

## TARJIMA JARAYONIDA RAQAMLI TEXNOLOGIYALAR VA SUN'YI INTELLEKT VOSITALARIDAN FOYDALANISH IMKONIYATLARI

<https://doi.org/10.2761/zenodo.20097429>

*PhD, dotsent E.T.Tursunnazarova*

*O'zDJTU Tarjimonlik fakulteti*

*Ingliz tili tarjima nazariyasi kafedrasi mudirasi*

### **Annotatsiya**

Mazkur maqolada tarjima jarayonida raqamli texnologiyalar va sun'iy intellekt vositalarining qo'llanilish imkoniyatlari ilmiy jihatdan tahlil qilinadi. Mashina tarjimasi, neyron tarjima tizimlari, CAT-tools va korpus lingvistikasi kabi zamonaviy texnologiyalarning tarjima sifati hamda pragmatik moslikka ta'siri yoritiladi. Shuningdek, sun'iy intellektning tarjimon kompetensiyasini rivojlantirishdagi ahamiyati hamda uning afzallik va cheklovlari tadqiq etiladi.

### **kalit so'zlar**

sun'iy intellekt, mashina tarjimasi, neyron tarjima, CAT-tools, korpus lingvistikasi, pragmatik moslik, tarjima kompetensiyasi, raqamli texnologiyalar

## ВОЗМОЖНОСТИ ИСПОЛЬЗОВАНИЯ ЦИФРОВЫХ ТЕХНОЛОГИЙ И СРЕДСТВ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ПРОЦЕССЕ ПЕРЕВОДА

*PhD, доцент Э.Т. Турсунназарова,*

*заведующая кафедрой теории перевода английского языка  
факультета переводоведения*

*Узбекского государственного университета мировых языков*

### **Аннотация**

В данной статье научно анализируются возможности применения цифровых технологий и средств искусственного интеллекта в процессе перевода. Освещается влияние современных технологий, таких как машинный перевод, нейронные переводческие системы, CAT-инструменты и корпусная лингвистика, на качество перевода и прагматическую адаптацию. Также исследуются преимущества и ограничения искусственного интеллекта в развитии переводческой компетенции.

### **ключевые слова**

искусственный интеллект, машинный перевод, нейронный перевод, CAT-инструменты, корпусная лингвистика, прагматическая адаптация,

переводческая

КОМПЕТЕНЦИЯ,

цифровые

ТЕХНОЛОГИИ

## POSSIBILITIES OF USING DIGITAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE TOOLS IN THE TRANSLATION PROCESS

*PhD, Associate Professor* **E.T. Tursunnazarova**

*Head of the Department of English Translation Theory, Faculty of Translation  
Studies, Uzbekistan State World Languages University*

### **Abstract**

This article scientifically analyzes the possibilities of applying digital technologies and artificial intelligence tools in the translation process. It examines the impact of modern technologies such as machine translation, neural translation systems, CAT tools, and corpus linguistics on translation quality and pragmatic adaptation. Furthermore, the study investigates the advantages and limitations of artificial intelligence in the development of translation competence.

### **Keywords**

artificial intelligence, machine translation, neural translation, CAT tools, corpus linguistics, pragmatic adaptation, translation competence, digital technologies

The rapid advancement of digital technologies and artificial intelligence has significantly transformed the theory and practice of translation in the twenty-first century. Globalization, international cooperation, and multilingual communication have increased the demand for efficient, accurate, and technologically supported translation systems. Consequently, translation activities are no longer limited to traditional linguistic methods but increasingly rely on digital platforms, automated systems, and intelligent technologies.

Modern translation practice integrates machine translation systems, computer-assisted translation tools, terminology management software, and neural network technologies. These innovations enhance translation speed, consistency, and accessibility while simultaneously creating new theoretical and practical challenges in translation studies.

According to Anthony Pym<sup>43</sup>, technological progress has transformed translation into a “networked communicative activity” in which translators interact

---

<sup>43</sup> Pym A. Exploring Translation Theories. - London: Routledge, 2014. - 212 p.

with digital systems and global information environments. This perspective emphasizes the growing importance of technological competence within contemporary translation practice.

Digital technologies have become an essential component of professional translation workflows. Among the most widely used tools are Computer-Assisted Translation (CAT) systems such as SDL Trados, MemoQ, Wordfast, and Smartcat. These systems provide translation memory functions, terminology databases, and automated quality assurance mechanisms.

CAT tools improve translation consistency by storing previously translated segments and suggesting equivalent structures in future translations. This is especially important in legal, technical, and institutional translation where terminological uniformity is crucial.

Mona Baker<sup>44</sup> emphasizes that corpus-based technologies contribute significantly to translation studies by enabling translators to analyze authentic linguistic usage and discourse patterns. Corpus linguistics helps translators identify contextual meanings, collocations, stylistic tendencies, and pragmatic conventions across languages.

Digital technologies also support collaborative translation environments. Cloud-based systems allow translators, editors, and project managers to work simultaneously on multilingual projects in real time. Such cooperation increases productivity and facilitates international communication. Moreover, terminology management software assists translators in maintaining conceptual accuracy in specialized fields such as medicine, law, economics, and public administration.

Artificial intelligence represents one of the most revolutionary developments in modern translation studies. AI-powered systems use neural networks and deep learning algorithms to process multilingual data and generate translations with increasing fluency and contextual coherence.

Neural Machine Translation (NMT) systems such as Google Translate and DeepL differ significantly from earlier rule-based or statistical translation models. Traditional systems translated separate lexical units, while neural systems process entire sentences and contextual relations simultaneously. According to Noam Chomsky<sup>45</sup>, language reflects complex cognitive structures connected with human thought and creativity. Artificial intelligence attempts to simulate certain aspects of these cognitive processes through algorithmic learning and semantic prediction. Modern AI systems can successfully translate:

- informational texts;

<sup>44</sup> Baker M. In *Other Words: A Coursebook on Translation*. - London: Routledge, 2018. - 394 p

<sup>45</sup> Chomsky N. *Language and Mind*. - Cambridge: Cambridge University Press, 2006. - 190 p

- technical documentation;
- administrative correspondence;
- business communication;
- academic materials.

However, despite technological progress, machine translation still encounters difficulties related to:

- idiomatic expressions;
- metaphorical language;
- cultural references;
- emotional nuance;
- pragmatic meaning;
- discourse context. For instance, diplomatic or managerial communication

often employs indirect language and institutional politeness strategies that require human interpretative competence.

Translation is not merely the transfer of lexical meaning but also the reconstruction of communicative intention and sociocultural context. Consequently, artificial intelligence systems frequently struggle with pragmatic and discursive aspects of language.

Basil Hatim and Ian Mason<sup>46</sup> argue that translators function as discourse mediators who interpret ideological, cultural, and contextual meanings embedded within texts. For example, the English statement: “We appreciate your continued cooperation” may require different translation strategies depending on institutional context, communicative hierarchy, and cultural etiquette. AI systems may preserve semantic content but fail to reproduce appropriate diplomatic tone or pragmatic nuance. Another significant challenge concerns intercultural communication. Artificial intelligence systems often lack sociocultural awareness necessary for interpreting nationally specific concepts, historical references, and culturally sensitive terminology. Furthermore, ethical concerns related to confidentiality, intellectual property, and data security remain important issues in AI-assisted translation. Governmental, legal, and corporate documents require secure translation environments that protect sensitive information. The integration of digital technologies has transformed the concept of translation competence itself. Modern translators must combine traditional linguistic knowledge with technological and digital skills. Contemporary translation competence includes:

- linguistic competence;
- intercultural competence;
- technological competence;

---

<sup>46</sup> Hatim B., Mason I. Discourse and the Translator. - London: Longman, 1990. - 258 p

- pragmatic competence;
- post-editing skills;
- digital literacy.

Post-editing has emerged as a major professional activity in the era of machine translation. Instead of translating texts entirely from scratch, translators increasingly revise and optimize AI-generated translations. Yves Gambier<sup>47</sup> notes that the translator of the digital era acts as a “language mediator and technology manager” simultaneously. This demonstrates the evolving role of translators within technologically integrated communication systems. Artificial intelligence also contributes to translator education through:

- adaptive learning platforms;
- automated feedback systems;
- multilingual corpora;
- terminology extraction tools;
- virtual translation simulations.

These technologies facilitate individualized learning and improve professional training efficiency.

The use of AI technologies in translation offers numerous advantages:

- increased productivity;
- faster translation processes;
- terminological consistency;
- reduced operational costs;
- accessibility to multilingual communication. Nevertheless, several

limitations remain evident. Artificial intelligence cannot fully reproduce:

- human creativity;
- emotional interpretation;
- cultural sensitivity;
- contextual reasoning;
- ideological analysis.

Consequently, AI technologies should not be viewed as substitutes for professional translators but rather as supportive instruments that enhance translation efficiency. Human translators remain essential for ensuring communicative adequacy, pragmatic adaptation, and intercultural appropriateness.

In conclusion, digital technologies and artificial intelligence tools have fundamentally transformed contemporary translation processes. Machine translation systems, CAT tools, neural networks, and corpus technologies

---

<sup>47</sup> Gambier Y., Doorslaer L. Handbook of Translation Studies. - Amsterdam: John Benjamins Publishing Company, 2010. - 458 p

contribute to greater speed, consistency, and accessibility in multilingual communication. At the same time, translation remains a complex linguistic, pragmatic, and cultural activity that requires human analytical competence and intercultural awareness. Artificial intelligence systems are capable of supporting translation activities, but they cannot entirely replace human translators due to limitations in pragmatic interpretation and discourse understanding.

Future translation studies should therefore focus on developing integrative models that combine technological innovation with human communicative expertise. Such approaches will ensure more effective and ethically responsible interaction between translators and intelligent technologies.

### REFERENCES:

1. Pym A. Exploring Translation Theories. - London: Routledge, 2014. - 212 p.
2. Baker M. In Other Words: A Coursebook on Translation. - London: Routledge, 2018. - 394 p.
3. Hatim B., Mason I. Discourse and the Translator. - London: Longman, 1990. - 258 p.
4. Gambier Y., Doorslaer L. Handbook of Translation Studies. - Amsterdam: John Benjamins Publishing Company, 2010. - 458 p.
5. Chomsky N. Language and Mind. - Cambridge: Cambridge University Press, 2006. - 190 p.
6. Bowker L. Computer-Aided Translation Technology. - Ottawa: University of Ottawa Press, 2002. - 185 p.
7. O'Hagan M. The Routledge Handbook of Translation and Technology. - London: Routledge, 2020. - 624 p.
8. Hutchins W. J., Somers H. An Introduction to Machine Translation. - London: Academic Press, 1992. - 362 p.
9. Munday J. Introducing Translation Studies: Theories and Applications. - London: Routledge, 2016. - 395 p.
10. Комиссаров В. Н. Теория перевода (лингвистические аспекты). - М.: Высшая школа, 1990. - 253 с.