

A Comparative Analysis of Human Translation and Machine Translation in Diplomatic Languages under the Theory of Functional Equivalence: A Case Study of the US-China High-Level Strategic Dialogue in 2021

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Abstract: This paper presents a comparative analysis of human and machine translations of Yang Jiechi's 16-minute speech during the 2021 China-U.S. High-Level Strategic Dialogue. Guided by the functional equivalence theory, this study examines the lexical and discourse choices of the human translator, Zhang Jing, against three different machine translations. The analysis focuses on the differences in translation regarding political sensitivity, cultural and emotional undertones, and the irreplaceable role of human translators in political language translation. The paper aims to demonstrate how effective human translation contributes to improving China-U.S. relations and enhancing China's international influence.

Keywords: Functional Equivalence Theory; Human Translation; Machine Translation; Diplomatic Language; Political Intent.

1. Introduction

Diplomatic language is a special form of discourse in foreign affairs and an important part of the political language of the country. Diplomatic language is also a language with high cultural load, which is an important part of national language life and diplomatic work. Diplomatic language is the embodiment of the collective will of the national leadership, national leaders and diplomats express their positions in foreign countries in strict terms, and the words and phrases represent the attitude of the country. The content of diplomatic language is related to the important aspects of national politics, security, economy and military interests, which also determines that in all translation practices, diplomatic translation is characterized by the strongest politics and the highest policy sensitivity. Therefore, translators must have a good grasp and deep understanding of the cultural background and political positions of the two countries, and must follow the four principles of political equivalence, uniformity of translation, professional expression and convention.

The booming development of translation technology in recent years has made the call for "machine translation (MT) to replace human translation (HT)" louder and louder. Some experts predict that machine translation will reach the level of human translation by 2029. In this project, the researchers will take the live translation of the 16-minute impromptu speech of State Councillor Yang Jiechi by Zhang Jing, an interpreter in the Sino-US High-Level Strategic Dialogue in 2021, as an example, and under the guidance of the theory of functional reciprocity, starting from the vocabulary and parts of speech of Zhang Jing's translation, supplemented with the Chinese side's attitude and emotional tendency, and in the practice of translation of politically sensitive languages, they will make a deep comparative analysis of the main differences between human translation and machine translation and the irreplaceable role of human translation in the practice of translation of political languages. The irreplaceable role of human translation in the practice of political language

translation, at the same time, is committed to the mutual integration and achievement of culture and politics, laying a solid foundation for easing the current Sino-US relations and for taking them to the next level in the future, and then enhancing China's international influence in the international community, upgrading China's international status, and promoting the development of global political, economic, and cultural prosperity.

2. Literature Review

2.1. Current Status of Domestic and International Research

There are a total of 149 studies on diplomatic language translation in China's full-text journal data network (CNKI). There are only a dozen studies on the comparison of human-computer translation, and there are no studies on the comparative analysis of diplomatic language as the language material.

Among the 149 studies on diplomatic translation, the main research direction of scholars is the characteristics and skills of diplomatic translation, and a small part of them combines political equivalence, functional equivalence and other related translation theories for evaluation and analysis.

Among the studies on the characteristics and skills of diplomatic translation:

Li Qin (2006), in her article on the characteristics of Chinese diplomatic language and translation, summarizes the characteristics of diplomatic language in terms of clarity, ambiguity, sense of proportion and accuracy. In Xu Yanan (2000) *Characteristics of Diplomatic Translation and Requirements for Diplomatic Translators*, the article emphasizes the political quality requirements of diplomatic translators, and explicitly points out that diplomatic translations are characterized by strong politics and high sensitivity of the text. In Gao Bin's (2014) article, it is pointed out that diplomatic language is a contradiction between accuracy and ambiguity, and as a special form of political language, there are certain difficulties in realizing "political equivalence", and the principle of precision and unity, the

combination of direct translation and Italian translation, and the conversion of cultural image equivalence are put forward in the practice of diplomatic translation.

Among the related studies that analyze diplomatic language by combining relevant evaluation theories:

Yang Dongqing (2012) combines Naida's theory of reciprocal translation in diplomatic interpreting under the guidance of the theory of functional equivalence and points out that the core of the theory of functional equivalence is that the response of the receiver of the translated language to the information in the translated text is basically the same as that of the receiver of the source language to the information in the original text, and that in order to realize the functional equivalence, it is necessary to combine the linguistic environment with the choice of words, dissolve the cultural differences in the interpretation of the meanings, respect the habits of the target language in the simplification of meanings, and rationalize logical relations in the paraphrasing. logical relations. Hu Xiang et al. (2013) introduced Noether's theory of textual function in their article on the use of pragmatic function analysis in diplomatic translation, and took Premier Wen Jiabao's answer to Chinese and foreign journalists' questions as the object of analysis, briefly describing the functions of information, evaluation, narration, infection, lyricism and persuasion in diplomatic language translation. In the article of Ren Dongsheng et al. (2021) on the metaphorical translation strategy of diplomatic discourse based on "political equivalence", Naida's theory of translation equivalence is also combined, but what is different is that Ren Dongsheng et al. mention an important theoretical branch of the theory of equivalence in the political language: political equivalence in this article. The political theory is characterized by politics, dynamics and balance. Politics means that in translating political language, the translator must take into account the cultural thinking and ideological differences between the speaker and the audience so as to convey the political stance and political connotation. Dynamism means that the translator must keep abreast of the latest developments in both the source language and the translated language. Balance means that the translation should seek a balance between the importance of the source language and the acceptance of the translated language, and seek two-way recognition. In Yang Yifan's (2021) article on the study of the principle of political equivalence in diplomatic language translation strategies, a relevant example study is also carried out on the basis of politics, dynamics and balance in the principle of political equivalence.

In the study of comparative analysis of human translation and machine translation in recent years:

Huang Junyan et al. (2021) in the comparative study of machine translation and human translation-taking the evaluative meaning in Siege as an example, the researchers, under the perspective of the evaluative meaning of the words, came to the conclusions that the human translation is close to the expression of the emotional color of the source language, the machine translation is based on the direct translation, the quality of the in-depth translation is lower, the meaning of the machine translation is in line with, but out of, the cultural context, and the machine translation will make mistakes, and so on. In the article of Wang Xiaolu (2021) Machine Translation VS Popular Translation: My Opinion on the English Translation of Popular Words, a comparative analysis is made in the degree of word selection fitness, the power of conversion of logical thinking and the power of adjusting

linguistic inertia, respectively, taking the examples of current popular words, network popular words, and logo popular words, and it is pointed out that the machine translation is insufficient.

In foreign journals, the research and discussion on the fundamental theory of translation "Naida's theory of functional equivalence":

Wu Runzhi (2018) in Reflections on Application of Eugene Nida's "Functional Equivalence" Theory to Translation Nida's Functional Equivalence Theory is discussed in general terms, firstly, it is clarified that translation is both a linguistic and cultural transformation, thus further clarifying that equivalence is not sameness in the mathematical sense, and that the proximity between the source language and the translated language and thus the realization of cultural correspondences is the ideal definition of functional equivalence. Meanwhile, the paper further analyzes the practical significance of the theory of functional equivalence in translation, pointing out that the realization of functional equivalence is subject to the influence of dual cultures, which is further explained by the example of the different cultural imagery of "horse" and "cow" in Chinese and English history. Huang Jing (2021), in his article Chinese-English Translation from the Perspective of Chinese-English Compression - A Review of Functional Equivalence Theory, explains that the realization of functional equivalence is affected by dual culture, taking "horse" and "cow" as examples of different cultural imagery in Chinese-English history. (2021) analyzed a new paradigm in translation evaluation, the Functional Equivalence Theory, from the perspective of compression in Chinese-English translation practice. Naida's Functional Equivalence Theory focuses on the evaluation of translation content and result, and the transmission of deeper meaning is much more important than the expression of surface structure, in order to find the optimal solution of linguistic structure and linguistic meaning. The differences between Chinese and English thinking habits are further analyzed and discussed in detail.

2.2. Domestic and International Developments

At present, there are few studies on English translation of political texts focusing on specific major diplomatic occasions and comprehensive evaluation and analysis of them. With the enhancement of China's national strength, the ideological exchanges between China and the United States will become more and more intense, how to clarify China's position, convey China's voice, and tell China's story is a major mission in diplomatic translation. And based on this, even in the context of the development and maturity of machine translation technology, in the political language, a highly sensitive form of language, compared to machine translation human translation always has an irreplaceable role. Literature References

3. Research Findings and Analysis

Comparative Analysis:

1. *Lexical Choices and Syntax*

Example1: "我们抗疫取得了决定性的胜利,取得了重要的战略成果。"

- Human Translation: "We have achieved a decisive victory in our fight against the pandemic and gained significant strategic outcomes."

- Machine Translation 1: "We have achieved decisive victories in epidemic prevention and control and have made important strategic achievements."

- Machine Translation 2: "We have achieved decisive victories in fighting the epidemic and achieved important strategic results."

- Machine Translation 3: "We have achieved a decisive victory in epidemic prevention and control and obtained important strategic results."

Analysis:

Zhang Jing's translation preserves the political tone and unity of the message, emphasizing the strategic outcomes in a cohesive manner. The machine translations, while accurate, lack the subtle emphasis on strategic victory that is politically significant.

2. Discourse Coherence and Paragraph Transitions

- Example2: "中国现在正处于两个百年目标交汇期。"

- Human Translation: "China is now at the intersection of two centenary goals."

- Machine Translation 1: "China is now at the juncture of two centenary goals."

- Machine Translation 2: "China is now at the intersection of two centennial goals."

- Machine Translation 3: "China is now in the period of the convergence of two centenary goals."

Analysis:

Zhang Jing's translation effectively conveys the historical significance and forward-looking perspective of the statement, aligning with the broader narrative of China's strategic planning. Machine translations vary in word choice but do not consistently capture the forward-looking nuance of the original.

3. Political Sensitivity and Cultural Nuances

- Example3: "美国的民主不仅由美国人来评价，而且还要由世界人民来评价。"

- Human Translation: "American democracy is not only evaluated by Americans but also by the people of the world."

- Machine Translation 1: "American democracy is evaluated not only by Americans but also by people around the world."

- Machine Translation 2: "American democracy is evaluated not only by Americans but also by the world's people."

- Machine Translation 3: "American democracy is evaluated not only by Americans, but also by people around the world."

Analysis:

Zhang Jing's translation carefully maintains the political delicacy and the implied criticism, balancing diplomatic politeness with pointed critique. Machine translations, though similar, lack the nuanced delivery that ensures diplomatic appropriateness.

Major Findings:

1. Glossary selection

In terms of vocabulary selection, human translators pay more attention to the precision and cultural connotation of vocabulary. For example, Zhang Jing translated "The result of the confrontation did not serve the United States well" as "The result did not serve the United States well", in which the word "serve" appropriately conveys the attitude and emotion

of the Chinese side, whereas DeepL translated "The result did not benefit the United States", which also conveys similar meaning but lacks cultural connotation and emotional color. The result did not benefit the United States", which expresses a similar meaning but lacks cultural connotation and emotional color.

2. Articulation

In terms of discourse articulation, human translators are better able to maintain the coherence and logic of speeches. For example, when translating Yang Jiechi's speech on China-US cooperation, Zhang Jing used several connecting words and transitional sentences, which made the speech more coherent and smooth, while machine translation lacked in these aspects, resulting in a slightly lack of coherence and logic in the translation.

3. Chinese attitudes and emotional tendencies

In terms of expressing Chinese attitudes and emotions, human translators can more accurately convey the speaker's emotions and attitudes. For example, when Yang Jiechi mentioned the competition between China and the United States, Zhang Jing's translation used expressions such as "we need to enhance communication properly manage our differences and expand our cooperation", reflecting the rational and cooperative attitude of the Chinese side. On the other hand, DeepL mechanically translates it as "we need to strengthen mutual communication properly manage our differences and strive to promote cooperation", which lacks emotional color and subtle expression in diplomatic context.

4. Summary

This paper utilizes the theory of "Functional Equivalence (Dynamic Equivalence)" as the main theoretical guide, and the concept of Dynamic Equivalence (Functional Equivalence) was firstly proposed from the linguistic point of view by Eugene A. Nida (1964) based on the nature of translation in his monograph "The Science of Translation". It includes four aspects of equivalence: (1) lexical equivalence, (2) syntactic equivalence, (3) chapter equivalence, and (4) stylistic equivalence.

(1) Lexical equivalence: The meaning of a word lies in its usage in the language. The corresponding meaning is found in the target language.

(2) Syntactic equivalence: The translator should not only know whether the target language has this kind of structure, but also understand how often it is used.

(3) Chapter Equivalence: When analyzing a language, one should not only analyze the language itself, but also look at how the language embodies the meaning and function in a particular context. It is necessary to refer to the contextual, situational and cultural contexts at the same time.

(4) Stylistic Equivalence: Translations of different genres have their own unique linguistic characteristics. Only when the translator masters the characteristics of both the source language and the target language and can skillfully utilize both languages can he/she create a translation work that truly reflects the style of the source language.

Translation is the reproduction of information in the source language in the most appropriate, natural and reciprocal language, from semantic to stylistic reproduction.

This study will take the live translation of the 16-minute impromptu speech of State Councillor Yang Jiechi by Zhang Jing's interpreter and AI interpreter in the US-China High-Level Strategic Dialogue in 2021 as the content of the study, and will use the theories of various disciplines, such as

linguistics, diplomacy and communication, to combine the principles of political equivalence and functional equivalence with the interdisciplinary perspective of the principles of political equivalence and functional equivalence in diplomatic translation. Under the interdisciplinary perspective of “political equivalence” and “functional equivalence” in diplomatic translation, and in combination with the symbiotic relationship between diplomatic translation and diplomatic contexts, we follow the dual “evaluation equivalence” principle of evaluation type equivalence and diplomatic stance equivalence. From a multidisciplinary perspective, human translation and machine translation in diplomatic translation are examined and comparatively analyzed.

In order to make the analysis of the subject more objective, real and persuasive, this study selects a number of reports and literatures that are closely related to the content of the study. In terms of enriching the theoretical foundation of this study and establishing a comprehensive evaluation system for the research content, we have reviewed and combined the literature that elaborates on the theoretical contents of the principle of political equivalence and the principle of evaluative equivalence. In terms of accumulating experience in analyzing other related studies and combining the research methodology of similar topics, we have reviewed and combined a large amount of literature on political language with diplomatic language as the core.

In this paper:

(1) Diplomatic language translatability is analyzed. Analyzing the Chinese translation of diplomatic language in the 2021 China-U.S. High-Level Strategic Dialogue, taking the four principles of political equivalence, uniformity of translation, professional expression and convention as the entry point, it aims at highlighting the main differences between human translation and machine translation of diplomatic language in the political field, as well as the irreplaceable role of human translation in the practice of translation of political language, and the academic significance, application value, and market prospects of the study in the political field.

(2) Argues that cultural emotions can be transmitted. To disprove the self-evident false proposition that “machine translation will replace human translation”. By comparing and contrasting the similarities and differences between human translators and machine translators in national political topics, and under the guidance of the theory of functional equivalence, it is argued that human translators can more closely express the status quo and political will in terms of lexical choices and syntactic structure, which further demonstrates the decisive position of human translators in spreading cultural connotations and transmitting emotions, and strengthens people's understanding of, recognition of, and recognition of human translators. It further proves that human translation is irreplaceable in the translator's ability of independent thinking, empathy and re-creation. Machine translation should always be a supplement to human translation and can never override human translators.

(3) Building China's international discourse power. China should effectively build its own discourse system, master the ability of foreign translation, become proficient in international languages, break through the barriers, and improve the practical effect of discourse expression, so as to

enhance China's international discourse power, and transmit China's positive energy to the international public opinion arena.

(4) Demonstrating the advantages of human translation. Through the comparative analysis of machine translation and human translation of political texts, the advantages of human translation are highlighted. Guide college students to reduce their reliance on machine translation and enhance their translation ability, especially for English majors. Enhance the “four confidence”, especially cultural confidence and cultural identity.

(5) Promote the cultivation of students' values. Actively respond to a series of important documents issued by the CPC Central Committee, the State Council and the Ministry of Education, provide students with a dialectical and objective way to draw information in the information age of “Internet Plus”, help students establish a correct worldview and values, encourage college students to actively participate in the great practice of socialism with national characteristics, and form a correct understanding of the motherland and the world. the motherland and the world.

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