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Translation Dictionaries And Modern Solutions For Their Use
(Using The Example Of An Uzbek-Russian Dictionary)

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Abstract: This article covers the historical formation of Uzbek-Russian translation dictionaries, their lexicographical principles, and comparison with modern artificial intelligence (AI) based translation systems. The author analyzes the cultural, stylistic, and semantic aspects of traditional dictionaries and shows their advantages and disadvantages compared to machine translation. Using the example of Google Translate, Yandex Translate, and ChatGPT, the translations of some Uzbek words were compared, and the level of contextual understanding and semantic accuracy of these systems were studied.

Keywords: Translation dictionary, Uzbek-Russian dictionary, artificial intelligence, machine translation, lexicography, context, semantic equivalence, ChatGPT, Google Translate, Yandex Translate.

Introduction: In the period when the Republic of Uzbekistan pursues a policy based on comprehensive friendship, economic partnership, and intercultural relations with other countries, the compilation of translation dictionaries from Uzbek into other languages has become an urgent issue. Because as a result of these connections, the number of people interested in the culture and language of our country will also increase. Translation dictionaries play a special role in the correct understanding of the Uzbek language. We know that engaging in lexicography, compiling a dictionary, especially a bilingual dictionary, is a complex work process. Nevertheless, scientific research in this area has been conducted in the field of Uzbek lexicography, and as a result, a number of bilingual dictionaries have been created. In this article, we aim to analyze Uzbek-Russian dictionaries and consider it necessary to recall who worked in this area. Until the 1920s, there were practically no standard Russian-Uzbek or Uzbek-Russian dictionaries. Y.D.Polivanov, K.K.Yudakhin, Ashurali Zohiri, as well as our Jadids A.Fitrat, A.Kadiri made their contribution to this field. Soviet-era Uzbek-Russian lexicography covers a large period - from the 1920s to the 1990s. During these years, along with small-volume Uzbek-Russian dictionaries aimed at various purposes, large-volume academic Uzbek-Russian dictionaries of fundamental nature were also created [A. Madvaliyev]. Currently, the Department of Terminology and Lexicography of the Institute of Language and Literature of the Academy of Sciences of Uzbekistan is working on republishing and supplementing the "Uzbek-Russian Dictionary."

It is no coincidence that we touched upon the issue of creating a traditional dictionary above. As globalization begins to exert its influence in our country in the 21st century, modern technologies continue to develop rapidly. As a result, the need for interethnic dialogue has increased. The effectiveness of cultural, scientific, economic, and diplomatic relations between different peoples is largely determined by the level of use of language tools. Undoubtedly, translation dictionaries have historically been a means of exchanging knowledge, culture, and experience between two peoples. In this short period of time, electronic dictionaries have replaced traditional ones, and in the last 5 years, the use of artificial intelligence (AI) in translation has also been adopted. Today's person, instead of searching for the translation of a word in a book, can easily learn the translation of not only words

but also sentences and even texts in seconds by giving an electronic command. Of course, people who keep up with the times applaud these aspects of technological development. We decided to compare the machine translation of AI with traditional dictionaries compiled by scientists from a scientific point of view.

Uzbek-Russian dictionaries are a source that reflects not only the interpretation of words and phrases, but also the national characteristics and cultural heritage of the Uzbek language through them. However, today the rapid development of artificial intelligence technologies requires a new approach to the use of these dictionaries. Machine translation, neural networks, intelligent corpora, and automatic dictionaries are distinguished by their speed and convenience compared to traditional dictionaries. At the same time, the issue of the ability to fully reflect the cultural context of language, ambiguity, and syntactic complexity in AI technologies remains relevant.

Artificial intelligence or artificial intelligence (AI; English "artificial intelligence" - AI) - a field of science and technology aimed at creating machines capable of imitating human intelligence [uz.wikipedia]. In recent years, artificial intelligence technologies have become an integral part of the systems of science, production, and education on a global scale (in Uzbekistan over the past 4-5 years). His role in the field of language is also significant. AI is widely used in natural language processing (NLP), computational linguistics, voice assistants, machine translation, chatbots, and many other areas. Today, AI-based machine translation systems (Google Translate, Yandex Translate, DeepL) are becoming a modern form of dictionaries. They offer the user translations of words and phrases in different contexts, but it should be noted that they are still slow in providing cultural and stylistic explanations in traditional dictionaries.

The process of language acquisition by artificial intelligence is carried out on the basis of special algorithms, unlike humans. It uses the machine learning method. Machine learning helps programs in the AI system to assimilate, analyze, and systematize large amounts of information in a short time. Therefore, today AI-based programs are also widely used in the field of translation. Such translation methods are called machine translation methods. The main types of machine translation are:

• Statistical machine translation - introduced by Warren Weaver in 1949. It mainly corresponds to languages with similar sentence structures. From 2016 to 2017, it was used in Google Translate, Microsoft Translator, SYSTRAN, and Yandex Translate.

• Machine translation based on examples - introduced by Japanese scientist Makoto Nagao in 1984. This is done through examples consisting of a parallel two-language corpus, unlike statistical machine translation, and the translation is loaded.

• Rule-based machine translation - includes the grammatical, syntactic, morphological, and semantic laws of two languages, and this method differs from previous methods in its advantages.

• Neural network-based machine translation - uses the main part of artificial machine translation and occupies significantly less memory space than statistical machine translation. Also, within the framework of one language, they have the opportunity to learn independently and apply it in practice.

• Hybrid (mixed) machine translation, that is, a system that combines several approaches - tries to combine the best aspects of the above types of machine translation [Golovko, 2020].

AI doesn't memorize words like humans do when learning machine translation and applying it in practice. He tries to memorize these words and sentence structures through special codes. This method helps to memorize large amounts of information and quickly analyze it.

In this study, taking into account the above features of AI, we will compare the translation of some words given in the traditional Uzbek-Russian dictionary with the translation of AI and study how accurately translation programs reveal the meaning of the word. For the analysis, translation options of the Google Translate, Yandex Translate, and ChatGPT programs were selected.

EULOGIST (MADDOH)

In the Uzbek-Russian dictionary:

EULOGIST (MADDOH) 1 maddah (a street storyteller of the lives of saints; a professional storyteller of sacred stories); 2 prezr. apologet, panegiríst (ru. рел. маддáх (уличный рассказчик житий святых; профессиональный рассказчик священных историй); перен. презр. апологéт, панегири́ст, восхвали́тель; Do not deceive the enemy and do not speak the truth of flattery (Navoiy) uz. Dushman firibin yema va ~ xushomadin chin dema (Navoiy), ru. Не поддава́йся вра́жескому обма́ну и лесть восхвали́теля не принима́й за пра́вду.

Translate in Google Translate - to praise - definitions; To express approval to someone for certain qualities or merits. "Praise the student" (ru. хвали́ть – определения; Выражать одобрение кому-чему-н. за какие-н. качества, достоинства. “Хвалить ученика”).

Yandex Translate - maddox;

ChatGPT - maddoh — lustful, flattering, honorable, one who praises others excessively (depending on the context). (ru. льстец, подхалим, честолюбец, тот, кто чрезмерно хвалит других (в зависимости от контекста).

Let's also look at how the contextual version of this word is translated through the sentence "He praised":

Translate in Google Translate - he praised (ru.он похвалил);

Yandex Translate - he was insane (ru.он был безумным);

ChatGPT - he flattered (ru. он льстил) (literal translation: “He praised.” — ru. “Он занимался лестью.”)

We will also see the translation of the illustrative example given in the dictionary.

Example: Don't deceive the enemy and don't tell the truth from flattery. (uz. “Dushman firibin yema va maddoh xushomadin chin dema”).

Translate in Google Translate – Don't be deceived by the enemy, and don't be deceived by the ladder. (ru. Не обманывайтесь врагом и не обманывайтесь лестью).

ChatGPT - Don't believe the enemy's deception and don't take the flatterer's flattery for truth. (ru. Не верь обману врага и не принимай лесть льстеца за правду.

It seems that among translation programs, the translation of ChatGPT is quite close to the original meaning of the word. Google's translator program correctly conveyed the meaning within the context. And the "Yandex" program was completely unable to fulfill the assigned task.

Our next example:

AFANDI 1 master, sir; (уст. господи́н, су́дарь); 2 teacher (уст. учи́тель); 3 Afandi or Nasreddin Afandi (ru. Афанди́ или Насредди́н Афанди́ (широко известный герой узбекских народных сказок и анекдотов); Afandi Anecdotes (ru.анекдо́ты Афанди́); 4 fig. colloquial. eccentric; simpleton; (ru.перен. разг. чуда́к; проста́к; ◆ ~ dreams (uz. xayollar) unfulfilled dreams (ru.несбы́точные мечты́, иллю́зии).

Translate in Google Translate – sir; Master

Yandex Translate - gentleman;

ChatGPT- The word "afandi" translates in Russian as "afandi" or "mudres" / "ostroumes" - depending on the context:

• if used as a name, Afandi (for example, Nasriddin Afandi);

• if figuratively speaking, it's about a funny, intelligent person - mudres or ostroumes.

This word also has a figurative meaning. Therefore, we also tried translating the examples given with figurative meaning - "Afandi xayollar":

Google Translate – Sir, your thoughts.

Yandex Translate – Mr. fantasy.

ChatGPT – Russian translation: afandi dreams or thoughts of afandi - depending on the context:

• if "xayollar" is in the meaning of dreams, fantasies → dreams.

• if "xayollar" - fikrlar, öylar ma'nosida bo'lsa → Afandi's thoughts

The apps couldn't complete the second task correctly. When a guiding question was asked to ChatGPT, it couldn't reveal the meaning of "unfulfilled dreams, illusions."

Our next example:

RESPONSE 1 answer (ru.отве́т); 2 answer, solution (ru.отве́т, реше́ние); 3 permission, release; vacation (ru.разреше́ние, освобожде́ние; о́тпуск);

Google Translate - answer;

Yandex Translate - answer;

ChatGPT - answer (noun)

1. answer (ru.ответ)

o Answer the question — ru. Ответить на вопрос

2. reaction (ru. реакция)

o His answer was quick — ru. Его реакция была быстрой

3. objection (ru.возражение)

o Responded — ru.Возразил

4. responsibility (ru. ответственность)

o Responsible for their work — ru.Отвечает за свою работу

5. result, punishment, consequences (ru.результат, наказание, последствие)

o He found the answer to what he did — ru. Получил наказание / результат за свой поступок

"Give a wife's answer ": (uz. Xotinining javobini bermoq):

Google Translate – give a wife's answer

Yandex Translate – give a wife's answer

ChatGPT – Give a wife's answer — in the uzbek language, this means to divorce, to divorce one's wife. in Russian language: To divorce one's wife or literally: To divorce one's wife (ru.Развестись с женой or literally: Дать жене развод).

MAHTAL waiting impatiently; long-awaited; (ru. ожида́ющий с нетерпе́нием; зажда́вшийся) to be waiting, to wait, to wait (for someone), ~ to wait, to wait (for someone); I made you ~ (A. Qahhor, Sarob) I made you wait.

Google Translate – proverb (ru.пословица)

Yandex Translate – maxtal

ChatGPT – The word "mahtal" translates from Uzbek to Russian as "candy."

Now let's give a translation of the example that appears in context:

Google Translate – I made you a hero...

Yandex Translate – I made you wait...

ChatGPT – I made you a candy

This is a literal translation:

- I did — I did it
- you — You
- with candy — as "mahtal" (sweetness)

This phrase, in a humorous and metaphorical tone, means: "I made you sweet." (uz.“Men sizni shirinlik qilib qo‘ydim”).

As we can see, no program has been able to translate this word. However, the Yandex app translated the sentence contextually correctly.

In the context of today's globalization, the translation process has become an integral part of interethnic communication, and the need for accurate and meaningful translation of the Uzbek language into other languages is increasing. Therefore, translation dictionaries are important not only as a means of finding the meaning of a word, but also as a bridge between language, culture, and thought. From this point of view, the article analyzes Uzbek-Russian dictionaries and scientifically studies their comparison with artificial intelligence (AI) based translation systems.

The analysis showed that traditional dictionaries are able to fully reveal the contextual meaning of a word while preserving the cultural, stylistic, and historical layers of the language. At the same time, they do not fully meet modern requirements in terms of speed and convenience of practical application. Conversely, while AI-based translation systems - Google Translate, Yandex Translate, and ChatGPT - offer users fast, automatic, and contextual translations, they face challenges in accurately understanding polysemous words, cultural context, and stylistic nuances.

In the study, machine translation systems and dictionary translations were compared using the example of polysemous units such as "maddoh," "afandi," "javob," "mahtal." According to the results, although the translation of the ChatGPT program gave the most semantically close result, it still did not fully express the connotative meaning inherent in human thinking. This shows that the importance of the human factor in the translation process is still high.

Thus, it is proposed to combine traditional lexicographical approaches with artificial intelligence technologies as the most optimal solution in modern linguistics. Such integration helps to increase the accuracy of dictionaries, update their database, and provide the user with intuitive, contextual translations. In this way, the possibilities of correct and deep interpretation of the lexicon of the Uzbek language in the global information space, as well as the truthful expression of our national culture in foreign languages, will expand.

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