Publishing House "ANALITIKA RODIS" (analitikarodis@yandex.ru) http://publishing-vak.ru/

Research on E-C Translation of Long and Difficult Sentences in EST

Yu Jing

Student,
College of Foreign Languages,
Northeast Electric Power University,
People's Republic of China;
e-mail: ddy@neepu.edu.cn

Zhang Xu

Professor,
College of Foreign Languages,
Northeast Electric Power University,
People's Republic of China;
e-mail: ddy@neepu.edu.cn

Abstract

In recent years, the ongoing economic globalization and rapid advancements of science and technology have created unprecedented material and technological conditions for global economic and social development. Many countries are taking active measures to vigorously push the development of science and technology. The translation and reading of English for Science and Technology are increasingly necessary. Long and difficult sentences are hard to be translated and understood in EST. Starting from the causes of the formation and features of long and difficult sentences, this article briefly analyzes the features and discusses the main procedures of translating long and difficult sentences in EST, with the combination of the language distinctions between Chinese and English. Finally, this paper summarizes the strategies commonly used in this kind of sentences in EST with examples. Science and technology are constantly innovating and developing, and English for science and technology is changing as well. The translation in EST becomes increasingly important as science and technology development. The differences between Chinese and English lead to various characteristics of such articles, in which often exist many long and difficult sentences. That has also become a major difficulty in the translation of scientific and technical English. In the process of translating such sentences, the translator should read the entire sentence first to determine the sentence type. After analyzing the sentence components, the translator shall make the logical relationship clear to take reasonable segmentation and break of sentences. After clarifying the sentence structure, it is necessary to select corresponding translation strategies.

Introduction

With the rapid change of today's world, more and more countries pay increasing attention to the development of the science and technology, and regard them as the primary productive force. Under the background of economic globalization, the influence of science and technology is being enforced day by day, and the times of exchanges and communications of science and technology are increasing around the world. As a result, the translation of science and technology from English to Chinese is becoming more and more important [Johnstone, 2008]. The characteristics of statement in EST (English for Science and Technology) lead to long and difficult sentences often being written in such article. What's more, as the main reflection on the differences in people's expression habits and ways of thinking, the cultural differences between China and the West make EST long and difficult sentences hard to translate. Therefore, in recent years, the analysis and translation methods of long and difficult sentences in EST have been discussed by more and more researchers and professors. In order to understand and translate technical English accurately and quickly, combined with the differences between English and Chinese, this article starts from the analysis of the causes and the features of the formation of long and difficult sentences in scientific and technical English, and then discusses the main procedures of the translation from English to Chinese. It shows the strategies commonly used in translation of long and difficult sentences in EST, such as linear translation method, reverse translation method, splitting translation method, and comprehensive translation method. Finally, these strategies are analyzed and summarized with examples.

Formation and Features of Long and Difficult Sentences in EST

English for science and technology is used to refer to written or spoken languages of everything about science and technology, including scientific writings, scientific papers and reports, information, structural descriptions and operational descriptions of practical means such as instruments and machinery, etc. [Grice, 2010]. It mainly lies in stating reasons and describing processes, and the definitions, theorems, laws or concepts or technological processes given must be rigorous and accurate [Wu, Jin, 1997]. Therefore, with the distinct features of rigor, practicality, and normative, English for Science and Technology has strong logic, tight structure, accurate expression [Fang, 2017]. Accordingly, the long sentences in English for Science and Technology contains many modifications, limitations and additional elements. Many juxtaposition elements, many modifier elements, and many logical levels, specifically, manifest in the fact that most long and difficult sentences contain juxtaposition structures or compound structures, that is, long and difficult sentences are juxtaposition structures. In simple terms, the structures of long and different sentences are that there are multiple clauses in the juxtaposition elements, and main-slave structure, that is, the sentences contain subject and multiple clauses. These have led to the excessive occurrence of long and difficult sentences in scientific and technical English, which are difficult to identify and understand. Therefore, long and difficult sentences are hard to be translated and understood in EST.

Language Distinctions between Chinese and English

The distinctions between Chinese and English languages actually stem from the diversities between Chinese and Western cultures, as well as the differences between the two ways of thinking [Lian, 2015]. Westerners think about problems in a relatively simple way, and their expressions are straightforward. We can directly understand what the speaker wants to express. However, Chinese like to ponder and deliberate, and their expressions are implicit and euphemistic. Usually, we need to understand the profound connotation through the superficial meaning, so such difference in this thinking mode is also reflected in the difference in language. In terms of lifestyle and traditional habits, the West emphasizes individualism, while the Chinese attach a strong sense of family and country and value collectivism. This also leads to the differences between Chinese and English in the length of sentences and logical relationship within sentences. Generally speaking, the differences between these two cultures directly lead to the differences between Chinese and English languages, among which the differences between hypotaxis and parataxis, static and dynamic, long and short sentences, sentence core in the first half part or the last, passive and active, and impersonal and personal are the most obvious. This article elaborates in detail here.

3.1 Hypotactic and Paratactic

English is a kind of hypotactic language, and its structural forms undergo many changes, such as the changes of tense and voice, singular and plural nouns, the comparative and superlative degree of adjectives, and the changes of non-predicate forms, past participles, present participles and infinitives. At the same time, conjunctions also have morphological changes, such as connecting pronouns, connecting adverbs, prepositions and articles. Chinese language is a kind of paratactic expression, and its word order is relatively fixed, with no specific morphological changes. What is more important is the expression of meaning. Chinese sentences generally have no conjunctions, and the translator can judge and understand the meaning by the logical relationship between sentences [ibid.]. In the translation of long and difficult sentences in scientific and technical English, more attention should be paid to the occurrence of conjunctions, and proper addition and subtraction of words.

3.2 Static and Dynamic

English is a static language, and it is also called an inflectional language, that is, the grammatical relationship is expressed by inflection, such as inflectional changes and morphological changes of verbs. Nouns are more stable than verbs and represent a state. The derivatives, affix changes and part-of-speech changes of verbs and adjectives can be easily turned into nouns. Weak verbs are usually used in English, which are unemotional and weak in action. Chinese is a dynamic language, and it has also become a non-inflectional language, with no changes in verb forms. Chinese is very good at using verbs to connect logical relationships between sentences, so verbs are written in Chinese frequently and can be used flexibly. Chinese often uses strong verbs, which are emotional and action-oriented. In the translation of long and difficult sentences in English for Science and Technology, we should pay attention to the transition of predicate verbs. In English-Chinese translation of such article, only strong verbs can be translated, and weak verbs should not be translated. At the same time, we should also pay attention to the translation of abstract nouns.

3.3 Long and Short Sentences

English sentences are characterized by various modifiers. Simple sentences are connected by appropriate conjunctions to form compound sentence or complex sentences, so the sentence structure is long [ibid.]. English generally shows a tree structure, that is, the framework of Subject+Predicate with conjunctions, prepositions, relatives and so on. The usage of such words will construct subsidiary

parts, which constitute grape-shaped or tree-shaped sentences. Chinese sentences are characterized by using short sentences or multiple short sentences to express things as much as possible, and using fewer conjunctions, so the sentence patterns are short [ibid.]. Chinese generally shows a bamboo structure or linear structure [Li, 2018], with multiple verbs or nouns arranged and short sentences connected in chronological or logical order. In the translation of long and difficult sentences in English for Science and Technology, in order to meet the requirements of concise and rigorous sentences structure in scientific and technical English, the occurrence of associated words should be minimized in English-Chinese translation.

3.4 Focus Permutation

English is a deductive language, with sentences focusing on the first part, summarizing first and then expounding separately, commenting and describing first and then describing the facts. Chinese is an inductive language, and the focus of the sentence is at the end, first explaining separately and then summarizing comprehensively, describing the facts in the first half part of sentences and then making comments. In the translation of long and difficult sentences from English to Chinese in English for Science and Technology, to conform to Chinese expression habits, the order of the translating of original English text should be from back to front.

3.5 Passive Voice and Active Voice

English is accustomed to using the passive voice, which shows an objective consciousness and a state of an object. In the passive voice of English, the verbs have changed. Chinese prefer to use the active voice to express a kind of consciousness of the subject. People are generally the executors of actions, and Chinese verbs have not changed. In the process of English-Chinese translation of long and difficult sentences in scientific English, we should pay attention to the translation of passive voice. These can be changed into active voice, and "可以" is generally used as a substitute word in Chinese scientific literature.

3.6 Impersonal and Personal（subjects and objects）

In English, things are called subjects, and they are usually referred to as inanimate subjects, that is, inanimate objects as subjects. They pay more attention to objectivity and express the independence and existence of things more. In Chinese, man is called the subject, usually regarded as a spiritual subject, which pays more attention to subjectivity and shows more subjective and initiative of lives. In the process of translating long and difficult sentences in scientific and technical English, attention should be paid to the change of the subject. In scientific and technological literature, in order to express more objectively, the subject can be omitted appropriately.

Understanding the differences between Chinese and English can better help the translator master the translation of long and difficult sentences, so that translators can better understand the expressions of the two languages, and integrate into both Chinese and Western cultures. Different translation strategies can be adopted according to different differences. Not only making the translation be closer to the original text, but also more in line with the expression habits of the target language. Finally, the translated translation is more authentic and accurate.

Main Translation Procedures and Strategies

In the translation of long and difficult sentences in EST, translators should read the whole sentence firstly. After determining the sentence type (simple sentence, complex sentence or compound sentence), and analyzing the sentence components, translator should clarify the logical relationship and

segment the sentence. Secondly, after clarifying the sentence structure, the proper translation strategies should be chosen. At the same time, translators should mind the tense, voice and mood of the sentence and translate it. Finally, after translation, you need to re-read the sentence to see if the word is proper, the sentence is fluent and coherent, and the translation is in line with Chinese expression habits.

4.1 Reasonable Segmentation and Break of Sentences

The style of English for Science and Technology is professional and objective. A large number of technical terms usually exist in this type of these articles. At the same time, the structure is logical and the narration is objective and its characteristics are manifested in the frequent appearance of nominalization structure, passive voice structure, non-finite clause structure and a large number of post-modifiers. For the frequent appearance of these structures and modifiers, personal pronouns and descriptive adjectives are rarely adopted by the author. In the process of translation, subjectivity and randomness must be avoided [Grice, 2010]. Moreover, English for science and technology is generally well-structured with outstanding prominent points, that is, most of the main information are written in the first half, and then the other information are transmitted [ibid.]. Therefore, in such article translation, the rules of English sentence patterns should be clarified. First of all, the translator should read the whole sentence to determine what the sentence type is, whether it is simple sentence, complex sentence or compound sentence, and then analyze the sentence components, make the logical relationship clear, and segment and divide sentences into several parts. For the reasonable segmentation and break of sentences, generally speaking, we usually split the sentence as follows: at the subject-predicate connection, at the transition or parallel connection, before relative pronouns or adverbs, before clauses, etc. To put it simply, sentences are usually broken at the original punctuation, clauses, non-predicate verbs and prepositional phrases, and sentences need to be broken, and when the subject is too long, sentence segmentation is also required to shorten long sentences and make difficult sentences easy, so that the hierarchy is clear [ibid.]. Reasonable segmentation of adverbial clauses such as conditions, time and concessions, sentence subjects, predicative clauses, attributive clauses and object clauses, etc. in long and difficult sentences, and stripping the intricately structured sentences layer by layer, can reduce the difficulty of translator's in understanding long and difficult sentences. Many problems such as unclear logical relationships in the translation process can be avoided.

Example: Due to the fluctuations in the river level and the changing boundaries of the waterline, /no distinction has been made /in the Bill of Quantities /between work /carried out over, under or adjacent to water /except where specifically stated. //The rates and prices /entered into the Bill of Quantities /are deemed to allow for the ground conditions, /hydrological and meteorological conditions of the Site, /as described in Sections 0.1,4 and 0.2.13 of the Specification.

Translation: 由于河面水位波动和吃水线边界变化，/除非特别说明，/否则工程量清单中/所列的在水面上、水面下或者毗邻水面进行的施工/没有区别。//根据技术规范第 0.1.4 节和第 0.2.13 节规定，/工程量清单中的价格和费率/应把现场的地质、水文条件和气象条件考虑在内。//

Analysis 1: First, break the two sentences at the full stop. In the first sentence, it is segmented after the mark of the adverbial of reason "Due to", at the prepositions "in" and "between", at the attributive after the noun of "work", and at the adverbial clause of condition introduced by "except". The trunk in this sentence is "no distinction has been made", and "no distinction" is critical word, which should be translated in the last in Chinese. After segmentation, the Chinese expression logic of this sentence is that "Due to..." (reason), "expect..." (the condition of...), "in the Bill of Quantities", "carried out..."

(post-positive attribute), "...work", "no distinction has been made". （由于...原因，/除非特别说明，/否则在...清单中，/...的施工，/没有区别。）

Analysis 2: In the second sentence, segmentation is carried out at the subject-predicate junction, at the post-attribute of the subject "The rates and prices", at the punctuation mark and at the adverbial of reason introduced by "as". The trunk in this sentence is "The rates and prices are deemed." To improve the naturalness and smoothness of the translated in Chinese, the adverbial of reason introduced by "as" should be translated at the beginning of this sentence. As the short post-positive attributive, "entered into the Bill of Quantities" should be translated before the subject "The rates and prices". After segmentation, the Chinese expression logic of this sentence is that "as described in..." (the adverbial of reason), "entered into..." (post-positive attributive), "The rates and prices" (subject), "are deemed to allow for" (trunk), "...conditions". （根据...描述或规定，/工程量清单中的...，/应把...条件考虑在内。）

In this way, after a proper segmentation of the sentence, the logical level of the sentence becomes clear, so that the translator will soon understand the meaning expressed by the original sentence, thus reducing the mistranslation or misunderstanding of long and difficult sentences because of the disorder of sentence components.

4.2 Adoption of the Proper Translation Strategies

After sorting out the sentence structure, one or more proper translation strategies should be adopted, and at the same time, the translator need to deal with the tense, voice, tone and wordiness of the sentence before translate the article, so as to accurately translate the original text and conform to the Chinese expression habits.

4.2.1 Linear Translation Method

The linear translation method is to translate in the order of the original text. In the narration of scientific and technical English, some long and difficult sentences are developed in chronological order, scientific process or logical order. As the narrative layer, syntactic structure and logical order of this kind of long and difficult sentences are basically the same as those of Chinese expressions, the translation can be carried out directly in the order of English original texts. But sometimes it is necessary to pay attention to the situation that the attributive clause is too long. In some cases, the passive voice, not commonly expressed in Chinese, shall be translated into the active voice.

Example 1: The basic rates for labour /shall cover all direct costs to the Contractor, /including (but not limited to) the amount of wages paid to such labour, transportation time, overtime, subsistence allowances, /and any sums paid to or on behalf of such labour for social benefits in accordance with Bangladesh law. //The basic rates will be payable /in local currency /or the currency of currencies entered in the Appendix to Bid /as appropriate to the labour or activity involved.

Translation: 工人的基本费率/应包含了承包商的直接成本，/包含（但不限于）付给工人的工资、运输时间、加班、生活津贴/以及其他付给或根据孟加拉国法律以工人名义支付的社会福利。//基本费率/以只能以当地货币发放，/或者在投标附件中规定的对工人或涉及到的相关施工活动的/适当支付货币。

Analysis: The English original text of this sentence is developed according to the logical order, which is roughly consistent with the logical order of Chinese. The first sentence is mainly talk about the content of the basic rates for labour and the second sentence is mainly talk about the payment of

the basic rates. Even if the word order does not change, it is also in line with the logical habits of Chinese. Therefore, it can be directly translated into Chinese according to the order of the original sentence.

Example 2: Backfilling shall /consist of the placement of material from the river back into the trench dredged /for the construction of the revetment slope and launching apron. /The final profile of the backfilling /shall be the Nominal Re-Fill Level. //Backfilling will only occur over areas /where the protective measures have been completed /and approved by the Engineer.

Translation: 回填施工/包括将河中的疏浚料回填到**开挖的基槽中**/用于护坡和护坦施工，/回填的最终高程/要达到设计的回填高程。//回填只能在特定施工区域进行，/这些施工区域已经完成防护并得到了监理批准。

Analysis: The original English text of this sentence also describes the definition and requirements of backfill construction in a logical order. The narrative layer is the same as that of Chinese, so it can be directly translated in original English expression order. It should be noted that the attributive clause guided by "where" in the second sentence is too long, and its modified word is "areas". Therefore, it is necessary to translate the relative pronouns, which indicate the main points, namely, "areas". （这些施工区域...）

4.2.2 Reverse Translation Method

Reverse translation is to start from the back of the original English text, and translate in the reverse order of the original English text according to Chinese expression habits, which is also called retrograde translation method. Due to the differences existed between Chinese and English, the way of thinking between China people and the West people is different, which lead to different linguistic centers of gravity. Generally speaking, in Chinese, facts are first followed by critical words, reasons are first followed by consequences, the language center of gravity comes last, while in English, the focus is on the comment before the fact, and the effect before the cause, and linguistic centers of gravity comes first [Chen, 2005]. Therefore, the expression order or logical order of some long sentences in English is different from that in Chinese, or even completely opposite. It is necessary to adjust the word order appropriately according to the purpose and expression habits in translation.

This kind of long English sentence is characterized by a long adverbial phrase or adverbial clause behind the main sentence, or a long attributive phrase, attributive clause, object clause, etc. behind the main sentence, while in Chinese, the adverbial is usually used before other components such as subject and predicate. Therefore, in order to conform to Chinese habits, adverbial and other components should be translated before the main sentence.

Example 1: The pay rates shall account for the need /to ensure the design grades and lines are achieved /during excavation and the placement for the protection works /are according to the design as shown in the drawings or to the satisfaction of the Engineer.

Translation: 依据图纸或监理的要求/对保护工程进行开挖和放置时，/付款价格应能保证能达到设计坡度和边线的要求。

Analysis: The English original structure of this sentence is a main clause + a long adverbial clause, and its logical order of expression is that "The pay rates shall account for the need" (main clause) / "to ensure... /during... /according to..." (a long adverbial clause). In Chinese, followed by the subject-predicate components, the adverbials are usually expressed first. Therefore, the adverbial of reason guided by "according to" is translated first and the adverbial of time guided by "during" is also

translated at the previous of the sentence. "The pay rates" is the subject, and "shall account for" is the predicate. As attribute, "to ensure...", modified the noun "need", should be translated before the noun. The adjusted expression order in Chinese should be "according to... (the adverbial of reason) /during... (the adverbial of time) /the payment price shall account for the need (the main clause) /to ensure...(attribute)".（依据.../在...时，/付款价格应能确保...。）

Example 2: This may require /that the sites are drained (via pumps) /during the placement of materials.

Translation: 这可能要求/在放置保护材料时，/施工场地要进行排水作业（通过抽水机）。

Analysis: In the original English sentence, the object clause guided by "that", and the adverbial of time guided by "during". Therefore, the adjusted expression order in Chinese is that "This may require /during... /that the sites...".（这可能要求/在...时，/施工场地...。）

4.2.3 Splitting Translation Method

The splitting translation method is to split the original text into clauses, infinitive phrases and other independent components to form multiple clauses for translation, so as to make it conform to Chinese expression habits, and at the same time make the expression logic well-organized and the content clear [ibid.]. English is a hypotactic language, which emphasizes strict structure and long sentences, while Chinese is a paratactic language, which often exist many short sentences and can understand the internal expressed logic without conjunctions. English for science and technology has many long sentences and complex structures, and there are many auxiliary modifiers in the main clause in the long and difficult sentences. Therefore, in order to bridge the differences between Chinese and English in hypotaxis and parataxis, and in the length and shortness of sentences, we can use the splitting translation method. That is to translate a word, a phrase or a clause firstly, and then to link the preceding and following sentences together [Wu, Jin, 1997]. After that, several clauses components shall be generalized one by one. Finally, the components shall be narrated separately, adding correct conjunctions as proper, so as to make the Chinese translation coherent and logical.

Example 1: Rock is defined as any material met with in excavation which, /in the opinion of the Engineer, /cannot be removed /without the use of blasting, breakers or splitters. /Incidental boulders of 0.5m³ or less shall not be classed as rock.

Translation: 监理认为，/岩石应定义为在开挖过程中出现的材料，/这种材料在不使用爆破、碎石机或者分离器的情况下/将难以移除，/偶然产生的 0.5 立方米或者小于 0.5 立方米的卵石不应定义为岩石。

Analysis: In the English original text of this sentence, "in the opinion of the Engineer" is an independent component, which needs to be translated first, and then the preceding and following sentences are connected together for translation. In addition, the adverbial of condition guided by "without" means that "in the case of not..."（在不...的情况下）, also shall be translated in the first half of the sentence. Therefore, the adjusted expression logic in Chinese is that "in the opinion of the Engineer"(independent component), /"rock is defined as ... material"(the main clause), /"without..."(the adverbial of condition), /"this material can not be removed", /"... should not be classed as rock".（监理认为，/岩石应定义为...材料，/这种材料在...情况下/难以移除，/...不应定义为岩石。）

Example 2: BOQ Items 8.8 to 8.18 are Provisional Items /to be confirmed by the Engineer /after

the Contractor has carried out ground investigation works /to ascertain the subsoil condition /and the Engineer has determined the type and extent of ground treatment trial and permanent works.

Translation: 工程量清单 8.8 项到 8.18 项是临时项条款。/在承包商已经进行完地基调查工程后/确定了底土情况/并且监理已经决定了地基处理试验段和永久工程的类型和范围后，/需由监理对临时项条款做出确认。

Analysis: In the English original text of this sentence, "to be confirmed..." is an infinitive, and "after" leads to the adverbial clause. The original tree structure of this sentence is "subject + predicate + object + infinitive as attribute + a longer adverbial clause". Translator can use the splitting translation method to separate the subject, predicate and object into several parts, and then translate the adverbial clause, and finally the infinitive is translated. It should be noted that when the infinitive is translated at the end of the sentence, in order to make the sentence better cohesive, the subject of the previous sentence needs to be expressed again. The translated order in Chinese is that "BOQ Items...are...". /"after...to...and...", /"to be confirmed by...". （...是临时项条款。/在...之后，/需由监理对临时项条款做出确认。）

4.2.4 Comprehensive Translation Method

The comprehensive method is to disrupt the inherent structure of the original text, and recombine Chinese sentences according to their logical order and time sequence, which is also called recombination method. The expression habits of English and Chinese are different, so that some English long sentences cannot be translated into desirable versions simply by using the above single method. At this time, it is necessary to puzzle over single part to make clear the logical layer and modifiers in long and difficult sentences. Finally, the article shall be translated in reasonable logical layer and accurate occurrence time.

Example 1: The measurement of Geobags forming the launching aprons and geobag filter (North and South Banks) /shall be actual number of bags /placed on the prepared surfaces to generate the required number of layers /in accordance with the values specified in the Drawings, /unless modified in writing by the Engineer.

Translation: 除非监理做出书面修改，/否则在计算护坦和土工袋反滤层（北岸和南岸）施工过程中需要的土工袋数量时/应按照图纸要求的铺设层数/核算实际铺设在浚后施工面上的/土工袋数量。

Analysis: After reasonable segmentation, the original logical sequence of this sentence is "The measurement of..." /"shall be the actual number of bags" /"placed on... to..." /"in accordance with...," /"unless modified in writing by the Engineer.". If it is translated directly, it does not conform to the Chinese expression habits. In Chinese, the adverbial is generally shown first, so that the adverbial of conditional guided by "unless" will be translated first in this sentence. As the attributive of modifying the noun "bags", "placed on..." also needs to be translated preposition. It should be noted that the word "unless", as a adverbial of condition, should have both relative words in the process of translating into Chinese, that is, "unless..., otherwise...". （"除非..., 否则..."） Therefore, the adjusted word order is that "unless modified in writing by the Engineer", /"The measurement of..." /"in accordance with...," /"shall be the ("placed on... to...") actual number of bags". （除非监理做出书面修改，/否则计算.../应按照图纸...要求/核算（铺设在浚后施工面上的）土工袋实际数量。）

Example 2: The measured quantity for payment /shall not include any additional placement in areas/ outside of the boundaries shown in the Drawings /without the prior written approval of the Engineer.

Translation: 未经监理事先书面批准，/铺设到图纸中划定的抛填区域边界以外的/土工袋的费用/将不予以支付。

Analysis: After reasonable segmentation, the logical order in English of this sentence is "The measured quantity for payment" /"shall not include..." /"outside of..." /"without...". In the same way, the adverbial guided by "without" shall be translated firstly, and the attributive "outside of..." which modifies the noun "areas" shall be put in front. According to the differences between dynamic language and static language in Chinese and English, to make English original text close the Chinese translation, "payment shall not include..." should be translated into "...shall not be paid". At the same time, the expression order in Chinese is a comment after facts, while the expression order in English is a comment before facts. As a comment, hence, "payment shall not include..." shall be translated in the last half in English-Chinese translation. Therefore, the logical sequence of translation into Chinese is that "without..." /"outside of..." /"The measured quantity for payment" /"...shall not be paid". （未经监理事先书面批准，/图纸...以外的/...费用/不予支付。）

4.3 Proofreading

The various characteristics in scientific and technical English lead to the long and different sentences in technical articles, in which the mistakes and misunderstanding are often made by translators. The translator mechanically adopts inappropriate translation methods just to compare the original text, which often makes readers confused and unclear. At this time, the work of post-translation inspection is particularly important. For the translation of long and difficult sentences in scientific English from original text to Chinese translation, if the translator's mother tongue is the target language, that is, Chinese, it often occupies a great advantage in Chinese expression habits. After translating the original text, the translator can first throw the English original text away and read through the Chinese translation version to check the problems such as whether the words are correct and reasonable, whether the translation is smooth and coherent, whether the logical relationships about turning point and causality are clear, and whether it conforms to Chinese expression habits. After proofreading, the information in EST can be translated authentically and accurately.

Conclusion

Science and technology are constantly innovating and developing, and English for science and technology is changing as well. The translation in EST becomes increasingly important as science and technology development. The differences between Chinese and English lead to various characteristics of such articles, in which often exist many long and difficult sentences. That has also become a major difficulty in the translation of scientific and technical English. In the process of translating such sentences, the translator should read the entire sentence first to determine the sentence type. After analyzing the sentence components, the translator shall make the logical relationship clear to take reasonable segmentation and break of sentences. Secondly, after clarifying the sentence structure, it is necessary to select corresponding translation strategies such as linear translation method, reverse translation method, splitting translation method, and comprehensive translation method, etc. At the same time, the tense, voice and tone of sentences shall be noted before translating. Finally, after

translation, you need to reread the sentence to see whether the word is reasonable and correct, whether the sentence is smooth and coherent, and whether the expression conforms to Chinese habits. At the same time, under the background of globalization, translators still need to keep pace with the times, constantly analyze the characteristics of long and difficult sentences in scientific and technical English, continually explore and summarize the translation methods of long and difficult sentences. Striving to improve English level, learning translation skills, summing up translation experience, and innovating in the field of translation of long and difficult sentences in scientific English, for a translator it is a lot more than that.

References

1. Brown G., Yule G. (1983) *Discourse Analysis.* Cambridge University.
2. Chen Guiqin (2005) Examples Analysis of Translation Strategies of Long Sentences in EST. *China Sci-tech Translation*, 8.
3. Fang Qian (2017) Stylistic Features and Translation Skills of EST. *Journal of Changchun Education College*, 12.
4. Grice H.P. (2010) Logic and conversation. In: *Syntax and semantics in speech acts*. Academic Press.
5. Johnstone B. (2008) *Discourse analysis.* Blackwell Publishing.
6. Li Yang (2018) Exploring the Chinese Translation of English Long and Difficult Sentences from the Perspective of English-Chinese Contrast. *Campus English*, 52.
7. Lian Shuneng (2015) *A Comparative Study of English and Chinese.* Beijing: Higher Education Press.
8. Liu Chunyan (1995) Translation of Long and Difficult Sentences in EST. *Jiangxi Science and Technology Communication,* 12.
9. Schiffrin D. (1987) *Discourse markers.* Cambridge University Press.
10. Wu Xuemin, Jin Jinghong (1997) Treatment of Long and Difficult Sentences in EST Translation. *China Sci-tech Translation*, 10 (4), pp. 26-29.

Исследование электронного перевода длинных и сложных предложений в EST (English for Science and Technologies)

Юй Цзин

Студент,
Колледж иностранных языков,
Северо-Восточный электроэнергетический университет,
Китайская Народная Республика;
e-mail: ddy@neepu.edu.cn

Чжан Сюй

Профессор,
Колледж иностранных языков,
Северо-Восточный электроэнергетический университет,
Китайская Народная Республика;
e-mail: ddy@neepu.edu.cn

Аннотация

В последние годы продолжающаяся экономическая глобализация и быстрый прогресс науки и техники создали беспрецедентные материальные и технологические условия для

глобального экономического и социального развития. Многие страны принимают активные меры для энергичного развития науки и техники. Перевод и чтение в области английского языка для науки и техники (EST) становятся все более необходимыми. Длинные и сложные предложения трудно перевести и понять в рамках EST. В данной статье кратко анализируются особенности и обсуждаются основные процедуры перевода длинных и сложных предложений в EST с учетом языковых различий между китайским и английским языками. С примерами обобщаются стратегии, обычно используемые в предложениях такого типа в EST. Перевод в EST становится все более важным по мере развития науки и технологий. Различия между китайским и английским языками приводят к различным характеристикам таких статей, в которых часто содержится много длинных и сложных предложений. Это также стало серьезной трудностью при переводе в области научного и технического английского языка. Для перевода таких предложений переводчик должен сначала прочитать все предложение, чтобы определить тип предложения. После анализа компонентов предложения переводчик должен прояснить логические связи, чтобы разумно сегментировать и разбивать предложения. После выяснения структуры предложения необходимо выбрать соответствующие стратегии перевода.

Библиография

1. Brown G., Yule G. Discourse Analysis. Cambridge University, 1983. 272 p.
2. Chen Guiqin. Examples Analysis of Translation Strategies of Long Sentences in EST // China Sci-tech Translation. 2005. 8.
3. Fang Qian. Stylistic Features and Translation Skills of EST // Journal of Changchun Education College. 2017. 12.
4. Grice H.P. Logic and conversation // Syntax and semantics in speech acts. Academic Press, 2010. P. 41-58.
5. Johnstone B. Discourse analysis. Blackwell Publishing, 2008. P. 238-239.
6. Li Yang. Exploring the Chinese Translation of English Long and Difficult Sentences from the Perspective of English-Chinese Contrast // Campus English. 2018. 52.
7. Lian Shuneng. A Comparative Study of English and Chinese. Beijing: Higher Education Press, 2015.
8. Liu Chunyan. Translation of Long and Difficult Sentences in EST // Jiangxi Science and Technology Communication. 1995. 12.
9. Schiffrin D. Discourse markers. Cambridge University Press, 1987. 364 p.
10. Wu Xuemin, Jin Jinghong. Treatment of Long and Difficult Sentences in EST Translation // China Sci-tech Translation. 1997. 10 (4). P. 26-29.