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The practical significance of machine translation in linguistics

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***ABSTRACT**: The rapid increase in information on the basis of geometric progression has led to the need for systems that allow them to be quickly translated into other languages. In response, practical research in the field of machine translation or automatic translation began to be created.*
***KEYWORDS**: machine translation, machine linguistics, direct translation system, HAMT, Rule-based machine translation, Georgetown University, AM Kondratov.*

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I. INTRODUCTION

Most importantly, machine translation research is a cornerstone in the emergence of the science of computer linguistics. The first ideas for automatic translation were put forward by the English scholar Charles Babbage in 1836-1848. According to him, mechanical-electronic machines can perform automatic translation coded on the basis of structural similarities between languages. His project would require electronic machines with a memory capacity of 50,000 words to automatically translate 100,000 words.5 In 1949, Warren Weaver, an American scientist who was influenced by the ideas of Ch. Babbage, developed the theoretical basis for the creation of a system of machine translation and invited experts in the field of linguistics, decoding, programming theory.62 After that, collaborations on MT, cooperation projects were created in the United States. The first international conference on machine translation was held in 1952 at the Massachusetts Institute of Technology. In 1954, Georgetown University in the United States tested the world's first automatic translation. It is called the GAT system (abbreviation for Georgetown Automatic Translation). The experiments were performed on an IBM701 computer. The base of this experiment consisted of algorithms that translated 50,000 words (60 sentences) from Russian into English. In Russia, the pioneers of machine translation were D.Yu. Panov, AALyapunov, lSMukhin. After that, scientists such as OSKulagina, IAMelchuk, Yu.A. developed an automatic translation system.

All the processes that take place in the world can be explained by the system of collection, transmission, storage and processing of information. In today's fast-paced world of science and technology, we have to work very hard on a huge amount of information. Human capabilities (memory, speed) in managing this process are limited. The only way to be more efficient is to work on a computer. This, in turn, requires adapting all areas to computer work. Along with computer medicine, computer economics, computer law, it is natural for computer linguistics to emerge in linguistics. Creating Uzbek computer linguistics is a topical issue. This includes the introduction of the Uzbek language into the computer, language-related issues - teaching the Uzbek language, knowledge assessment (test), reading texts in Uzbek, entering information into the computer by voice, editing texts, translating allows you to do it on a computer. [2.148]

The first machine translation experiment in the former Soviet Union was conducted in 1955. After that, under the leadership of OS Kulagina and I.A. Melchuk, three major experimental systems of machine translation were created at the Institute of Applied Mathematics: from French to Russian (FR-1), from English to Russian and from French to Russian (in the new version). In 1959, a machine translation laboratory was opened at Moscow State Linguistic University. In 1974, at the INFORMELEKTRO Institute in Moscow, practical research on the creation of French-Russian (ETAP-1), English-Russian (ETAP-2) and German-Russian (NERPA) automatic translation systems was revived. In 1960, a special meeting of the former Soviet Union Academy of Sciences was held on

automatic translation. A special laboratory for automatic translation was set up at the meeting under the leadership of Professor A. Belonogov. In 1966, the U.S. Congressional Committee on Science held a discussion on the Automatic Language Processing Advisory Committee (ALP AC REPORT). Computers in Translation and Linguistics ”and stressed the ineffectiveness and impossibility of creating a universal system that provides high-quality automatic translation in“ Language and Machines: Computers in Translation and Translation ”.

The report also states that "natural translation" (human translation) is cheaper and better than machine translation. Since then, funding for automated translation research worldwide has declined sharply. They were only funded by the state in Japan. General Motors, Siemens, LG, and Philips are currently funding research for automatic translation around the world. Under the leadership of D. Tom, the SYSTRAN automatic translation system was developed at the request of the US Air Force. With this system, 2.5 million pages of text are translated annually from English into German, French, Spanish, Greek, Italian and from French into English, Spanish and Italian. The world's largest project on automatic translation was created in 1991 in the United States by NASA experts: DIANA. Its volume is 10 million words. It is based on 6 major languages of the world: English, Russian, French, German, Arabic, Spanish. Under the leadership of Professor Lyapunov, Russian scientists also developed the Retrans Vista project by Vista Technology. Its 3.4 million words were memorized. Then 1 million 800 thousand are Russian-English and 1 million 600 thousand are English-Russian words. Today, the following systems of automatic translation are available. The EUROTRA system, with a memory capacity of 40 million words, was developed by European scientists. It can perform automatic translation in all European languages. The SOCRATE system has a memory capacity of 40 million words. Performs automatic translation in 40 languages around the world. That is, it can perform automatic translation in the language in which the version of the Windows operating system is available. The Linguo System (Linguocomputer Dictionary) is a dictionary that contains information in 40 languages. In the 1990s, Global Link was created in America, and PROMT in Russia. As a result of the development of the Internet, automatic translation has also been established in the global network, which means that today the online translation system is also actively launched.

Disadvantages of automatic translation: 1. Words are translated directly during the automatic translation process. Therefore, translation is done with almost no adherence to grammatical rules. 2. It will be necessary to stylistically edit the automatically translated text. 3. Current automatic translation systems also translate word combinations almost incorrectly. 4. Automatic translation does not take into account polysemy, homonymy, tropes, phraseology, idioms.6 It is necessary to take into account. Otherwise the translation will not be successful. The word bat in the sentence means "bat", "shovel", "knitting", "small feast", and the word "look" means "look", "look", "look". means no. In this case, when translating these words into Russian or Uzbek, it is necessary to proceed from the context and its distribution (surroundings) in order to select the appropriate equivalent. This situation is especially complicated in the translation of texts involving idiomatic expressions. For example, the phrase You are an apple of my eyes is translated literally as “You are the apple of my eyes” because the denotative meaning of the word “apple” is “apple”. But if the translation is approached from the context, the correct translation will emerge. It should be noted that the part of the sentence "an apple of my eyes" is an idiom, and it turns into a sentence "You are the black and white of my eyes." There are three types of compatibility in translation: 1) equivalent compatibility - in which a word in one language corresponds exactly to a word in another language in translation. For example, the word "book" in Russian corresponds exactly to the English word "book". 2) variant compatibility - on the basis of synonymy and polysemy, variants corresponding to the meaning of the word are also produced. 3) transformational compatibility - it is mainly used in the translation of compound expressions, in which the translation is made on the basis of formal changes without affecting the content. For example, in English, the phrase “the decision of government” can be transformed into “the government’s decision”. In both cases, the content (“government decision”) does not change. With this in mind, it can be said that automatic translation is especially successful within the official language. Automatic translation of conversational and artistic texts has not yet been fully resolved.

The issue of automatic translation of languages that are not typologically similar and do not belong to the same system poses a number of problems. Thus, the problems of mechanical translation can be solved on the basis of a systematic study of differences in linguistic typology, identification of linguistic

universals, strict definition of phraseology, idioms, parems, synonyms, homonyms in languages. The highest quality translation occurs with human intervention. Because a translator approaches translation by considering the subtleties, semantic, grammatical and pragmatic aspects of human natural language. In this case, the approach should be as follows: Using mechanical translation, we have the first translated version of the selected text, after which the person intervenes in the translation process, ie he edits the existing translation. , checks parameters such as correct selection of words based on semantics, polysemy, homonymy, consideration of synonymy, stylistic correctness of sentences. Russian scientist Yu.I.Shemakin in his book "Nachalo kompyuternoy linguistiki" explained 2 different models of automatic translation and the translation procedure on the basis of drawings. The first approach is based on the “text-content-text” model and the formal description of semantics. The second approach is based on the “text-text” model and translation compatibility.. The first approach sought to achieve automatic quality translation by paying maximum attention to the semantics of the language. The linguistic basis of the system is "from the surface structure to the deep structure". In this case, the translation is based on the morphological, syntactic and semantic analysis of the language, dictionaries, grammatical rules, the body of the text. Theoretical and practical solutions to the complexities and problems of translating text from one natural language to another are still being explored. In 1984, Makoto Nagao, a professor at Kyoto University in Japan and head of the Japanese state program for machine translation, developed a new concept in this area. According to this concept, texts should be translated on the basis of analogy, based on texts previously translated by human hands. To do this, it is necessary to create a large database of knowledge (text and its translations) entered into the computer.

In the translation of new texts, similar text fragments are selected from the array of bilingual arrays and used in the successful output of the translation. M. Nagao called this approach to machine translation “Example Based Translation”, the former traditional approach is called “Rule Based Translation”. Professor M. Nagao also states that the approach he proposes is not absolute; “Any development, any approach created by the machine translation system will sooner or later fall into a dead end. Our approach is not without its burdens, we just want to delay this process. " Nagao's approach has given rise to other new approaches. For example, the American scientist Web Line's concept of "Translation Memory" or "Sentence Memory". According to this approach, in order to translate a certain text from one language to another, it is first shown to a highly qualified translator. The original text and its translation are then entered into a computer, the text is divided into fragments (individual sentences, combinations), and a database is created from these elements.

The database is uploaded to a search engine, which allows you to translate text fragments and individual sentences that have a translation. Some unfamiliar fragments of text (parts of text that do not have a translation in the database) are translated by hand. It is possible to use translations that are close to these fragments in the database. Human-translated parts of the text are re-entered into the database. In this way, the "translator's memory" is gradually enriched and the translation efficiency is increased. But with the salient advantages, you must know some of the disadvantages as well. First of all, you can't translate any kind of text this way. It is mainly intended for certain types of texts in a certain narrow direction. Second, it is not always possible for a large fragment of a particular text to match or be close to a large portion of another text in translation. Third, creating a "translator's memory" database or filling in an array of bilingual texts (bilinguals) poses many practical challenges.

Successful research on improving the quality and efficiency of automatic translation, the elimination of language barriers is being carried out today. As a result, all peoples of the world now have the opportunity to easily translate any text from one language to another. ldi. In conclusion, the study of the expression of the author's speech in translation, firstly, helps to improve the practical and theoretical knowledge of translators by identifying ways of expressing national identity in the work of art, and secondly, to generalize the rich experience gained in direct and indirect translation , identifying mistakes and shortcomings leads to a deeper understanding of the ideological content of the work of art.

The highest quality translation occurs with human intervention. Because a translator approaches translation by considering the subtleties, semantic, grammatical and pragmatic aspects of human natural language. The approach should be as follows: Using mechanical translation, we have the first translated version of the selected text, after which the person intervenes in the translation process, that is, he edits the existing translation - the order of adding additions, examines parameters such as the location of

parts of speech, the correct choice of words based on semantics, polysemy, homonymy, consideration of synonyms, stylistic correctness of sentences. Machine translation strategies have gradually changed. The translation strategy used in the first experiments is called the "direct translation strategy", in which only the literal translation consistency is taken into account in the translation process. This strategy has a negative impact on the quality and efficiency of translation. Therefore, criticizing this strategy, a "translation strategy using intermediate language" was developed..

II. CONCLUSION

In particular, this strategy is actively applied to automatic translation systems between languages with different grammatical structures and typological features. Human and computer participation in automatic translation is as follows: a) postediting - the text (machine-translator) is translated using a computer, then the human-editor (human-translator) edits it; b) preediting - in which a person adapts the text to a typewriter, then links it to a computer; c) interrediting - a person who interferes in the work of a machine-translator when faced with complex situations in translation. It is no exaggeration to say that today the field of automatic translation of computer linguistics has spread to all parts of the world. We hope that in the near future all the problems with automatic translation will be solved.

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