

The Influence of The Development of Translation Modes on The Translator's Mind

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Abstract. In the information age, when artificial intelligence is developing particularly rapidly, new changes have occurred in the translation mode. The transformation of the learning mode of bilingual learners has received widespread attention, while there are still deficiencies in the research on the thinking level of translators. This paper analyzes the two changes in the development of the translation mode up to now and studies the impact of the two changes on the translator's mind through interviews. This paper concludes that the influence of machine translation on the translator's thinking is mainly reflected in three aspects: the dependence on machines, the dependence on post-editing, and the reinforcement of language transformation thinking. The influence of artificial intelligence translation on the translator's thinking is mainly reflected in three aspects: the cultivation of creative thinking, the transformation of translation strategies, and the strengthening of the degree of human-machine collaboration. Based on these changes, this paper puts forward the following two suggestions. First of all, regardless of which translation method the translator adopts, they need to have sufficient familiarity with both languages and a certain reserve of vocabulary, grammar, and language features. Secondly, in the era of human-machine collaborative translation, translators need to consider both the accuracy and elegance of the translation simultaneously, together with taking into account both creative ability and critical thinking.

1 Introduction

With the rapid development of information technology, the translation mode has undergone two revolutionary transformations. The first is the transition from traditional human brain translation to rule-based machine translation. While the second is the transformation from simple machine translation to the current artificial intelligence translation, centered on big data algorithms. Although these three translation modes can all produce roughly the same translation results, there are significant differences in efficiency, accuracy, and operation methods. The traditional human brain translation mode has relatively low efficiency. Translators need to deeply understand the semantics of the original text and analyze cultural differences before they make accurate translations. Rule-based machine translation is highly efficient, providing translators with mechanical and corresponding translations by relying on a large corpus and mature translation experience. It's the same; artificial intelligence

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translation centered on big data algorithms is also highly efficient. With advanced learning algorithms and context analysis capabilities, it can provide translators with diverse styles of translations, taking into account both accuracy and readability. This evolution has exerted multi-dimensional influences on the development of translation awareness among language learners, which is of great research value.

In the research of machine translation, artificial intelligence translation, and human brain translation, most domestic researchers focus on two aspects-- translation accuracy and the translator's mind. Regarding the first aspect, Deng Jiayu & Li Longquan believe that the human brain should identify errors in machine translation from three levels, that is called vocabulary, syntax and text, to enhance the accuracy of machine translation. At the same time, translators should refine the translation through strategies such as enhancing vividness and simplifying complexity to improve the readability of machine translation [1]. Peng Bing, Hu Jingpu and Liu Huaiyuan concluded through research that human brain translators should deepen emotional cognition and make rational use of machines to achieve a win-win situation of human-machine integrated development [2]. Wang Huashu and Xie Ya conducted more in-depth research. Considering that artificial intelligence translation is becoming increasingly mature, they believe that English teaching also needs to make changes, fully utilize machines and combine subjective initiative [3].

Regarding the second aspect, Shen Xiaohua and Li Jinqing believed that universities can recognize the importance of post-editing capabilities, make up for the shortcomings of their courses and produce talents that meet the requirements of The Times for society [4]. Ma Yunpeng and Wang Yuhong expounded on the limitations of machine translation, arguing that the human brain can perform better than machines in terms of the elegance and completeness of the translation [5]. Dusen conducted in-depth research from a philosophical perspective and believed that artificial intelligence has caused humans to lose some divergent thinking and critical thinking, and training is needed to avoid its drawbacks and better utilize artificial intelligence [6].

Foreign researchers are also interested in modifying machine translations. However, they focus more on a specific professional field and analyze the differences between human-machine translation from a more detailed perspective. Yanli Gao&Tong La collected various topics of translation research. Through the means of data analysis, they speculated that the future research trends would focus on three aspects, namely human-machine ethics research, digital humanities or translation research and the application research of deep neural networks [7]. Choi Suyeon analyzed the advantages and limitations of current machine translation from the perspective of audio-visual translation and believed that the creativity of the human brain is the key to future development [8]. From the perspective of biological translation, Doo Nam Kim et al. believed that in fields like biology where there are many professional terms, machines still have many meanings that cannot be accurately conveyed. In this situation, human brain translation remains indispensable and the primary source of translation [9]. From the perspective of legal translation, Tahseen Ali, Hussein Al Romany, and Maryam Jawad Kadhim explained that in fields such as law that require extreme rigor, the translations provided by machines appear too rough [10]. From the perspective of cultural dissemination, Yi Liu, by comparing the differences in machine translation in various cultures, concluded that certain special words in different cultures require more human brain translation rather than machine translation [11].

Based on the existing research conclusions mentioned above, it is pointed out that machine translation places more emphasis on efficiency and practicality, while artificial intelligence translation places more emphasis on the completeness and literary quality of language. Therefore, the influences of the two transformations of translation modes on the translator's thinking mode are completely different. However, there are no clear research results at present, so it has certain research value.

This study will take the development of translation modes and the transformation of translators' minds as topics. Through interviews, this research will conduct an in-depth study on the changes in the thinking patterns of bilingual learners before and after the two transformations of translation modes, then provide some suggestions for language learners in the era of rapid development of artificial intelligence translation.

2 Research methods and results

2.1 Research methods

This study adopts the in-depth interview method as the main research approach, aiming to explore the influence of the development of translation patterns on bilingual learners' translation thinking through qualitative research methods. Based on the summary of the research directions of previous researchers, the interview outline covers four dimensions: the usage habits of translation modes, the process of using translation modes, the changes in thinking under different translation modes, and expectations for the future of translation modes. Fully considering the rhythm of the respondents' thinking from shallow to deep, the focus of the interview is on the third dimension. At the same time, based on the previous belief of some researchers that machine translation would lead to the rigidity of translators' minds, the question of whether technology limits the creativity of translators will be raised to the respondents.

In terms of the selection of interviewees, this study adopts the method of targeted selection and selects six senior students majoring in English at domestic universities as the research subjects. All these students have completed four years of professional course study, possessing rich translation practice experience, and thus could be capable of providing professional and in-depth insights. Among the six interviewees, two were learners with special backgrounds. The first one is a student with dual degrees in English and law. Her experience in bilingual conversion in her professional field provides a unique perspective for research. The second one once went to New Zealand for a two-year all-English study. During this period, they successively tried different translation modes to complete their studies. This personal experience of using multiple modes enabled them to offer more insights.

2.2 Research results

Based on the interview content, this study summarizes some commonalities and individual responses, reflecting that the changes in translation modes have a very significant impact on the translator's mind, mainly concentrated in several aspects such as efficiency, accuracy and elegance.

The first one is human brain translation. All six respondents indicated that they would not choose this translation mode if conditions permitted. The reasons are low efficiency, high difficulty, and unstable accuracy. The respondents pointed out that compared with the translation mode that relies entirely on the human brain, they prefer to use applications. Human brain translation requires a large vocabulary and a reserve of grammar knowledge, which is very time-consuming and labor-intensive to use in daily study. However, human brain translation can well display the textual characteristics of the translator and form various translation styles. Meanwhile, human brain translation can fully consider the differences caused by different languages and cultures during bilingual conversion to make timely adjustments.

The second one is machine translation. More than half of the respondents believed that in the translation of shorter paragraphs, this is the most convenient translation method, with fast

translation output speed and high accuracy. At the same time, they also pointed out that the translation results produced by machine translation are too mechanical, emphasizing complete correspondence translation. In most cases, machines cannot understand the context of the original text, which can easily lead to misinterpretation and translation. Meanwhile, machine translation results in relatively simple grammar and vocabulary, leading to imprecise translations and a significant amount of unnecessary repetition. Therefore, when translating longer paragraphs, respondents usually do not use machine translation. It is worth noting that the interviewee with legal professional study experience pointed out that when translating some legal professional knowledge, machine translation often makes mistakes and fails to understand the specific meaning of legal provisions. Therefore, she needs to consult relevant materials promptly and correct the errors.

The third one is artificial intelligence translation. All respondents believe that the results produced by this translation mode are relatively close to the effect they need. They usually hand over large chunks of text to artificial intelligence and obtain different results by inputting different keywords. Then they can choose the information they need from multiple results. Under such a mode, two respondents indicated that after setting more complex keywords, artificial intelligence sometimes adds some content that does not belong to the original text, causing unnecessary trouble. Half of the respondents pointed out that artificial intelligence translation is very likely to use extremely rare words when translating from Chinese to English, produce affected and self-praise translation tones when translating from English to Chinese. Artificial intelligence translation tends to use repetitive and cumbersome words, but this may not necessarily meet the needs of translators. The interviewee studying abroad particularly pointed out that artificial intelligence can better understand either solemn or relaxed contexts in translating daily emails and conversations, reducing the mechanical feel of machine translation, and providing better assistance.

This study found through interviews that the evolution of translation patterns has significantly influenced translators' ways of thinking and translation strategies. In terms of efficiency, accuracy and language elegance, human brain translation, machine translation and artificial intelligence translation each have their characteristics. The respondents generally believe that human brain translation is inefficient and difficult, although it can reflect the translator's style and handle cultural differences flexibly. Machine translation is convenient and efficient in short texts, while the translation quality in long texts is poor due to a lack of understanding of the context. The translation output of artificial intelligence is close to the demand, but there are still problems such as excessive embellishment and obscure words. It is particularly worth noting that in professional fields such as law, human intervention is still required for translation to ensure accuracy. Overall, translators tend to combine the advantages of different translation modes and seek a balance between efficiency and quality.

3 Discussion

3.1 Development trends of translation modes

With the popularization of computers and the development of science and technology, translation technology has also developed rapidly, which has greatly promoted the development of the translation industry, and the translation mode has also undergone profound changes [12]. Translators are gradually no longer confined to human brain translation. Instead, they are more combined with translation machines, forming a new model of computer-aided translation-machine translation and post-editing-interactive machine translation [12]. The translation industry has thus gradually entered the era of human-

machine symbiosis. The substantive progress of translation technologies and tools has triggered the fission and reconstruction of translation models [13].

With the reduction of translation costs, the widespread application of translation machines, and the rapid development of artificial intelligence technology, the translation industry has begun to face the requirements of balanced development in speed, cost, and quality [14]. After the maturity and wide application of artificial intelligence translation technology, the translation industry has once again undergone tremendous changes, giving rise to a new model where translators put forward translation requirements, artificial intelligence provides translation results, and translators select and edit the translation content. During this process, the instrumental rationality of artificial intelligence technology collided with the humanistic rationality of the translation process, accelerating the transformation of the translation mode [13].

It can be concluded from the two changes in the translation mode that each translation mode has different requirements for translators. The process from completely relying on the human brain to human-machine collaborative translation also brings certain changes to the translator's mind.

3.2 Development and changes of the translator's mind

Based on the interview results, this study summarizes the changes in the translation strategies of translators' minds when transitioning from human brain translation to machine translation and from machine translation to artificial intelligence translation.

3.2.1 Shift from human brain translation to machine translation

The influence of machine translation on the translator's mind is mainly reflected in the following three aspects: the dependence on machine translation, the dependence on post-editing, and the reinforcement of language transformation thinking.

First of all, before the emergence of convenient software translation such as machine translation, the task of translation was too difficult and time-consuming, thus language learners had a low willingness and enthusiasm to participate. The emergence of machine translation has enabled bilingual learners to have the opportunity to read a large amount of non-native language texts. However, at the same time, due to the efficiency and accuracy of machine translation, more and more scholars rely on machine translation, losing their analysis of the text and their translation style.

Secondly, due to the limitations of machine translation, translators often need to do a lot of post-translation editing, which make their thinking mode tend to correct errors rather than create, resulting in the process of independent thinking being largely simplified. For example, when machine translation processes complex sentence structures, there may be word order errors that the translator must adjust on their own. This process limits the translator's autonomous decision-making ability. When dealing with paragraphs in highly specialized fields such as law, machines are prone to misreading, causing difficulties in bilingual conversion and increasing the workload for translators.

Finally, traditional machine translation relies on terminology databases with low flexibility, thus, the translations it provides often have problems such as stiff sentence structures and incoherent semantics. When translators utilize machine translation, they usually need to adjust sentence by sentence. This strengthens the translators' language conversion thinking, paying more attention to the correspondence during bilingual conversion rather than the naturalness of the overall expression. For example, the translator may spend a long time struggling with whether a certain word accurately corresponds to the

original text, while entirely ignoring the logical connection between paragraphs or the consistency in writing style.

3.2.2 Shift from machine translation to Artificial Intelligence translation

The influence of artificial intelligence translation on the translator's mind is mainly reflected in the following three aspects: the cultivation of creative thinking, the transformation of translation strategies, and the strengthening of the degree of human-machine collaboration.

First of all, the breakthrough development of artificial intelligence translation technology has changed the traditional working mode of translation. Unlike the monotonous translations generated by early machine translation systems, artificial intelligence translation can produce translations with distinct styles according to the needs of users. The translation styles provided by artificial intelligence are more diverse, and the sentence structures are more fluid. Translators are no longer limited to word-by-word revision but can focus more on style optimization and rhetorical polishing. For instance, translators can make the generated translations suitable for different uses, such as papers, literature, or oral language, by providing different keyword requirements to artificial intelligence, and even carry out secondary creations on this basis.

Secondly, artificial intelligence translation places more emphasis on the process of freely translating based on the translation style and then choosing different translations. This is completely contrary to machine translation, because machine translation first performs literal translation and then makes human brain adjustments. More importantly, the free translation ability of artificial intelligence is sufficient to handle the differences between the two cultures. It can not only find accurate and equivalent expressions, but also make appropriate adjustments according to the style required by the translator. For example, when dealing with idioms, proverbs, or cultural metaphors, artificial intelligence may offer more idiomatic expressions. Translators only need to ensure that this expression conforms to the writing style without having to rewrite it.

Finally, artificial intelligence translation enables translators to shift from merely proofreading to making decisions. In the traditional machine translation mode, the translator's main role is proofreading, which takes time to correct the drawbacks of machine translation. In the era of artificial intelligence, translators transform into decision-makers and select better translation results by enhancing their critical thinking. Artificial intelligence can offer multiple translation options, thus translators can choose the best version according to different needs. The connection between humans and machines becomes closer and deeper due to this translation mode. At the same time, this requires translators to have stronger aesthetic judgment and creativity.

4 Conclusion

In conclusion, in the rapidly developing modern society of artificial intelligence translation, language learners need many new skills to make different contributions to the future development of translation.

First of all, vocabulary and grammar reserves are necessary skills. No matter which translation mode is adopted, the translator needs to have sufficient familiarity with both languages. Meanwhile, translators must also understand the background of both languages, including idioms, proverbs, or cultural metaphors, to better and more fully translate the intended content of the original text.

Secondly, in the era of human-machine collaborative translation, translators need to comprehensively enhance their professional qualities and improve their understanding of translation in the new era. Specifically, translators should flexibly apply traditional machine

translation and artificial intelligence translation tools, thus, through professional post-editing processes, paying more attention to creative expression while maintaining sensitivity to subtle differences in language. In addition, translators need to continuously learn emerging technologies and cultivate interdisciplinary thinking to maintain core competitiveness in the wave of intelligence and produce high-quality translations that not only conform to technical standards but also have humanistic warmth.

All in all, through interviews with six college students, this study explored the current attitudes of bilingual learners towards translation modes and their respective translation thinking, thereby summarizing the influence of the development of translation modes on the translator's mind. Research shows that the human brain can do better than machines in terms of creativity and critical thinking, which will also become a trend in the future. Meanwhile, the research suggests that in the current era of intelligent translation, translators need to possess the thinking and abilities to make some contributions to the future translation career.

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