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Investigating Machine Translation of Technical Texts

A Comparative Study between Bing and Yandex Translation Machines

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Before the Jury:

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I dedicate this modest work to my beloved parents for their love, patience, care, and continuous support during the five years of my study

To my wonderful parents who have raised me to be the person, I am today.

Thank you for everything.

It is also dedicated to whom I love.

To my perfect brothers and sister for their encouragement and love.

To all my family.

To all my teachers.

To all my friends and colleagues without exception.

I would like to say '' thank you so much ''

Hiame

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I am deeply thankful to every person who has helped me in this work.

I hope that this thesis will be useful for everyone interested in Translation study.

Hiame

List of abbreviations

SL: Source Text

TT: Target Text

SL: Source Language

TL: Target Language

MT: Machine Translation

CAT: Computer-Aided Translation

RBMT: Rule-Based System Translation

SMT: Statistical System translation

NMT: Neural Machine Translation

IBM: International Business Machine

ASL: American Sign Language

NLP: Natural Language Processing

PUBG: Player Unknown’s Battle Grounds

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Introduction

Civilizations around the world are approximate to each other and some are far apart, each one of them has its own languages so they differ in the way they express their speakers' thoughts, feelings, and situations. Translation plays an indispensable role in this regard, it tends to facilitate the contact between people, to achieve interaction, and it acts as a bridge that connects speakers of different languages. After the developments that the world has witnessed and the emergence of the internet and computer, machine translation becomes a necessary tool because of the services it offers such as flexibility, facility, rapidity, and the ability of decoding general and particular texts put on. Machine translation still faces some which need an examination to the quality of the target text

The technology revolution and the developments of science are the reason behind increasing percentage of the international deals and the emergence of ways of speed communication to facilitate the access to all in the field of knowledge , scientific development and technical; this increased the desire to know the achievements of the other and especially in the scientific and technical domains in which translation will certainly play its major role.

Texts as economic, commercial, legal, and scientific ones besides the instruction manuals are considered technical texts. Machine translation software automates the process of translation texts from one language to another. It aims to provide a simple and easy way to present documents into different languages. Translation software previously had a bad quality of the texts translated on the target language; however, modern machines are better in improving accuracy. Bing and Yandex translate are classified by the uers on the top seven software according to the g2 website, Yandex translate occupies the third grand in the list of the best machine translation and it is rated with 40 out of 5 stars in another hand Bing translator from Microsoft company occupies the sixth grade in the same list, it is rated with 3.7 out of 5 stars.

Rational

The rationale behind choosing this topic is to make a comparison between two systems of machine translation to show the efficiency of both machines in translating technical texts if they formulate the true meaning of the source text, and to see which one of them is reliable. And the reason behind choosing Bing and Yandex systems in the research is

that they belong to the MT systems used numerously by companies, learners, and people in general in translating millions of texts from the source language into a foreign language and this is what shows the effectiveness of both systems, despite the shortage that MT still suffering from.

Statement of the problem

This study is conducted to answer the following main question:

To what extent Bing & Yandex are reliable machines in translating technical texts?

The above-mentioned question is subdivided into two main questions as follow:

1. How could Bing and Yandex convey the same meaning as the original technical texts?
2. What are the difficulties for Bing and Yandex MT to translate technical texts?
3. Which of Bing and Yandex MT is more reliable in translating technical texts?

Hypothesis: I Hypothesize that

1. The target texts translated with Bing and Yandex Mt is different
2. Bing and Yandex MT face difficulties in dealing with technical terms included in the source texts.
3. Bing MT is more reliable in translating technical texts

The Limitation of the Study

The limitation of the study is to translate three technical texts using two machines of translation which are Bing and Yandex.

Aims of the Research

This study sets four main objectives:

1. To explain how machine translation works and translate the technical texts particularly.
2. To show that machine translation would never replace human translation because it could not give the appropriate translation.
3. To clarify that a translation of technical text needs human support or a specialist on the field because it is not like the translation of literary texts.

4. To recognize the errors of the machine translation on the target text given.

Methodology

This study is conducted according to qualitative research because the research presents descriptive data in the form of words. This research is based on library research as a way of finding the articles, journals, and books that support the problem of the research, the primary data is the data used as a source which are the three technical text, the purely, simplified, and literary technical texts. The secondary data which are related to the study were collected from books, articles, and the internet. The researcher collected data by reading the texts which are relevant to choose the suitable one and the secondary data which are the documentations by reading them and take notes of the important information about the research, after that omitting information that does not support the topic.

This research will analyze different types of technical texts that can be taken as a sample, this research will focus on the content of source and target texts, also on the style that focuses on syntax, grammar, lexicon, and structure of the texts translated into English to see how both machines Yandex and Bing frame the texts because the topic of the research aims to show the difference between the translation of the purely, simplified and literary text with using two machines of translation which are Bing and Yandex also to see which machine is effective and better in translating the same message of the source text and to recognize the difficulties for the machines to translate technical texts. Here the first text chosen because it has pure technical terms in the field of electronic cigarettes, the second text is chosen because their terms are technical and simplified it is about the PUBG game, and the third text is literary but it contained soma scientific terms because it is related to the medical field, the text is about Alzheimer disease.

Literature Review

This research deals with machine translation and technical texts, some previous studies are relevant to this topic. the first one is a graduating paper titled “the assessment of machine translation, using Google Translate in translating the World Health Organization chart” by Sadok Nedjoui Kasdi Merbah University,2014.this research explains the process of translating with a machine of translation which is Google translate also with defining translation and machine translation and types of MT, it aims to show the validity of the

machine, in the practical part the researcher deals with translating the World Health Organization Chart by with Google translate to show the mistakes and the suitable translation for each section. it concludes that Mt in general does not match up to the quality and accuracy of human translation.

The second is a graduating paper by Belkasmi Hafidah,2009 entitled " The Problematique of Technical Translation" the university of Oran, the objective of this research is to explain that a technical translation is to translate a text which has technical terms they are characterized with their complexity because any technical text belongs to a specialized language in different fields, also the research aims to study the problem of translating technical text from foreign language to the Arabic language using "User Manual" as a sample, to illustrate the difficulty of translation into the Arabic language.

The third is a graduating paper entitled " The Problematique of Limits of Machine Translation-the Translation of Systran System to The Collocation Meaning" by Amina Fatima Zohra Talbi, University of Constantine,2008.this research explains the difficulties of machine translation in understanding some sentences, terms, and especially the collocations, transferring such phrases still a problem to the machines, because it can not reach the real meaning or analyzing the context, this is what requires human intervention to correct the text by linguistic factors the objective of the study is to make a descriptive analysis to the collocations in machine translation by choosing texts which contain a list of collocations after Systran system will translate it from English into Arabic after that compare it with a human translation to see how the machine and the human deal with collocation meaning.

Thesis Organization: this dissertation is organized as follow

This thesis is divided into two chapters, the first one is theoretical which is subdivided into two parts. The first part is introductory, which presents the following points: definition of translation, the definition of machine translation, historical overview of machine translation, human translation versus machine translation, the aim of using machine translation, machine translation and Arabic language, the difficulties of machine translation, definition of technical text, characteristics of technical text. The second part is about systems of machine translation, it comprises the definition of systems of machine translation, the classification of systems of machine translation, components of systems of machine translation, Bing translator, and Yandex translate.

The second chapter is practical deals with the corpus texts to be analyzed in the dissertation: The corpus, data description, data analysis, and the findings, statistics, analysis methodology, and Translation analysis.

Chapter one

Theoretical

Part

Machine Translation and Technical Texts

Part one: background

Introduction

This chapter deals with the most important points of translation in general and Of machine translation in particular. As well as it explains the differences between technical texts and literary texts in addition to the difficulties that may face the translators when dealing with such a type, particularly with machine translation.

1. Definition of translation

Translation is a mental process where the essence of a given linguistic discourse is made from one language to the next. This is the act of moving the linguistic structures into another language from one language to their equivalents. The translation is an act by which a text's content is transferred to the target language from the source language (Foster, 1958). The language to be translated is called source language (SL), while target language (TL) is the language to be translated into or arrived at. In addition to a high linguistic awareness as it should be conveyed, the translator must have a clear knowledge of both the source and the target language.

Translation was treated differently, regardless of its popularity. According to Ghazala "translation is usually used to refer to all the processes and methods used to express the meaning of the source language into the target language". Ghazala's definition focuses on the notion of meaning as an important element in translation; that is, when translating, it is crucial to recognize the sense of the source text to provide the correct counterpart in the message (Ghazala, 1995).

According to Catford (1995), translation is the substitution of textual material in one language (SL) with textual equivalent material in another language (TL). This definition indicates that translation is a process in the sense that it is an operation. It can be performed by people over time as words are translated into simpler ones in the same language (rewording and paraphrasing). It can also be done from one language into another language.

On the other hand, translation is a service as it brings us other cultures, ancient civilizations, and social life when the translated texts reach us (Yowell and Mutfah, 1999).

According to Catford "translation is the replacement of textual material in one language (SL) by equivalent textual material in another language (TL)". These definitions show that translation is a process performed by people through time, (Catford 1965).

2. Definition of machine translation:

Machine translation means automated translation, Artificial Intelligence's field. Machine translation is a computer program designed to translate text without human intervention from one language (source language) to another language (target language). Machine Translation's goal is to provide a program that translates source language text into the target language, and translation represents the same context as it does in the source language. (Muhammad Irfan 2019)

MT refers to a mechanism by which computer software is used to translate from one language to another a text or speech (Koehn, 2009). The main objective of machine translation systems is to produce the best possible translation with minimal human intervention, in the presence of high volume digital text (Hutchins 2005).

The word 'machine translation' (MT) refers to computerized systems that are responsible for producing translations with or without human intervention. This excludes computer-based translation tools that assist translators by offering online dictionary access, remote vocabulary databases, text transmission and reception, and so on. The distinctions between machine-assisted human translation (MAHT) and human-assisted machine translation (HAMT) are often unclear, and the term computer-assisted translation (CAT) encompass both, but the essence of MT itself is the automation of the complete translation process (Hutchins 1995).

MT tools are often used to translate vast amounts of information involving millions of words that could not possibly be translated the traditional way. The quality of MT output can vary considerably; MT systems require "training" in the desired domain and language pair to increase quality.

There are three approaches of machine translation system: rules-based, statistical, and neural:

- **Rules-based systems (RBMT):**

  Rule-based Machine Translation operates on both languages' morphology, syntax, and semantic. We, therefore, need the syntax analysis, semantic analysis of original text and we need syntax generation and semantic generation to generate the text in the target language. We may need the bilingual source and target language dictionary, joseph Olive said that RBMT is characterized with the explicit use and manual creation of linguistically informed rules and representations (Olive 2011)

- **Statistical systems (SMT):**

SMT approach is based on the statistical model. It has two models of statistical probabilities: language model and translation model, and huge parallel source and target language corpora. Statistical machine translation does not evaluate texts dependent on language rules, as opposed to RBMT. This engine also "learns" how to read texts. Therefore it analyzes vast quantities of data in the target languages and then uses its statistical translation models to construct the source text translation. This model is based on the study of bilingual corpora and needs a sufficient amount of bilingual content to do so(Muhammad Irfan 2019).

- .**Neural Machine Translation (NMT):**

Neural machine translation is an approach recently suggested for machine translation. The neural machine translation, unlike traditional statistical machine translation, aims to create a single neural network that can be jointly optimized to improve translation outputs. The models previously introduced for neural machine translation mostly belong to a family of encoder-decoders and consist of an encoder encoding a source sentence into a set of a fixed length from which a decoder generates a translation (Bahdanau 2020)

3. Historical overview of Machin Translation (MT):

Researchers disagreed on the field of translation, and their opinions varied about the history of creating a system that does an automatic translation .some said that the idea starts from the beginning of 17centuries when electronic dictionaries were suggested to eliminate barriers. In this, regard John Hutchins said that the idea is related to Descartes ideas, Leibniz and other philosophers and scholars to create universal languages, philosophical languages, and logical languages characterized by the ability to be programmed automatically .while

other scholars like Jacqueline Léon sees that the machine of translation arises before the appearance of the computer. (Zughoul, M.G 2005)

The firs machine translation was the word-printing machine translated into other languages, invented by Soviet researcher Trojan ski, on the other hand, some agree that when the computer has invented the idea of using it for translation appeared. (Léon 1959_1968)

In mars 1947, Warren Weaver (scientific researcher in mathematics) talks about the possibility of using the computer in translation, and after two years (1949), he began to work to achieve this goal. (Hutchins 2004)

In 1951, the Massachusetts Institute of Technology in the USA starts the project of MT and after a year (1952), a conference held on the same institute, in which practical experiments were carried out for machine translation.

In January 1954 the first presentation of machine translation from the Russian language to the English language in the University of (George Town) in the USA, although the experiment was only conducted on 250 word and 06 grammar rules it showed on the possibility of establishing a mechanism produces high-quality translations in the future. (Hutchins 2004)

a. Machine Translation and Cold War:

Accordingly The USA and Soviet Onion were in continuous competition in the scientific field and especially all related to space experiments. When the USA feared from the Soviet technical developments, the translation of Russian documents become an important issue for the Americans, they thought that they will be more developed than the Russians, they were working on translating from Russian into English and they were concentrating only on the content of Russian documents without taking into account the quality of translation. It is an impossible issue to achieve by human translation, which needs a long time and effort to translate such a huge amount of documents, for this reason, the idea of creating a system of translation has become necessary. The American government and major companies have allocated a large amount to achieve this goal, after that, a new system of translation from Russian to the English language was created, such as (MARK 01) then (MARK 02) for the company of International Business Machin (IBM) and (George Town) system in 1963, in which they were used by “Center for Atomic Energy Committee” and “Atomic Research Center” (watanonline.net حول المعالجة الالية للغات).

IBM and another group of companies have continued the search in this field .when the fifth generation of computers has appeared in the eighties, the need for science, technic and trade has increased in the modern community. The research has continued again by linguistics engineers and systems creators. In the mid-nineties, systems of translation have appeared for the first time in the markets, also create an online website that provides machine translation services, some of those systems have achieved great success. The great development of machine translation has acquired in the nineties when computers become more powerful and storage capacities much larger and cheaper (Language and Machines 1966).

Where MT becomes working on grammar rules in the first generation systems the computer was translating word for word, when we put a text in the machine the system search for the meaning of words on the dictionary after that putting its equivalence on the target language without doing any grammar analysis.MT at that time does not depend on grammatical rules but on translating by using words stored in the machine memory. (Zughoul 2005). Where Translation passes through three stages.

Analysis

Source language text is analyzed in this process using linguistic knowledge and heuristics to interpret the text (syntactic representation)

Transfer

Convert syntactic representation of source language to a syntactic target language form.

Generation

Using morphological analysis the final text in the target language is created. This approach is highly dependent on the grammar and sentence structure, and changes to a monolingual aspect affect all module transfers for that language.

In the nineties, another team from (IBM) tried feeding a computer with an English text and its translation in a different language, then by the use of statistical analysis, the computer learns the second language. The example presented by Christopher John Farah (2003) in the journal of the New York Times (Zughoul 2005)

A comparative of 02 simple phrases in Arabic

“رجل طويل” and “رجل كبير” If a computer knows that the first phrase means “big man” and the second means “tall man,” the machine can compare the two and deduce that رجل means "man," while كبير and طويل mean "big" and "tall"….

On the other side Mackin in an article entitled "Romancing the Rosetta Stone," indicates to use the statistical approaches in translation, which is being pursued at the University of Southern California. Presenting quotes of the computer scientist Franz Joseph Och: “Give me enough parallel data, and you can have a translation system in hours”. Och confirms that the new approach uses statistical models to find "the most likely translation for a given input." Unlike the older approaches used for developing MT commercial systems depending on encoding the grammar and lexicon of a foreign language then analyzing and consequently producing English sentences based on hard rules, the new approach tries based on a statistical model to find the English sentence that is the most likely translation of the foreign sentences. (Zughoul 2005)

Up to now translation still in continuous progress, and still there is a work to develop systems of translation with the improvement of its quality also with adding another different language to it. Where this development includes the emergence of new systems works on translating the spoken languages namely translating a Speech to speech technology developed by NEC Company (a company specialized in computer and communication it is a system, which translates orally between two languages. Paula system is a program that translates from digital English language to American Sign Language (ASL), on the other side Avatars programs that translate from spoken English into a written text on the computer screen, and other many applications, which are related to machine translation …etc. (Zughoul 2005)

The development of machine translation and the progress of its systems can be achieved with two factors, the first one is concerned with the advance of researches related to language and applied linguistics, and the second factor is the development of technology and the availability of the different devices, programs, and systems.

4. Human Translation vs Machine translation

The machine translation benefits usually come down to two factors: it's quicker and cheaper. The downside to this is the translation quality can be anywhere from unreliable, nonsensical, and potentially harmful (more on that soon).The most important thing to

remember for any form of translation is the cost of potential errors. The translation of medical equipment orders, aviation manuals, legal documents, and many other forms of material need 100 percent accuracy. In these cases, mistakes can cost lives, huge amounts of money. The human expression changes the table in terms of both for and against. Higher quality standards come at the expense of longer processing times and higher prices. What you need to know is whether the initial investment outweighs the possible cost of mistakes. Alternatively, if mistakes are simply not an option, like the cases we looked at in the previous section. Simply put, where accuracy is even slightly relevant, human translation is the best choice. Many factors to make are the nature of your source material and the two languages into which you translate – both of which can make machines useless.

Table (01): A comparison between HT and MT advantages and disadvantages

	Advantages	disadvantages
Human Translation	• Humans can interpret context and capture the same meaning, rather than simply translating words. • Professional translators understand the idiomatic differences between their languages.	• Translators rarely work for free. • Turnaround time is longer.
Machine Translation	• Many free tools are readily available (Google Translate, Skype Translator, etc.). • Quick turnaround time.	• The level of accuracy can be very low. • Machines can't translate context.

5. The Aim of Using Machine Translation

With the evolution of the technology world in the last two decades and with the new inventions such as the mobiles phone and the internet …, the world became more accessible. People, wherever they are in the world, can contact each other, those developments also help in increasing knowledge and make it accessible for everyone as well on internet websites. The importance of translation is demonstrated in translating those pieces

of knowledge and make it easier to understand when translation from language to another. The plenty of information makes the translator incapable to translate it all, which makes people resort to using systems of machine translation although it does not reach the required quality, however; it helps in gaining more time. When human translate a thousand words in one day (without using any tool, dictionary, or a system of translation) the machine needs a few seconds to translate all words, in another side a translator may need at least one month to translate a book of 350 pages, however, a machine needs just a few hours to translate all the papers of the book, furthermore, machine translation does not take many efforts that a translator feels when he is doing his job.

In one side, machine translation has other advantages, for example, it is so easy to and useful for all translation services and its availability all the time and in any time because the machine does not need rest like a human, also it has another characteristic which humans do not have it constantly like:

a. The objectivity this means that a machine does not have a personal point of view about its work
b. Secret in some cases people like to be the information they want to translate in secret and this is what a machine of translation can provide.
c. Universality a human can learn a limited number of languages however, a machine of the translation may comprise many languages and dialects, and it depends on its memorization and storage capacities.
d. Speediness as if we said above that when translating a text human need hours to finish the whole translation of it whereas a machine can translate it in few second, and when human translate a book of 350 pages he needs at least one month but a machine can translate it in some hours.
e. Machine translation is a way of understanding because a person cannot learn all languages of the world, the systems of translation are the tool that helps in understanding the texts, which are written in the unknown language, without requesting the help from other people.
f. It is a productive device, currently the international companies, business sites transmit information about their works and products in many languages, and this is by the use of machine translation, which helps in increasing its diffusion and the number of clients.

6. Machine translation and Arabic language

In the beginning searches in the field of machine translation, the Arabic language was from the languages that were experimented in the USA, when the Americans have the desire of knowing everything about the other countries, and from the fifteenth, they were working on progressing a system that includes the Arabic language in which they can translate from Arabic into English.

(Malek boualem 2003) states that a certain aspect in the Arabic language has always been considered, the searches of the Arabic written language was started in the seventeenth, the first studies were interested in morphological, syntactic, phonetic, and phonologic properties, after that the means of communication and application of Arabic language are increasing. The research activity expends and it included more fields about Arabic language processing including syntactic analysis, machine translation, document indexing, information retrieval, etc. It is one of the most difficult languages for written and spoken language processing.

Many institutions tried to improve the systems of the Arabic language by several attempts in the last and current decades, ATA company which was established in 1992 considers itself as the leader in Arabic language software especially machine translation from Arabic into English or vice versa.

According to ATA website, ‘’المترجم العربي’’ it is the first English-Arabic machine translation software on PCs and Macintosh computers…They stated in their website " [...] the company grew to be from the first companies of programing among the Arabic world .the cycle of research and development is continuous in ATA company to bring for the Arabic user the finest products in the field of computer software. (atasoft.com)

On the other hand, According to sakhr software website (Egyptian company) it is an Arabic company that works on evolving electronic programs specialized Arabic language where the institution appointed more than 100 specialists in the field of information technology for producing and developing software applications of the Arabic language, they certify in their website " Sakhr provides bidirectional machine translation (MT) for Arabic-English. Sakhr MT is the world’s most accurate, due to decades of natural language processing research (NLP) on the Arabic language and its complexities. Sakhr MT is a hybrid engine that optimizes rules-based and statistical-based processes to achieve rapid, highest accuracy translation. The engine is a full-fledged integrated system embedding NLP processors, formal grammars, transfer lexicons, and enterprise-specific terminology. Sakhr's

MT allows for secure, scalable deployment from a single user to enterprise-wide requirements."(Sakhr.com)

Systran Company that has been developing software applications for different languages in the world including Arabic also specified the following points, which they called "facts that help in translating Arabic" (TranslationSoftware4u.com 2004)

a. Facts that help in the Translation of Arabic

– The Arabic language is written from right to left in a horizontal form.

– There are no capital letters in Arabic.

– Punctuation is similar to English except for comas, which sit on the line instead of under the line.

– Arabic uses gender for all known nouns, no neutral ones.

– There are 29 letters in Arabic

– With three-letter sounds that do not even exist in the English language.

– Arabic does not distinguish between vowels and consonants

7. Definition of technical text

A technical text is recognized as an informative and didactic text in different fields like technology, trade, medicine, and so on, it is described as non-literary text, it focuses on conveying specific information, and the sender will be either engineer, technician, or a specialist in general while the receiver is a specialist or non-specialist. (Baakes 1994)

Technical translation needs the ability to understand a big number of concepts and specialized terms however technical translation still similar to normal translation in general, aims to convey a specific message, when we translate a specialized text we analyze the relation between concepts and not on terms. Subsequently, a translator cannot translate a technical text if he does not have a background on the concepts of the source text, we are not ignoring the value of the term because it is an important component in technical translation.

The specialized text, unlike a general text, is characterized with an objective and encyclopedic knowledge that exceeds general culture however linguistically speaking it is characterized with a special style and with generous use of terms, and in most cases very

clear for a professional while it is this the opposite for non-specialist. Therefore specialized texts comprise all texts convey non-general information it transmits information to the users and it is different from texts written in a general language.

8. Characteristics of technical text

Scientific articles and guide user, encyclopedias, and special items are considered as forms of technical texts and the reason behind this because they share objective information about a technical text, and nowadays the number of translated technical texts is heightened, often technical texts known as being free of expressive expressions, and this is what (Baakes) states " technical texts are characterized by.. Objectivity, absence of expressiveness and emotion, precision, economy, conciseness, and formality… ". (Baakes 1994)

This belief means that technical texts are considered with having a weak style, which effects on its information to be well comprehensive and reached to the reader, a writer of technical texts is known as being incapable and unversed. And this is what Newmark illustrates" text perhaps inevitably a technical translation [in this context meaning ' register, and is so varied in topic and often diverse in … to be translated so badly written, that it is not easy to make a helpful generalization about it". Often it is known that the writers of technical texts are competent in the field of the text, for this reason, they give all the interest for transferring technical information. (Newmark 1988)

9. Translating Technical Texts

Technical translation is considered as the case of translating specialized texts, it focuses on texts that contain technological facts. Sylvia Gaméro Perez said that specialized texts characterized essentially with the use of specialization language and she sets five levels of proficiency that a professional translator should have which are information on the thematic domain, has the specialized terms, the ability for logical reasoning, to learn text type, the ability to acquire documents. (Sylvia 2003)

Translating technical texts requires a special method, not only for the reason that a technical text has a technical content but because the language used in it, so specialists use what is called a specialization language to facilitate the process of communication and understanding, for this reason, the translator of the technical text must search about documents that help him to in translating the subject treated and observing the specialized language used.

10.Strategies for Translating Technical Texts

A technical translation is focused on understanding like the other types of translation, it is axiomatic that we can't translate a term if we can't understand it, whether the content is about a specific field, and unknown terms because of its specialty. The lack of understanding of a word, term, or expression in the target language, in the beginning, it is a temporary failure for the translator in the process of the mental formulation of the meaning of that word, term, or the expression and it is a second failure in the process of searching and exploring about the meaning in the target language, in the end, the translator fails in translating the right meaning of the source language.

Technical translation passes through these stages

1- Analyzing

The process of analyzing in the technical translation takes a short time if we compare it with literary translation it passes with four levels

1.1 Reading

Reading allows the right analysis and facilitates the process of understanding by providing an overview of the text to be translated, the terms that may be ambiguous will be clear and facilitate in the second reading.

1.2 Context

It is about the text type and the receiver if it is a scientific text or it is addressed to the public. The answer will affect the language level

1.3 The level

The level of the translated technical text is according to the level of the receiver it is either be a technical jargon, specialized scientific language, or a general language with full of technical terms

1.4 Documentation

When the technical translator reaches this level of analyzation he will be able to know the type of documents needed to, he will read researches related to the text be translated, and will take into consideration terms and technical information.

2- Understanding

In the first stage, the translator is alone in front of the text but in the second stage he will take in consideration the receiver but it is recommended to separate the two stages in the technical

translation because like we said above understanding a technical text is more complicated than understanding another type of texts.

3- Translation

In this stage, the translator is aware of all the ambiguities on the text and this is because the documents and searches that he have also the explanation given to him by specialists, so he will start identifying the mistakes and correcting the equivalence in the target language.

4- Review

Review in technical translation includes more the content than the form, for this reason, it is necessary to give this text translated to a technician who can recognize wrong terms to clarify to the translator the ambiguities in the text.

11. The Difficulties of Translating Technical Texts

The difficulties of translating a technical text are not only on the technical terms of the text which have their equivalence in the target language and with the searches that he has, however, but the difficulty is also on the special technical expressions, the example given by Christine Durieux clarifies more the idea, she said that when we translate the word “Charges” from English to Arabic it means “الثمن” however in the field of the phones we translate it to “الضريبة”.(Christine Durieux 2010)

Conclusion

In short, the machine translation is a way that facilitates translation more for translators even people and learners, in another side technical texts have their features that characterize it from the other types of texts since translation plays a great role to serve the content of the original text also machine translation with the continual progress it works on the same role in keeping the same meaning of the SL in the TL. Technical text terms are considered as one of the problems that might be faced by the system of machine translation and mainly the meaning of the SL may be translated in a wrong way.

Part two: systems of machine translation

Introduction

The Systems of machine translation is an important technology nowadays, because of the help given by it scientifically, commercially, politically, it is one of the modern communication that turns translation into a bridge that connects speakers of different languages more than foretime when people have to access to more information than has ever been available, so I will explain the classification and the components of those systems, also I choose Bing and Yandex translate as an example to make a comparison between their TL translation to found the differences and similarities.

1. Definition of Systems of Machine Translation

Systran website explains that machine translation or the system of machine translation is the process of using an automatic program to translate a text from a natural language like (English) to another natural language like (Arabic) from the source language SL to the target language TL after doing the analysis of the structure and using special rules concerning the order of words, synthesis and grammatical information, grammar, analyzing sentence items, significance…etc. (translate.systran.net)

This system can work on a personal computer, on the internet, or without intranet, either in the form of an independent application or in a form of systems integrated directly on the internet, Word, or Excel.

2. Classification of System of Machine Translation

Some classify the systems of machine translation in two generations like Dr. Abde Alnabi Thaker in his article " Tarjamat Al-Ala wa Morajaat Alinsan", he said that machine translation systems classify according to its development in two generations in which the systems of the first generation are direct because it searches only for the synonyms of words in the dictionary this means that it does not make the analysis, also it translates just in one direction from a language to another without the contrary .in another side the systems of the second generation are more complicated than the other and it includes systems that have language interference or the systems of transferring, the translation passes with three stages which are analyzing, transferring and generation. (Abde Alnabi Thaker 2003)

3. Components of systems of machine translation

Reverso Context website asserts that systems of machine translation have the following components:

Linguistic Grammar: such as the order of words, syntactic and grammatical information, grammar, the accurate analysis for sentence elements … whenever the grammar is accurate, the translation will be more accurate too.

The processor of software: The dictionaries related to the systems of translation are not just a list of words and expressions with their equivalences, however, each word has to be identified with a piece of linguistic information in the source language also in the target language, and whenever the dictionaries are rich, the translation would be more accurate.

The program interface: it maintains the text form, makes the translation review, and updating the dictionaries.

4. Bing translator

Microsoft Bing Translator is a mathematical MT device that is notified linguistically. Two boxes are presented on the main screen (http:/www.microsofttranslator.com/), one for the original text and the other for the final output. Text and a website or URL can be entered by the user. The program detects the Source language automatically. Bing Translator opens a new window that shows the text in English and the progress of the translation when a URL is inserted. When it is completed it displays the page that has been translated. Microsoft translator features across Microsoft products including (Guerberof Arenas, Ana 2010).

1- The presentation translator for PowerPoint

2- Translate in the classroom, translation for education

3- Translate for business it translates text and speech

4- Translator videos

5- Translator for personal use, translate the real-time conversation.

Microsoft's Bing Translator is a statistical machine translation and nowadays it provides a neural MT technology. This machine translation is created in 2010–2011. Bing Translator is an online service, and as of March 2020, it has 60 languages. What separates it from other machine translation is that it provides neural translation network support, which

ensures that the standard of commercial translation is higher than the current generation, it benefits the language and business owners (Wikipedia.org).

5. Yandex translate

According to Yandex Translate, Yandex Translate is a web service provided by Yandex the Russian multination corporation specializing in internet-related products and services, The Yandex translate website gives this definition, they announce that Yandex developed its machine translation program in 2011. The framework supports 95 languages. To gain more rates on the Yandex search engine they developed their machine translation to convey the information in different languages, it can be found both in a smartphone device and in a web browser. Yandex Translate translates whole sentences, phrases, or web pages. Its owners thought that they have to interpret foreign languages in the same way they interpret the Russian language (translate.Yandex.com).

Conclusion

Systems of machine translation have made it easier for individuals and businesses to communicate with people from different countries, we can say that human translation has better results, however; a machine of translation also has its benefits, each machine has their components and has its way in the process of translation, in another side, there is a machine which works only in specific fields such as healthcare, legal, military, government…etc. systems of machine translation still in progress and currently we can found numerous numbers of machine translation software.

Chapter two

Practical

Part

Introduction

This chapter is dealing with the comparison of the translation of three technical texts chosen for the analysis based on their similarities and differences, by using Bing and Yandex Translate Systems, and each target text translation will be later discussed in detail. After that, showing whether there are any differences between translations from Arabic into English in its equivalent translations.

1. The corpus

Technical texts in this chapter are written by different writers. The first text is a purely technical text so the writer uses only pure technical terms related to the health field to express the danger of "Electronic Cigarettes" and the consequence diseases which are more dangerous than the ordinary cigarettes. The second text is technical simplified text about '' PUBG game'' which is a famous mobile game nowadays, the writer uses simple or direct technical terms which are not complicated for the reader to understand . It is talking about how the game functions .The third text is a literary technical text it is a combination of technical and literary text style, the writer uses literary terms but also gives a piece of informative information. The text is about ''Alzheimer's disease'' it is related to the medical field too and it is written by the Syrian Doctor Khalis AL Djalabi.

The corpus chosen consists of three texts are to reflect the diversified themes of technical texts. Each of the texts below is chosen for the analysis basing on these reasons:

- They are relevant to the research.
- To recognize the difficulties of translating technical texts with MT systems.
- To show how can a machine translate and express the same meaning as the source text does.

2. Data Description

This study is aiming firstly at highlighting the similarities and the differences in comparing the translation of technical texts with Bing and Yandex machines from the Arabic

Language and how could they be translated by a close or the appropriate equivalence into English. Secondly, how do the systems of machine translation work and translate those terms especially in technical texts.

3. Statistics and analysis

These statistics are obtained from the analytical study of the different Arabic technical texts chosen for this research, there are nine parts and every three parts are from a different type of the technical texts chosen which are purely, simplified, and literary technical texts and both systems of machine Bing and Yandex systems made mistakes in grammatical, lexical, semantic and terminological level. This refers to the effectiveness of Bing and Yandex systems if they produce an acceptable or a wrong translation. Some parts are translated and reformulated in a good way in the target language however there are bad translations too.

4. Methodology of analysis

The methodology of analysis is to collect some sections as (ST) to be applied in the English as (TT) then discussing the Arabic parts of the texts such as the constructions, equivalence, and meaning in the two TT by Bing and Yandex Translate after dealing with the analytical translation relying upon the above-mentioned statistics.

5. Data Analysis

The parts chosen from the three technical texts are given below in the two languages "Arabic and English" accompanied by the analysis of each one separately in the grammatical, semantic, lexical, and terminological level as the following:

The first selected technical text: Electronic Cigarettes

Table (02): the first selected part from the text of electronic cigarettes

Source Text	يشير مصطلح «السجائر الإلكترونية» إلى جهازٍ يعمل بالبطارية، يُستخدم لاستنشاق الأبخرة التي تحتوي عادةً ولكن ليس دائماً على النيكوتين، إلى جانب بعض المنكهات والمواد الكيميائية الأخرى، لكنّها لا تحتوي على التبغ.

Bing	The term "e-cigarette" refers to a battery-powered device, which is used to inhale fumes that usually - but not always - contain nicotine, along with some flavorings and other chemicals, but do not contain tobacco.
Yandex	The term "electronic cigarettes"*to the battery-powered device,*is used to inhale the vapors, which contain usually-but not always - on, nicotine, along with some flavorings and other chemicals, but they do not contain tobacco.

Identifying the mistakes

- Grammatical mistakes: يشير "refers" it is omitted in Yandex, we use ''of'' instead of "on", " سجائر الكترونية" translated to "e_ cigarettes"
- Semantic mistakes: الابخرة "vapors",

Translation Analysis:

In the first source text, Yandex provides a target text which contains many mistakes, for example, the word "الابخرة "the system translates it to "vapors '' the first meaning of this word is: the gaseous state as distinguished from a liquid or a solid-state, the difference is that vaporized substance is simply in its gaseous form, unlike'' fume'' which is the suitable word in this context which contains a wide range of hydrocarbons and chemical products. Also, the first verb in the sentence is omitted "refer".

The use of ''on'' proposition in the text is wrong because there is no time or a place to use it for, namely, the preposition '' of'' is the suitable to say the name of a substance used in electronic cigarettes also we can recognize that the use of conjunctions is needed in yandex target text for example the conjunction "And" because conjunctions are a part of speech and they are used to connect clauses or sentences. in another hand, Bing translator translates the word'' سجائر الكترونية '' to '' e_ cigarettes '' it is an abbreviation for the word electronic cigarettes, also in Bing the use of " that" in "to inhale fumes that usually" is not appropriate because we use it for something far and not for the time, however, Bing's translation is better than Yandex translate translation.

The appropriate translation:

The term " electronic cigarettes " is a battery-powered device it is used for the inhalation of fumes which consist usually and not constantly of " nicotine" plus to some flavors and other chemicals however it does not contain " Tabacco".

Table (03): the second selected part from the text of electronic cigarettes

Source Text	بالرغم من أن السجائر الإلكترونية مصنّفةٌ في الولايات المتحدة على أنها تندرج ضمن منتجات التبغ، وليست كوسيلةٍ للإقلاع عن التدخين، إلا أنّ أكبر شركة مصنّعةٍ لهذه المنتجات تروّج لمنتجاتها على أنها وسيلةٌ للإقلاع عن التدخين، حيث يقول موقع الشركة على الإنترنت أن منتجاتها «بديلٌ عملي عن السجائر»، ومع ذلك، هناك الكثير من منتجاتها مصممةٌ لكي نستنشق المزيد من أبخرة مادة «تي إتش سي» التي توجد أساساً في القنّب.
Bing	Although e-cigarettes are classified in the United States as a tobacco product, not as a smoking cessation method, the largest manufacturer of these products promotes their products as a way to quit smoking, with the company's website saying its products are a "practical alternative to cigarettes", yet many of its products are designed to inhale more t.h.c. fumes, which are mainly found in cannabis.
Yandex	Although e-cigarettes are classified in the United States they fall within the tobacco products, not as a means to quit smoking, however, the largest manufacturer of such products promote their products as a way to quit smoking, where he leads the company's web site that their products are "practical alternative for cigarettes", however, there are a lot of their products are designed to use more from the fumes of the substance THC which is mainly found in the channel.

Identifying the mistakes

- Lexical mistakes: ‘’ تندرج’’ to ‘’ fall’’, “lead”, “a lot of”
- Semantic mistakes: ‘’ القنب ‘’ to ‘’ the channels ‘’,تي إتش سي to “t.h.c”

Translation Analysis:

In the second paragraph, Yandex translates the word ‘’ تندرج’’ to ‘’ fall’’ it is wrong to describe this word with the verb falling it cannot have or reach the same meaning, the verb ‘’ lead ‘’ is also used in a wrong position it does not illustrate well the situation, so it is not the suitable verb in the context.

also, it translates the noun ‘’ القنب ‘’ to ‘’ the channels ‘’ which has a different meaning, the system, in this case, was poor in recognizing the correct meaning of the word mentioned in the source text, so the semantic mistakes has to be into consideration. in the sentence “ there are a lot of their products …” the quantifier “a lot of” is not suitable because we use it in informal styles but the quantifier “many” is the best. In Bing translator system, the meaning of the target text can be understood, the paragraph is grammatically and syntactically is well translated only in translating the abbreviation «تي إتش سي» to “t.h.c” rather than “THC”, also Bing translator does not make a connection between sentences there is no cohesion and coherence unlike Yandex translate.

The appropriate translation:

despite that electronic cigarettes are classified in the USA as it is from Tobacco products, and not as a tool to stop smoking, the largest manufacturer of such products promote their products as a way to stop smoking, where the company website states that its products are a practical alternative of cigarettes nevertheless there are many of their products which are designed to inhale more " THC" that is found only in cannabis.

Table (04): the third selected part from the text of electronic cigarettes

Source Text	لذلك تشير كلٌّ من المصطلحات «جوول، فابز، السجائر الإلكترونية، فاب بينز، وغيرها» إلى نفس فئة المنتجات. ويستخدم مصطلح «السجائر الإلكترونية» إلى المُنتج نفسه، بينما يشير تعبير فايبنج إلى استخدام ذلك المنتج أو تدخينه.
Bing	That's why gool, fabs, e-cigarettes, Fab Bains, etc., refer to the same product category. The term "e-cigarette" is used to the product itself, while the term "viping" refers to the use or smoking of that product.

Yandex	Therefore, the terms "Joel, fabs, e-cigarettes, Fab Benes, etc." refer to the same category of products. It uses the term "electronic cigarettes" to the house itself, while the refers free to use that product or smoke it.

Identifying the mistakes

- Grammatical mistakes:" gool, fabs, e-cigarettes, Fab Bains, "Joel, fabs, e-cigarettes, Fab Benes, etc."
- Semantic mistakes: '' the house itself '', '' the refers free'', '' viping ''
- Terminological mistakes: gool, fabs, e-cigarettes, Fab Bains, "Joel, fabs, e-cigarettes, Fab

Translation Analysis

Both systems face difficulty in translating the technical terms related to electronic cigarettes" فاب بينز – سجائر الكترونية – جول فابز ''.Yandex Translate made a mistake in translating the clause'' المنتج نفسه'' to '' the house itself '' which is meaningless sentence .Also '' يشير التعبير نفسه'' is translated to another incomprehensible translation '' the refers free'', in this paragraph Yandex makes a misunderstandable sentences. Unlike Yandex Bing does not have many mistakes, for example, the word '' فابينج '' it is translated to '' viping '' while the right word translation is '' Vaping''. Besides, the coherence and cohesion are missed.

The appropriate translation

So the terms " Juul labs"-"electronic cigarettes"-" vape pens" and others are considered as the same category of products, and the term electronic cigarettes is used for the product itself, however, Vaping expression indicates to the use of that product or smoking it.

The second selected technical text: PUBG Game

Table (05): the first selected part from the text of PUBG Game

Source	تُلعَب PUBG عبر الانترنت، الأمر الذي يجمع "محاربين" من كل أنهاء العالم في الوقت نفسه، وتبدأ الجولة في سقوط اللاعبين من طائرة عبر مظلات ليحطّوا في ساحة المعركة. وتظهر المعالم والأسلحة

Text	وحتى الأشخاص بشكل يلامس الواقع، مما يساعد في نقل اللاعب إلى عالمٍ آخر ليعيش في عزلة واقعية ومعركة افتراضية، هذا وتعطي اللعبة معلومات مفصلة عن الأسلحة المتوفرة وأنواع الرصاص التي يمكن استعمالها.
Bing	PUBG is played online, bringing together "warriors" from all over the world at the same time, and the tour begins with players falling from a plane through parachutes to land on the battlefield. Landmarks, weapons and even people appear in a way that touches reality, helping to move the player to another world to live in real isolation and virtual battle, and gives the game detailed information about the available weapons and the types of bullets that can be used.
Yandex	Play PUBG online, which combines the "Warriors" from all around the globe at the same time, the tour begins in the fall of players from the aircraft via parachutes to the battlefield. Shows the monuments, weapons and even people are noticing the fact, which helps in the transfer of the player to another world to live in seclusion reality and virtual, This is gives the game detailed information on the weapons available and the types of bullets that can be used.

Identifying the mistakes

- Grammatical mistakes: ‘’… gives the game detailed information’’, “ play PUBG online”,
- Lexical mistakes: “transfer of the players”, “the globe”

Translation Analysis

In the second text about the PUBG game, I have recognized that the first paragraph is considered as a correct translation in Bing translator, however in the sentence ‘’… gives the game detailed information’’it is translated as the Arabic sentence order, it is a word for word translation it missed the correct order of words to be fully correct, Yandex translate makes the same mistake in translating “ play PUBG online” it is translated as the Arabic sentence order too in addition to that the system always fail in adding the linking words, so the sentences are

not connected, in another side, the use of words is not in the right order and also the sentences are grammatically poor which leads to not very clear meaning.

The appropriate translation:

PUBG game is played online, the matter that it gathers all fighters from all around the world at the same time, the round starts when players falling from a plane through parachutes on the battlefield .the landmarks, the arms, and even people will appear as if they are in the reality which helps to move the player to another world to live in real isolation and a virtual battle, as well as the game, gives a piece of detailed information on the available weapons and types of lead that can be used.

Table (06): the second selected part from the text of PUBG Game

Source Text	أكدت أبو عون أن لهذه اللعبة خطورة كبيرة على المراهق لأنها توهمه بأن أساليب العنف هي الطريقة الوحيدة للدفاع عن النفس، مضيفةً "وكأن العنف هو الوسيلة للوصول الى الهدف المنشود وإلغاء الآخر أمر طبيعي". وأوضحت أن PUBG وما يشابهها "تجعل الفرد يلجأ إلى العنف لحل نزاعاته، كأن الاذية أصبحت أمراً عادياً، وتصبح بذلك ردأة فعله عصبية كما يصبح منعزلاً اجتماعيًا ويتفاعل مع آلة ويعيش في عالم خيالي" .
Bing	Abu Aoun stressed that this game is a great danger for the teenager because it gives him the illusion that methods of violence are the only way to defend oneself, adding that "as if violence is the means to reach the desired goal and cancel the other is normal." She explained that PUBG and the like "make the individual resort to violence to resolve his conflicts, as if the hurt has become normal, and thus become sour and become socially isolated and interact with a machine and live in a fantasy world."
Yandex	Confirmed Abu Aoun that this game is very dangerous for the teenager because they thought that violent methods are the only way of self-defence, adding, "as if violence is the means to reach the desired goal the abolition of the other is normal." She explained that PUBG and similar "make the individual resort to violence to solve its disputes, like when harm had become commonplace, and so become not do nervous, as it

	becomes isolated, socially and interact with the machine and live in a fantasy world".

Identifying the mistakes

- Grammatical mistakes: ‘’ confirmes Abou Aoun’’, “and similar”
- Semantic mistakes: ‘’abolition ‘’, “and similar”, ‘’hurt’’, “cancel”

Translation Analysis

Again Yandex translate fails in putting in the right order the components of the sentence like in ‘’ confirmes Abou Aoun’’ it is translated literally imitating the order of Arabic sentence, and also it does not choose the suitable equivalence for the words of the source text, for example, the word ‘’ الغاء’’; the system translates it to ‘’abolition ‘’ it is not the right meaning because the writer means ’’killing the others ’’in another side its translation for“ و امثالها” to “and similar” it is also a literal translation. Bing does not make a lot of mistakes only in translating ‘’ الاذية’’ to ‘’hurt’’ in fact it is used in contexts that have emotions and not in such contexts, inside its translation for the word “الغاء” to “cancel” it is a literal translation. And finally, the system missed the punctuation marks in the paragraph.

The appropriate translation

Abou Aoun affirms that the game has a big danger for the teenager because it makes him imagine that violence is the only way for self-defense and she added ‘’ as if violence is the way to reach the desired goal and killing persons is normal ‘’ and she explained that PUBG and the like makes the one resort to violence to resolve his dispute as if the harm becomes a normal matter, thus he becomes socially isolated and has a nervous reaction, interacted with a machine and live in an imaginary world.

Table (07): The third selected part from the text of PUBG game

Source Text	وحذّرت من أن "استعمال السلاح في هذه اللعبة يشجع الفرد على استعماله في الحياة الطبيعية" وبعيداً من علم النفس وممارسة اللعبة، يعتبر أصحاب محال ومراكز الألعاب الإلكترونية هم المستفيد الأول من

	الضجة التي خلقتها هذه اللعبة، واللافت أن هؤلاء لم يترددوا في شراء الحواسيب الخاصة بهذه اللعبة وتوسيع أعمالهم لأن مردودها المادي كبير جداً ولا يستهان به.
Bing	She warned that "the use of weapons in this game encourages the individual to use it in normal life", and away from psychology and the practice of the game, the owners of shops and centers of electronic games are the first beneficiaries of the uproar created by this game, and it is remarkable that they did not hesitate to buy computers for this game and expand their business because its financial returns are very large and not to be underestimated.
Yandex	She warned that "the abuse of power in this game encourages the individual to use in normal life" away from the psychology and practice of the game, the owners thought to try and place electronic games are the primary beneficiary of the uproar created by this game, what is striking is that these did not hesitate to buy computers for this game and expand their business because the payoff is their material neither too large nor insignificant.

Identifying the mistakes

- Grammatical mistakes: ‘’ practice’’, ‘’the owner of shops’’, “ to buy computers for this game”
- Lexical mistakes: ‘’the abuse of power’’
- Terminological mistakes: “too”

Translation Analysis

Yandex finds difficulty in translating and understanding words and sentences of the source text like in ‘’ استعمال السلاح’’ it translate it to ‘’the abuse of power’’ that indicates the difficulty of Arabic for the system, there is a grammatical mistake Yandex finds it complicated to recognize the gerund in the word ‘’ practice’’ the use of ‘’too’’ in the last sentence is not appropriate because it explains that there is more than what is wanted however in the text ‘’very’’ is better. After all, it emphasizes the word that follows it, in Yandex's translation there is no cohesion and coherence between sentences. Bing translator missed the order like in ‘’the

owner of shops’’, also the use of “for” in the sentence “ to buy computers for this game” is not correct however the rest of the sentence is correct, it can be well underestimated.

The appropriate translation

Moreover, she warns from the use of the weapon on this game can lead the person to use it in daily life ‘’. Away from psychology and playing the game, shop owners and electronic gaming centers are the first beneficiaries from the commotion created by the game, and the remarkable thing is that these people did not hesitate to buy the computers of this game and expand their business because its financial return is very big and cannot be underestimated.

The Third Selected Technical Text: Alzheimer

Table (08): The first selected part from the text of Alzheimer

Source text	الكثير من الأمراض تتسلل خفية دون أن ينتبه لها صاحبها، مثل التوحد والسكري وارتفاع ضغط الدم والسرطان والخرف وأخيراً الزهايمر. وأفظع ما في هذه الأمراض أن صاحبها يخسر نفسه وهو على قيد الحياة، فيحال بينه وبين إرادته ووعيه.
Bing	Many diseases sneak hidden without being noticed by their owner, such as autism, diabetes, high blood pressure, cancer and dementia And finally Alzheimer's. The most egregious thing about these diseases is that the owner loses himself alive, preventing him from his will and consciousness.
Yandex	A lot of diseases slip away undetected, like autism, diabetes, hypertension, cancer and dementia. Finally Alzheimer's. The most terrible thing about these diseases is that the owner loses himself while he is still alive, leaving him neither with his will nor with his consciousness.

Identifying the mistakes

- Lexical mistakes: “ sneak hidden”, “slip away undetected”, “high blood pressure”
- Terminological mistakes: “owner”

Translation Analysis

In the first part in this technical text, Bing Translator and Yandex translate failed in translating the clause "تسلل خفية '' where Bing translates it to "sneak hidden" as for Yandex which translated it to "slip away undetected" both translations are false because when we check their first meaning on the dictionary or their denotative meaning we realize that it is not the equivalence for the verb "تسلل''. Bing translator translates the noun "صاحبها'' to "owner" which is a wrong translation because the owner is a person who owns something concrete like a car…, besides it translates "ارتفاع ضغط الدم'' to "high blood pressure" it is a word for word translation because in English we call it "hypertension" this is what illustrates that the system cannot understand the correct name of the disease so we can say that the meaning is comprehensible but the words are not suitable. On another hand, Yandex makes the same mistake in translating the word "owner", however; the rest of the translation is acceptable.

The appropriate translation

Many diseases creep into the person without noticing such as Autism, Diabetes, Hypertension, cancer, Dementia, and finally Alzheimer's. The worst in these diseases that the patient loses himself when he is alive, leaving him neither with his will nor with his consciousness.

Table (09): The second selected part from the text of Alzheimer

Source text	إذ يأكل الدماغ يدمر الشخصية بعد تدمير الذاكرة.
Bing	As it eats, the brain destroys the personality after destroying memory.
Yandex	It eats the brain, destroys the personality after destroying the memory.

Identifying the mistakes

- Semantic mistakes: “eats the brain”

Translation Analysis

In this sentence, the writer uses a metaphoric expression to explains how can Alzheimer destroys the brain, and neither Bing nor Yandex give the correct meaning of this metaphor, they translate “ يأكل الدماغ’’ to “eats the brain”, the writer here is not intended the act of eating but the act of destruction.

The appropriate translation

It ruins the brain, destroys the personality after destroying the memory.

Table (10): The third selected part from the text of Alzheimer

Source Text	أما المرحلة الأخيرة فليست ختام مسك، إذ لا يستطيع المريض إخبارَ مَن حوله بما يدور داخله، ويبدأ في فقدان السيطرة على جسمه، فتيبس المفاصل وتتكلس العضلات، بعد أن خسر إرادته ووعيه فلم يعد إنساناً.
Bing	The last stage is not the end of Musk, as the patient cannot tell those around him what is going on inside him, and begins to lose control of his body, so he mistook the joints and muscles, after losing his will and consciousness is no longer human.
Yandex	The last stage is not the conclusion of the residence, as the patient cannot tell about it of what is going on inside it, and starts losing control of his body, vtips joints and Assemblies of muscle, having lost his will and consciousness is no longer a human being.

Identifying the mistakes

- Grammatical mistakes: “consciousness is no longer human”
- Semantic mistakes: “is not the end of Musk”, “is not the conclusion of residence”, “patient cannot tell about it of what is going…”
- Terminological mistakes: “ vtips joints”

Translation Analysis

The sentence ''ليست ختام مسك'' is translated by Bing system with " is not the end of Musk" and " is not the conclusion of residence" by Yandex translate which are a meaningless sentence and the system cannot understand well its meaning, also their translation of " تيبس المفاصل'' Bing translates it to " vtips joints", the two systems did not give the suitable translation also the structure of both target text is not correct where Bing does not connect words and sentences like in "consciousness is no longer human" in another side Yandex in the sentence " patient cannot tell about it of what is going…" the semantic meaning is not understandable. In both systems there is a misunderstood words and sentences, besides, there is no cohesion nor coherence in the paragraphs.

The appropriate translation:

The last stage is not the close, where the patient cannot tell people around him what is going on inside him, he begins to lose control of his body, stiff joints, and calcification of muscles after losing his will and consciousness as if he is not a human being.

Conclusion:

To conclude, in the analysis above the research demonstrates how can Bing and Yandex MT systems convey the same meaning as the original, also the problems that face both machines in translating the three technical texts from the Arabic language as original text into the English language as target text, which leads to saying that both machines have problems certainly in expressing the right meaning of the source text especially in translating technical terms which cannot be well understood only by a translator and after searching for the appropriate equivalence, and in the grammatical, semantic, lexical and terminological level, additionally when comparing between machines both of them have difficulty in understanding the Arabic language words because it is complicated than the other languages Which makes the order, syntax, grammar of the sentence hard to be translated correctly with Bing Translator and Yandex translate system.

Conclusion

Machines of the translation made a great revolution worldwide long time ago, moreover, numerous machine translation systems are created to help people who do not master foreign languages. That's why machine translation is so useful and assist them in translating texts from one language to another.

Choosing Bing and Yandex translate system in this research, trying to prove their effectiveness in translate from the Arabic language to the English language. technical texts are the sample of the research to be translated from the Arabic language and to see how it is complicated for the machines to understand all of the vocabularies, grammar and context especially when we put a long sentence or a paragraph .literally translation is the only method that machine translation uses namely all kind of texts are translated word for word without searching for the suitable word for each word this problem can lead to a meaningless sentence.

Yandex translate was the weaker system because when translating the three technical texts it made a lot of mistakes semantically, syntactically and grammatically the translation was incomprehensible in general and the meaning or the message of the source text cannot be transmitted and the error is made because of the difficulty of Arabic language to be understandable in Yandex system. Bing in another hand was the best system in translating technical texts despite some errors, however, we can depend on it in to translate, because it produces understandable sentences and can transmit the meaning of the original text easily because the Arabic language was not so difficult to be translated into the English language.

MT in general does not match up to the quality and accuracy of human translation, and this is why it is not yet put to reliable use. however, the quality of MT output can be improved by many ways such as improving systems rules and formalism, controlling the input language to make it clean from flowery and ambiguous words, and post-editing the translation to ensure the accuracy and readability of the output text, also the back translation can be another solution too for a better translation, it is when we translate a text with a system of translation the translator can take the target text and try to correct and modify it to be a right translation .this means that the human intervention leads to better and more appropriate translation.

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Appendices

Appendices

ملحق رقم (01)

مسؤولو الصحة العامة يحذرون

- هل يجب تجنب جميع منتجات السجائر الإلكترونية؟

مع تنامي المخاوف المتعلقة بتدخين السجائر الإلكترونية (فايبنج)، بدأ الباحثون ومسؤولو الصحة العامة بالتحقيق في الأسباب الكامنة وراء حدوث أكثر من 40 حالة وفاة، ونحو 2000 إصابة يُعتقد أنها مرتبطة بها.

حيث ما يزال الأمر محيراً حتى بالنسبة للخبراء.

يشير مصطلح «السجائر الإلكترونية» إلى جهازٍ يعمل بالبطارية، يُستخدم لاستنشاق الأبخرة التي تحتوي عادة ولكن ليس دائماً– على النيكوتين، إلى جانب بعض المنكّهات والمواد الكيميائية الأخرى، لكنّها لا تحتوي على التبغ. تعرّف السجائر الإلكترونية وفقاً لكل من المعهد الوطني لتعاطي المخدرات (نيدا)، ومركز السيطرة على الأمراض والوقاية منها؛ بأنها: فئةٌ واسعة من المنتجات التي لها نفس آلية العمل، وتحتوي على مكوّناتٍ مماثلة في نفس الوقت.

لذلك تشير كلٌّ من المصطلحات «جوول، فابز، السجائر الإلكترونية، فاب بينز، وغيرها» إلى نفس فئة المنتجات. ويستخدم مصطلح «السجائر الإلكترونية» إلى المُنتج نفسه، بينما يشير تعبير فايبنج إلى استخدام ذلك المنتج أو تدخينه. يمكن أن يكون للسجائر الإلكترونية بهذا المفهوم استخداماتٌ مختلفة.

بالرغم من أن السجائر الإلكترونية مصنّفةٌ في الولايات المتحدة على أنها تندرج ضمن منتجات التبغ، وليست كوسيلة للإقلاع عن التدخين، إلا أنّ أكبر شركة مصنّعةٍ لهذه المنتجات

تروّج لمنتجاتها على أنها وسيلةٌ للإقلاع عن التدخين، حيث يقول موقع الشركة على الإنترنت أن منتجاتها «بديلٌ عملي عن السجائر»، ومع ذلك، هنا كالكثير من منتجاتها مصممةٌ لكي نستنشق المزيد من أبخرة مادة «تي إتش سي» التي توجد أساساً في القنّب.

ما سبب أمراض الرئوية المرتبطة باستنشاق الأبخرة؟

يُشار أحياناً إلى الأمراض الرئوية وحوادث الوفاة المرتبطة باستخدام هذه المنتجات اختصاراً بـ «إفالي .«وتشير الاحصائيات أن 84% من حالات الوفاة صُنّفت على أنها ناتجةٌ عن تنشّق أبخرة تي إتش سي، إما لوحدها أو مترافقةً مع أبخرة التبغ العادي. يحصل الكثيرون على منتجات الفايبنج التي تحتوي على تلك المادة – المادّة الفعّالة في القنّب–من مصادر غير رسمية، كالأصدقاء أو الأشخاص الذين يتعاملون معهم، أو عبر الإنترنت.

وقد اكتشفت الاختبارات التي أجراها مركز السيطرة على الأمراض على عيناتٍ سوائل مرضى إفالي، والمأخوذة من الرئة المصابة لديهم عن وجود مادةِ خلّات فيتامين) **E** وهو شكلٌ صناعي من فيتامين .(**E** ومع ذلك، هناك حاجةٌ لإجراء المزيد من البحوث لاستبعاد احتمال أن تكون حالات إفالي مرتبطةً بمكوناتٍ كيميائية أخرى.

وبالرغم من الحاجة لإجراء المزيد من الاختبارات، يظهر أنّ خلات فيتامين **E** أكثر شيوعاً في المنتجات التي تحوي مادة تي إتش سي. يقول مصنعّو منتجات القنّب القانونية؛ أن خلّات فيتامين **E** تُستخدم في السوق السوداء لتمديد زيت مُستخلص تي إتش سي المُستخدم في السجائر الإلكترونية، لأنه يشبه المُنتج الأصلي وأرخص بكثير.

وقد بيّن تقريرٌ حديث أنّه من بين 19 حالة من مرضى إفالي في ولاية يوتا، كان هناك

17 حالة (أي 89%)استخدم أصحابها المنتجات الحاوية على خلّات فيتامينE ، بينما لم تكن هناك أي حالة من بين 20 حالةٍ أُستخدمت فيها منتجاتٍ تحتوي على النيكوتين.

يوصي مركز مكافحة الأمراض والوقاية منها بعدم استخدام السجائر الإلكترونية التي تحتوي على مادّة تي إتش سي، كما دعت الجمعية الطبية الأميركية إلى فرض حظرٍ على جميع منتجات السجائر الإلكترونية والفايبنج التي لا تُصنّف كمنتجاتٍ تساعد على الإقلاع عن التدخين. لكن حالياً، لا يوجد في الأسواق أيّ من منتجات السجائر الإلكترونية والفايبنج مُصنّفةٍ على أساس أنّها من المنتجات التي تساعد على الإقلاع عن

التدخين.

[illegible] (02)

[illegible]

- **[illegible]**

صنّعت هذه اللعبة شركة كورية لمايكروسوفت ويندوز على برمجة خاصة (ستيم) في آذار 2017، ومنذ ذلك اليوم حتى الآن بيعت أكثر من 13 مليون نسخة منها، ووصل عدد اللاعبين بها في الوقت نفسه إلى مليوني لاعب لتصبح أكثر الألعاب رواجاً على ستيم.**PUBG** هي لعبة أكشن يصل عدد اللاعبين فيها في الجولة الواحدة إلى 100، والهدف منها هو القتال أما الرابح فهو من يصمد حتى نهاية المعركة. ويمكن للاعبين أن يختاروا اللعب منفردين أو في فريق صغير يصل عدد أفراده إلى 4 كحدٍ أقصى، وفي الحالتين الشخص الذي يبقى حياً حتى نهاية المعركة يكون هو الرابح.

تُلعَب **PUBG** عبر الانترنت، الأمر الذي يجمع "محاربين" من كل أنحاء العالم في الوقت نفسه،

وتبدأ الجولة في سقوط اللاعبين من طائرة عبر مظلات ليحطّوا في ساحة المعركة. وتظهر المعالم والأسلحة وحتى الأشخاص بشكل يلامس الواقع، مما يساعد في نقل اللاعب إلى عالمٍ آخر ليعيش في عزلة واقعية ومعركة افتراضية، هذا وتعطي اللعبة معلومات مفصلة عن الأسلحة المتوفرة وأنواع الرصاص التي يمكن استعمالها.

علم النفس يحذّر!

أتت وجهة نظر علم النفس لتؤكد أن "لهذا النوع من الألعاب خطورة كبيرة لأنها تجعل الإنسان يهرب من واقعه ليعيش في عالم آخر بعيداً من الحقيقة. فلا يدرك دائماً الفرق بين العالم الحقيق والعالم الافتراضي الذي تعرضه اللعبة"، وفق ما شرحت الاختصاصية في علم النفس العيادي ميريام أبو عون في حديث لـ"النهار". وأكدت أبو عون أن لهذه اللعبة خطورة كبيرة على المراهق لأنها توهمه بأن أساليب العنف هي الطريقة الوحيدة للدفاع عن النفس، مضيفةً "وكأن العنف هو الوسيلة للوصول الى الهدف المنشود وإلغاء الآخر أمر طبيعي". وأوضحت أن **PUBG** وما يشابهها "تجعل الفرد يلجأ إلى العنف لحل نزاعاته، كأن الاذية أصبحت أمراً عادياً، وتصبح بذلك ردأة فعله عصبية كما يصبح منعزلاً اجتماعيًا ويتفاعل مع آلة ويعيش في عالم خيالي".

وشددت على أن هذه الألعاب تؤثر في مستوى الطلاب المدرسي كما يمكن أن تؤدي إلى الادمان، وحذّرت من أن "استعمال السلاح في هذه اللعبة يشجع الفرد على استعماله في الحياة الطبيعية" وبعيداً من علم النفس وممارسة اللعبة، يعتبر أصحاب محال ومراكز الألعاب الإلكترونية هم المستفيد الأول من الضجة التي خلقتها هذه اللعبة، واللافت أن هؤلاء لم يترددوا في شراء الحواسيب الخاصة بهذه اللعبة وتوسيع أعمالهم لأن مردودها المادي كبير جداً ولا يستهان به.

PUBG، **4**أحرف تلخص واقعاً يتأرجح بين الإدمان والهرب من جهة والتسلية والمرح من جهة

أخرى. ومهما كثرت النظريات وأساليب الشرح، يبقى الواقع واحداً وهو أن جيل الشباب مهددٌ على أصعدة عدّة إن كان من جهة ثقافة السلاح أو الأفكار التي تُزرع في داخله حول اللجوء إلى المعارك والحروب لتحقيق نشوة الانتصار انطلاقاً من غريزة البقاء.

[illegible] (03)

[illegible]

- [illegible]

الكثير من الأمراض تتسلل خفية دون أن ينتبه لها صاحبها، مثل التوحد والسكري وارتفاع ضغط الدم والسرطان والخرف. وأخيراً الزهايمر. وأفظع ما في هذه الأمراض أن صاحبها يخسر نفسه وهو على قيد الحياة، فيحال بينه وبين إرادته ووعيه. تأملوا الآية الكريمة: «وَاعْلَمُوا أَنَّ اللَّهَ يَحُولُ بَيْنَ الْمَرْءِ وَقَلْبِهِ.«

يعود تاريخ اكتشاف الزهايمر إلى أكثر من قرن (1906)، حيث كان الألماني الدكتور ألويس الزهايمر، أول من وصف المرض بـ«الخطير»، إذ يأكل الدماغ يدمر الشخصية بعد تدمير الذاكرة.

وحين تتبدى أعراض المرض يستوي في تشخيصها الجاهل والعالم، كما في رؤية اليرقان في العين، لكن الانتباه لمؤشراته الأولى هو الأمر الأهم، لأن صاحبها في طريقه إلى ألا يعرف من هو، فلا تبقى ذاكرة ولا شخصية ولا إرادة، ومنه فقد بدأ وزير الصحة الألماني «هيرمان جروهيه»، محاولة استصدار موافقة برلمانية على التصرف نيابة عن المصاب بالزهايمر لغياب الإرادة لديه، فضلاً عن السماح بتطوع المرضى بالتبرع لتجريب أدوية، أو لأخذ دماغه للتشريح لمعرفة سر الإصابة بهذا المرض الخطير.

وحالياً تقوم الدكتورة كاثرينا بورجر، رئيسة جمعية الزهايمر في المركز الجامعي في ميونيخ بألمانيا، بوضع خطة تفصيلية لفهم المرض في سبع مراحل، الأولى يشعر صاحبها أنه ليس على ما يرام

وليس هو ذاته، لكن ليس ثمة أعراض أو علامات على اضطراب خطير، ولا يمكن الحدس كم تستمر هذه الحالة، ثم ينحدر المريض إلى المرحلة الثانية، وتتميز باضطراب خفيف في الذاكرة، مثل الكلمات التي يحفظها فتطير منه بسرعة، أو الحاجات اليومية التي يتعثر في فهمها. المرحلة الثالثة هي التأثر الطفيف، حيث ينتبه المصاب إلى أن من يعرف من أصدقاء ومعارف وزملاء والأشياء التي يقرأها ويتعامل معها. سرعان ما تتبخر من ذاكراته.

المرحلة الرابعة هي التأثر المتوسط بالمرض، وهنا قد ينفع التشريح في الكشف عن قشرة الدماغ. في هذه المرحلة يضطرب المريض في أداء مهمات متكاملة. المرحلة الخامسة تبدأ بفراغات مزعجة في الذاكرة، من عدم تذكر مكان سكنه، ورقم هاتف بيته، ومكان مفاتيح سيارته، والشوارع الرئيسية في البلدة التي يعيش فيها!

هنا يحصل انقضاض المرض ليدفع صاحبه نحو المرحلة السادسة من تبخر الذاكرة كلياً، وبدء اضطراب شخصية صاحبها وإرادته، ويبدأ صاحبها في العجز والاعتماد جزئياً على من حوله.

أما المرحلة الأخيرة فليست ختام مسك، إذ لا يستطيع المريض إخبارَ مَن حوله بما يدور داخله، ويبدأ في فقدان السيطرة على جسمه، فتيبس المفاصل وتتكلس العضلات، بعد أن خسر إرادته ووعيه فلم يعد إنساناً.

“Electronic cigarettes”

- Do we have to avoid all products of electronic cigarettes?

With the increment of smoking electronic cigarettes (vaping), researchers, and public health responsible start to investigate the reasons for the death and 200 infections it thought that it is related to it.

the term " electronic cigarettes " is a battery-operated device it is used for the inhalation of fumes which consist usually and not constantly on " nicotine" plus to some flavors and other chemicals however it does not consist " Tabacco’’ according to the national institute of drugs NIH (Nide) and the center for disease control and prevention, electronic cigarettes is known a wide range of products that has the same mechanism of action and contains similar ingredients at the same time.

So the terms " Juul labs"-"electronic cigarettes"-" vape pens" and others are considered as the same category of products, and the term electronic cigarettes are used for the product itself, however, Vaping expression indicates the use of the product or smoking it.

despite that electronic cigarettes are classified in the USA as it is from Tabacco products, and not as a tool to stop smoking, where the company website states that its products are a practical alternative of cigarettes nevertheless there are many products which are designed to inhale more " THC" that is found only in cannabis.

What is the reason behind pulmonary diseases related to inhaling fumes?

Sometimes pulmonary diseases and death incidents related to the use of these products are referred to with" Evali"and the statistics indicate that 84% of death are resulted from inbreathing THC fumes only or with normal Tabacco fumes. Many people obtain Vaping products that contain that effective matter in cannabis from unofficial sources such as friends, people they connect, and from the internet.

Tests revealed by the center of disease control on samples of sick fluids that were taken from the affected lung have a vitamin E acetate (it is an industrial form of vitamin E), however more research is needed to exclude the possibility that Evali disease is related with other chemical components.

despite the need of procedure more tests, acetate vitamin E appears that it is the most common in THC products, the manufacturers of legal cannabis products said that vitamin E acetate is used in the black market to extend THC extracted oil used in electronic cigarettes because it resembles the original products and much cheaper.

A recent report showed that among 19 cases from the patients of Evali from Utah, there were 17 cases which means 89% used products that contain Nicotine.

The center of disease control and prevention recommends avoiding using electronic cigarettes that contain THC also the American medical association called for a ban on all electronic cigarettes and Vaping, which is not categorized as cessation products. Currently,

there are no electronic cigarettes and vaping products listed on the market classified as a product that helps to stop smoking.

‘’PUBG Game’’

In March 2017, a Korean company has created a game to Microsoft Windows on special programming steam .and till now 13 million copies sold at the same time the number of players increases for two million to be the more popular game. PUBG is a game of action its number of players in one round can reach 100 player and the goal is fighting and the winner is the player who resists to the end of the battel, besides players can choose to play single or in a small team of four persons maximum and both cases the one how to stay alive to the end of the battle be the winner.

PUBG game is played online, the matter that all fighters and from all around the world at the same time the round starts when players fell from planes by umbrellas on the battlefield .the surface features /milestones the arms and even people will appear as if they are in the reality which helps to move to move the player to another world to live in real isolation and a virtual battle, as well as the game, gives a piece of detailed information on the available weapons and types of lead that can be used.

Psychology warns!

Psychology perspective confirms that this kind of game has a big danger because it makes the person escapes from his reality to live it, in another world far from the truth, he didn’t differentiate between the real world and the virtual world that the game shows. ’’Mariam Abou Aoun a specialist on clinical psychologist explains to ALNahar website and affirms that the game has a bit dangerous on the teenager because it makes him imagine that violence is the only way for self-defense and she added ‘’ as if violence is the way to reach the desired goal and killing persons is normal ‘’ and she explained that PUBG and the like makes the one resort to violence to resolve his dispute as if the harm becomes a normal matter, thus he becomes socially isolated and has a nervous reaction, interacted with a machine and live in an imaginary world.

Moreover, she emphasizes the effect of this game at the school student's level, also it can lead them to be addicted, and she warns from the use of the weapon on this game can lead the person can use it in daily life ‘’. Away from psychology and playing the game, shop

owners and electronic gaming centers are the first beneficiaries from the commotion created by the game, and the remarkable thing is that these people did not hesitate to buy the computers of this game and expand their business because its financial return is very big and cannot be underestimated.

PUBG, four letters summarized a reality revolves between addiction and flight, on one hand, entertainment and fun from another hand, no matter how many theories and explanations abound reality remains one that youth generation is threatened from different levels, from the arms culture side and the ideas that grow within them about resorting to battles and wars to achieve victory starting from the desire of survival.

‘’ Alzheimer’’

Beware of Alzheimer’s

Many diseases creep into the person without noticing such as Autism, Diabetes, Hypertension, Dementia, and finally Alzheimer's. The worst in these diseases that the patient loses himself when he is alive.

Alzheimer's is discovered for more than 1906 centuries when the German doctor Alois was the first one who describes Alzheimer's with a dangerous disease, it ruins the brain, destroys the character after destroying the memory.

When symptoms of the disease appear, the scholars and the ignorant begin diagnosing it as in seeing jaundice in the eye

, however noticing its first indicators is the important matter, because the patient is on the way until he doesn’t know who he is, so there is no memory, personality, and no will, The German minister of health “Hirman Jrohih” start trying to issue a parliamentary approval to act on behalf on the Alzheimer’s patients because of the absence of his will in addiction to patients volunteered to donate to try medications or to take his brain for dissection to find out the reason behind this dangerous diseases.

Currently, Dr. Katherine Borger president of the Alzheimer’s Association at the university center in Munich Germany starts to make a detailed plan of seven stages to understand the disease, the first stage is when the patient feels that he is unwell and he is not himself but there is no symptom or sign indicates a dangerous disorder, and it is not possible to guesswork how long this situation will last.

Then the patient moves to the second stage, and it is also characterized with a small memory disorder like the words he memorized he will forget them quickly, and the daily needs that he stumbles to understand it.

The third stage is a little effect when the patient will notice that his friends, people he knows, his mates, things that he read and deal with will disappear from his memory

The fourth stage is the medium effect on the disease, and here anatomy may be useful on the detection of the cerebral cortex, in this stage the patient is troubled in doing complete duties, where the fifth stage begins with the annoying memory blanks and the place of his car keys and the main streets of the town where he lives!

This happens when the disease dive in the patient to moves him to the sixth stage when the memory is disappeared with the disorder of the patient and his will, he starts to the deficit and reliance on people around him.

The last stage is not the close where the patient cannot tell people around him what is going on inside him, he begins to lose control of his body, stiff joints, and calcification of muscles after losing his will and consciousness as if he is not a human being.

الملخص بالعربية

اصبحت الحضارات حول العالم متقاربة لبعضها البعض مع وجود عدة حضارات اخرى بعيدة، هذا ما جعلها متقاربة ايضا في لغاتها، ولكن الاختلاف يكمن في طريقة التعبير وتوصيل الافكار والاحاسيس إلى الآخر ولهذا اصبحت الترجمة الوسيلة الوحيدة لتسهيل التواصل بين الافراد والبلدان لكي تحقق التفاعل والترابط بينهم، فهي تعد كجسر للاتصال بين كل المتحدثين وبمختلف اللغات.

بعد التطور الذي شهده العالم وظهور الانترنت مع الحاسوب، اصبحت الترجمة الآلية وسيلة ضرورية فضلا للخدمات التي تقدمها للفرد، مثل السرعة والسهولة وقدرتها على فك شفرات مختلف النصوص بالإضافة إلى فهمها للكثير من المصطلحات في مختلف اللغات. ورغم هذا لا تزال نظم الترجمة الآلية تواجه بعض العراقيل مما يؤدي إلى حدوث ترجمة غير أمينة والتي تحتاج إلى فحص وتدقيق للنص الهدف.

تتميز النصوص التقنية بمصطلحاتها الخاصة وكذلك بمفرداتها المعقدة بعض الشيء. لأن لها لغة خاصة وكل واحدة تتعلق بمجال مختلف، اخترت النص التقني في بحثي هذا لأوضح خصائصه و أسلوبه و مختلف المجالات التي يمكن ان يطلق على نصوصها انها تقنية، مثل مجالات الاقتصاد و التجارة و القانون و التكنولوجيا و الطب و غيرها. و من جهة فإن الترجمة الآلية تعمل على الترجمة من لغة إلى اخرى فقد عانت قديما من المستوى الضعيف من الجودة و الدقة للنصوص المترجمة و لكن نظم الترجمة الحديثة استطاعت ان تحسن كثيرا من جودتها.

يعد مترجم بينغ وياندكس للترجمة من أفضل سبعة انظمة وفقا لموقع جي 2، فيحتل ياندكس المرتبة الثالثة من حيث أفضل نظام للترجمة بينما بينغ يحتل المرتبة السادسة في القائمة. فيعود سبب

لهاذين النظامين كونهم من الانظمة التي تستعمل بكثرة من طرف الشركات، المتعلمون، و الناس عامة لترجمة الملايين من النصوص من لغتهم الأصلية إلى لغة أجنبية أخرى و العكس و هذا ما يشير إلى أن كلا النظامين لهما فعالية كبيرة رغم النقص الذي مازالت الترجمة الآلية تعاني منه.

ؤسگذب

ما الفرق بين ترجمة نص تقني بنظامي بينغ وياندكس للترجمة الآلية؟

آزكب تئمإب

1- كيف يمكن للبينغ وياندكس ان يوصل نفس معنى النص الأصلي؟

2- ما هي الصعوبات التي ستواجه بينغ وياندكس في ترجمة النصوص التقنية؟

3- أي من نظامي بينغ و ياندكس سيكون فعالا في ترجمة النصوص التقنية؟

طف صنئ ة

1. كلا من بينغ وياندكس سيترجم ويشكل نص مختلف.
2. يمكن ان يواجه بينغ وياندكس صعوبة في فهم المصطلحات التقنية.
3. من المحتمل ان يكون بينغ أفضل نظام.

قسمت هذه الاطروحة إلى فصلين، الأولى نظرية ومقسمة إلى جزأين، الجزء الأول يحتوي على مفهوم الترجمة ومفهوم الترجمة الآلية وتاريخ الترجمة الآلية والترجمة الآلية مقابل الترجمة البشرية، كذلك الهدف من استخدام الترجمة الآلية والترجمة الآلية واللغة العربية، الصعوبات التي تواجه الترجمة الآلية و أخيرا تعريف النص التقني. ومن جهة أخرى القسم الثاني الذي يحتوي على تعريف نظم الترجمة الآلية، تصنيف نظم الترجمة الآلية ومكونات نظم الترجمة الآلية بالإضافة إلى ياندكس للترجمة و بينغ المترجم.

أما بالنسبة للفصل الثاني فهو تطبيقي، تطرقت فيه إلى التعريف بالمدونة، الإحصائيات، منهجية التحليل، ترجمة النصوص التقنية الثلاثة من اللغة العربية إلى اللغة الإنجليزية ثم تحليلها بعد ذلك تحليل ترجمة كل منها.

طف سفـىئلآهك :بك تئم طخسطىئ

فت لب

في هذا الفصل سأناقش أهم النقاط المتعلقة بالترجمة عموما والترجمة الآلية خصوصا ، ومن جهة أخرى سأتطرق إلى مفهوم النص التقني على أنه نص غير أدبي يتميز بمصطلحاته التقنية بعكس الأنواع الأخرى من النص بالإضافة إلى الصعوبات التي تواجه المترجم والآلة عند ترجمته ، طرحت بعض الإرشادات للمترجم لكي يتبعها لترجمته ولكي تكون بعين اعتباره عندما يبحث عن المكافئات والتي تعتبر كقاعدة عملية الترجمة ، خاصة عندما يعمل ببرنامج ترجمة ليعمل على نص تقني مختلف تماما عن باقي النصوص الأخرى .

1. ةمعدإ ثطكئجدب

الترجمة هي نشاط فكري ، حيث يتم تحويل جزء لغوي من نص ما من لغة ما إلى لغة أخرى حيث يتم البحث عن مكافئها من اللغة المصدر إلى اللغة الهدف . اللغة المترجم منها تسمى باللغة المصدر واللغة المترجم إليها تسمى باللغة الهدف ، يجب على المترجم أن يحظى بمعارف كبيرة في اللغتين من المصدر والهدف وبالإضافة إلى حساسية لغوية تساعده في توصيل نية الكاتب من النص ، الأفكار الأساسية والآراء على وجه التحديد في النسخة المترجمة ليكون أمين .

الهدف من الترجمة هو إيصال المعنى الأصلي للنص المصدر وبهذا فقد كان للترجمة تاريخ كبير في الحضارات الماضية ونذكر منها:

استعمال البشر الترجمة في العصور السابقة ، بداية بعد ظهور الأدب المكتوب فاستعمل المترجمون آنذاك بعض الأدوات والتقنيات لاستكمال عملهم في الترجمة ومن بعض تواريخ الترجمة القديمة المشهورة هي قصة حجر روزيت وقصة أرض بابل وبيت الحكمة .

كتبت العديد من اللغات على حجر روزيت منها اللغة الهيروغليفية والكثير من اللغات الأخرى اكتشفت عام 1799 بفضل بعض من أفراد الجيش الفرنسي النابولي ،لقد أعطى حجر روزيت الفرصة للعلماء الجدد لدراسة وترجمة اللغة المصرية الهيروغليفية المنحوتة عليه ومن بين أولئك العلماء كان العالم جين فرونسوا شامبليون هو الناجح في ترجمة تلك المنحوتات الى اللغة المصرية الهيروغليفية ،الديموتيكية واليونانية القديمة .

تعتبر بيت الحكمة من المؤسسات التعليمية المشهورة في بغداد والتي كان يحكمها الخليفة العباسي هارون الرشيد ومن ثم خلفه في الحكم ابنه المأمون، كانت المؤسسة تعمل على ترجمة الأعمال من اللغة اليونانية الى اللغة العربية وبهذا حققت نجاح كبير بترجمة العديد من الأعمال الى اللغة العربية فاستطاعة أن تكون مكتبة مشهورة لتضع كل أعمالها فيها وتسمى بخزانة الحكمة بهدف توصيل كل المعلومات للمتكلم العربي بالتحديد.

2. [illegible]

هي ترجمة نص عن طريق الكمبيوتر بدون مساعدة بشرية، ووفقا لقاموس أكسفورد هي عملية تحويل لغة النص المصدر للغة النص الهدف عن طريق استعمال برنامج كمبيوتر لكي يسهل أكثر عملية الترجمة في وقت قياسي .

تعمل الآلة عن طريق عدد الكلمات الموضوعة في معجمها وقد يكون محدود ،ولكن كل برنامج ترجمة يحتوي على عدده المحدود من الكلمات في كل لغة وهدا يعني أن ليس كل الكلمات التي يتم وضعها في الآلة قد تجد لها مكافئها في اللغة الهدف .

هناك ثلاثة أنواع لبرامج الترجمة الآلية :

- **مطل نئظ عوطقوئت :** يتم فيه استعمال اللغة وقواعد اللغة بالإضافة الى القواميس للكلمات الشائعة ، يعمل هدا النظام لتحليل محتوى النص وقواعده فيتم تحويل البناء اللغوي من اللغة المصدر الى اللغة الهدف .
- **طسظئلأح سئذب :** عكس الأنظمة القائمة على القواعد ، فهي تعمل على كيفية ترجمة النصوص وتقوم بتحليل عدد كبير من المعلومات من اللغتين
- **طئدجبئيذبطع سذب :** فهي تعمل على بناء وتدريب شبكة عصبية واحدة كبيرة تقوم بقراءة الجمل ونتاج أحسن ترجمة صحيحة ،مترجم جوجل ومايكروسوفت يعملون باستخدام الترجمة الآلية العصبية ، فتعمل على تدريب الآلة أو صنعها لتصبح تترجم النص بطريقة مقاربة الى العقل البشري .

3طئدجبئيذب ئقطئدجبطخدإب

تتعلق مزايا الترجمة الالية عامة إلى عاملين، أي انها الأسرع و الأرخص، الأمر المهم و الذي يجب لن يأخذ بعين الاعتبار هو تكلفة الأخطاء المحتملة، لأن ترجمة تعليمات المعدات الطبية او كتيبات الطيران او الوثائق القانونية او اي محتوى يحتاج إلى دقة بنسبة ٪ 100، ففي هذه الحالات الأخطاء الناتجة عن الترجمة ستكون تكلفتها عالية، فعندما نحتاج إلى ترجمة دقيقة صحيحة ببساطة الترجمة البشرية هي الخيار الأمثل.

يوضح الجدول ادناه إيجابيات وسلبيات الترجمة الآلية و البشرية

	الترجمة البشرية	الترجمة الآلية:
إيجابيات	• يمكن للإنسان ان يترجم المعنى المراد ليس فقط كلمة بكلمة • يستطيع المترجم المحترف فهم كل اختلاف اللهجات بين اللغات	• يكمن الترجمة باستعمال العديد من الانظمة مثل جوجل المترجم وسكايب المترجم... • لا تأخذ الكثير من الوقت
السلبيات	• لا يعمل المترجمون عادة مجانا • الوقت المقضي في الترجمة يكون طويل	• مستوى الدقة ضعيف • لا تستطيع الآلة ترجمة المحتوى الحقيقي

الأمر الذي يمكننا أخذه بعين الاعتبار حول الترجمة الآلية والبشرية هو انه يمكننا استعمال هاذين النوعين من خدمات الترجمة لأن كلاهما يخدم غرض صالح للغاية.

4ﻙﻫﻕ . ﻝﻛﺉﺯﺋﺟﺟﻝ ﻡﻅﻅﻙﺋﺩﺟﺩ ﺑﺉﻱﻙﺫﺏ

مع تطور التكنولوجيا استطاع الإنسان أن يتواصل مع عائلته وأصدقائه في أي مكان في العالم فقد ساعده هدا التطور للوصول ولتعلم المعرفة له ولمجتمعه لجعل المعلومة مفهومة بسهولة عند ترجمتها من لغة إلى أخرى ، كثرة المعلومات والمعارف قادت المترجمين للبحث عن طريقة تساعدهم في ترجمة هدا الكم الهائل من المعلومات الهادفة فتوصلوا إلى نظم الترجمة الآلية التي تستطيع أن تترجم العديد من الأعمال في دقائق معدودة .

5 ك ئدج د بئ ك ذ ب ك ك غ ب ك ع د ذ ب

في البداية كانت الأبحاث الأولية في مجال الترجمة الآلية مركزة على اللغة العربية فقد كانت من اللغات التي تم تجريب بعض الترجمات عليها في الولايات المتحدة الأمريكية عندما كان الأمريكيون يرغبون في معرفة كل ما يخص البلدان الأخرى وقد عملوا على تطوير نظام خاص يترجم من اللغة العربية إلى الانجليزية.

6. ت ع د إ ف ك د س ك ق ض ى

يعرف النص التقني على أنه نص معلوماتي وتعليمي ويستطيع أن يظم بعض المجالات كالتكنولوجيا، التجارة والطب وغيرها. يوصف عادة على أنه نص غير أدبي يتركز على توصيل معلومات محددة فيكون المرسل إما مهندسا تقنيا أو أي متخصص عام أما المتلقي فيكون متخصص أو غير متخصص . تعتمد الترجمة التقنية على القدرات العالية و العدد الكبير من المعلومات والمعارف والمصطلحات لتكون ترجمة مقنعة وصحيحة لأن الترجمة التقنية مطابقة للترجمة العادية عامة تهدف إلى توصيل رسالة ما إلى المتلقي.

7. خ س ئ س ك د س ك ق ض ى

المقالات العلمية ودليل المستخدم تعتبر كذلك من النصوص التقنية لأنها تشارك المعلومات التقنية إلى تخصصات محددة وللناس عامة وفي يومنا هذا ارتفع عدد النصوص التقنية المترجمة بسبب فائدتها على المجتمع ككل. تتميز النصوص التقنية بكونها خالية من التعابير وهدا ما صرح به (بايكس) حيث قال: " تتميز النصوص التقنية بالموضوعية، غياب العبارات التعبيرية والعواطف والإيجاز ... ".

8. ة د ج د ب ك د س م ش ك ق ض ذ ب

تعتبر ترجمة النصوص التقنية كترجمة لنصوص متخصصة، فهي تتركز على نصوص التي تحتوي على حقائق تكنولوجية، صرحت سيلفيا جيميرو ان النصوص المتخصصة تتميز بكونها تستعمل لغات متخصصة ايضا حيث انها وضعت خمسة مستويات للتي يجب على اي مترجم محترف ان يملكها وهي عبارة عن معلومات في المجال الموضوعاتي، معرفته لمصطلحات خاصة، القدرة على الاستنتاج المنطقي، التعرف على انواع النص، والقدرة على اكتساب الوثائق.

9ئزئةذ تنئ ة ةنجدبطخ سم شطكقضذب

يتركز النص التقني عند ترجمته على الفهم على عكس الترجمات الأخرى، فطبيعيا انه لا يمكننا ان نترجم كلمة ما اذا تعذر علينا فهم معناها سواء كان الأمر يتعلق بمجال خاص او بمصطلحات لا نعرفها لتخصصها.

تمر الترجمة التقنية عبر المراحل التالية:

1) **طكئ ثكف:** في للترجمة التقنية يستغرق وقت التحليل وقتا قصيرا اقل من الترجمة الادبية، لذلك فإن الترجمة التقنية تكون أسرع

2) **طفسظ:** في المرحلة الأولى يكون المترجم وحيدا مع نصه، انا في المرحلة الثانية فيتم ادخال المتلقي في الحسبان لكنه من المفضل ان يتم فصل المرحلتين في الترجمة التقنية لأنه مثلما ذكرنا اعلاه ان فهم النص التقني يكون اكثر صعوبة من فهم انواع اخرى من النصوص

3) **طكئنجدب:** في هذه المرحلة يكون المترجم قد تعرف على الكلمات الالتباسات و الكلمات الغامضة في النص و هذا بفضل أدوات الترجمة المقدمة لديه من طرف اخصائيون، فيبدأ بالترجمة و البحث عن المكافئات في اللغة الهدف

4) **[illegible]:** تكون مراجعة النص التقني عن طريق التركيز في محتوى نص وليس في شكله، فمن الضروري ان يؤدي هذه المهمة لمختص تقني باستطاعته ان يتعرف على المصطلحات الخاطئة عن طريق الترجمة و وضع المكافئات الصحيحة في اللغة الهدف.

10. [illegible]

في الحقيقة ان صعوبة ترجمة النصوص التقنية ليست فقط في المصطلحات التقنية للنص و التي تملك مكافئاتها في اللغة الهدف بل ان المشكل يكمن في التعابير الجاهزة الخاصة بلغة الاختصاص و هذا ما اوضحته كريستين ديريو في هذا المثال حين نترجم كلمة "charges" من الانجليزية إلى العربية فتصبح "الثمن" و لكن في مجال الهاتف تكون هذه الترجمة خاطئة حيث ان المقصود منها في ذلك المجال هو "الضريبة".

[illegible]

باختصار، الآلة المترجمة هي وسيلة سهلت عملية الترجمة على المترجمين وعلى الناس عامة وعلى الطلاب ومن جهة أخرى فإن النصوص التقنية تتميز بخصائصها العديدة معاكسة لباقي أنواع النصوص الأخرى، فالترجمة تلعب دورا كبيرا لحماية وإيصال محتوى النص الأصلي أما الترجمة الآلية ونسبة للتطور المستمر ليومنا هذا فهي تعمل على نفس الدور في الحفاظ على معنى النص.

[illegible]

[illegible]

تعتبر نظم الترجمة الآلية من التطورات المهمة حاليا، بفض المساعدة التي تقدمها علميا ، تجاريا وسياسيا فهي من الاتصالات الحديثة التي حولت الترجمة إلى جسر يسهل التواصل بين الشعوب لمختلف اللغات في العالم ، إذ سأعمل في هذا الفصل على تقديم مفهوم نظم الترجمة الآلية ،سأشرح مكونات نظم الترجمة الآلية مع شرح تصنيف كل نظام ، ومن جهة أخرى استعملت مترجم بنغ وياندكس المترجم كمثال لعمل مقارنة بين النصوص الهدف لاستخراج أوجه الشبه وأوجه الاختلاف .

1-فلسفة نظم الترجمة الآلية

قدم موقع سيستران شرحا مبسطا لنظم الترجمة الآلية حيث قال إنها عملية استخدام برنامج للترجمة من أجل ترجمة نص من لغة طبيعية مثل اللغة الانجليزية إلى لغة طبيعية أخرى مثل اللغة العربية ، من اللغة الأصل إلى اللغة الهدف .

2-تصنيف نظم الترجمة الآلية

صنف البعض نظم الترجمة الآلية إلى جيلين مثلما قال الدكتور عبد النبي ذاكر في مقاله (ترجمة الآلة ومراجعة الإنسان) أن نظم الترجمة تصنف حسب تطورها في جيلين حيث أن نظم الجيل الأول مباشرة ، فهي تبحث فقط على مرادفات الكلمات في القاموس وهذا يعني أنها لا تحلل النتائج . ومن جهة أخرى نظم الجيل الثاني تكون معقدة أكثر من الأخرى فهي تتضمن الأنظمة التي تعمل بتداخل لغوي .

3- لمحة عن بنغ

بينغ هو محرك بحث مملوك يشغل من طرف شركة مايكروسوفت التي تقدم العديد من خدمات البحث منها الويب، الصور الفيديوهات، البحث في الخرائط وغيرها وفقا لموقع ويكيبيديا فإن بينغ المترجم

لشركة مايكروسوفت هو نظام ترجمة آلي متعدد اللغات يعمل بترجمة آلية إحصائية ، وحاليا فهو يعمل بترجمة آلية عصبية .أنشأ موقع بينغ للترجمة سنة 2010-2011 وقد أصبح يترجم ب 60 لغة بحلول مارس 2020.

4- ئتكر رطهصئدخظ

وفقا لموقع ياندكس المترجم، فهو موقع ويب مقدم من طرف شركة ياندكس الروسية انشأ سنة 2011 ، وقد طور نظام ترجمته ليصبح يترجم ب 95 لغة .

طكجئقصدب

سهلت نظم الترجمة الآلية على الأشخاص الكثير من العناء لترجمة الكثير من المعلومات في عدة لغات مختلفة ، فيما مكننا القول أن للترجمة البشرية نتائج أفضل بكثير من نظم الترجمة ولكن برامج الترجمة لها فوائدها أيضا ، كل نظام يملك مكوناته وطريقته الخاصة في الترجمة ومن جهة أخرى ومع التطور الحالي أصبح هنالك نظم تترجم في مجالات خاصة مثل الطب ،القانون ،المجتمع ...إلى آخره.

طف سفطكبئمى:طك تئمطكئش ق ى

ئت لدب

في هذا الفصل سأقدم مقارنة لترجمات ثلاث نصوص تقنية اخترتها لأقوم بتحليل أوجه الاختلاف والتشابه بين مترجم بينغ وياندكس للترجمة اي ان كل نص هدف سيناقش بالتفصيل ثم سأستخرج الاختلافات بين النسختين العربية والانجليزية.

1 طك تذمئلإزئزى

كتبت النصوص التقنية في هذا الفصل من طرف كتابين مختلفين، فالنص الأول هو نص تقني بحت استعمل الكاتب فيه مصطلحات تقنية متعلقة بالمجال الصحي لكي يوضح خطورة "السجائر الالكترونية «. أما النص الثاني فهو نص تقني مبسط عن لعبة ببجي فهي لعبة مشهورة حاليا استعمل الكاتب في هذا نص مصطلحات تقنية بسيطة لكيلا يكون معقدا من حيث الفهم، أما النص الثالث فهو نص تقني متأدب عن مرض الزهايمر فهو خليط بين التقنية والأدب استعمل الكاتب فيه أسلوب أدبي ولكن المعلومات فيه علمية تقنية كتب من طرف المفكر والدكتور خالص الجلبي.

2. انئمذ قطم شد يـ

الهدف من هده الدراسة هو استخراج الاختلافات والتشابهات، أولا عبر مقارنة ترجمات النصوص التقنية باستخدام نظامي بينغ وياندكس للترجمة من اللغة العربية إلى اللغة الانجليزية وكيف يمكن لتلك الترجمات أن تكون قريبة للمكافئات الصحيحة في اللغة الانجليزية. كيف لنظم الترجمة أن تترجم المصطلحات التقنية وكذلك الصعوبات التي تواجهها.

3.طسه تدبطذ نكف

اخترت بعض الأجزاء من النصوص الثلاث كنص أصلي لكي تترجم إلى اللغة الانجليزية وتصبح كنص هدف باستخدام نظامي بينغ وياندكس بعد ذلك سأتطرق إلى التحليل اعتمادا على الإحصائيات المذكورة أعلاه.

4.ة نكفطهنئمذ ة

الأجزاء المختارة من الثلاث نصوص تقنية المذكورة أدناه معطاة باللغة الانجليزية والعربية مصحوبة بتحليل كل واحدة منهما على حدة كما يلي:

خاتمة

في التحليل اعلاه اردت ان اوضح كيف لنظم الترجمة الآلية توصيل نفس معنى النص الأصلي، رمن جهة ما هي المشاكل التي ستواجه كلتا الآلتين في ترجمة النصوص التقنية الثلاثة من اللغة العربية كنصوص اصلية إلى اللغة الإنجليزية كنصوص هدف و التي قادتني لأقول ان كلا من بينغ و ياندكس يواجهون مشكلا في توصيل المعنى الصحيح للنص الأصلي و خاصة عند ترجمة المصطلحات التقنية التي لا يمكنها فعلا ان تكون مفهومة بشكل صحيح إلا من طرف مترجم و هذا بعد بحثه على المكافئات المناسبة للمصطلحات، إضافة إلى هذا، عند مقارنتي بين النظامين، كلاهما يواجهان مشكلا في فهم اللغة العربية لأنها صعبة نوعا ما عن باقي اللغات الأخرى و هذا ما يجعل الترتيب، الصرف، النحو صعب للترجمة عن طريق نظام بينغ و نظام ياندكس للترجمة.

خاتمة

تعتبر نظم الترجمة الألية من التطورات الكبيرة التي حصلت من وقت طويل ومازالت إلى يومنا هذا في تطور مستمر حتى وصلت إلى مراحل متطورة، و من جهة هنالك الكثير من نظم الترجمة التي صنعت من أجل مساعدة الناس التي لا تتقن اللغات الأجنبية و هذا ما جعلها مفيدة و مساعدة لهم لترجمة النصوص من لغة إلى أخرى.

في هذا البحث اخترت بينغ للترجمة و ياندكس المترجم محاولة إثبات فعالية كل منهما في الترجمة من اللغة العربية إلى اللغة الإنجليزية، و من جهة اخرى اخترت النصوص التقنية كمثال لبحثي لترجمتها من اللغة العربية و لنلاحظ صعوبتها و تعقيداتها على النظامين لفهم مصطلحاتها و صرفها و

نحوها و المحتوى خاصة عندما ندخل عليها جملة طويلة او فقرة فستعمل على ترجمة النص الهدف بترتيب خاطئ و من جهة اخرى تكون الترجمة حرفية.

ياندكس للترجمة كان أضعف نظام لأنه عند ترجمتي للنصوص التقنية الثلاثة ترجم بعدد كبير من الأخطاء نحويا ودلاليا و صرفيا، و كانت ترجمته غير مفهومة عامة و لم يتم الوصول إلى معنى النص الأصلي الصحيح و هذا لصعوبة اللغة العربية و صعوبة فهمها لنظام ياندكس. في حين كان برنامج بينغ للترجمة هو الافضل في ترجمة النصوص التقنية لأنه استطاع ان يترجم جمل مفهومة ووصل إلى المعنى المراد من النص الاصلي لأنه لم يواجه الكثير من الصعوبات في ترجمة اللغة العربية إلى اللغة الإنجليزية.

تعتبر نظم الترجمة الآلية غير قادرة على الوصول إلى جودة و دقة الترجمة البشرية و هذا ما جعلها ليست الأفضل للاستعمال الدائم ولكن جودة ترجمة النظم تستطيع أن تتحسن عبر عدة طرق مثل تطوير القواعد فيها اضافة إلى تطوير الشكل و فحص الترجمات لتصبح واضحة و خالية من الكلمات الغامضة و من جهة إعادة النظر و تصحيح الترجمة للوصول إلى ترجمة دقيقة و مقروءة للنص الهدف و كذلك تعتبر الترجمة العكسية حل آخر من أجل الحصول على أفضل ترجمة فعندما نترجم من نظام إلى آخر يعمل نقوم بإعادة ترجمة النص إلى لغته الأصلية لكي نستطيع ملاحظة الأخطاء الناجمة عن الترجمة الأولى و للحصول على ترجمة أفضل و أحسن

جامعة قاصدي مرباح ورقلة

كلية الآداب واللغات

قسم اللغة الإنجليزية

الترجمة الآلية والنصوص التقنية، دراسة مقارنة بين برنامج بينغ ويانداكس للترجمة

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الأستاذة

السنة الجامعية: 2019_2020

ملخص

تهدف هذه المذكرة الى عمل دراسة مقارنة بين الات الترجمة عبر الانترنت باستعمال مترجم بينغ و مترجم ياندكس في ترجمة النصوص التقنية تحديدا حيث اخذنا ياندكس نصا تقني بحت يتحدث عن السجائر الالكترونية اما النص الثاني فكان نصا تقني مبسط يتحدث عن لعبة ببجي و كيفية لعبها و من جهة أخرى كان النص الثالث عبارة عن نص تقني متأدب يتكلم عن مرض الزهايمر .فتمت الترجمة في كلتا البرنامجين من اللغة الاصلية و هي اللغة العربية الى اللغة الهدف و هي اللغة الإنجليزية و من هناك نستطيع المقارنة بين النصوص الهدف و النصوص الاصلية من اجل استظهار كفاءة و فعالية الترجمة الالية للنصوص التقنية و من اجل اختيار افضل برنامج من بين بينغ و ياندكس و من جهة أخرى لرؤية الصعوبات التي تواجه الالة لترجمة نص تقني

كلمات مفتاحية

الترجمة الالية –الترجمة –مترجم بينغ –مترجم ياندكس –الات الترجمة – النصوص التقنية – برامج الترجمة الالية.

Résumé

Ce mémoire vise à mener une étude comparative des machines de traduction en ligne utilisant le traducteur Bing et le traducteur Yandex pour traduire spécifiquement des textes techniques .nous avons choisi premièrement un texte purement technique parlant des cigarettes électroniques, deuxièment un texte technique simplifié sur le jeu PUBG et troisièmes un texte technique sur la maladie de Alzheimer. La traduction a été faite avec les deux machine, ensuit après la traduction des textes, nous pouvons comparer les textes cible dans les deux programmes, afin de démontrer leur efficacité dans la traduction de textes technique en terme de sens afin de choisir le meilleur programme entre Bing et Yandex et d'autre part de voir les difficultés rencontrées par la machine pour traduire un texte technique.

Les mots clé :

Traduction automatique – la traduction – le traducteur Bing – le traducteur Yandex– les machines de traduction – les textes techniques – les programmes de traduction.