

# *Comparative Analysis of Artificial Intelligence Translation and Human Translation from the Perspective of International Communication—Taking the Chinese Translation of "Dream of Autumn" as an Example*

Xueqin Dai\*

*English College of Liberal Arts, Nanjing University of Information Science and Technology,  
Nanjing, China*

*xueqindai2@gmail.com, 3241549004@qq.com*

*\*Corresponding author*

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**Abstract:** In the context of contemporary globalization and digitalization, international communication, as a multi-level and interdisciplinary field, assumes a vital role in facilitating the exchange of information across international borders, playing a crucial role in promoting communication and understanding worldwide. In this process, translation serves not only as a pivotal hub for cultural exchange but also plays a core and decisive role in the effective conduct of international communication. With the rapid development of artificial intelligence technology, its application in the field of translation is increasingly evident. While AI translation demonstrates certain advantages, traditional human translation retains its irreplaceable value. This paper aims to explore the differences between AI translation and traditional human translation from the perspective of international communication. Using Jon Fosse's work "Dream of Autumn" as a case study, it delves into the applicability and limitations of AI and human capabilities in the field of translation. Moreover, it predicts potential trends and prospects for the future development of AI and human translation.

## 1. Introduction

As the acceleration of globalization and the rapid development of information technology, international communication has become a key bridge connecting different cultures and languages. In this process, translation plays an indispensable role. Particularly, with the breakthroughs in artificial intelligence technology, AI translation has begun to challenge traditional human translation methods, and some even believe that AI will eventually replace human translators in the field of translation. However, human translation has its irreplaceable aspects, especially in the realm of literary work translation, where this technological innovation has sparked widespread discussion and controversy. Taking the Chinese translation of "Dream of Autumn" as a case study, this paper aims to explore from the perspective of international communication the differences and advantages

of AI translation and human translation in handling literary texts. It not only compares the technical and quality differences between the two modes of translation but also delves into how these differences impact the international dissemination and reception of literary works. Through this comparison, the paper seeks to provide new perspectives and insights for understanding and optimizing translation practices in international communication, and to indicate future directions for both AI translation and human translation.

## 2. International communication

The simple definition of international communication is the dissemination of information across national borders. However, this definition is too general. Fischer and Merrill argue that international communication is not just the cross-national flow of information, but rather an exchange of information between governments under the control of a communication agenda dominated by a few major countries<sup>[4]</sup>. Subsequently, numerous scholars have attempted to define international communication from different perspectives. Before the end of the Cold War, international communication was merely an interdisciplinary research perspective. Since 1990, with changes in international situations and communication environments, international communication has gradually developed into an independent field of study and academic discipline<sup>[11]</sup>. Broadly speaking, the more widely accepted current view is that international communication refers to the dissemination of information, cultural content, political views, and other types of messages between different countries and cultures. This includes official communication between governments, international reporting by news media, global advertising and marketing strategies by multinational corporations, as well as cross-cultural art and entertainment content. If international communication is a process of mass communication, then the study of international communication primarily investigates the phenomena and regularities of international communication. It falls under the category of communication studies and is a branch of mass communication studies, based on research in communication and mass communication<sup>[7]</sup>. The history of international communication dates back to early news agencies and wire services, facilitating the exchange of news between countries. Globalization and technological advancements, particularly the internet and social media, have dramatically transformed international communication, accelerating the global flow of information. It is an evolving field that shapes global information flows, inter-nation relations, and the ideologies of global citizens. Initially impactful in international politics, international communication has expanded with the involvement of transnational media and the globalization of information dissemination, continuously increasing its penetration, diffusion, impact, and intensity.

In recent years, China has increasingly emphasized the construction of international communication capabilities. In the context of globalization, the influence of international communication in the construction of international relations is growing. To accurately grasp the future development direction, a deep understanding of international communication is essential. It is noteworthy that some scholars consider translation inherently a form of communication, even developing it into the interdisciplinary field of translation communication studies. German translation theory scholar Wolfram Wilss views cross-language translation as a special form of communication, differing only in the involvement of two languages<sup>[8]</sup>. Professor Lu Jun first proposed the theory of translation communication studies in 1997. Lu Jun pointed out that the seven elements of the communication process who communicates, what is communicated, through what channel, to whom, with what purpose, under what circumstances, and the effect of the communication - constitute the entirety of the translation process, with each element interrelated and interdependent<sup>[10]</sup>. All these indicate that there is a profound and intricate relationship between international communication and translation.

### 3. Artificial intelligence translation and human translation

Recent years have witnessed rapid advancements in artificial intelligence (AI), with its widespread integration across various industries, including fully automated workshops and unmanned factories. AI's application extends to translation, a field that encompasses both machine translation (MT) and AI translation, with the latter being a subset of MT utilizing cutting-edge AI technologies like Neural Machine Translation (NMT) and Natural Language Processing (NLP). Notably, ChatGPT, developed by OpenAI, has garnered over a hundred million users within two months of its launch. ChatGPT leverages deep learning models, particularly the "Transformer" architecture, to generate human-like text outputs, undergoing rigorous output controls to ensure linguistic accuracy and fluency. After generating the text output, ChatGPT undergoes a series of output controls, including grammar, semantics, sentiment, etc., to ensure that the generated text conforms to human language habits<sup>[2]</sup>. According to the "2022 China Language Service Industry Development Report" released by the Translators Association of China, machine translation is widely used in the language service industry, with 86.1% of translation language service demanders recognizing that the use of translation technology improves translation quality, reduces costs, and increases efficiency<sup>[6]</sup>.

Despite AI's advancements, human translation remains vital due to its meticulous process involving deep understanding of the source text's meaning, cultural nuances, and subject matter expertise. The rapid development of AI, exemplified by ChatGPT's exponential growth and technological improvements, poses significant challenges to traditional human translation. However, AI's impact on the translation field remains limited, as all published works still undergo human involvement, underscoring the continued necessity of human translators in ensuring translation quality.

### 4. Comparative Analysis of Artificial Intelligence Translation and Human Translation from the Perspective of International Communication

Due to the notable controversy regarding the quality of AI translation in the field of literary works, this paper selects the drama script "Dream of Autumn" as a specific case for analysis. "Dream of Autumn" is a play by Jon Fosse, the 2023 Nobel Prize in Literature laureate, published in 1999 and originally written in Norwegian. The Chinese version was not published until 2016 by the Shanghai Translation Publishing House, translated by Zou Lulu from its English version. As ChatGPT represents the working principles of most AI on the market today and exhibits optimal performance, this paper uses the English version of "Dream of Autumn" as the original text. The comparison includes Zou Lulu's translation, ChatGPT4.0's translation, and the translation of ChatGPT4.0 with input prompts, to analyze the differences between AI translation and human translation from the perspective of international communication. This comparative analysis aims to shed light on how AI and human translations handle literary texts, particularly in terms of capturing the nuances, stylistic elements, and contextual depth that are intrinsic to literary works like "Dream of Autumn." The examination will consider the effectiveness of AI in translating complex literary styles and the extent to which it can replicate the interpretative and expressive depth typically achieved by human translators. Moreover, this study will explore how these differences in translation approach and quality affect the international communication of literary works, assessing the potential of AI translation in the broader context of global information exchange and cultural dissemination.

## 4.1. Cultural Sensitivity and Localization

Translation is fundamentally a cross-cultural social communicative activity, and thus the process carries a specific communicative purpose<sup>[9]</sup>. In international communication, emphasizing cultural sensitivity and localization becomes crucial to achieve this communicative purpose.

Example 1:

Everything's so visible  
everything can be seen  
the things that people hide with what they say  
the things maybe they don't even know about themselves  
I see all of that

Zou Lulu's translation emphasizes the repetition and reinforcement of "clearly visible," a common technique in Chinese to strengthen a certain feeling or image. Phrases like "too palpable" and "too clearly visible" in the translation add a strong sense of direct perception, making the translation more in line with the sensory experience and expression habits of Chinese readers. The ChatGPT 4.0 translation, on the other hand, reflects the original meaning more directly, appearing somewhat straightforward and concise in its conveyance of literary color and emotional depth. It focuses more on the direct conversion of the original meaning, with language expression being more general and universal, lacking deep adaptation to specific cultural backgrounds or literary styles.

## 4.2. Contextual Understanding and Flexible Expression

Context not only encompasses the direct meaning of the text but also covers the cultural background, social context, and implied meanings in specific situations. Correctly interpreting and expressing intentions and nuances within specific contexts in international communication can significantly enhance the effectiveness of communication and the dissemination of information, thereby fostering mutual understanding and collaboration between different cultures.

Example 2:

THE ONE  
Well  
Short pause  
When you've cast anchor

then  
quite short pause  
then

quite short pause  
then you have yourself a drink

THE OTHER  
A wee dram  
THE ONE  
It's just what you do  
short pause  
shall I pour us one

This comparison reveals ChatGPT4.0's misunderstanding of the original text. For instance, the phrase "When you've cast anchor," in the story's context, implies the action has already been completed, yet ChatGPT4.0 translates it too literally. Zou Lulu's rendition of "wee dram" showcases

creative flexibility, adapting an authentic British expression into a culturally resonant Chinese one, which is beyond AI's capability. Furthermore, ChatGPT4.0's translation of lacks the atmospheric essence of the original text.

Additionally, the original phrase "It's just what you do" conveys the pleasure of enjoying a small drink after tasks. Zou Lulu's translation aligns with the author's intent, adapting to Chinese readers' emotional and cultural background. In contrast, ChatGPT4.0's translations completely miss the mark, highlighting AI's deficiency in grasping deep contextual understanding and flexible expression, particularly in literary texts.

### 4.3. Language Style and Emotion

In international communication, consideration of language style and emotion is indispensable, as they significantly influence the effectiveness and depth of cross-cultural exchange. Considerations of language style and emotion are not only standards for translation quality but also key to the success of international communication. By meticulously handling these elements, translation can do more than convey information; it can bridge cultural divides, promoting understanding and exchange between different cultures.

Example 3:

THE ONE

Can you get hold of the gunwale

THE OTHER

No

THE ONE

You can't

THE OTHER

No

...

THE ONE

Can you reach it

THE OTHER

I'll try

THE OTHER just manages to get hold of the gunwale and he jumps and crawls onto the deck, gets to his feet

This passage's language style is particularly distinct, as the original text is a drama by Jon Fosse. Fosse's works are characterized by short sentences and an emphasis not on plot, characters, or traditional dramatic conflicts, but rather on a unique emotional tension and ambiance, abstractly exploring the human condition. Zou Lulu's translation captures the urgency and natural flow of the original dialogue through direct and colloquial language, particularly with the repeated phrase "You can't", which adds vividness and rhythm to the text. The action descriptions are detailed and coherent, aiding the audience's understanding of the scene, while emotional expression is lively, enhancing the atmosphere of tension and urgency. In contrast, ChatGPT4.0's initial translation maintains simplicity and clarity but lacks vividness in action descriptions and emotional expression. However, with prompt instructions, it improves in language nuance and vividness, though still not matching the concise and symmetrical structure of Zou Lulu's translation. However, it lacks the conciseness and symmetrical structure found in Zou Lulu's translation, showing a slight deficit in the unique craftsmanship of the human translation.

## 5. Insights Derived from the Comparative Analysis of Artificial Intelligence Translation and Human Translation

Human translation excels in conveying cultural nuances, handling complex texts, and adapting content creatively, providing personalized services tailored to specific audiences. In contrast, AI translation may struggle with contextual complexities and lacks the flexibility and artistry of human translation. Machines, after all, do not translate considering the broader context, nor do they deliberate and refine as humans do, so the quality of translation can be uncertain, especially for texts with strong literary characteristics<sup>[5]</sup>. Scholars have noted that machine translation software operates as a mechanical language processor, relying on collecting potentially infinite databases to enhance AI<sup>[1]</sup>. Combining AI and human translation optimizes efficiency and accuracy, particularly for international communication needs. In international communication, this hybrid approach is efficient. AI handles initial translations for large volumes or urgent tasks, while human translators refine translations for cultural adaptability and accuracy. Human feedback improves AI translation precision over time, enhancing reliability. Language, as a human product, carries special human emotions. Whether in language production or translation, the unique role of "human" is difficult for machine translation to replace<sup>[12]</sup>. Concerns persist about AI's dominance in translation due to its lack of consciousness and inability to replicate human emotions. While AI technology continues to advance, human translators possess cognitive abilities essential for navigating linguistic nuances and conveying human emotions in language. The scope of AI translation applications will expand, and the quality of translations will improve. Therefore, AI translation and human translation should coexist harmoniously and complement each other<sup>[3]</sup>.

## 6. Conclusion

This paper compares AI and human translation in international communication using the Chinese translation of "Dream of Autumn." While AI excels in efficiency and handling large volumes, it lacks human translation's nuanced understanding of cultural and emotional aspects. A mixed translation strategy, combining AI's strengths with human translators' cultural insights, is ideal. Looking forward, we anticipate AI advancements in understanding cultural nuances and emotions. Additionally, collaborative synergy between AI and human translators enhances translation effectiveness and quality, achieving an optimal balance between speed and accuracy.

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