Flexibility in the Translation of Aviation Technology English Texts

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Abstract: Based on the English and Chinese texts in aviation technology English, four of the salient features of in flexible translation of long sentences are explored and analyzed, pointing out that flexible translation in textbooks can indeed increase readability and achieve good pedagogical results. In addition, the challenges posed by the future corpus to translators in translating this type of scientific and technical texts are also addressed.

Keywords: aviation English, translation strategy, skopos theory

1. Introduction

Aviation English is characterized by strong logic, many specialized terms and complex sentence structures (Yue Hongmei, 2019)[1].   As a textbook for civil aviation majors, in addition to considering to write the knowledge perfectly, it should also consider the problem of its reception among students, so translation plays a non-negligible role in this process. In this paper, based on the comparative analysis of the established English and Chinese corpus of aviation technology English, we summarize four flexible methods adopted by the translator in translating long sentences under the guidance of functionalist skopos theory, which helps students' understanding and promote teaching, and are worth learning. Thereby, it can also trigger us to think more about the many challenges translators will face in the era of advanced technological translation, and how to use translation strategies flexibly so as to retain their core competitiveness, which becomes a new professional demand for a translator.

2. Rules of skopos theory

2.1. The skopos rule

It is the primary principle of all translation activities. (Vermeer, 1984) That is, the translation should be able to function in the way the recipient of the translation expects it to function in the context[2]. Therefore, the translator should specify the specific purpose in the given translation context and decide which translation method - direct translation, free translation, or something in between. In the case of an aviation science and technology English text, for example, the recipient of the translated input language is a Chinese university student majored in civil aviation, the specific purpose is to achieve a pedagogical effect without being so obscure as to reduce the students' interest in learning. Regarding the translation method, this paper will focus on how the translator flexibly adopts the translation strategy to guide the translation under the premise of clarifying the object and the purpose of the translation into the language.

2.2. The coherence rule

The translation must meet the criterion of in-language coherence, that is to say, the translation must be readable and acceptable, and can make the recipient understand and make sense in the culture and the communicative context of the translated language[2]. Due to the differences in expression habits and syntactic structures between Chinese and English, it is not difficult to find that the latter sentence of an English context is usually the result of the previous one by default, but in a Chinese translation, the translator needs to stress the relationship between subject and object clearly. This paper mainly discusses the use of some logical linking words to reflect that the purpose of translating aviation science and technology English texts is mainly to highlight the knowledge points and achieve the teaching effect.

2.3. The fidelity rule

It means that there should be interlingual coherence between the original text and the translated text[2]. This is equivalent to other translation theories called fidelity to the original text, but the degree and form of fidelity to the original text depends on the purpose of the translation and the translator's understanding of the original text. In other words, the translator should accurately convey the original author's ideas, but the degree of retaining the original ideas varies in the process of conveying by various factors, such as the translator's personal experience and professional ability; another situation is that the translator makes certain changes in order to obey the skopos rule under the premise of being clear about the original author's ideas, which is not breaking the fidelity rule.

In short, these three rules constitute the basic principles of skopos theory, also, the coherence rule and fidelity rule must be subordinated to the skopos rule, which is the primary principle of skopos theory.

3. Flexibility in translation

3.1. Linking words

As a textbook for civil aviation students, the primary goal is to achieve teaching effectiveness. In particular, as an original English textbook, aviation technology English text is relatively unfamiliar to Chinese students. Therefore, the Chinese translation of this text uses many linking words to make it more fluent and natural, which better introduces the knowledge points and facilitates students' understanding. According to the keyword search of the corpus, there are 81 times of transitive articulation words, such as "but" and "however", and cause-effect linking words such as "therefore " and "therefore" are found 70 times; "accordingly", which also appears many times, is used as an example as follows.

Example 1: A steerable nosewheel or tailwheel permits the airplane to be controlled throughout all operations while on the ground.

Example 2: They then fix the CG forward of the center of pressure for the corresponding flight speed in order to provide an adequate restoring moment to retain flight equilibrium.

Both sentences use the method of "creating something out of nothing" by adding linking words "accordingly" in the beginning of these two sentences[3], which can also be considered as a kind of amplification. Obviously, the addition of appropriate linking words in such cases reflects the fidelity rule from a perspective of skopos theory, which not only makes the translation more consistent with Chinese expressions, but also more importantly, connects with the content of the previous text and can well remind students of the connection between the two.

3.2. Syntactic linearity

When English long sentences are arranged in chronological or logical order, the translation method syntactic linearity can be adopted, that is, the translation into Chinese is directly in accordance with the order of expression of the original text. The text of aviation science and technology English, as a classical tutorial for civil aviation students, has the characteristics of clear organization, accurate wording and rigorous logic, so we can boldly guess that the order of the English content in this text is mainly arranged according to logical relations. After further verification and search of the corpus, it is found that the Chinese translation is highly consistent with the order of the original text, reflecting the fidelity rule from the perspective of skopos theory. However, it is worth discussing here that syntactic linearity is not the same as translating word by word according to the original text, because the English and Chinese languages are not completely equivalent so that flexible adaptations are needed. It also reflects another aspect of the fidelity rule, that is, in order to follow the purpose, the translator makes certain adjustments according to his personal understanding of the original text.

Example 1: If the airfoil profile were in the shape of a teardrop, the speed and the pressure changes of the air passing over the top and bottom would be the same on both sides. But if the teardrop shaped airfoil were cut in half length wise, a form resembling the basic airfoil (wing) section would result.

In Chinese translation, the first sentence is translated in syntactic linearity, which is basically in the same order as the original; the second sentence, however, is treated slightly.[3] If the translation method is followed rigidly, the sub-sentence should be translated as a shape would produce. Instead, the Chinese expression is in line with the verb-object structure, so it should be translated that it produces a shape.

Example 2: In order to maintain a constant airspeed, thrust and drag must remain equal, just as lift and weight must be equal to maintain a constant altitude.

Similarly, if we follow the traditional syntactic linearity, the sentence should be translated firstly maintain a constant airspeed, secondly reasoning and drag must be kept equal. However, the Chinese expression habits prefer to put the modifying part in front of the predicate verb in order to highlight the content of the action. If the original order is kept and the part "as…" is put at the end, it will have the effect of end weight, which will magnify the rhetorical effect of this analogy and lead the text to the style of soft text like literature.

3.3. Amplification

In Chapter4-Amplification, the definition of amplification, "the addition in the target text of words that did not appear in the source text but without affecting the original meaning, (Ye ZN, 2011)" is clearly given in Chinese-English Translation Guide-Core Concepts and Techniques[4]. Many phrases in the English text of aviation science and technology are added by the translator to make the ambiguous concepts that is not in line with the life of Chinese students' clearer as well as easy to understand.

Example 1: It is neither accurate nor useful to assign specific values to the percentage of lift generated by the upper surface of an airfoil versus that generated by the lower surface. by the lower surface.

In Chinese version, this sentence ends up with "These (the forces from the upper and lower surfaces and their proportions) are not constant values[3]," which is an addition to the definition of the subject of the previous sentence. The English version puts "proportion" at the end, while due to the difference between Chinese and English sentence structures, the Chinese version is used to put the subject in front. Therefore, the translator has cleverly dealt with the definition by putting a separate sentence to emphasize it, which not only explains it clearly but also does not look abrupt.

Example 2: As the aircraft accelerates, the propeller blade angle increases to maintain the selected rpm until the high pitch stop is reached.

In Chinese translation, "Once the stop position is reached, the propeller blade angle can no longer be increased and the engine speed is reduced[3]," is added at the end. However, unlike Example 1, it is not simply an addition without affecting the meaning of the original text. To a certain extent, the translator has added something that seems inconsistent with the original text, breaking certain principles of the traditional amplification. But in fact, specific problems need to be analyzed in specific ways. Here we still need to take into account that the main audience of aviation technology English text is students, and the main purpose is teaching, so that readers can grasp the knowledge point is the first goal, which reflects the two aspects of the fidelity rule from a perspective of skopos theory. Also, the original text was created far back in time, while the development of aviation science and technology is changing rapidly, the Chinese translation should be flexible and updated with the actual development. As a result, students can receive the latest professional knowledge.

3.4. Omission

Omission is a translation method of deleting words that do not conform to the thinking habits and culture background of the target language in order to avoid the translation being cumbersome. Furthermore, in the studies of some scholars, omitting or subtracting translation also aims at considering the impact on readers.

Example 1: The water seems to flow freely while the oil flows much more slowly. (An excellent website to demonstrate types of viscosity is found at the Cornell University website on viscosity, located at http://atlas.geo.cornell.edu/education/student/viscosity.html.)

The Chinese translation heavily omitted the content in the brackets[3]. The content before the brackets is related to the knowledge of this section, so it cannot be ignored and must be translated accurately, while the content in the bracket is the local website provided by the author of the original text for the readers of the source language, if the translator keeps it in its original form, it will not only make the length long and tedious, but also the students cannot log on to the website due to international differences, which can be considered as useless information. Consequently, the translator adopts the method of omitting the translation, which is a manifestation of flexible handling.

Example 2: The most popular types of fuselage structure used in today's aircraft are the monocoque (French for "single shell") and semi monocoque.

Similarly, the sentence omits the translation of the content in the parenthesis[3], which means "single shell" in French. As a Chinese student, knowing the meaning of the word in French is not very useful, what he or she need to do is to distinguish the two types of body structures. The omission of the content in the brackets not only has no effect on the comprehension of the text, but also makes it more concise and easier to understand.

4. Challenges for translators

The creation of a corpus provides help for translators on the one hand and challenges on the other. Translators can improve the efficiency and accuracy of translation with the help of searching the large number of specialized terms entered in the corpus. Hard texts with strong logic and high professionalism like aviation science and technology English texts provide little room for the translator to play (Ye ZN, 2016)[5]. That is to say, it requires translators to have a high degree of flexibility and adaptability when translating such texts in order to reflect the advantages of human translation compared with mechanical translation programmed by data. In addition, translators are also required to follow the skopos theory. They are supposed to adopt strategies of translation that serve the audience of the translated text.

5. Conclusion

Through the establishment of a cross-referenced corpus of English and Chinese texts in aviation science and technology, we can better compare and summarize several characteristics of Chinese translators who break the traditional translation methods and deal with long sentences flexibly. Also, it draws attention that translators should learn to choose appropriate translation strategies according to different translation purposes in the era of prevalent machine translation to improve their competitiveness. In the long road of translation, technological translation can be used as our tool to help us become more efficient, but it does not have the ability to adapt because of its limitation, which is the reason why human translation can exist at last. The best translation method is the one that does not stick to a specific translation method.

Acknowledgement

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