



**UNIVERSIDADE FEDERAL DE PERNAMBUCO
CENTRO DE ARTES E COMUNICAÇÃO
DEPARTAMENTO DE LETRAS
LICENCIATURA EM LETRAS INGLÊS**

DANILO ALVES RIBEIRO

**“ANALYZING THE ACCURACY OF MACHINE TRANSLATION IN
LITERARY WORKS: A STUDY ON THE APPROPRIATENESS OF
GOOGLE TRANSLATE OUTPUT IN COMPARISON TO THE HUMAN
TRANSLATION OF *LONG WALK TO FREEDOM: THE
AUTOBIOGRAPHY OF NELSON MANDELA*”**

Recife
2022
DANILO ALVES RIBEIRO

ANALYZING THE ACCURACY OF MACHINE TRANSLATION IN LITERARY
WORKS: A STUDY ON THE APPROPRIATENESS OF GOOGLE TRANSLATE
OUTPUT IN COMPARISON TO THE HUMAN TRANSLATION OF *LONG WALK TO
FREEDOM: THE AUTOBIOGRAPHY OF NELSON MANDELA*

Article written as a requirement for the
attainment of the Bachelor degree in
Teaching of English as a Foreign Language.

Supervisor: Marcelo Augusto Mesquita da
Costa

Recife
2022

Ficha de identificação da obra elaborada pelo autor,
através do programa de geração automática do SIB/UFPE

Ribeiro, Danilo Alves.

Analyzing the accuracy of Machine translation in literary works: a study on the appropriateness of Google Translate output in comparison to the human translation of Long Walk to Freedom: The autobiography of Nelson Mandela / Danilo Alves Ribeiro. - Recife, 2022.

19f, tab.

Orientador(a): Marcelo Augusto Mesquita da Costa

Trabalho de Conclusão de Curso (Graduação) - Universidade Federal de Pernambuco, Centro de Artes e Comunicação, Letras Inglês - Licenciatura, 2022.

1. Estudos da Tradução. 2. Tradução Automática (TA). 3. Tradução Humana (TH). 4. Correspondência. 5. Google Tradutor. I. Costa, Marcelo Augusto Mesquita da. (Orientação). II. Título.

890 CDD (22.ed.)

ACKNOWLEDGEMENTS

I would like to thank my Heavenly Father for directing me towards accomplishing this. It is only through Jesus Christ and His atoning sacrifice that we can ever be truly happy in this world and in the world to come.

I would also like to thank my wife for being there at every step of the way. Débora, I love you from the bottom of my heart. Thank you for all you do. You are a precious gift of God in my life.

I would also like to thank my parents, Marilene and Carlos, for guiding me to the path of righteousness. They have always taught me to do what is right, the value of study and hard work. This is for my mom, whom I still have the privilege of having by my side, and my dad, who's in heaven watching me from above. I can feel his love and how proud he is of me and who I have become.

I would also like to recognize the importance of all professors whom I have come across over the course of this degree. I would like to mention Prof. Dr. Marcelo Costa for his positive influence and conduct that inspired me to do this research.

Finally, I would like to appreciate the fact that there are free tuition universities in this country. If this was not the case, I am almost certain that I would not be able to perform this work. I pray that other students who come from humble backgrounds like me may have the same opportunity I had for the next years to come.

To future students who may come across this work, I would like to leave a word of caution. Do not think you are smarter than God. You NEED His direction. “[...] Blessed are they who hearken unto the counsel of the Lord. When they are learned they think they are wise, and they hearken not unto the counsel of God, for they set it aside, supposing they know of themselves, wherefore, their wisdom is foolishness and it profiteth them not. And they shall perish. But to be learned is good if they hearken unto the counsels of God.” (2 Nephi 9:28-29).

Abstract: Over the centuries, improper translation has been the cause of discomfort, miscommunication and great distress. Nowadays, plenty of machine translation software made by state-of-the-art technology and very prominent companies are available for free on the internet, but inaccurate translation remains a problem to a certain level. The purpose of this article is to compare the appropriateness in translation of both the machine translation (MT) and human translation (HT) versions of a literary piece, with the aim of assessing the inaccuracies in translation, as to the reasons behind such, why it is possible to observe these errors in the machine version and also highlighting the importance of human translators to operate translation software. In order to achieve such objective, the analysis of the translation “errors” is performed in light of the qualitative scope, using the works of Galve (1996) on translation appropriateness, and PUCHAŁA-LADZIŃSKA (2016) on the effect of machine translation on human translators. The corpus of this article consists of a chapter of the literary work, *Long walk to freedom: the autobiography of Nelson Mandela*, which provides a number of examples on which the analysis is based. A conclusion is then drawn on whether the need for human translators will become obsolete in the future.

Key words: Machine translation (MT), Human translation (HT), Appropriateness, translation.

Resumo: Ao longo dos séculos, traduções incorretas têm causado desconforto, falhas na comunicação e muitos problemas. Hoje em dia, vários softwares de tradução artificial criados com tecnologia de ponta por empresas de grande proeminência estão sendo disponibilizados gratuitamente na internet, porém, em certo modo, traduções imprecisas ainda persistem. O objetivo deste artigo é comparar o grau de correspondência nas versões das traduções artificial e humana de uma obra literária, com o objetivo de avaliar as inconsistências, em relação aos motivos pelos quais esses erros encontrados na versão artificial são observados e enfatizar a importância de tradutores humanos para guiar as ferramentas artificiais de tradução. Com o intento de atingir este objetivo, a análise dos “erros” de tradução é feita em função do escopo qualitativo, utilizando os trabalhos de Galve (1996) sobre tradução apropriada e de Puchala-Ladzińska (2016) sobre os impactos da tradução artificial na tradução feita por tradutores humanos. O corpus deste artigo consiste em um capítulo da obra literária *Longo caminho para a liberdade: Autobiografia de Nelson Mandela*, a qual proporciona um número de exemplos sobre os quais a análise se baseia. Uma conclusão é então apresentada em relação a se a necessidade de tradutores humanos irá se tornar obsoleta no futuro.

Palavras-chave: Tradução automática (TA), Tradução humana (TH), correspondência, tradução.

Introduction

Machine translation, henceforth (MT), is an automatic translation of a written text or speech from one language to another (Kozlowski, 2002:64). This process relates to Catford's (1965) definition of Translation as the replacement of textual material in one language (source language) by equivalent textual material in another language (target language).

With the advent of the internet, (MT) software like Google Translate, emerged as free machine translation tools for all users, thus expanding the average person's access to translation. However, these great advances have also brought to light some challenges to be overcome. It is rather common to see inaccuracies when it comes to machine translation. These stress the role of human translators in assessing appropriateness, which is the qualitative correspondence of source text (ST) to target text (TT) (Ptashkin, 2013a; Ptashkin, 2013b).

In order to better understand what these inaccuracies are, it is necessary to understand the concept of accuracy in translation. Accuracy in translation consists of studying the lexicon, grammatical structure, communication situation and cultural context of the source language text, analyzing it in order to determine its meaning and then reconstructing this same meaning using the lexicon and grammatical structure which are appropriate in the receptor language and its cultural context (Safeli; Salija, 2018).

Although large amounts of money have already been invested into research on machine translation, inaccuracies in (MT) are still recognizable and it is still unknown whether machines will ever be able to translate as well as humans. Thus, this work will approach the topic of translation "errors" with a qualitative perspective of this phenomenon and the reasons behind it, with the objective of answering the following questions: (1) What causes machine translation to perpetuate inconsistencies when it comes to appropriateness? (2) Will the work of human translators become obsolete in the future?

With the aim of addressing these questions, both machine and human translation of an excerpt of a literary work, *Long walk to freedom: the autobiography of Nelson Mandela*, were analyzed with the goal of assessing differences between these, through the perspective of appropriateness in translation. The main objective

is to verify the importance of human translation in relation to appropriateness of translation, through the display of instances where the lack of cultural knowledge and background may result in inaccurate translation. This work attests to the choice of combining capable, well-experienced translators with translation tools that in turn, deliver a higher process standardization, productivity, cross-document consistency and lower translation costs (Kruger, 2016) to achieve appropriate translation.

Some of the works vital to this research are: PUCHAŁA-LADZIŃSKA (2016), which deals with the question of machine translation being a threat or an opportunity for human translators. She conceptualizes the kinds of machine translation and how they work, besides going into detail about Google Translate as a software. There is also Gambier and Doorslaer's Handbook of Translation Studies (2010); which is encyclopedic. This handbook serves as an encyclopedia of terms related to the field of translation studies, such as: CAT tools, translation 'errors', and quality in translation, making it, thus, essential for one's understanding of this field.

THEORETICAL FRAMEWORK

1. Machine translation

This work is focused on performing a study on the field of translation studies, henceforth, (TS). The first time TS was coined was by James Holmes in his *The name and nature of Translation Studies* (1972). Holmes' work contains no explicit mention of human translators in the translation process. As the field evolved and gained more and more attention from researchers, the focus shifted to the human translators. Studies on the cultural paradigm, translator (in)visibility (Venuti 1995), and the context of gender (Chamberlain 1988, 2000) followed.

In the last 20 to 25 years, however, the advent of technology drastically changed the very nature of the translation process in quite fundamental ways ((Christensen/Schjoldager 2010: 1; O'Brien 2012: 1). Nowadays, the best universities educate their students so that the use of CAT tools becomes the natural way to translate. A research conducted by Gouadec (2007/2010: 156) found that all 650 job openings for translators analyzed required the candidates to have knowledge of Translation Memory (TM) systems.

There is a clear reason for the choice of incorporating CAT tools. According to Gea-Valor et. al (2010), some of the benefits of such choice are: saving a significant amount of time; facilitating project management that involves translating a source text into various languages; allowing previous translations to be re-used as a language source; systematizing the translation process so that it can be standardized; and establishing different professional roles within the translation process. With that said, companies and translators have included CAT tools in their translation process as a way to do more in less time.

Since translation technology has shown that it has come to stay, this article uses as reference the works of Kruger (2016) on the contextualization and modelization of the use of CAT tools in the translation process in both theoretical and professional approaches. The work of Puchala-Ladzinska (2016) presents the 4 types of machine translation, which guided the understanding of the translation software chosen, the characteristics associated with this kind of Fully-Automated Machine Translation (FAMT), and the modes of operation of machine translation.

The translation software of choice for this analysis was Google Translate, by Google, Inc. On that matter, the study of Wu et al. (2016), plays a pivotal role in showing the effort made by Google, Inc. to enhance their software, and at the same time bridge the gap in translation accuracy observed in the comparison of average bilingual human translators and Google Translate on some of their test sets, thus showing that there is still room for improvement for the aforementioned software.

The work of Gambier and Doorslaer in their *Handbook of Translation Studies* (2010) served as an encyclopedia of terms related to the field of TS that are relevant to this research, such as: computer-aided translation, norms of translation, quality in translation, translation 'errors', Web and translation. Their work guided and greatly contributed to a better understanding of these concepts.

This analysis is carried out through the perspective of appropriateness in translation as stated in the works of Ptashkin (2013) and Galve (1996). In it, the authors present appropriateness as the qualitative view of correspondence in translation. This work will take on the same approach, thus prioritizing correspondence in meaning in face of equivalence in number of words or form.

2. Human translators and the notion of “equivalence”

Although Translation systems have increasingly improved over the last decades, the role of the human translator is still key to proper translation. For example, the human translator is far more capable of segmenting translation units not only in morphological, syntactic and lexical ways but in the deeper levels of it which relate to the role of human memory and experience, inferential processes, problem solving and decision making (cf. Alves (ed.) 2003; Alves (org.) 2004 and Alves 2005). Only human translators are capable of bringing all the factors mentioned into the equation when translating.

Historically, human translators have taken on roles in negotiations, wars, treaties, bilingual courtroom proceedings where, for instance, a number of questioning strategies are used and become heavily dependent on the interpreter's ability to convey the meaning of these utterances properly (Berk-Seligson 1999; Hale 2001; Pérez-González 2006a). This concept of appropriateness or *equivalence*, as it is commonly stated in the TS relates to a process by which a spoken or written utterance takes place in a language with the goal of conveying the same meaning as a previously existing utterance in another language (Rabin 1958: 123).

One of the alternatives offered to the definition of equivalence was the focus on how close a target text comes to reproducing the same effect or response in the target readers rather than how close the text is. However, this approach is problematic in the sense that these effects are impossible to measure, and one's response to a text is often unique when compared to others. As suggested by Hervey and Higgins (1992: 23), it is a gross reduction of the effects of a text to a single effect to translate a given target text in a way that produces a laugh just because the source text does.

By the late 1980's, studies of translation began to widen their scope. Scholars of translation also began to draw on other fields, such as: discourse analysis, pragmatics, sociolinguistics, conversation analysis, psycholinguistics and semiotics (Saldanha 2009). The work of Hatim and Mason (1990, 1997) proved extremely influential in widening the TS field by engaging with issues of ideology and positioning. Such perspectives aim to demonstrate the distinctive nature of translation as a genre in its own right by identifying recurrent patterns in the

language produced by translators (Baker 1996; Laviosa 1998; Olohan 2003) and interpreters (Pérez-González 2006a).

Baker (1993) first proposed that translation is subject to a set of constraints which inevitably leave traces in the language that translators produce: the fact that a translated text is constrained by a fully articulated text in another language, for instance, constitutes a major and unique constraint. In other words, the translator places himself in the situation and claims a role for themselves 'as speaking agents who are critically engaged in the process of making meaningful utterances that elicit the intended response from, or have the intended effect upon, the hearer' (Davidson 2002: 1275).

Although seen as a problem by some, perhaps the translator having an effect on the outcome which they translate is not the problem. It has been argued that the TS field should refrain from 'comparing the propositional meaning of utterances and their interpretation' and seek instead to challenge the conceptualization of the role of interpreters and translators as neutral conduits by describing 'the behavior of all parties in terms of the set of factors governing the exchange' (Mason and Stewart 2001: 54). This shift in focus could lead to a better understanding of the very role of a translator and their role in conveying meaning through languages.

HOW THE RESEARCH WAS CONDUCTED

Long walk to freedom: The autobiography of Nelson Mandela imposes challenges to translation that make it ideal for a comparative and evaluative work. There are names of local villages, meals, and food specific to South African culture which one would expect to require from a translator some cultural background on the matter and test machines as to their capability of translating such specific terms. Although MT keeps evolving and its algorithms get more and more complex, general knowledge about the world and different cultures is still a feat of capable, experienced human translators.

The book has already been translated into Portuguese by a Portuguese human translator. This fact surely shapes the translation output in a different way for Brazilians, however these differences were considered and the focus on accurate translation was kept throughout the entire work.

Moreover, the fact that there is an available human translation version enables this comparative work to take place in light of the (MT) version collected through Google Translate. The choice of method to carry out this work focused on the appropriateness of translation as presented by the work of Ptashkin (2013). The steps taken are as follows:

- First, the excerpt from the autobiography of Nelson Mandela was chosen randomly.
- Secondly, the text was typed and translated into Portuguese using Google Translate.
- Then, the comparative study took place with the focus of spotting differences between the human and machine translation versions and analyzing such differences aimed at assessing translation appropriateness. In order to accomplish that, tables displaying the original text, human and machine version of it were added in the analysis section.
- Finally, the “translation errors” found were analyzed and some were selected in order to be presented along with commentaries comparing the decisions made on the (HT) version in face of the (MT) version, in order to accomplish accuracy in translation.
- In order to facilitate reader’s localization of points of analysis, they have been underlined, in the human translation version, and put in bold and underlined, in the case of the machine translation version.

Analysis

As described in the methodology, after a thorough analysis of chapter 9 of the autobiography of Nelson Mandela, five extracts from the chapter were selected with the purpose of assessing the differences in translation found in the human and machine versions of the text. This analysis takes into account variety in meaning, context, native usage of terms, etc. The main focus, as stated earlier, is the assessment of translation accuracy in conveying meaning and highlighting precise human translation decisions in comparison to machine translation. Moreover, the goal is also to understand the nature of translation software and what hinders it from

providing accurate translation in certain instances. The first extract can be found in the table below.

Extract 1:

Original Version	Human Translation	Google Translate
Johannesburg was a city built up around the discovery of gold on the Witwatersrand in 1886, and Crown Mines was the largest gold mine in the city of gold. I expected to see a grand building like the government offices in Umtata, but the Crown Mine offices were rusted tin shanties on the face of the mine.	Joanesburgo era uma cidade construída na sequência da descoberta de ouro em Witwatersrand, no ano de 1886, e Crown Mines era a maior mina de ouro da <u>região</u> . Esperava encontrar um grande edifício, como os <u>gabinetes</u> oficiais de Umtata, mas os escritórios da Crown Mines não <u>passavam de</u> barracões de lata ferrugenta, diante da entrada da mina.	Joanesburgo foi uma cidade construída em torno da descoberta de ouro em Witwatersrand em 1886, e Crown Mines era a maior mina de ouro da cidade de ouro . Eu esperava ver um grande edifício como os escritórios do governo em Umtata, mas os escritórios da Crown Mine eram barracos de lata enferrujados na face da mina.

Google translate output generated on Oct. 13th, 2022.

Upon a thorough look at this passage in chapter 9, some differences in translation (human and machine) could be perceived. First, it is possible to find in the human version of the text the occurrence of the word “região” which usually translates to English as “region”; whereas in the machine version it is possible to find the words “cidade de ouro”. In the original text, the words “city of gold” are used. It is clearly noticeable that the machine literally translated the term, while the human translator chose a word that implies a similar meaning in the context.

The issue with the literal translation of the term “city of gold” is that “cidade de ouro” points to the idea of a city made out of gold or even the idea that it is a great city. When given a closer look, the actual meaning sought by the author is to say that people know the city for its gold. The mere usage of “de” and not “do” when translating “of” can imply different ideas. The usage of “de” in translating “city of gold” as “cidade de ouro” will probably convey the idea that the city is made out of gold, which is clearly not the case. In this sense, “cidade do ouro” presents a better choice, which would most likely mean “city known by its gold”, as we often see in Brazilian Portuguese. Other examples that corroborate this are: Rio is the city of rock in Brazil or “Rio é a cidade DO rock no Brasil; or Jangada, in Mato Grosso, is the city of pastel which means Jangada, em Mato Grosso, é a cidade DO pastel.

Secondly, it is possible to see the use of the word “gabinete” in the human version instead of “escritório” in the machine version as translations of the term “office”. The use of the term “gabinete” by the human translator shows understanding of context. The word “gabinete” is commonly used when talking about politicians’ offices. It is a more specific word, but widely known. The usage of the term does not impose a comprehension problem. The word “escritório”, although comprehensible, is a more general term that encompasses the idea of a government office, but could be more precise. Once again, the human translator shows the importance of context-awareness.

Extract 2:

Original Version	Human Translation	Google Translate
We went straight to the chief <i>induna</i> , or headman. His name was Piliso, a tough old fellow who had seen life at its most pitiless. Piliso knew about Justice, as the regent had sent a letter months before making arrangements for him to receive a clerical job, the most coveted and respected job in the mine compound.	Abordámos directamente o chefe <u>dos induna</u> , ou capataz. Chamava-se Piliso, e era um tipo duro que já tinha visto todas as misérias impiedosas da vida. Piliso <u>estava informado sobre Justice</u> porque alguns meses antes o regente lhe tinha enviado uma carta a solicitar um emprego para ele como escrivão, o lugar mais cobiçado e respeitado dentro do complexo mineiro.	Fomos direto ao <u>chefe induna</u> , ou chefe. Seu nome era Piliso, um velho duro que tinha visto a vida em sua forma mais impiedosa. Piliso <u>sabia da Justiça</u> , pois o regente havia enviado uma carta meses antes providenciando para que ele recebesse um emprego de escrivão, o cargo mais cobiçado e respeitado no complexo da mina.

Google translate output generated on Oct. 13th, 2022.

The very first line of the extract introduces Mandela’s approach to the chief *Induna*. One point that may come to one’s attention is that in the human translator version, there is the addition of the word “dos” whereas in the machine translation version, this word cannot be found. The simple addition of this word implies that the translator was aware that the word *induna* represents a people. Although the word itself is in the singular form, the translator managed to observe that it related to a whole community.

Thus, using the plural form helps the reader identify the word as the name of a people. Otherwise, the reader could misinterpret the sense of the word. In the machine translation, this is exactly what happens. Although one may think that “chefe induna” which literally means “chief induna” does the work of telling the reader he is the chief of that people, this combination could also lead to the idea that it is the

chief's name, for example. The addition of “dos” in line 2 of the (HT) version helps clarify the intention of the author and therefore, best conveys meaning.

Another common issue with machine translation is the difficulty of identifying certain words as names. In the extract, there is a mention to a person named Justice. A careless reader or even translator could maybe read this as the noun “justice”, however, an experienced translator would know that it is common in South Africa to name children with a word from one of the many native languages spoken in that country. For the sake of simplicity, South Africans often translate the names to English and go by both names. For example, the name *Sipho* means gift in English. When surrounded by speakers of the same native language, people will use their birth name. However, when in the presence of English speakers, they will usually switch to whatever their name means in English.

The machine translation version of the name Justice as the noun “justice” in Portuguese, points to the lack of the understanding of the cultural aspects aforementioned. The translator, however, correctly notices it and keeps the name, since proper names should not be translated, which is the correct choice to make in this case.

Extract 3:

Original Version	Human Translation	Google Translate
Mr. Wellbeloved was a white man whose office was grander than any I had ever seen; his desk seemed as wide as a football field. We met him in the company of a mine boss named Festile, and we told him the same fabrications that we had told Dr. Xuma. Mr. Wellbeloved was impressed with my not-entirely-truthful explanation that I had come to Johannesburg to continue my studies at the University of the Witwatersrand. “Well, boys,” he said, “I will put you in touch with the manager of Crown Mines, a Mr. Piliso, and I will tell him to give you jobs as clerks.” He said he had worked with Mr. Piliso for thirty years and in all that	O senhor Wellbeloved era um _____ branco que tinha um gabinete grande como eu nunca vira. A secretária parecia um campo de futebol. Quando lá chegámos estava com ele um capataz de minas, um tipo chamado Festile, e contámos-lhe as mesmas patranhas que tínhamos impingido ao doutor Xuma. O senhor Wellbeloved ficou bem impressionado com a minha alegada ida para Joanesburgo com o intuito de prosseguir os estudos na Universidade de Witwatersrand. - Muito bem, rapazes, vou pôr-vos em contacto com o gerente da Crown Mines, o senhor Piliso, e recomendar-lhe que vos dê emprego como escriturários. Disse ainda que trabalhava há	O Sr. Wellbeloved era um homem branco cujo escritório era mais grandioso do que qualquer outro que eu já tivesse visto; sua mesa parecia tão larga quanto um campo de futebol. Nós o encontramos na companhia de um chefe de mina chamado Festile, e contámos a ele as mesmas invenções que havíamos contado ao Dr. Xuma. O Sr. Wellbeloved ficou impressionado com minha explicação não totalmente verdadeira de que eu tinha vindo a Joanesburgo para continuar meus estudos na Universidade de Witwatersrand. “Bem, rapazes”, disse ele, “vou colocá-los em contato com o gerente da Crown Mines, um

time, Piliso had never lied to him. Justice and I squirmed at this but said nothing.	trinta anos com o senhor Piliso e que este nunca lhe tinha mentido. <u>Estremecemos</u> , mas nada dissemos.	tal Sr. Piliso, e direi a ele para lhes dar empregos como balconistas". Ele disse que trabalhou com o Sr. Piliso por trinta anos e em todo esse tempo, Piliso nunca mentiu para ele. Justiça e eu <u>se contorceu</u> com isso, mas não disse nada.
--	--	---

Google translate output generated on Oct. 13th, 2022.

In the beginning of the extract, a difference one may notice between the two translation versions is that the word “homem”, which translates as man, is missing in the (HT) version. Upon a deeper analysis, it is possible to understand why that word is missing. The very addition of the word “senhor” in the previous line already states the gender of the person mentioned. Thus, it becomes implicit that the white person mentioned is a he. The human translator processes this information and avoids the redundancy of stating the word man.

In the following line, another inaccuracy was found. The usage of the word “grandioso” for “grand”, in the original version conveys a different meaning compared to what the author implies. The focus of the author is clearly on the size of the desk.. However, the word “grandioso” is usually coined with the aim of saying that something is magnificent or splendid. The term can be used to describe a noble act, for instance. In this case, the human translator’s choice “grande como nunca vira” or bigger than any desk he had ever seen, best preserves the original meaning.

Finally, in the very end of the extract, it was noted that the term “squirmed” in the original version was translated as “contorcemos” in the machine version. The verb “contorcer” indeed represents the making of contortions of the body. However, in this instance Mandela clearly indicates that they were afraid of getting caught in their lie. The meaning of the term “squirm” is clearly figurative. The software fails to understand his analogy. The human translator, on the other hand, seems to capture the figurative meaning of the term with his translation of it as “estremecemos”, which translates as trembling and is often used to represent a state of fear in Portuguese.

Extract 4:

Original version	Human Translation	Google Translate
In the meantime, I had arranged to stay with one of my cousins, Garlick Mbekeni, in George Goch Township. Garlick was a hawker who sold clothing, and had a small boxlike house. He was a friendly, solicitous man, and after I had been there a short while, I told him that my real aspiration was to be a lawyer.	Entretanto tinha encontrado alojamento em casa de um dos meus primos, Garlick Mbekeni, no subúrbio negro de George Goch. Garlick era vendedor ambulante de roupas e vivia numa casa tão <u>pequena</u> que mais parecia uma caixa. Era um homem <u>amistoso</u> e solícito e ao cabo de alguns dias confessei-lhe que a minha verdadeira aspiração era vir a ser advogado.	Enquanto isso, eu tinha combinado de ficar com um de meus primos, Garlick Mbekeni, em George Goch Township. Garlick era um vendedor ambulante que vendia roupas e tinha uma <u>casinha parecida</u> com uma caixa. Era um homem <u>simpático</u> e solícito e, pouco tempo depois, disse-lhe que a minha verdadeira aspiração era ser advogado.

Google translate output generated on Oct. 13th, 2022.

In this extract, two occurrences were selected for further analysis: the usage of the word “pequena” and the absence of it in the machine version, as well as the usage of the word “simpático” in the machine version in comparison with the word “amistoso” in the human version.

First, in the original version, the author describes the person’s house as a small boxlike house. Google Translate translates it as a small house that looked like a box. Such translation could direct the reader to the idea that the house was squared, like a box. The human translator, on the other hand, emphasizes how small the house is and uses this perception as the basis of the comparison, “the house is small like a box”. Boxes are usually small, so the author’s intention is best preserved.

Second, in the machine version, the word “friendly” is translated as “simpático”, while in the human version, the translator opted for a more “literal translation”, “amistoso”. In this case, the machine’s choice for “simpático” imposes a slight change in meaning. “Simpático” is the quality of expressing sympathy. Friendly seems to have a more general meaning. With the aim of appropriateness in mind, the word “amistoso” is the best choice of translation.

Extract 5:

Original version	Human Translation	Google Translate
Mr. Sidelsky, whom I came to respect greatly and who treated me with enormous kindness, was a	O senhor Sidelsky, por quem vim a nutrir imenso respeito e que sempre me tratou com extrema simpatia, era formado	O Sr. Sidelsky, a quem passei a respeitar muito e que me tratou com enorme gentileza, era formado pela Universidade

graduate of the University of the Witwatersrand and was in his mid-thirties when I joined the firm. *He was involved in* African education, donating money and time to African schools. A slender, courtly man, with a pencil mustache, he took a genuine interest in my welfare and future, preaching the value and importance of education — for me individually and for Africans in general.	pela Universidade de Witwatersrand e andava a meio da casa dos trinta anos quando ingressei na firma. Interessava-se pela educação dos negros e <u>doava</u> tempo e dinheiro às escolas africanas. Magro e de maneiras afáveis, com um <u>bigode fino</u> , interessou-se genuinamente pelo meu futuro e bem-estar, sublinhando a importância da educação - tanto para mim como para a generalidade dos africanos.	de Witwatersrand e tinha trinta e poucos anos quando entrei para a firma. Ele estava envolvido na educação africana, <u>doando</u> dinheiro e tempo para escolas africanas. Um homem esguio, cortês, com <u>bigode de lápis</u> , ele se interessou genuinamente pelo meu bem-estar e futuro, pregando o valor e a importância da educação – para mim individualmente e para os africanos em geral.
---	---	---

Google translate output generated on Oct. 13th, 2022.

In this final extract, two observations were made as to translation accuracy. First, differences in the translation of the verb “donating” were observed. Second, in the original text, there is a mention of the expression “pencil mustache”. There were also differences as to the way both machine and human translators conveyed the expression to Portuguese.

In the first case analyzed, it is possible to find a more literal translation of the verb “donating” in the machine version, as “doando”, whereas in the human version, the translator chose to translate the verb as “doava”, which matches what Portuguese grammar describes as imperfect tense. The imperfect tense is used to describe an action in the past which, in the moment it is uttered, is yet to be finished. Such description matches what the author describes in the passage. This example demonstrates that software translation still struggles to translate terms that are not correspondent between two languages. The usage of the gerund form in the translation of the machine version highlights the lack of precision in such situations.

In the second instance, the literal translation of pencil mustache to “bigode de lápis” by the machine translator may cause some confusion for the reader. Although the expression is usually known by speakers of Portuguese, the idea that the person’s mustache was actually drawn by a colored pencil is also possible. Upon a closer examination in the original version, one may come to the conclusion that such an alternative does not match the context provided in the passage. The human translator’s choice of “bigode fino” although not literally translated, eliminates the aforementioned inaccurate perception of the expression in the original version.

“Bigode fino” means thin mustache. Such translation secures a more accurate conveyance.

Concluding remarks

No machine is equipped with enough knowledge to discern the aspects of translation shown and commented on in the extracts displayed in the analysis section. Machines are proficient at helping translators save time, standardize translation and create glossaries.

This work aimed to answer the following questions: (1) What causes machine translation to perpetuate inconsistencies when it comes to appropriateness? (2) Will the work of human translators become obsolete in the future?

In the current world, technology has secured its place in nearly every job one could think of. The fear of replacement of human beings by machines is inevitable. Some will argue that this is the future and there is no running away from that. However, as shown throughout this work, the tools provided by technology provide many benefits, but its sole use, without a human translator to operate it, means society is destined to bear inaccurate translation. This is why post-editing appears to be the best solution for these issues.

Post-editing is the process through which human translators analyze machine translation output in order to revise it for the sake of accuracy and to avoid the inaccuracies shown throughout this work. Since machine translation still lacks what it takes to translate texts properly, post-editing is essential to secure good translation.

The answer to the first question this work aimed to address (What causes machine translation to perpetuate inconsistencies when it comes to appropriateness?) could be observed throughout the analysis. Machine translation still lacks cultural awareness and still struggles when it comes to false friends, words with multiple meanings, proper nouns, etc. The answer to this question introduces the answer to the second one. Since there is no sign that these reasons behind poor machine translation will vanish anytime soon, human translators will definitely stay relevant for years to come.

Will technology one day match human competences in terms of translation? Yes, there is a chance that may happen. However, from our standpoint in 2022, it is

hard to say. As of now, it has become clear that technology is greatly helpful in specific instances. However, all these advantages are only attainable when a human translator operates it, revising the machine's output of translation.

This work stands in the middle of the human x machine translator dichotomy. We as a society are past the time when we could calmly take time to get tasks done. The current work trend and culture is focusing on increasing pace and being as productive as possible. Experienced human translators who are educated in regards to the (MT) tools available will save time and provide a more standardized translation, thus accomplishing more in less time.

References

- CATFORD, J.C. **A linguistic theory of translation: An essay in applied Linguistics**. 1st Ed. London: Oxford University Press, 1965. Disponível em: [The greatest mistranslations ever - BBC Culture](#). Acesso em: 25/04/2022
- GAMBIER, Yves; DOORSLAER, Luc Van. **Handbook of Translation Studies**. In: BOWKER, Lynne; FISHER, Des. **Computer-aided Translation**. Amsterdam/Philadelphia: John Benjamins Publishing Company, 2010. p.60-65. Disponível em: https://books.google.com.br/books?hl=en&lr=&id=BTWzAAAAQBAJ&oi=fnd&pg=PA60&dq=cat+tools+literary+translation&ots=bhw68HkhwY&sig=46JqUaTV5PdMxTP5LCLwZRQn05Y&redir_esc=y#v=onepage&q=cat%20tools%20literary%20translation&f=false Acesso em: 14/05/2022
- GEA-VALOR, Maria Lluïsa; GARCÍA-IZQUIERDO, Isabel; ESTEVE, Maria José. **Linguistic and Translation Studies in Scientific Communication**. Peter Lang AG, Bern: International Academic Publishers, 2010. Disponível em: https://books.google.com.br/books?hl=en&lr=&id=yzH8V1_U7LUC&oi=fnd&pg=PA255&dq=cat+tools&ots=VKfrZWxKLb&sig=DsoinN9jVsIVWsggeo-VDtg9N6s4&redir_esc=y#v=onepage&q=cat%20tools&f=false Acesso em 23/09/2022
- GUILLÉN GALVE, Ignacio. **Evaluating the appropriateness of a translation. A pragmatic application of relevance theory**. Pragmalingüística, Zaragoza, Vol. 3-4, p.27-51, Jul. 1996. Disponível em: <https://rodin.uca.es/bitstream/handle/10498/8763/17214555.pdf> Acesso em: 26/07/2022
- KRUGER, Ralph. Contextualising Computer-Assisted Translation Tools and Modelling Their Usability **Trans-kom ist eine wissenschaftliche Zeitschrift für Translation und Fachkommunikation**. trans-kom 9 [1] (2016): p.114-148
Disponível em: http://www.trans-kom.eu/bd09nr01/trans-kom_09_01_08_Krueger_CAT.20160705.pdf Acesso em: 23/09/2022
- PTASHKIN, Alexander; KOBENKO, Juri. Equivalence and Appropriateness: Divergence Characteristics of Categories under Translation. **Mediterranean Journal of Social Sciences**, MCSER Publishing, Rome-Italy, Vol. 5, No. 27, p.1601-1604. Dec. 2014.
Disponível em: <https://www.mcser.org/journal/index.php/mjss/article/view/5244/5061> Acesso em: 28/09/2022
- PUCHALA-LADZINSKA, Karolina. **Machine Translation: A threat or an opportunity for human translators?**. ZESZYTNIAUKOWE UNIWERSYTETU RZESZOWSKIEGO SERIA FILOLOGICZNA, RZESZOW, ZESZYT 93 / 2016, STUDIA ANGLICA RESOVIENSIA 13 , p.89-98, 2016
Disponível em: <https://repozytorium.ur.edu.pl/bitstream/handle/item/2740/9%20pucha%c5%82a-ladzi%c5%84ska-machine%20translation.pdf?sequence=1&isAllowed=y>

Acesso em: 26/07/2022

RISKU, Hanna. **Migrating from translation to technical communication and usability**. In: HANSEN, Gyde; MALMKJAER, Kristen; GILE, Daniel. **Claims, changes and challenges in translation studies**. Amsterdam/Philadelphia: John Benjamins Publishing Company, 2004. p.181-196. Disponível em:

https://books.google.com.br/books?hl=en&lr=&id=1bY9AAAAQBAJ&oi=fnd&pg=PA181&dq=info:G-pKUo50yDMJ:scholar.google.com&ots=VpAAUhmBxt&sig=yAPS0MCA3jX3QcTEkf8A0JoJ7Wc&redir_esc=y#v=onepage&q&f=false

Acesso em: 14/05/2022

RUNDLE, Christopher (2012) **Translation as an approach to history**, Translation Studies, Vol. 5:2, p.232-240, DOI: 10.1080/14781700.2012.663615

Disponível em: <https://doi.org/10.1080/14781700.2012.663615>

Acesso em: 24/09/2022

SAFELI, Nur Hasanah; SALIJA, Kisman : The Naturalness and Accuracy of ...ELT Worldwide Vol 5 No 1 (2018). Disponível em: https://ojs.unm.ac.id/ELT/article/download/5770/pdf_21. Acesso em: 01/11/2022

WU et al. **Google's Neural Machine Translation System: Bridging the Gap between Human and Machine Translation**. Oct. 2016.

Disponível em: <https://arxiv.org/abs/1609.08144> Acesso em: 28/07/2022