

On Translation Methods of Long Sentences in English for Science and Technology

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Abstract: During international scientific and technological exchanges, it is of great significance and necessity to understand the scientific and technological texts accurately. Long sentence structure is widely used in scientific and technological texts, which reflects accuracy, preciseness and logicity. Therefore, long sentence translation is an unavoidable focus in English for Science and Technology (EST) translation. This paper analyzes the characteristics of long sentences in EST, and then focuses on specific English-Chinese translation methods of long sentences, aiming at smoothing the understanding and translation of long sentences in scientific and technological English texts, and facilitating the exchange of scientific and technological achievements and development between China and foreign countries.

Keywords: English for Science and Technology (EST); Long Sentence; Translation Methods

1. Introduction

Scientific and technological texts serve as the main medium in the process of international scientific and technological exchanges, thus wide attention from the scientific and linguistic circles. In the process of popularizing advanced science and technology, it is a must to fully understand the new inventions, discoveries and new ideas of science and technology at home and abroad. In this sense, the Chinese translation of scientific and technological texts plays a critical role for successful public communication of science and technology.

The practice of scientific and technological texts translation in China can be traced back to the late Ming and early Qing Dynasties, during which the most famous translators must be Xu Guangqi, Li Zhizao and Yang Tingyun, whose most influential translations are all on western science and technology. In 1950, Translator’s Note magazine was published, which made it much easier and smoother to exchange translation experience and study translation theory. Since then, the study on translation of scientific and technological texts was gradually further developed. In foreign studies, English for Science and Technology (EST) is regarded as a kind of English for Special Purpose (ESP). Modern English grammarian Randolph Quirk (Randolph Quirk et al., 1985) thinks EST is a variant of English, just as American English is a variant of English.

There have been many researches into translation of EST at home and abroad. In recent years, the research topics of EST translation mainly involve: theoretical research, principles and methods of EST translation, stylistic features of EST translation, EST translation teaching research, and the use of modern technical means to assist EST translation. Generally

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speaking, EST translation studies have a wide range of research directions and diverse research topics. All those have contributed to the development of EST translation and EST translation research.

EST features accurate, precise and logical texts through various applications of long sentence structures. To promote the faithful understanding and translating of long sentences in ESP texts, and boost the smooth exchange of scientific and technological achievements and development between China and the world, this paper focuses on specific translation methods of long sentences in scientific and technological English.

2. Long sentences in EST and the characteristics

EST characterizes its accurateness, preciseness and logicity in its long sentence structures. Long sentences in EST usually consist of simple long sentences and complex compound ones.

A simple English sentence is an independent sentence or clause with only one subject-predicate structure with each component consisting of only words or phrases. Simple long sentences are just long sentences featuring the structure of only one subject (or co-subject) and one predicate (or co-predicate).

Further, simple long sentence may extend its length through employing some correlative words, such as “not ... but...”, “as well as”, “not only ... but also ...” and so on, yet it still sticks to the one subject-predicate structure.

Complex English sentences may be combination of simple sentences and compound sentences or combination of several compound sentences. To be general, complex long English sentences feature complex structure and many logical levels.

The proper translation of long sentences is of great significance for the accurate transmission of scientific and technological text information.

3. Translation methods of long sentences in EST

English and Chinese are known to have many different features. For example, passive sentences and long sentences are natural in English whereas active sentences and short sentences are common in Chinese. Therefore, various adjustments will be a must when translating long sentences of EST into Chinese. In this sense, proper employment of translation methods and skills are of great significance to the successful conversion of EST texts between these two languages.

3.1 Division

In the process of translation, sometimes it is necessary to translate a single word, a single phrase or a single clause in an English sentence into several words or phrases in Chinese to conform to the Chinese expression habits. This kind of translation technique can be called Division.

Here is one example. “Pure science has been subdivided into the physical science, which deals with the facts and relations of the physical world, and the biological sciences, which investigate the history and workings of life on this planet. (Fang Mengzhi, 1998: 150)”

“Physical science” and “biological science” are parallel objects of “has been subdivided into”, but they are both followed by long and complex attributives. If they are translated in order, it will be confusing and difficult to understand. Therefore, it is necessary to clarify the logic and translate them separately according to Chinese logical thinking. In fact, the first “which”-clause is to modify “physical science” while the second “which”-clause is to modify “biological science”.

Therefore, the Chinese version is recommended to divide the original one sentence into three: first the general information is stated in one main clause “Pure science has been subdivided into the physical science and the biological sciences” and then the details are elaborated respectively in two sentences “the physical science deals with the facts and relations of the physical world” and “the biological sciences investigate the history and workings of life on this planet”.

Since there are more long sentences in English and more short sentences in Chinese in their syntax respectively, such adoption of Division is much more in line with the logic of Chinese expression.

3.2 Inversion

Inversion the term in translation means that the constituent elements of a sentence are rearranged in a different way compared with the general rules of word order of the original language. Each language has its own peculiarities in word order, so it is necessary or even inevitable to change the word order in a sentence according to the habitual usage or

grammar rules of the language to be converted into.

This is the example. “Scientists are learning a great deal about how the large plates in the earth’s crust move the stress between plates, how earthquakes work, and the general probability that a given place will have an earthquake — although they still can’t predict earthquakes. (Liang Tiantian, 2018: 22)”

English and Chinese are different in the expression habits of logical relations. As a deductive language, English usually gives a conclusion before stating the reasons or conditions. In the above example, the original text first summarizes “Scientists are learning a great deal ...”, then uses “about” to lead two “how”-object clauses as well as an object structure in which “that” leads an appositive sentence to explain what “probability” refers to, with the “although”-adverbial clause at the very end.

On the other hand, Chinese is an inductive language and is used to stating the reasons and conditions first, and then coming to a conclusion naturally. Therefore, in the process of translation, it is a must to adjust the word order of logical relations. In the Chinese version, the adverbial clause of concession “although they still can’t predict earthquakes” is to put at the beginning of the sentence, then scientists’ information about earthquakes should be narrated and finally the conclusion naturally comes out.

3.3 Change of voices

Change of voices refers to the translation between active voice and passive voice, that is, to render passive English sentences into active Chinese sentences, or to translate English sentences of active voice into Chinese sentences of passive voice, so as to make the translated version appear authentic and natural, and conform to different language habits.

In English, especially in English for Science and Technology texts, passive voice is often used since focuses of scientific and technological texts are on things, substances or processes, rather than on the identity of the action executors.

Here comes the instance. “These voice messages can be accessed later by the person to whom they are addressed. (Zhao Xuan, 2006: 251)”

This sentence bears the meaning of “The message recipients can access these voice messages later.” with two passive structures employed —— “These voice messages can be accessed ... to whom they are addressed”. To highlight the implementer of the action according to Chinese expression habits, it is necessary to translate the original object “to whom they are addressed” into the subject of Chinese sentence, and at the same time, the subject “These voice messages” in the original text is rendered into the object, so as to be in line with the conversion from English passive sentences into Chinese active sentences.

3.4 Amplification

Amplification means the translation practice of adding some words or expressions according to the different ways of thinking, different language habits and different expressions between English and Chinese, so as to reproduce the original meaning more accurately and faithfully in the target language. Relatively speaking, Amplification is used more in English-Chinese translation. That is because, generally, Chinese features more non-subject sentences while English usually has subject for each sentence.

As this sentence shows —— “Most automobile engines are internal combustion, reciprocating four-stroke gasoline engines, but other types have been used, including the diesel, the rotary (Wankel), the two-stroke, and the stratified charge. (Kang Zhihong, 2012: 95)” —— it goes with four “engine”s omitted after four specific kinds of machines “the diesel, the rotary (Wankel), the two-stroke, and the stratified charge” for grammatical needs and ideographic needs of brevity. However, literal translation of such concise expression will lead to strange and incomplete Chinese expression. Under such circumstance, Amplification is indispensable in Chinese —— “engine” is supposed to be added after each type of machine to make the information complete and clear.

3.5 Omission

Omission refers to the deletion of unnecessary words or expressions according to the needs of logic, syntax and rhetoric. Proper application of Omission can make the translated version more concise and more in line with the habits of the target language.

Here is one example. “If you reduce the volume which a gas occupies to one third, then the pressure increases three times. (Zhao Xuan, 2006: 38)”

One characteristic of English is that there are many pronouns, but when translated into Chinese, it will be unnatural and awkward to keep all the pronouns. Therefore, the Chinese version should omit the personal pronoun “you” in the

conditional adverbial clause guided by “if”. This does not change the meaning of the original, but instead it is more in line with the habit of using sentences without subjects in Chinese to achieve conciseness and objectivity at the same time.

To sum up, the proper deployment of these five specific translation methods are necessary and helpful in the process of translating long sentences in scientific and technological English, and have better translation effects of producing faithful and smooth Chinese version.

4. Conclusion

Since scientific and technological texts advocate preciseness and thoroughness through extensive use of long sentence structures, translating long sentences is naturally the key and difficult point in EST translation.

Based on a deeper understanding of the text, by means of proper translation methods, it is possible to produce the translated version of a higher quality in accordance with the Chinese expression habits and with the true meaning of the original text accurately expressed. Conceivably, the translation of long sentences in EST may even require a combination of several translation methods. To conclude, the proper application of translation methods in translating long sentences in Scientific and Technological English will contribute to the faithful and smooth Chinese version.

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