jysk-arbejdsplads>).

⁸ For a while, ‘Danishes Bettenlager’ [Danish bedding storeroom] was still preferred in Germany and Austria.

We will now report on our findings regarding text lengths (4.3.1), the extent of human quality in GT (4.3.2), the occurrence of grave mistakes (4.3.3) and how predefined translation problems are dealt with (4.3.4).

4.3.1 Text lengths

The relative lengths of ST-d and the two TTs were measured to detect any significant differences in this respect between the TTs. According to Blum-Kulka's explication hypothesis, translators are generally inclined to explicate implicit elements, which tends to make TTs longer (Blum-Kulka, 1986; Olohan & Baker, 2000). Furthermore, in translations from Danish into English, TTs might be slightly longer because of different conventions in Danish and English regarding the writing of compound words. Danish writes series of two or more words together (closed compound words), whereas English prefers to write words separately (open compound words). Lengths were therefore measured in words as well as in characters, which were measured both without and with blanks. An example from chapter C. of a closed compound word in Danish is "pensionsalder" (one word, no blank), which is rendered by an open compound word in English: "pension age" (two words, one blank) in LK's translation (Larsen, 2004b, p. 183).

Table 2 gives an overview of the respective lengths of ST-d, TT-1 and TT-2. Percentages are rounded up, and highest figures are marked by bold.

| Texts | Words | Characters without blanks | Characters with blanks |
|-------|----------------------|---------------------------|------------------------|
| ST-d | 2,099 | 9,410 | 11,530 |
| TT-1 | 2,242 (+6.4%) | 9,756 (+3.5%) | 12,017 (+4%) |
| TT-2 | 2,267 (+7.4%) | 9,575 (+1.7%) | 11,811 (+2.4%) |

Table 2: Comparing text lengths

As expected, both TT-1 and TT-2 are slightly longer than ST-d in terms of both words and characters (without and with blanks). TT-2 comprises more words than TT-1, whereas TT-1 has more characters than TT-2 (without and with blanks). We regard these quantitative differences as so slight that they are of little significance for the present study.

4.3.2 Human quality in GT

Using TT-1 (LK's translation) as a yardstick for human quality in TT-2 (GT), we ascertained the degree of textual similarity between the two TTs. The premise was that TT-2 elements that were assessed as textually similar to corresponding TT-1 elements needed no or little post-editing before publication, which we defined as human quality. For our purposes, elements were assessed as textually similar if the wording was identical or near-identical. Near-identical elements were slightly different in word order, word class and, if verb forms, in tense, aspect or mood. Using this definition, we found that, out of a total of 2,267 words in TT-2, 1,410 words were textually similar to words in corresponding places in TT-1. This means that approx. 62% of TT-2 is textually similar to TT-1. Results were very similar regarding characters without and with blanks. We therefore conclude that a relatively large part of TT-2 would probably have needed no or little post-editing before publication. We are not sure how significant this is, but we think the high level of similarity between the two TTs may be linked to the fact that PDF versions of both Larsen's book (Larsen, 2004a) and LK's translation (Larsen, 2004b) have been available online at least since the summer of 2022, when

we checked for the first time. This means that LK’s translation might have been used to train GT’s dataset before TT-2 was generated⁹.

4.3.3 Grave mistakes

Expecting *grave mistakes* to occur in TT-2, but not in TT-1, we proceeded to look for such mistakes in the TTs. We categorised grave mistakes as either nonsensical translations or blatant mistranslations. A *nonsensical translation* prevents the reader from making any sense of the TT element in question. This can be detected just from reading the TT, without consulting the ST. Eleven TT-2 elements were categorised as nonsensical translations, whereas none were found in TT-1. Table 3 shows an example of nonsensical translation. The table quotes ST segment 28 in chapter D. as well as corresponding elements in TT-1 and TT-2. In this and the following tables, the relevant ST and TT elements are *italicised*, the ST element is marked by **bold**, and unacceptable TT elements are marked by *red*. Again, glosses in English are added in square brackets.

| Segment | ST-d | TT-1 | TT-2 |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| D.28 | <p>Det kæmper vi så for hver eneste dag ved at finde den rette vare, på det rette tidspunkt og til den rette pris.</p> <p>[So, this is what we fight for every single day by finding the right product, at the right time and at the right price.]</p> | <p>We fight to do that every single day by finding the right product, at the right time and at the right price.</p> | <p>We then fight for it every single day by <i>breathing</i> the right product, at the right time and at the right price.</p> |

Table 3: A nonsensical translation in TT-2

In segment D.28, Larsen presents the JYSK values and his business model. In the previous segment (D.27), it is explained that the aim at JYSK is to satisfy customers, and, in D.28, it is explained how they fight to do this “by *finding* the right product [...]”. In TT-2, the ST element “finde” [finding] is rendered as “breathing”, which is nonsensical: you cannot ‘breathe’ a product.

A blatant mistranslation renders ST meaning in a way that is contrary to what was intended by the ST sender. It is necessary to consult the ST to detect a blatant mistranslation. Nineteen TT-2 elements were categorised as blatant mistranslations, whereas none were found in TT-1. Table 4 gives two examples of blatant mistranslation from chapter B., which concerns Larsen’s childhood wish to further his education after seven years of obligatory schooling (c. 1962). His teacher recommended that Larsen went on to “realskolen”, an optional three-year lower secondary school (discontinued in 1975), but his mother would not allow it for financial reasons. Eventually, Larsen’s mother was made to change her mind, and, in B.9, it is suggested that the clinching argument was a substantial study grant that he would then be eligible for.

⁹ We have tried to contact Google Denmark several times to enquire how likely it is that LK’s translation has been used to train GT’s dataset. They never got back to us on this.

| Segment | ST-d | TT-1 | TT-2 |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B.9 | <p>Men det der nok fik størst indflydelse var, da han kunne hviske mor i øret, at hendes "Lille Lars" var indstillet til et mindelegat på 500 kr.</p> <p>[But that which probably had the biggest influence was when he could whisper in mother's ear that her "little Lars" was nominated for a memorial award of 500 kroner.]</p> | <p>But the biggest influence was probably when he whispered in mother's ear that her "young Lars" had been nominated for a memorial award of DKK 500.</p> | <p>But the probably biggest benefit was when he could whisper in his mother's ear that her "Little Lars" was set for a memorial scholarship of DKK 500.</p> |

Table 4: A blatant mistranslation in TT-2

In TT-1, the ST element "indflydelse" is rendered by "influence", which is right. In TT-2, the element is rendered by "benefit", which is definitely misleading (and the position of the adverbial "probably" is also misleading). The genitive pronoun "his", which is added in front of "mother's", was also categorised as a blatant mistranslation: the reference of "his" in TT-2 becomes the teacher (the previously mentioned "he"), but, if anything, it should have been Larsen himself.

As mentioned, nonsensical translations and blatant mistranslations were only found in TT-2. This is hardly surprising, since TT-2 is an unedited GT translation, while TT-1 is a quality-checked and proofread professional translation.

4.3.4 Predefined translation problems

Aiming to zoom in on those ST elements that require human problem-solving and decision-making skills to translate, we turned our attention to those elements that we had defined in advance as translation problems. The method for this was as follows: If an equivalent for an ST element could *not* be found that would be useful for fulfilling the skopos, the ST element in question would be defined as a translation problem. In contrast, if an equivalent *could* be found that would be useful, the ST element would *not* be defined as a translation problem. Based on this, we found 63 ST elements that could be predefined as translation problems. Sometimes the same translation problem was found in several segments for similar ST elements, including derivatives or inflections of the same Danish expressions. In such cases, these were counted as one translation problem.

Ten of the 63 translation problems are rendered in similar ways in the two TTs, while 53 are rendered in dissimilar ways. Similar and dissimilar renditions were categorised by means of microstrategies, defined as micro-level transformations of the ST (Molina & Hurtado Albir, 2002; Schjoldager et al., 2010). The microstrategy analysis did not consider dissimilarities due to grave mistakes in TT-2 (see 4.3.3). Grave mistakes may sometimes be explained as failed attempts to solve translation problems. However, since they only occur in TT-2, we find it more likely that they are due to other factors, such as GT's faulty reading of the ST.

The ten translation problems that are dealt with in similar ways are mainly translated using microstrategies such as deletion or functional equivalence. The reason for this similarity might be that TT-1 and TT-2 both use standardised ways of dealing with these translation problems. For the 53 translation problems that are dealt with in dissimilar ways, there are significant differences between TT-1 and TT-2 in the use of microstrategies. TT-1 exhibits quite a variety of microstrategies in connection with the translation problems, while TT-2 shows little variety. The microstrategies used in TT-1 are normalisation, generalisation, explicitation, substitution and deletion. TT-2 uses word-for-word direct translation and, in a few cases, copying, deletion and functional equivalence.

We found three categories of translation problems in ST-d:

1. *Situation-related translation problems*: cultural and/or contextual references to institutions, customs, ideas, events, objects etc. that are deemed to be particularly Danish, Jutlandic or JYSK-related and do not have useful equivalents in English.
2. *Style-related translation problems*: idiomatic, dialectal or register features in Danish that do not have useful equivalents in English.
3. *Language-related translation problems*: Danish/Jutlandic-language structures or elements that do not have useful equivalents in English.

Table 5 gives examples of a language-related translation problem (“da”) and a style-related translation problem (“den kære Lars Larsen”).

| Segment | ST | TT-1 | TT-2 |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| A.13 | Mange vil måske mene, at nu har han da fået storhedsvanvid – den kære Lars Larsen – og det kan da også godt være. [Many might think that now he is surely suffering from megalomania – the dear Lars Larsen – and that may certainly also be so.] | Many people might think that now he is certainly suffering from delusions of grandeur – the dear Mr Lars Larsen – and that may be the case. | Many may think that now he has gone mad with greatness - the dear Lars Larsen - and it may well be so. |

Table 5: A language-related translation problem and a style-related translation problem

The two “da” elements in Table 5 were categorised as language-related translation problems, whereas the phrase “den kære Lars Larsen” [the dear Lars Larsen] was categorised as a style-related translation problem. There are many short adverbs in Danish like ‘da’ that are notoriously difficult to translate because the meaning varies according to context and style. We categorised the “da” elements in A.13 as language-related translation problems, but we could also have categorised them as style-related.¹⁰ Here “da” means something like ‘surely’ or ‘certainly’. In the first part of the segment, Larsen wishes to emphasise that readers might now think that he is delusional when he expects 2.4 million Danes to be interested in his autobiography. LK has clearly understood Larsen’s intentions and translates in due consideration of the skopos. We categorised the microstrategy in connection with the first “da” element in TT-1 (“certainly”) as functional equivalence, while the microstrategy in TT-2 was categorised as deletion. The deletion is quite in line with the way that many translators tend to deal with ‘da’, especially in formal texts, which may suggest that a pattern of this may be found in GT’s dataset. In the second part of segment A.13, the meaning of “da” is similar, but this time it is used together with the informal phrase “det kan da også godt være” [that may certainly also be so]. LK translates the phrase into “that may be the case”, deleting both “da” [certainly] and “også” [also]. We think LK’s translation conveys Larsen’s intentions and categorised it as functional equivalence. TT-2 translates the phrase into “it may well be so”, which was also categorised as functional equivalence. This indicates that a standardised translation of the phrase may be available in GT’s dataset.

Furthermore, Larsen inserts an indirect and ironical reference to himself: “den kære Lars Larsen” [the dear Lars Larsen]. In TT-1, “Mr” is added in front of “Lars Larsen”, which we categorised as explicitation. The formal address of ‘Mr’ is still frequent in English, whereas the Danish equivalent

¹⁰ Throughout the book, Larsen uses another short adverb, ‘jo’, whose meaning can also vary a great deal. Sometimes, in informal use, ‘jo’ might be translated into ‘you know’ or ‘of course’, if something is supposed to be well-known to the receiver already. In more formal use, ‘jo’ can, for instance, be used to emphasise admission or blame.

‘hr.’ is nowadays regarded as outdated in most contexts. The reason for LK’s explicitation is probably an attempt to tailor the translation for Larsen’s international readers. In TT-2, the rendition was categorised as a word-for-word direct translation.

Table 6 gives examples of a style-related translation problem (“Go’daw”) and a situation-related translation problem (“Jeg har et godt tilbud”).

| Segment | ST-d | TT-1 | TT-2 |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------|
| Title | Go’daw jeg hedder Lars Larsen – Jeg har et godt tilbud [Hello , I’m called Lars Larsen – I have a good offer] | Hello my name is Lars Larsen – I have a good offer | Go’daw , my name is Lars Larsen – I have a good offer |

Table 6: A style-related translation problem and a situation-related translation problem

The first element in the title, “Go’daw” [Hello], was categorised as a style-related translation problem, whereas the second element, “Jeg har et godt tilbud” [I have a good offer] was categorised as a situation-related translation problem. The spelling of “Go’daw” indicates a dialectal (Jutlandic) and informal style. In standard Danish, the informal spelling is ‘go’dav’ [hello] and the formal spelling is ‘goddag’ [how do you do]. The latter is used as a traditional greeting when people meet. Note that this is not the same as the informal greeting ‘god dag’ [good day] (two words), which is increasingly used informally when people leave, probably influenced by English: ‘have a good day’.

LK uses normalisation and renders “Go’daw” as “Hello”, which does not have regional or dialectal connotations, but the level of formality is probably similar. In TT-2, copying is used, which is nonsensical. As already explained, the segment comprises the main part of the book title and is a reference to Larsen’s famous TV commercials, which always started with exactly these words. We therefore regarded the element as a situation-related translation problem. Apart from the translations of the first element (“Go’daw”), the renditions are identical in the two TTs. We categorised the identical parts as functional equivalence, considering the situational reference to Larsen’s Danish commercials, including his Jutlandic pronunciation, which is impossible to convey precisely to an international audience. This means that only the translations of the first ST element contribute to our understanding of differences between the two types of translation.

Table 7 gives examples of a situation-related translation problem (“købmand”) and a style-related translation problem (“Gøre”).

| Segment | ST-d | TT-1 | TT-2 |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| D.8 | Selvfølgelig gælder det om at være den gode købmand . [Of course, it is about being the good tradesman] | Of course it is all about being a good businessman, | Of course, it’s about being the good grocer . |
| D.9 | Gøre kunden glad for købet og gerne selv have et glimt i øjet. [To make the customer happy with the purchase and preferably you yourself having a twinkle in the eye] | making the customer happy with their purchase and preferably having a twinkle in your eye. | Make the customer happy with the purchase and like to have a twinkle in the eye. |

Table 7: A situation-related translation problem and a style-related translation problem

The ST element “købmand” [tradesman] in D.8 was categorised as a situation-related translation problem, while the abrupt use of the infinitive verb form “Gøre” [To make] in D.9 was categorised as a style-related translation problem. Table 7 also illustrates a strategy that is used sometimes in TT-

1, but never in TT-2, namely an amalgamation of two interconnected segments. This shows LK's awareness of Larsen's intentions and a consideration for readability.

As mentioned, Larsen preferred to use the title of "købmand" [tradesman] rather than that of CEO, and he also made sure that it was included as the first of JYSK's three keywords. We categorised "købmand" and the derivative "købmandskab" [tradesmanship] as situation-related translation problems because they describe an important part of Larsen's image and also characterise his business approach, but they may also be seen as language-related translation problems: "købmand" mostly means "grocer", the owner of a small business that sells groceries, but it may also mean "merchant" or "tradesman", which are more general. While none of these can be regarded as equivalents of "købmand" in Larsen's case, "tradesman", with its modest connotations of 'shopkeeper' or 'salesman', might be the closest.

LK translates "købmand" into "businessman" and "købmandskab" into "businessmanship", which shows that she was very aware of Larsen's intentions and translates in due consideration of the skopos. LK also makes sure that "købmand" and its derivatives are translated in the same way throughout the book, ensuring intratextual coherence (Vermeer's second rule). This is not the case for TT-2, where these elements are translated in different ways in chapter D.: The "købmand" elements are translated into "merchant" (D.1. and D.6.) or "grocer" (D.8), while the derivative "købmandskab" is translated into "merchandising" (D. 18). While LK's translations of these elements were categorised as functional equivalence, the translations in TT-2 were categorised as direct word-for-word translations, but "grocer" and "merchandising" were also marked as nonsensical. We think Table 7 shows essential differences between TT-1 and TT-2.

5. Concluding remarks

The paper aims to contribute to a necessary discussion concerning the conceptualisation of professional translation in the posthuman age, when professional translation is increasingly carried out by means of advanced translation technology. The aim of the case study was to ascertain the extent to which GT may reach human translation quality. Within a skopos-theoretical framework, selected parts of a professional English-language translation of Larsen's unique autobiography (TT-1), completely unaided by technology, was compared with a GT-generated translation into English (TT-2) of the same parts. The perceived skopos of the professional translation was identified as translating in such a way that a function similar to that of the ST was achieved, indicating an instrumental translation. Though large parts of TT-2 are similar to TT-1, we cannot conclude that the perceived skopos is achieved by TT-2. This was particularly clear in connection with many instances of contextually and culturally embedded meaning in Larsen's book. As anticipated, GT proved to be particularly challenged by these.

The conclusions of the comparative analyses may be summarised like this:

1. In line with Blum-Kulka's explicitation hypothesis, implicit elements are explicated in both TTs, though more so in TT-1. The explicitations might explain why both are a little longer than the source-text data (ST-d).
2. Nearly two thirds of TT-2 are sufficiently similar to TT-1 for us to conclude that these parts of TT-2 would need no or little post-editing before publication, meaning that TT-2 reaches human quality in these parts.
3. A little more than one third of TT-2 is sufficiently dissimilar to TT-1 for us to conclude that these parts of TT-2 would need extensive post-editing before publication, meaning that TT-2 does not reach human quality in these parts.
4. Grave mistakes, categorised as nonsensical translations or blatant mistranslations, were only found in TT-2. We conclude that these are caused by factors that are difficult to ascertain, including a GT failure to read ST elements.

5. Attempting to focus on those ST elements that require a human capacity for problem-solving, we identified ST items that could be categorised as situation-related, style-related or language-related translation problems. When solving these, TT-1 clearly complies with professional ethics, including loyalty towards the sender, and with Vermeer's hierarchical rules concerning skopos, intratextual coherence and ST/TT fidelity. This is not the case for TT-2. Furthermore, TT-1 uses a variety of microstrategies to solve the identified translation problems, whereas TT-2 mostly applies word-for-word direct translation or deletion, which mostly do not solve the problems.

One explanation for the poorer results for GT is that, unlike a professional translator, GT does not understand text in the real sense of the word, does not work situationally and goal-oriented and does not base decisions on professional expertise and ethics. However, though GT (and other NMTs) may not deliver human quality at the moment, we must accept that powerful AI tools will increasingly be able to deliver high-quality translation output. Lately, though not purpose-built to translate, AI-based generative models like OpenAI's ChatGPT are reported to outperform NMTs and deliver human translation quality (Timothy, 2023). Translations generated by such models happen in an interactive process, in which users can prompt the system with contextual information and strategic instructions. Be that as it may, we argue that the conceptualisation of professional translation and professional translation quality criteria must remain the same, regardless of who translates and regardless of which tools are used.

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Appendices

Appendix 1: Front page - Danish version (Larsen, 2004a)



Appendix 2: Front page - English version (Larsen, 2004b)

