

Features of English Translation of Sci-tech Texts from the Three-Dimensional Perspective of Eco-translatology Studies

Pingyan Liu

Guangdong University of Science and Technology, Guangdong, China

Abstract

The implementation of the "One Belt, One Road" strategy and the continuous enhancement of China's scientific and technological capabilities have led to an increasing demand for English translation of scientific and technological texts. Due to the characteristics of multiple terminology, strong professionalism, and concise and rigorous language, the English translation of scientific and technological texts needs to be "accurate" as the criterion. In addition, it also undertakes a certain cultural communication mission. Therefore, in addition to the transmission of content, the transmission of culture and communicative information should also be considered. The "linguistic, cultural, and communicative" dimensions are the basic theory of eco-translatology theory. Based on the theory of eco-translatology, this article attempts to study the characteristics of English translation of scientific and technological texts from the three dimensions of language, culture and communication, in order to play a certain guiding role for the later work of English translation of scientific and technological texts.

Keywords

Eco-translatology; English translation of scientific and technological texts; three-dimensional conversion; Adaptation and selection.

1. Introduction

In recent years, with the implementation of the "One Belt, One Road" strategy, the successful signing of the Regional Comprehensive Economic Partnership Agreement (RCEP), and the continuous enhancement of China's scientific and technological capabilities, more and more Chinese smart manufacturing has begun to go abroad and become a piece of shiny country business card. These technological innovations and advancements stimulate the ever-increasing demand for English translation of scientific and technological texts. Due to its nature, scientific and technological texts have the characteristics of multiple terminology, strong professionalism, and concise and rigorous in language. In addition to accurately conveying the meaning of the original text, the English translation of scientific and technological texts should also bear the burden of "transmitting Chinese culture and telling Chinese stories well". Therefore, the English translation of scientific and technological texts should also consider the cultural and communicative dimensions in addition to the transmission of content. The three-dimensional translation transformation of "linguistic dimension, cultural dimension and communicative dimension" is the basic theory of eco-translatology theory. Therefore, the use of English translation of scientific and technological texts from the perspective of eco-translatology has certain practical significance.

2. Eco-translatology and Its Application

At abroad, the study of eco-translatology began with the British translator Peter Newmark, who first proposed the concept of "eco-translatology" in 1981 and explained the ecological characteristics of translation in his "Translation Tutorial". In 1989, Rosanna Warren (1989: 6)

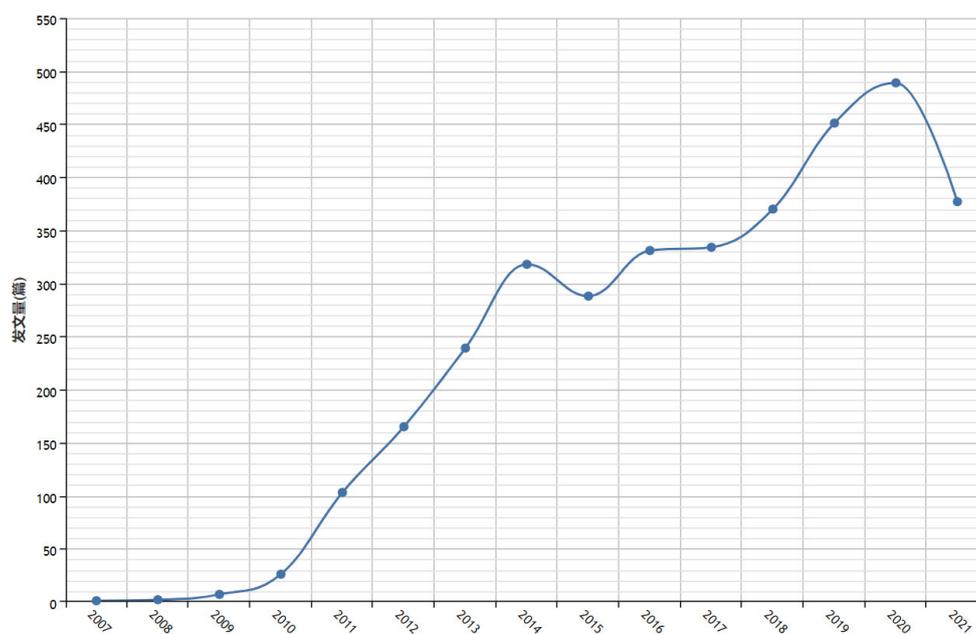
pointed out in the book *The Art of Translation* that “we can regard a passage as a plant and treat translation as transplanting; when the plant enters another environment, adaptations should be made, otherwise it will be difficult to survive”. In 1990, Susan Bassnett & Andre Lefevere (Susan Bassnett & Andre Lefevere, 2001:57) used ecological terms such as “discover the place where trees live” and “describe the growth of plants” to describe translation research work. Michael Cronin pointed out in *Translation and Globalization* that “pay attention to the ecological environment of translation”.

In China, Professor Hu Gengshen from Tsinghua University first proposed eco-translatology on December 6, 2001. It is a translation theory based on the theory of biological evolution. It covers translation studies, linguistics, cultural studies, anthropology, and ecology. From a perspective, focusing on the “relevance and interaction” of different disciplinary perspectives is an extension and transformation of contemporary translation studies. Hu Gengshen (2004) tried to prove that translation is a process of adaptation and selection by analyzing and comparing various types of written translation and interpretation. He also discussed Fu Lei's translation philosophy from the perspective of eco-translatology. In 2008, Hu Gengshen expounded the basic connotation, background status, limitations and deficiencies of the theory, and the core idea of the theory is the choice and adaptation of Darwin's theory of evolution. Hu Gengshen (2014) proposed that the translator should use the three-dimensional transformation strategy of eco-translatology to guide the translator in the process of adaptation and selection, allowing the three-dimensional interweaving and penetration of language, culture, and communication, and jointly guiding the translator to adapt during the translation process and finally produce the best translation. Eco-translatology theory has been successively applied in different research fields to guide translation practice, and has entered a new stage of practical testing theory.

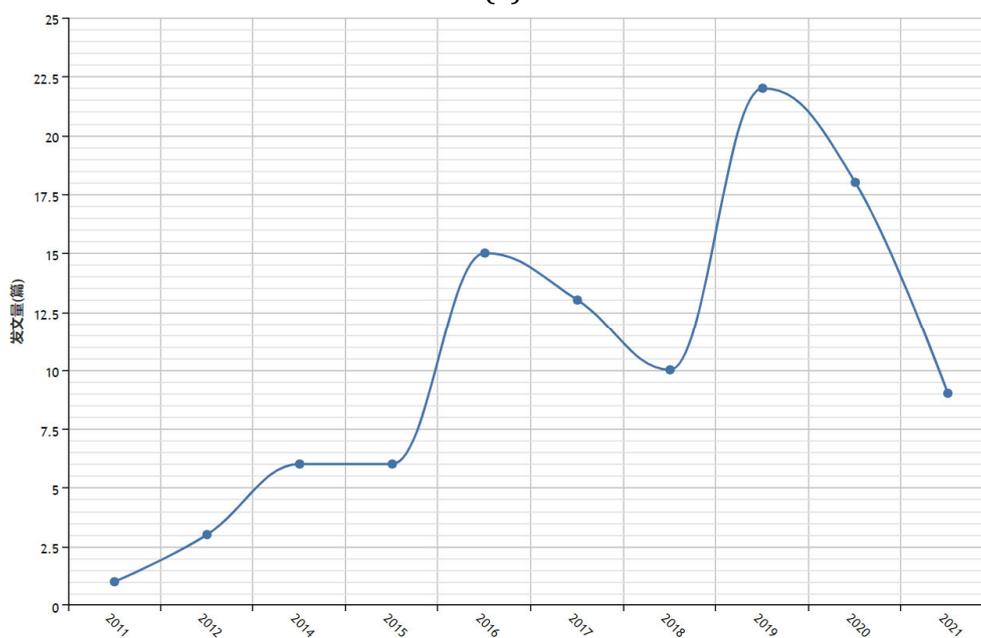
At the same time, many other scholars have also applied eco-translatology to their research. Throughout the relevant research in recent years, it is found that the research of eco-translatology theory is still receiving attention from scholars, and the application of eco-translatology theory is still active and mainly focus on the perspective of classical translation works, movies and subtitles and also public signs. It can be seen that the eco-translatology theory can adapt to many types of texts, and its theory has a certain degree of feasibility. However, Xiong Li (2017 (14): 133) analyzed the status quo of eco-translatology theory, and summarized the limitations of the theory. She believed that the construction of the theory was relatively single, almost from Hu Gengshen alone. Secondly, the scope of research on the core content of the theory is relatively narrow. Scholars often choose only one point of view to analyze the text, and the interpretation is not deep enough, and they basically accept the theory in its entirety, with relatively few criticisms.

In summary, the research on the English translation of scientific and technological texts is gradually heating up, and the research on eco-translatology theory is still attracting attention from scholars. There are deeper contents worthy of further discussion, but there is not much research on the English translation of scientific and technological texts. And most of the few researches are practical researches on the English-Chinese translation of various styles. Therefore, an in-depth study of the theory of eco-translatology, and starting from the perspective of eco-translatology, using the English translation of Chinese scientific and technological texts as the object, allowing translators to choose and adapt to the ecological environment of scientific and technological texts for external translation, and then translating them can compensate to a certain extent. The theoretical research on the gaps in the Chinese translation of scientific and technological texts broadens the field of eco-translatology studies and provides certain references for scholars in related studies. On the other hand, in the past translation of scientific and technological texts, culture is usually ignored. With the improvement of China's international status and the increase of cultural added value in

scientific and technological products, the English translation of scientific and technological texts also needs to consider the cultural dimension. Therefore, with the help of eco-translatology theory, the quality of English translation of scientific and technological texts can be improved with the realization in the three dimensions of language, culture and communication. It can help China's intelligent manufacturing to better go international and let the world know more about the current situation of China's scientific and technological development and share the achievements of China's scientific and technological innovation.



(a)



(b)

Figure 1. (a) Trends in the number of articles on CNKI with the theme of "Eco-translatology"; (b) Trends in the number of articles on CNKI with the theme of "Eco-translatology+Sci-tech"

3. Features of English Translation of Chinese Sci-tech Texts

The so-called scientific and technological texts generally refer to scientific monographs, scientific papers, experimental reports, engineering technical descriptions, scientific and technological literature, popular science literature, etc. Therefore, scientific and technological texts have rigorous and accurate wording, standardized writing, rigorous logic, emphasis on objectivity, and generally do not carry personal feelings.

Based on this, the English translation of Chinese scientific and technological texts has the following basic characteristics:

(1) Accuracy. Chinese scientific and technological texts rarely contain unclear vocabulary such as "probably", "may" and "maybe", which can easily lead to misunderstandings and may even cause serious accidents.

(2) Scientific nature. Scientific and technological texts are mostly descriptions of scientific theories and applications, involving many professional terms, and terminology translation must ensure its correctness, and the semantics of professional terms are rigorous and unitary. In addition, there are some vocabularies with customary translations. For example, the "保存期" of drugs is not called "storage period", but "shelf life".

(3) Expression habits. Chinese is a dynamic language, while English is a static language, which uses a lot of abstract nouns and prepositions. This is also reflected in scientific and technological texts. Therefore, when translating Chinese scientific and technological texts into English, attention should be paid to the conversion between dynamic language and static language.

4. Features of English Translation of Scientific and Technological Texts from the Three-dimensional Perspective of Eco-translatology

The three-dimensional perspective of eco-translatology is the "linguistic dimension, cultural dimension, and communicative dimension".

(1) Adaptation of linguistic dimension

The conversion of "linguistic dimension" in eco-translatology is due to the great differences in lexical and grammatical structures between different languages. When performing language conversion, it is necessary to pay attention to the choice of vocabulary, phrase, part of speech, and syntactic structure.

(2) Adaptation of cultural dimensions

The "cultural dimension" transformation of eco-translatology stems from the inseparable and close relationship between language and culture. Although scientific and technological texts are highly objective, there are still some culturally loaded words. Therefore, it is still necessary for the English translation of scientific and technological texts to adapt at the cultural level to convey and explain the cultural connotation behind the language to meet the needs of target language readers.

E.g:

“从实施京津风沙源治理等系列生态工程到出台节能减排计划，从单位国内生产总值能耗下降12.9%到生态补偿机制稳步推进，中国正逐步走上‘前人种树、后人乘凉’的生态发展之路。”

In this sentence, “前人种树、后人乘凉” contains the characteristics of Chinese culture. In the translation of this sentence, attention should be paid to the transmission of cultural connotations. Therefore, the translation of this sentence can be like this:

“From a decrease of GDP energy consumption by 12.9% to steady implementation of mechanism for eco-consumption, China embarks on the road of eco-development characteristic

of "Older generation plants the trees under whose shade the younger generations enjoy coolness."

(3) Adaptation of the communicative dimension

The transformation of "communicative dimension" in eco-translatology originates from the communicative function of language. Scientific and technological texts generally do not carry personal feelings, but it does not mean that the English translation of science and technology texts does not need to consider the communicative conversion of language.

In summary, the adaptive transformation of language and cultural dimensions is the basis of eco-translatology, and the adaptive transformation of communicative dimensions is the highest requirement for translation. The three work together to maintain the ecological environment of the source language and the target language.

References

- [1] Feng Min. The language features and translation methods of English for Science and Technology [J]. Journal of State Grid Institute of Technology, 2019, 22(04): 75-78.
- [2] Hu Gengshen. eco-translatology Studies: Construction and Interpretation [M]. Beijing: The Commercial Press, 2013: 86.
- [3] Hu Gengshen. Research focus and theoretical perspective of eco-translatology[J]. Chinese Translators, 2011(2): 8.
- [4] Xiong Li. Eco-Translation Studies: History, Status Quo and Challenges[J]. Overseas English, 2017(14): 133-134.
- [5] Liu Hongli, Wang Aiping. An analysis of the three-dimensional translation of Heilongjiang culture from the perspective of eco-translatology[J]. Heilongjiang Education (Theory and Practice), 2021(11): 80-81.
- [6] Hu Gengshen. An Attempt to Study Translation Theory—An Empirical Investigation of Translation Adaptation and Selection Theory[J]. Foreign Languages and Foreign Language Teaching, 2004(04):40-44.
- [7] Hu Gengshen. From "Translator Center" to "Translator's Responsibility"[J]. Chinese Translators, 2014, 35(01): 29-35+126.
- [8] Hu Gengshen. Responses and suggestions to the "discussion" of several issues in ecological translation[J]. Chinese Translators, 2014, 35(06): 86-89.
- [9] Chen Youfang. Difficulties in English translation of science and technology from the perspective of ecological translation[J]. Journal of Jiangxi Vocational and Technical College of Electric Power, 2020, 33(12): 118-119.