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An Analysis On Translation of Different Fields Using Google Translate As a Tool; With Special Reference to Japanese and Sinhala Languages

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මුද්‍රාපද:

පරිවර්තන, සංස්කෘතිකමය යෙදුම්,
භාෂා පරිවර්තන ක්ෂේත්‍ර, විශ්වසනීය බව

සංචිතය

භාෂා 7000 කට අධික ප්‍රමාණයක් භාවිතයේ පවතින වත්මන් ලෝකය තුළ මිනිසා විවිධ හේතූන් මත භාෂා පරිවර්තන කාර්යයන් සිදු කරන අතර භාෂා පරිවර්තන උදෙසා තාක්ෂණික මෙවලම් භාවිතයට ද පෙළඹියේ මීට දශක කිහිපයකට පමණ පෙර සිට ය. එකී මෙවලම් අතරින් Google translate යනු වර්තමානය වන විට ඉතා බහුලව සහ සුලභව භාවිතා වන තාක්ෂණික මෙවලමක් වේ. වර්තමානය වන විට භාෂා 100 කට අධික ප්‍රමාණයක් පරිවර්තනය කිරීමේ හැකියාව පවතින මෙම මෙවලම පිළිබඳ විවිධ මාන ඔස්සේ පර්යේෂකයෝ පර්යේෂණ පවත්වා තිබේ. මෙම පර්යේෂණ පත්‍රිකාව තුළින් විවිධ භාෂා පරිවර්තන ක්ෂේත්‍ර තුළ දී Google translate හි හැසිරීම පිළිබඳව අධ්‍යයනය කරයි. එහි නිරවද්‍යතාවය හා ඒ මත තැබිය හැකි විශ්වසනීය බව පරිවර්තනය සඳහා තෝරා ගනු ලබන පාඨයන් අදාළ වන ක්ෂේත්‍රය අනුව වෙනස් වන්නේ ද යන්න මෙහිදී සාකච්ඡාවට බඳුන් කෙරේ. ඒ අනුව සිදු කළ ශාස්ත්‍රීය පර්යේෂණයේ දී විවිධ භාෂා පරිවර්තන ක්ෂේත්‍රවලට අනුව Google translate විසින් ලබා දෙන්නා වූ පරිවර්තන විචල්‍ය වන බව පසක් විය.

Introduction

According to the most recent researches done; There are 7,117 languages are spoken today. “That number is constantly in flux, because we're learning more about the world's languages every day. And beyond that, the languages themselves are in flux. They're living and dynamic, spoken by communities whose lives are shaped by our rapidly changing world. This is a fragile time: Roughly 40% of languages are now endangered, often with less than 1,000 speakers remaining. Meanwhile, just 23 languages account for more than half the world's population.”¹ They differ from one another in their sounds, words, structures and other language components. After the globalization no nation is isolated and every one identified the importance of every single part of this world. So that the language.

Language is the most powerful communication method identified so far and when comes to the topic: language; it shows many interesting features which are unique to every single one. Some languages have their own dialects within the language and studying on language is a very vast field even one cannot imagine.

When people find the importance of communication not only within their own community, but with the other communities who do not speak the same language; the emergence of language studies began. People show their interest on studying various languages use in the world as a remedy for the language barriers occur in communication. When the human needs became more important than the communication barriers, language studies showed new pathways to tackle with the arising language related issues.

When come to the human needs; among all the needs the most valuable and important need that the humans thirst for was; knowledge. They find the knowledge in every specific field is very supportive for the survival of humans, animals and simply the whole world. Therefore new knowledge was required to be share all over the world. This was very difficult to share for every one understandable due to the variety of languages. Declaring one or two international languages did not work, because everybody cannot acquire a stranger's language easily or quickly as the native language. Foreign language acquisition takes time and it depends on the learner. Not only for the knowledge hunting but also for creating new relationships; the communication through language becomes very significant. As there are no isolated nations in the world every single human being may feel the necessity of contacting with different language speakers any time in their lifetime for any reason. There also the same barrier comes; the language.

After considering all the inter-language mismatches and issues, humans began to look for some remedies which can be applicable in various communication problems arise

1 <https://www.ethnologue.com/guides/how-many-languages>

with language. Among the answers found out; Language translation was one of the most applicable and significant answer for language barriers all over the world.

When go deeper in to the word translation; it is clear that translation has many more variations called; interpretation, transliteration, adaptation, dubbing etc. However, According to well-known linguist; Catford the word translation simply means “the replacement of textual material in a language (SL) by equivalent textual material in another Language (TL)”². The process of translation have many steps and the translator should have a satisfactory knowledge in both Source and Target languages. Not only the language structure, but the language background.

Manual translation was very popular during the last few decades; where the language experts involved in the process. The translator reads the SL text understand the text and translated the meaning of it as TL text. This is the simple procedure of translation. As every concept has its own pros and cons; as the time passe the manual translation was identified as something which take too much of time and sweat. And it costs too.

With the development of science and technology and the discovery of new techniques; the manual translation was replaced by the machine translation through various soft wears and applications. The people who developed the machine translation technologies may expected something easy, fast and low cost method instead of time taking, sweating and costing process of manual translation. And also as the authorities identified that the worldwide high demand for the translation cannot be fulfilled only through the manual translation, there they have gone for machine translation as an answer for the need and as a suitable second option for the demand.

Among the number of soft wears and applications which function as translators from one language into another, Google translate can be taken as the most commonly using and commonly available translation engine worldwide.

“Google Translate is a free multilingual statistical and neural machine translation service developed by Google, to translate text and websites from one language into another. It offers a website interface, a mobile app for Android and iOS, and an application programming interface that helps developers build browser extensions and software applications. As of May 2020, Google Translate supports 109 languages at various levels and as of April 2016, claimed over 500 million total users, with more than 100 billion words translated daily. Launched in April 2006 as a statistical machine translation service, it used United Nations and European Parliament documents and transcripts to gather linguistic data. Rather than translating languages directly, it first translates text to English and then pivots to the target language

² Catford, J.C (1965) *A Linguistic theory of Translation*, London, Oxford University press

in most of the language combinations it posits in its grid, with a few exceptions including Catalan-Spanish. During a translation, it looks for patterns in millions of documents to help decide on which words to choose and how to arrange them in the target language. Its accuracy, which has been criticized and ridiculed on several occasions, has been measured to vary greatly across languages. In November 2016, Google announced that Google Translate would switch to a neural machine translation engine - Google Neural Machine Translation (GNMT) - which translates "whole sentences at a time, rather than just piece by piece. It uses this broader context to help it figure out the most relevant translation, which it then rearranges and adjusts to be more like a human speaking with proper grammar". Originally only enabled for a few languages in 2016, GNMT is used in all 109 languages in the Google Translate roster as of 2020, except for Kyrgyz, Latin, and the Belarusian, Maltese and Sundanese to other languages pairs.”³

The above explanation on Google translate reveals its origin from year 2006 and its development until now the year 2020. According to the explanation given; Google translate is suppose to provide the service of translating "whole sentences at a time, rather than just piece by piece. It uses this broader context to help it figure out the most relevant translation, which it then rearranges and adjusts to be more like a human speaking with proper grammar".⁴ That means the Google translate engine has been introduced to the human world with a concept of supporting the mankind in the process of translation; not merely as a machine but as a live supporter more like human speaking with proper grammar.

This problem arouse in every case when the human actions replace the machines. Sometimes it creates grudges between two parties; the humans and the machines. In this case also the same problem arouse regarding the translation’s accuracy and reliability. Although the Google translate engine wanted to render the service more like human it seems that in particular cases, it fails. Unlike in manual translation, the one who gets the service of machine translation has to get twice checked on its accuracy on what he received as the translation through the machine. The suspect about the accuracy creates a problem of reliability on the machine translation. Most of the times the accuracy is check on the vocabulary meanings, word order or the sentence structure. At the same time in some special cases like literary text translation, it is very much necessary to be vigilant on the contextual meaning. It includes human emotions and feelings. Sometimes the word order may slightly changed according to the tense and language varieties. Although the machine translation engine can translate whatever the text required, the problem is can this mechanism identify every single point that should be noted during the translation, because translation is not mere a changing of words from one language to another. Translation itself is a skill which handles with language, specified fields and human emotions. Although the manual translation can touch all these

³ https://en.wikipedia.org/wiki/Google_Translate

⁴ https://en.wikipedia.org/wiki/Google_Translate

special points; the problem is can the machine translation catch those points in its machine work? If machine translation fails, the reliability of machine translation is going to be challenged before the manual translation.

The problem of accuracy and readability of machine translation sometimes may depend on the demand and popularity of each language and the field of translation. It may appear differently in the outcome as a translation. However in manual translation the demand and popularity of a language is never considered. It is irrelevant to the translation; because the one who involves the translation is most of the time, an expert in that particular two languages. Therefore, the problem of how could be a machine translation more like human in its accuracy and reliability should be questioned deeply.

Is the accuracy and reliability of Google translate depends on the translation field? is the posing major problem in this study and the research is to find out whether the different translation fields directly influence on the accuracy of the translation via Google translate.

Considering the pros and cons of Google translate; this study aims on the translations come out from Google translate in several different contexts; Japanese as Source Language (SL) and Sinhala as Target Language (TL). The accuracy of translated extracts from Japanese to Sinhala via Google translate are going to analyze on its structural changes, contextual meaning and vocabulary matches and mismatches through this study.

With the emergence of the Google translate; more and more researches have done on this Machine translation engine. Various researches are on the accuracy and reliability of Google translate and some other are about the threat of Google translate to the professional translators or manual translation. As Google translate can translate more than 100 languages; some other researches have done depending on different language couples as SL and TL. Among the researches; Professor Lord; Friderike Butler of George Mason University has done a research on “Machine versus Human: Will Google Translate Replace Professional Translators?” and there he points out how the machine translation directly influence on professional translation in this digital era. Butler has discussed about the Benefits and disadvantages of machine translations as follows; “through Google Translate Today, Google Translate is available as a free online application and can be run on top of third party websites to offer visitors an automated translation of the content in any of the available languages. The tool is fast and easy to use and it claims to provide adequate general content translation for over 50 languages. For informational purposes it provides the user with a powerful tool to gather data and find information on sites that were previously inaccessible due to the language barrier. Due to its limitations, however, it creates a false sense of security, because it may not detect or accurately convey linguistic and certainly not cultural nuances. It can also misinterpret grammatically complex structures and thus provides translations that may

not be accurate and precise enough for the task at hand while the user may not be aware of any potential errors and potential inadequacies. Examples where Google Translate proofs to be almost 99% accurate involve short Subject-Verb-Object sentences of an unambiguous nature, such as driving directions, simple user instructions or registration forms. The SMT translation of scientific texts written in simple sentences also provides satisfying results, and for a mere informational perspective Google Translate provides intelligible translations for websites that at least allow the visitor to ascertain the general nature the site and the gist of its pages.

Erik de Vries, Martijn Schoonvelde, Gijs Schumacher's study on Google translate from the topic of "No Longer Lost in Translation: Evidence that Google Translate Works for Comparative Bag-of-Words Text Applications" has talked more positively on Google translate as a tool of translation in this digital era. They have emphasized that "The results in this paper support the claim that Google Translate is a useful tool for researchers using bag-of-words text models for comparative questions. We first found TDMS for machine translations and gold standard translations to be highly similar, with substantively small differences across languages. What is more, we found considerable overlap in the set of features (stems) generated from both corpora. With regards to LDA topic models, at both the document and the corpus levels we found topical prevalence to be generally similar with only small differences across languages. Furthermore, we found topical content to be highly similar." These two studies are on Google translation and the stated first study is on the different translation areas and the researcher's finding was that Google translate creates false sense of Security and fail to translate the grammatically complex paragraphs and cultural nuances. However the second study reveals that Google translate is a useful tool of translations which has almost every similar word from SL to TL. As the two studies have focused on different spots of Google translate; one has found that Google as a tool of potential errors and one has found that Google as useful tool in searching similar words from one language to other.

Methodology

The research was based on selected extracts from email conversations, literary texts, newspaper articles, car manuals and a birth certificates in Japanese language and they were translated in to Sinhala using Google translate as the translation tool. The translations were analyzed according to its grammatical structural changes, selection of vocabulary, translation of culture bound expressions and over all meaning. The reviewed data was analyzed according to the same categories given above in order to have findings on the accuracy and reliability of the Google translate in different contexts from Japanese to Sinhala. The study revealed how Google translate behave differently in different contexts as a tool of translation which use millions of people all around the world.

Discussion

The extract from Japanese folk lore and it's been translated in to Sinhala through Google translate. When analyzing the translation; it is clear that in most cases Google translate has failed to choose appropriate equivalent for culture related terms such as; rice cake (omochi), bamboo hat (kasa). Adding to that Google translate shows more confusing when it comes to complex sentence structures. That confusing outcomes directly influence on the meaning of the original text; as the translation gives some other meaning and table 1 will provide the evidences.

News paper articles are found with complex sentences and many technical terms related to the article related to . When translating the news paper articles via Google translate, it gives more problem making Sinhala translations for each complex sentence. The meaning of the original text has changed through the TL translation. The following table2 will provide the evidence. And also in this newspaper article translation equivalent to Sinhala from Japanese language are not using in Sinhala. The translation feel kind of unusual to the TL readers

Birth certificate is an official document regardless its written language. Therefore, it is very much necessary to have an accurate translation from any language to another. The result of Sinhala translation from Japanese birth certificate via Google translate is as follows. Almost all the vocabulary items have been translated accurately in to Sinhala except very few as shown in table 3.

Vehicle manuals also comes under the technical translation. The translated extract is as follows. The translation which came out from Google translate has not indicate any issues in its translation to Sinhala except a few vocabulary mismatches.

According to the analysis done on the translation from Google translate using Japanese as SL and sinhala as TL, it is clear that the accuracy and reliability of machine translation has direct connection with category in which the SL text selected. All the malfunctions of Google translate comes out according to the translation category such as technical, literal, scientific etc. Google translate find difficult to choose the contextual meaning of vocabularies related to culture of one language when it comes to another; Here Japanese to Sinhala. This is a unique issue to Literary translations as literature has its own direct contacts with culture of the written language. And also Google translate shows its malfunction when translating complex sentences such as complex grammar including ones, combined sentences etc.

However when it comes to technical translations, Google translate has shown very good competency in choosing the most appropriate equivalents to the SL from TL vocabulary. But even in the technical translation category Google translate has shown errors when it

comes to complex sentence structures. When finding the reasons for the shortcomings of Google translate, there are some major points to discuss.

inability to choose the contextual meanings

This occurs when there are more than one equivalent to one word. Although the machine translation tool has been input all the vocabulary data, the tool does not have the skill of choosing the most appropriate one according to the context. This inability becomes more and more serious when it relates to the cultures of each particular language. Although the Google translation tool is equipped with data related to vocabulary and grammar structures, it is not given the cultural awareness of each language. Therefore, Google translate fails to practice good enough in the fields related to both language and its culture. In these cases Google misinterprets the original meanings of SL text or gives wrong translations for TL readers which they cannot even guess the meaning.

inability to cooperate with complex structures when delivering the meaning

Google translate faces the challenge of delivering the intended meaning of the SL text when the structure of the sentence becomes complex. Sometimes the complexity depends on the grammatical aspect and sometimes on the sentence combinations.

Conclusions

The analyzed data reveals that one cannot rely on the accuracy of Google translate all the time, same as manual translations because this translation tool has its pros and cons in accordance with the translation field. Specially when it comes to the field of literary translation the research reveals that one cannot depend on Google translate as it is unable to translate culture-bound terms and expressions. This shows the inadequacy of cultural awareness in Google translate as a professional translator. In the field of literary translation the researcher is able to recommend manual translation to have a UN-wavered translation almost same to the SL text.

However in the field of technical translation one can rely on Google translate because in that field there are very few of unconfirmed or ambiguity of words. There are more accurate chances in technical translation fields when using Google translate as the channel of translation.

Therefore, this research vividly shows that the translation field directly decides the accuracy of the translation. Literary translations and other similar translation fields which have culture-related terms and expressions are not recommended to translate using Google translate and technical writings are not much of a problem.

even via Google translate. Thus, this shows the translation fields directly influence on the accuracy and reliability of the translations done using Google translate.

Tables

Table 1 (literary translations)

<p>昔、あるところにおじいさんとおばあさんが貧しく暮らしていました。 (mukashiarutokoroni ojisan-toobasangamazushiku kurashiteimashita)</p>	<p>වරෙක මහලු මිනිසෙකු හා මහලු කාන්තාවක් එක තැනක දුප්පත් ලෙස ජීවත් වූහ.</p>	<p>The meaning of sentence has been slightly changed by the translation(mukashi arutokoroni 昔、あるところ) is not ment "වරෙක එක තැනක It should be typically the term is "ekoomath eka rataka"</p>
<p>おじいさん (ojisan)</p>	<p>මගේ සීයා</p>	<p>The same word ojisan appeared before as "mahalu minisa" here translated as "mage siiya" it should be "ee siiya, or ee mahalu siiya"</p>
<p>お餅(omochi)</p>	<p>බත් කේක්</p>	<p>There is no word call "bath cake "in Sinhala and it seems like a direct translation of English word rice cake. As Sri Lankan culture does not have cakes from rice no culturally equivalent in Sinhala</p>
<p>笠(kasa)</p>	<p>තොප්පියක්</p>	<p>"kasa" is not just "toppiyak". in Japanese it is a bamboo hat which uses to cover from sun and rain.</p>
<p>大晦日、おじいさんはお正月のお餅を買おうと町に笠を売りに出かけました。 (omainichi, ojisanwaosouga tsunoomochiwokaoutomachin ikasawourinidekakemashita)</p>	<p>අලුත් අවුරුදු දිනයේ දී මගේ සීයා අලුත් අවුරුදු බත් කේක් මිලදී ගැනීම සඳහා තොප්පියක් විකිණීමට පිටත්ව ගියේය.</p>	<p>Have omitted word :machi" and feel slightly odd on the meaning. The Japanese text mean that the old man went out to sell bamboo hats to buy rice cake for new year celebrations.but in the Sinhala translation the intend meaning has not expressed</p>

<p>ところがさっぱり売れない のです。 (tokorogasappariurenaninodesu)</p>	<p>කෙසේ වෙතත්, එය කිසිසේත් විකුණන්නේ නැත.</p>	<p>Grammatically incorrect. “Urenai” is ability form in Japanese. “ wikunanne netha” has no connection with ability form in Sinhala. It is just present negative form sentence. This should be “ ekak wath wikinune netha”</p>
<p>6人の地藏様 (rokuninno- jisosama)</p>	<p>ඒසෝ 6 ක්</p>	<p>This jizo reffers to monks and the trnaslator has use the Japanese word jizo for the translation</p>
<p>恩返しをする (ongaeshi- wosuru)</p>	<p>ආපසු ගෙවන</p>	<p>Ongaeshi has a deep meaning of repay for a person who has done a good to .someone.in Sinhala “kalagunaselakiima”is the best translation equivalent oe can use for the word “ongaeshiwosuru” in Japanese</p>
<p>6人の地藏様が恩返しをす るおなじみの昔話。 (rokuninnojisosamagaon- gaeshiwosuruonajiminomu- kashibanashi)</p>	<p>ඒසෝ 6 ක් ආපසු ගෙවන හුරුපුරුදු පැරණි කතාවකි.</p>	<p>Kalaguna salakana himinamawaru 6 denekuge kathawaki</p>

Table 2 (technical translation-news paper articles)

<p>小学生の親なら知っておきたい! プログラミング教育3 つのトピックス (Shogakuseinooyanarashitteoki- tai! Puroguramingukyoikumitsu- notopikku)</p>	<p>ප්‍රාථමික පාසලේ දෙමාපියන්ට දැන ගැනීමට අවශ්‍යයි! ක්‍රමලේඛන අධ්‍යාපනයේ මාතෘකා 3 ක්</p>	<p>Prathamika pasal daruwannge demaupiyān wisin denageniimata awashya (proramming) adyapanaye mathruka 3k Kramalekhana adyapanaya is not a commonly using word</p>
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<p>2020年度から、いよいよ小学校でのプログラミング教育が始まります。 (2020nendokara,iyoiyoshogakko denopuroguraminngukyyouikugah-ajimarimasu)</p>	<p>2020 සිට ප්‍රථමික පාසල්වල වැඩසටහන් අධ්‍යාපනය අවසානයේ ආරම්භවේ.</p>	<p>Word Iyoiyo have several meanings. here it does not mean at last. It means very soon.</p>
<p>いろいろな情報や臆測が飛び交うなか、 (iroironajouhouyaizokugatobikounaka)</p>	<p>සියලු ආකාරයේ තොරතුරු සහ සමපේක්ෂන වටා පියාසර කිරීමත් සමඟ,</p>	<p>Irorona is various “vividha” Tobikou is not for the meaning “piyasara kirima” it is for tobu (fling) this word should be translated as “mixing” like sammishra viima”</p>
<p>3人の専門家 (sanninnosen-monka)</p>	<p>experts සිත් තිදෙනෙකු</p>	<p>Praveenain (experts) is not a sinhala word. And it has been Sinhalized by the google adding “in” as experts IN</p>
<p>お話をうかがったのは、小学校のプログラミング教育を推進する文部科学省の中川哲さん、プログラミング教育の普及支援活動に取り組むNPO 法人みんなのコードの利根川裕太さん、エンジニア志望の学生の就職支援などを行う株式会社サポーターズの楓博光さん。それぞれの立場からプログラミング教育や社会の現状について教えていただきました。</p>	<p>ප්‍රථමික පාසලේ ක්‍රමලේඛන අධ්‍යාපනය ප්‍රවර්ධනය කරන සන්නේමි නකගාවා මහතා, ක්‍රමලේඛන අධ්‍යාපනයේ ප්‍රවර්ධන හා උපකාරක ක්‍රියාකාරකම්වල නියැලී සිටින සෑම දෙනාගේම අක්‍රීය ණය කේතයේ යුටා ටොනෙගාවා මහතා, ඉංජිනේරුවන් විමට අපේක්ෂා කරන සිසුන්ට රැකියා සහාය යනාදිය සමඟ මම කතා කළෙමි. සීමාසහිත ආධාරකරුවන්ගේ සමාගමේ හිරොමිටිසු කේඩ්. සෑම දෘෂ්ටි කෝණයකින්ම, ඔවුන් අපට ක්‍රමලේඛන අධ්‍යාපනය සහ සමාජයේ වර්තමාන තත්ත්වය පිළිබඳව ඉගැන්වීය.</p>	<p>This paragraph is a real mess. Google has mixed up the Japanese writing sentence with Sinhala. お話をうかがったのは、 should start like, discussed with these these people The total paragraph and most of the words used here are not clear in the meaning.</p>

Table 3 (technical Translation- Birth certificate)

平成(heisi)	හයිසී	In a birth certificate
県(ken)	ප්‍රාන්තය	district
母(haha)	අම්මා	In a birth certificate we use the word “mawa”

Table 4 (technical translation- Car manual)

緑色(midoriiro)	කොළ පාටයි	The translation is very typical and not appropriate for a technical document
省燃費状態 (shounehishoutai)	ඉන්ධන ආර්ථික තත්වය	The translation is not using
s モード時は、常に青色 になります(smodotokiwa,t aneniaoironarimasu)	එය සෑම විටම s මාදිලියේ නිල් පාටයි.	Direct translation

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