

On the Chinese-English Translation of Scientific Texts from the Perspective of Eco-translatology

Pingyan Liu

Guangdong University of Science and Technology Dongguan Guangdong, China

Abstract

In recent years, the innovation and progress of science and technology have increased the demand for translation of scientific texts into English. Because of its nature, scientific and technological texts are featured in having many terms, strong professionalism, concise and rigorous language, etc. Sino-English translation of scientific texts not only needs to accurately convey the original meaning, but also should undertake the burden of "Spreading Chinese Culture, and Telling Chinese Stories Well", so the transfer of language as well as the dimension of cultural exchanges and communication should be considered when translating. Three dimensions of translation, "Language, Culture, and Communication", are the basic theory of Eco-translatology proposed by Hu Gengshen. Therefore, this paper will study the basic theories of Eco-translatology, and seek the application path of Eco-translatology in the Chinese-English translation of scientific and technological texts after analyzing the characteristics of Chinese scientific and technological texts and their Chinese-English translation characteristics, so as to improve the quality of the translation.

Keywords

Eco-translatology; English-Chinese Translation of Scientific and Technological Texts; Three-dimensional Transformation; Adaptation and Selection.

1. Introduction

In recent years, with the smooth implementation of the "Belt and 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, being shiny business cards of China. These technological innovations and advancements are reflected in the translation market, which is 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 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 "language dimension, cultural dimension and communication dimension" is the basic theory of Eco-translatology theory.

2. Literature Review

The study of Eco-translatology abroad began with the British translator Peter Newmark, who first proposed the concept of "Translation Ecology" 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 Translation can imagine the work as a plant and transplant two languages; when it enters another environment, some changes must be made to make the plant adapt to the new environment, 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 attentions should be paid to the ecological environment of translation.

In China, Professor Hu Gengshen from Tsinghua University first proposed ecological translation 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. 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 ecological translation to guide the translator in the process of adaptation and selection, allowing the Three-dimensional interweaving of language, culture, and communication to permeate each other, and jointly guide the translator to adapt and choose during the translation process, and finally produce the best translation. Ecological translation theory has been successively applied in different research fields to guide translation practice, and has entered a new stage of practical testing theory. 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 ecological translation. At the same time, many other scholars have also applied ecological translation to their research. Throughout the relevant research in recent years, it is found that the research of ecological translation theory is still receiving attention from scholars, and the application of ecological translation theory is still active. The main focus is on the following texts. The first is the analysis of classic translations and the use of "three-dimension" in the theory. "The perspective is to analyze the text; the second is to analyze the translation of movies and subtitles; of course, it also includes the analysis of other texts such as public signs. It can be seen that the ecological translation 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 ecological translation theory, and summarized the limitations of the theory. He believed that the construction of the theory was relatively single, almost from Hu Gengshen alone, which has guiding significance to translation practice, but its authority is open to question. 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.

3. Significance and Value of the Topic

From the literature review, we can conclude that the research on the English translation of scientific and technological texts is gradually heating up, and the research on the theory of ecological translation is still attracting attention from scholars. There are deeper contents worthy of further discussion, but most of the few researches are practical researches on English-Chinese translation of various styles and there is little research on the Chinese-to-English translation of scientific and technological texts. Therefore, the significance and value of this topic are mainly reflected in two aspects.

On the one hand, in-depth study of the theory of ecological translation, and from the perspective of ecological translation, with 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 text translation, and then translate them to make up for the theoretical research. The gaps in the Chinese translation of scientific and technological texts broaden the research field of ecological translation and provide certain references for scholars in related research.

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 Chinese-English translation of scientific and technological texts also needs to consider the cultural dimension. The research of the subject can use the theory of ecological translation to improve the quality of Chinese-English translation of scientific and technological texts, and achieve the purpose of translation in the three dimensions of language, culture and communication, so that China's intelligent manufacturing can better go international and the world can learn more about China's status quo of scientific and technological development and share the achievements of Chinese scientific and technological innovation.

4. Research Goals

The research goal of this project is to conduct a summary analysis of the development process and current status of ecological translation by consulting relevant research documents, summarize the current status of domestic and foreign ecological translation studies and the fields and methods of application, and provide an understanding of the theories of ecological translation and the characteristics of scientific and technological texts. Then it is to carry out in-depth research, combine predecessor research results and personal translation experience, analyze the Chinese translation of scientific and technological texts from the three dimensions of language, culture, and communication, and find out the degree of application of ecological translation theory in the Chinese translation of scientific and technological texts. This approach fills the gaps in the Chinese translation of scientific and technological texts, broadens the field of ecological translation studies, and provides a reference for scholars in related studies. At the same time, it aims to improve the quality of English translations of scientific and technological texts through the use of ecological translation theory so as to let the world understand the achievements of China's scientific and technological innovation.

5. Research Methods

In order to achieve the research goals of this project, the following research methods are proposed:

(1) Literature research method: Literature research method is a method of obtaining information through investigating literature according to a certain research purpose or subject, so as to fully and correctly understand and master the research problem. For this project, in the early stage of project research, it is necessary to extensively consult relevant books and documents, learn the theoretical knowledge of ecological translation, study the status and results of related research topics, and compare and analyze the characteristics of scientific and technological texts in various fields.

(2) Qualitative analysis method: In the research process, the author will use methods such as induction and deduction, analysis and synthesis, abstraction and generalization, etc., to process the various materials obtained, so as to remove the rough and the essence, remove the false and preserve the truth, and then and the other, From the outside to the inside, it is possible to

understand the essence of ecological translation theory and to reveal the inherent laws of its application in the English translation of scientific and technological texts.

(3) Interdisciplinary research method: Since ecological translation is a multidisciplinary translation theory, it is necessary to study ecology, biology, linguistics, basic translation studies and other disciplines when studying the theory, and apply multidisciplinary theories and methods. And the results comprehensively study the subject as a whole, and seek new breakthroughs.

6. Features and Innovations of the Project

The main features and innovations of this project are:

(1) Most of the previous researches focused on literary translation and the application of ecological translation in English-Chinese translation. This project focuses on the application of ecological translation in the process of English translation of scientific and technological texts, which is a major innovation.

(2) In line with the background of the country's vigorous development of science and technology and nationalization, it is a feature to actively explore strategies and methods for English translation of science and technology texts, and to promote Chinese science and technology products and knowledge to break free from the shackles of language and go to the world.

(3) From the perspective of ecological translation, it is in line with my country's traditional thinking of "harmony", and is more in line with the current state vigorously advocating "ecology" and "green" and other concepts. It is an innovation that keeps pace with the times.

(4) Interdisciplinary research, promoting the integration of disciplines, filling up the research gaps in this field, for reference by relevant researchers, has practical value and is a major innovation.

Eco-translatology emphasizes the status of the translator, who needs to select proper words and expressions and adapt to the target language when translating, so the translator is required to be professional to make the translation of scientific texts more accurate.

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