An Analysis of Translation Strategies of English Science and Technology (EST) Texts Based on Skopos Theory

Kun Yang[1] Wei Zhou[2]

[1,2] *School of Foreign Studies, Harbin Engineering University, Harbin, Heilongjiang, China*
[2] *Corresponding author. Email: zhouwei@hrbeu.edu.cn*

ABSTRACT

In essence, translation is a text produced for a certain purpose and target audience in a target context. In this regard, translators need to determine appropriate translation strategies under the guidance of Skopos theory. Starting from the introduction of Skopos Theory with the consideration of EST texts characteristics, this paper expounds the core idea of the theory — translation expectation decides translation strategies from three aspects: Skopos Rule, Coherence Rule and Fidelity Rule, and on that basis, strategies to overcome barriers related to culture were provided.

Keywords: Skopos Theory, English for Science and Technology (EST), Translation strategy.

1. INTRODUCTION

Plainly speaking, translation is an interlingual transformation from one language to another. In essence, it involves the communication between two or more cultures. The differences in the field, target audiences and their living environment, cultural backgrounds, cognition, age, and master of knowledge, require cautious choice of translation strategies based on the purpose of the translation. The functionalist translation theory that emerged in Germany in the 1970s, especially the Skopos Theory proposed by Hans Vermeer, provides significant theoretical support for example analysis translation practice.

2. FEATURES OF EST TEXTS

EST texts, mostly in written form, have such functions as presenting objective facts, proposing assumptions, and communicating information. From the perspective of text genre, EST texts are under expository texts. From the perspective of text type, EST texts belong to informational texts. Texts of this kind demand precise and concise contents rather than ornate language. Generally speaking, EST texts are to produce in formation that is impersonal often embodied as "five more and one less": more third-person sentences, more passive voices (impersonal subject sentences), more terminology, more non-finite verbs, more long sentences, and less rhetorical devices.

EST texts cover a collection of fields that adopts various terminologies with different communicative purposes, Skopos Theory then becomes the guideline for translators when conducting EST translation practice.

3. DEVELOPMENT OF SKOPOS THEORY

In the 1970s, a wave of functionalist translation theory swept across German translation community. There are four stages as for its formation and development, including the Functionalist Translation Criticism Theory of Katharina Reiss, Skopostheorie and Beyond of Hans Vermeer, and Translatorisches Handeln: Theorie und Methode of Justa Holz Mantari, as well as Christian Nord's theory of Functionality plus Loyalty [1].

In her book *Translation Criticism -- The Potentials and Limitations*, Reiss first considered text function as an important criterion in translation criticism, proposing that translation activities should be centered on the source text [2]. Vermeer jumped out from the functional equivalence theory and put forward Skopos Theory, a translation

theory that takes the textual purpose as the first criterion [3]. Vermeer pointed out that translation is a purposeful human activity, directing to certain purposes and target readers [4]. The fixed purpose should be given top priority when conducting translation. That is to say, the strategies and methods used in translation vary with the purpose of translation. In other words, the purpose of translation determines the strategies and methods of translation.

In the framework of Vermeer's Skopos Theory, the audience is one of the most important factors determining the purpose of translation. Vermeer believes that the original text just serves as a source of certain or all information for the target audience [5]. Comparing the entire translation process to cooking, the original text is nothing but the raw material, while the translator is a chef who can independently determine the cutting technique, cooking methods, and dishing. But no matter how fancy the process may be, the finished cuisine must be what the diners order. That is, the target audience is the factor that ultimately determines the output of the translation. In short, the core of Skopos Theory can be summarized as follows: translation expectations determine translation strategies; translation strategies affect the final translation.

4. TRANSLATION PRINCIPLES BASED ON SKOPOS THEORY

Vermeer summarized the main principles of Skopos Theory as Skopos Rule, Coherence Rule, and Fidelity Rule in his book *Framework for General Translation Theory* published in 1978 .In detail, Coherence Rule overrides Fidelity Rule, while the two rules follow Skopos Rule. This clarifies the relationship of the three principles and determines the translation criteria that translation should be in line with the actual situation of the audience [6].

4.1 Skopos Rule

Skopos Theory indicates that all translation has a purpose [7]. According to the framework of Skopos Theory, the primary principle that all translation activities must follow is "Skopos Rule", which means translation should be able to function under the target language context and culture in line with target readers' expectation[8]. In other words, the ultimate goal to be achieved in translation practice plays a decisive role in the entire process

of translation, that is, the expected purpose determines the translation methods.

Take the word "communication" for example.

Example 1: Beijing is a city providing excellent road and rail communications.

Translation：北京的公路和铁路交通四通八达。

Example 2: From media reality to subjective reality is an important question for the mass communication.

Translation: 从媒介现实到受众现实是传播学框架理论研究的重要课题。

Example 3: An important aspect of LEO satellite communication system is to manage the radio resources.

Translation: 无线资源管理是低轨卫星通信系统中的一个重要的研究方面。

From above three examples, it can be seen that the same word (communication) has significant differences in meaning when it comes to different fields. This requires translators to select appropriate expressions according to the target context. Otherwise, the professional competence of translators will not be questioned by readers, nor does the quality of the translation.

4.2 Coherence Rule

Coherence Rule refers to intra-textual coherence, requiring "the information (the target text) generated by the translator must be able to be interpreted in a manner consistent with the situation of the target reader"[9]. As Vermeer pointed out, "the starting point of translation is the text (source text), a part of the entire world, which is written in the original language. After being translated in target language, it must be able to enable the recipient to view it as a part of world related to themselves" [10]. In other words, the translation must serve as a means of communication between tow cultures. Generally speaking, the principle demands that translation must be easily understood and readily accepted by the target readers.

Example 4: Unfinished building

Translation 1: 未竟建筑；未完工建筑

Translation 2: 烂尾楼

In this example, literal translation as Translation 1 is error-free. However, the cultural background and specific cultural phenomenon considered -- a variety of folk idiom in Chinese culture,

Translation 2, i.e. "烂尾楼" is more readily understood and accepted by the target readers.

4.3 Fidelity Rule

Mo Yan, a famous Chinese writer who won the Nobel Prize in Literature in 2012, stated at the Fourth International Symposium of Sinologists on Literary Translation held in 2016, "translation is tantamount to dancing in shackles", which means that translators cannot re-create anything new according to their own understanding of the text or even add it to their translation products while they could flexibly choose translation techniques or things like that. In other words, even if there are apparent or even commonsense errors in the original text, the translator has no right to modify the original text without permission from the author or relevant parties when conducting translation. For example, in the military teleplay *The Moon of Gulf of Aden*, there is a line that reads "128° E, 108° N". But in term of geography, the longitude range is 0-180° while the latitude 0-90°. Therefore, there is no such geographical location as "128° E and 108° N" in the world. Then if the teleplay is to be translated into a foreign language version, translators must solicit the opinions from the producer and relevant parties on whether correcting the mistake or not.

According to Skopos Theory, Loyalty Rule refers to "interlingual coherence between translation and the source text", and "the form and degree of loyalty is determined by the purpose of the translation and the translator's understanding of the source text" [11]. Take an example for further explanation:

Example 5: Drug firms used to hire ex-cheerleaders to swat doctors into subscribing their pills. But doctors (many of whom are female these days) have grown less swayable. About a third of them are now considered "hard to see" by the drugs industry.

Translation 1：制药公司过去常常雇佣前啦啦队员来说服医生开它们公司生产的药品。但是现在的医生（大都变成了女性）变得没那么容易被说动了，而且其中三分之一的人连见上一面都很难。

Translation 2：制药公司过去常常雇佣年轻有活力的女孩来说服医生开它们公司生产的药品。但是现在的医生（大都变成了女性）变得没那么容易被说动了，而且其中三分之一的人连见上一面都很难。

In the above example, Translation 2 is more expressive than Translation 1 even though the latter

is to some extent "faithful" to the original discourse. But it is the word-to-word translation that overreaches itself -- the translation is not clear and coherent in the meaning, which will set obstacles for readers. This also reflects from one aspect that Loyalty Rule is more flexible than the other ones -- loyal to not only the words of the source text, but also to the implication of the words.

5. OBSTACLES AND STRATEGIES TO OVERCOME IN EST TEXT TRANSLATION

The process of translation involves the conversion of multiple languages, and it is through language communication that human beings convey their own ideas and perspectives. View from this angle, if the communicative activity among people who speak the same language and have the same cultural background is an intralingual and barrier-free communication, then translation is an interlingual communication with barriers that can be overcome.

5.1 Free Translation for Cultural Differences

According to the principles of Skopos Theory, translation plays a role in conveying information both in the target culture and language, and the information is related to the information contained in the source culture and language [12]. This requires translators to pay close attention to the cultural information behind the source text, accordingly adopting appropriate strategies measures to make the translation understood and accepted.

Example 7: According to fossil evidence, the earliest shark like creatures prowled the world's oceans 450 million years ago -- long before the age of dinosaurs. Compared to this, man's span of a couple of million years is a mere flash of a tiger shark's tail.

Translation 1: 化石证据表明，早在4.5亿年前，世界海洋中就有早期类鲨生物四处潜行，此后很久恐龙时代才到来。相比之下，人类短短几百万年的历史只是虎鲨摆尾的一瞬间。

Translation 2: 化石证据表明，早在4.5亿年前，世界海洋中就有早期类鲨生物四处潜行，此后很久恐龙时代才到来。相比之下，人类短短几百万年的历史只不过是弹指一挥间。

Apparently, Translation 1 is a version of literal translation while Translation 2 liberal translation.

"虎鲨摆尾" has the same meaning as "弹指一挥间", namely, a short period of time. But as for the former one, it will take readers' more time in its wake to think about the intended meaning, which will inevitably lead to a pause of reading or even misunderstanding. By contrast, Translation 2 not only accurately expresses the original meaning but also retains cultural characteristics — "弹指一挥间" is an folk Chinese saying. It follows that translators need to put on the table the cultural connotation or metaphor by means of liberal translation to ensure the same reading experience of target readers as that of source readers.

5.2 Field-varying Wording

Skopos Theory indicates that translation goals determine contents. For example, translation of title should be as concise as possible, preposition plus noun phrase best; advertising slogan needs to be catchy and widely spread; what prose, poem and novel pursue is flowery language. EST texts herein require objective statements and accurate information as well as specific terms in line with the field of the source text.

Example 8: Early attempt to predict population viability were based on photographic uncertainty.

Translation: 早期对种群生存力的预测是在无法精确统计种群数量的基础上完成的。

The most widely used meaning in Chinese of the word "population" is "人口" -- all the people/ the total number of people who live in a particular area, city or country. In addition to that, it also means "all the people or animals of a particular type or group who live in one country, area, or place", i.e., "生物种群" or "族群" in Chinese. Therefore, the first step to deal with polyseme is to examine the source text. Here, according to the sentence from the paragraph "For most animal species such individuals are less likely to survive and reproduce", it can be inferred this article is about reproduction and survival of animals. Then in this context, the word "population" should be translated into "种群" rather than "人口".

5.3 Amplification and Omission as Required

Although the ultimate goal of each translation method is different, so does the function it needs to achieve, the purpose of the entire translation is the same -- to accurately decode the original content, and through the medium of translators to build a bridge between the author and target readers. In this regard, proper use of translation strategies such as amplification and omission is crucial to fully convey the content of the source text and enable target readers to obtain accurate information.

Example 9: In late 2015, a marine heat wave hit eastern Australia, wiping out a third of the Great Barrier Reef, and the kelp forests Baron had been exploring for most of his life. "We were diving in a niche thick forest in December," says Baron. "By end of March, it looked like an asphalt driveway."

Translation 1: 2015 年底，一股海洋热浪侵袭了澳大利亚东部，摧毁了三分之一的大堡礁，也摧毁了巴伦花费了大半生心血探索的巨藻林。"去年 12 月份我们还在这个茂密的巨藻林中潜水，可到了今年三月底，它就变得像沥青车道一样。"

Translation 2: 2015 年底，一股海洋热浪侵袭了澳大利亚东部，摧毁了三分之一的大堡礁，也摧毁了巴伦花费了大半生心血探索的巨藻林。"去年 12 月份我们还在这个茂密的巨藻林中潜水，可到了今年三月底，它就变得像沥青车道一样光秃秃一片了。"

The main idea of this paragraph is about the destruction of the kelp forests by a marine heat waves. Comparing the two versions of translation shown above, we can see that the simple translation as "沥青车道" in the first version almost has nothing to do with the theme, which will pose confusion to readers. With the aid of amplification, Translation 2 illustrates the real meaning in a clearer way while keeping the original information well.

Example 10: Variation within a species is the raw material upon which natural selection acts.

Translation 1: 物种内部的变异是自然选择发生作用的原材料。

Translation 2: 种内变异是自然选择的基础。

To begin with, "种内变异" (intraspecific variation) is a specific term in the field of biology, which should be translated precisely as Translation 2 instead of "物种内部的变异" (variation within a species). The extensive use of terminology in EST texts also reflects from one aspect the importance of omission translation strategy. Secondly, in terms of common sense, the role of "原材料" (raw material) is for subsequent processing. In the context herein, the "raw material" serves as a basis for the following work -- "natural selection acts". All things considered, it is acceptable and concise to translate the sentence as the second version.

5.4 Expressing Mood with Modal Verb

Achievement of communicative purpose of translation demands that translation keep original style and emotional keynote as much as possible in addition to accurate meaning. In English, modal verbs or subjunctive moods are often used to emphasize emotional changes, while in Chinese, the expression and stress of emotion is achieved in virtue of exclamations or certain adverbs. To that end, translators need to flexibly apply the conversion of part of speech as a way to accomplish the transition of tone.

Example 11: When presented with an advantage like the ability to cure diabetes, it is hard for people to articulate reasons why their unease with the technology should stand in the way of progress.

Translation 1: 在面对像治愈糖尿病这样的技术进步时，人们很难说清楚为什么他们在使用治疗技术时会感到不适。

Translation 2: 在面对像治愈糖尿病这样的技术进步时，人们很难说清楚为什么他们在使用治疗技术时竟然会感到不适。

According to the context -- "Transgenic crops and human genetic engineering make people far more uneasy than do personal computers or the Internet. But biotechnology also promises important benefits for human health and well-being", it can be seen that the content described here focuses on the benefits that biotechnology brings to people. The modal verb "should" is blurred in Translation 1, thus lacking obvious emotional tone. Comparatively, the addition of the word "竟然" (unexpectedly) in Translation 2 underlines the adversative relation of the context, not only making the structure more compact, but also highlighting to some degree the point of the sentence.

6. CONCLUSION

All things considered, EST texts, with significant emphasis on the output of objective information, are distinct from literature and other types of text in content, form and style etc. But through the example analysis in this paper it needs to be emphasized that EST translation should be objective and realistic without doubt, but the process and production of translation is still influenced by the culture behind the language.

Generally speaking, translation behavior is an activity involving the source text, author, translator, translation process, and target audience. The purpose-oriented Skopos Theory plays an effective role in guiding the translation, thereby avoiding the problems of contradicting readers' expectations and reducing the possibility of losing credibility. It can be said that the three rules of Skopos Theory have important guiding significance for improving the quality and effectiveness of EST translation.

ACKNOWLEDGMENTS

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