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A Study on the C-E Translation of Hydropower Engineering Texts Under the Guidance of Systemic Functional Linguistics

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Abstract: *With the development of basic social undertakings, the exchange and cooperation between China and other countries in water conservancy and hydropower engineering technologies are getting closer and closer. Not only that, hydropower engineering text involves multiple contents related to various fields, such as building, geology, ecology, etc., featuring professionalism, practicality, and communicative nature, so more attention should be given to the translation of hydropower engineering texts. Therefore, under the theoretical framework of systemic functional linguistics proposed by Halliday(1976), this paper first analyzes the characteristics of general hydropower engineering texts from the perspective of the register and then aims to seek the equivalences of three metafunctions, including ideational, interpersonal, and textual metafunctions between the source text(ST) and the target text(TT), thus exploring some applicable translation methods for C-E translation of hydropower engineering texts. Hopefully, this study can provide some inspiration for translators engaged in hydropower engineering text translations.*

Keywords: *Translation of hydropower engineering texts; Systemic functional linguistics; Metafunction theory; Register theory*

1. Introduction

Systemic functional linguistics focuses on the social and available properties of language. The term 'systemic' denotes that the language used in a given language environment is in the form of a system.[1] Thus, Halliday (1976) created the register theoretical framework consisting of Filed, Mode, and Tenor as the basis for selecting language systems. The three metafunctions of language proposed by Halliday (1976) include the ideational, interpersonal, and textual metafunctions.[2] Different fields, modes, and tenors can form different semantic environments. Then different vocabularies, tones, sentences, etc., would be used in different semantic environments to realize language's ideational, interpersonal, and textual metafunctions. Although systemic linguistics is committed to studying the language itself, it is still significant as guidance in language-transformation activities such as translation.

Therefore, many scholars have ever studied translation based on systemic functional linguistics. For example, Huang Guowen (2015)[4] has ever explored the balance between content and form translation; Zhao Dequan (2006)[12] discussed the equivalence of ideational function, while Wang Hongyang(2008)[9] studied the textual functional equivalence in translation activities. However, most of these studies aim to search translation principles or methods under systemic functional linguistics from the macroscopic point of view. Meanwhile, some scholars (e.g., Deng Xixi[3], 2020; Yang Min[10], 2012, et al.) have also studied translation within specific fields, such as the law, medical, literature, etc., from the perspective of systemic functional linguistics. However, a few scholars researched the translation of hydropower engineering texts with the guidance of systemic functional linguistics, and only one report written by Zhang Liwei (2017) studied the C-E translation of hydropower engineering texts from the perspective of systemic functional linguistics.[13] Given this, with the method of case analysis, this paper first explored the characteristics of hydropower engineering texts by following the register theory and then focused on seeking some C-E translation skills and methods of hydropower engineering texts, aiming to achieve ideational, interpersonal, and textual functions between ST and TT under the guidance of metafunction theory within systemic functional linguistics.

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2. The Metafunction and Register Theories within Systemic Functional Linguistics

The theoretical framework of the register, which consists of Field, Mode, and Tenor, developed by Halliday (1976), is the basis for the selection of language systems.[2] The context, scene, topic, etc., determine the field, and different fields give birth to various texts, such as the texts of advertising, technology, etc. Mode relies on the way of discourse and can make the text into two categories: the spoken and the written. Tenor is related to the participants in the scene where the text takes place and the relationships between these various participants, and can determine the text's degree of formality and tone. According to systemic functional linguistics, three metafunctions of language proposed by Halliday(1976) include ideational, interpersonal, and textual functions.[2] The ideational function refers to the basic meaning of the expression or vocabularies at the semantic level; the interpersonal function is relevant to the mood and modality of the text; and the textual function, to a certain extent, serves to link the ideational and interpersonal functions of language by thematic structure theory and cohesion, and then a complete text can be formed further. The register system actually interacts with the three metafunctions. Field constrains the meanings of the characters or phrases within a specific language environment in terms of ideational function. At the same time, the mode is responsible for the usage of the textual part, and the tenor determines the ways of the interpersonal function realization. Different fields, modes, and tenors constitute different semantic environments in which different vocabularies, tones, expressions, etc., will be used to achieve the three metafunctions of language.

3. The Register and Metafunctional Characteristics of Chinese Hydropower Engineering Texts

There are more than fifty thousand articles related to water conservancy and hydropower engineering on CNKI, and part of these articles is used as a corpus in this paper to analyze the register and metafunction characteristics of Chinese general hydropower engineering texts.

Water conservancy and hydropower projects, as a fundamental undertaking for national social development, involve a wide range of engineering fields and are highly specialized as informative engineering texts in terms of language field. It is found that a large number of professional terms in multiple fields, some terms-excepted jargon expressions, as well as many geographical names, etc., mostly appear in hydropower engineering texts, which makes the ideational features of hydropower engineering text outstanding.

Mode relates to how the discourse takes place and can determine whether the text is spoken or written. Most of the texts on hydropower engineering for translation are typically documents or papers written by professionals in the industry to make analyses and summaries of hydropower projects. Therefore, most hydropower engineering texts follow the linguistic features of the written language, containing many long sentences in loose structures. And these sentences in hydropower engineering texts are mostly found to have three or more clauses, which shows the textual features of the hydropower engineering texts.

Tenor is decided by not only the participants themselves but the statuses and relationships between participants involved in the language as well, referring to the interpersonal network of the texts. Different participants can influence the degree of formality and mood of the text. Generally speaking, most hydropower engineering texts summarize and describe the content of hydropower projects, which are popular within the hydropower engineering industry as a tool for technical communications. To a large extent, the participants involved in hydropower texts are primarily professionals in the hydropower engineering industry at home and abroad, so the mood and modality of these texts are relatively formal and professional to realize the interpersonal function. Through corpus-based analysis, it is found that a great number of non-principal sentences with some modal verbs which can directly express the author's attitude are skillfully used in hydropower engineering texts to avoid the frequent occurrence of the subjects and keep the texts from being aggressive and demanding, thus preferably achieving the interpersonal function of the language used in the hydropower engineering environment. On the one hand, the absence of the subject allows for more accurate and objective descriptions of the construction content of the hydropower project. On the other hand, the action can be highlighted, and the mood of the texts can be more formal without the subjects' appearances.

4. The Equivalent Translation of Hydropower Engineering Texts under the Three Metafunctions

Eugene Nida (2004) argued that translation aims to reproduce the information of the original

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language into the most natural equivalent in the targeted language.[6] The equivalences first refer to the semantic equivalence and then the formal equality. Based on the metafunction theory under systemic functional linguistics, Zhao Dequan (2006) deemed that a language should have three meanings: ideational meaning, interpersonal meaning, and textual meaning, and each of these meanings is made up of and expressed by several units of information.[11] However, the cultural differences between the two languages often make it difficult to concurrently achieve all of these meanings between ST and TT, so translators should distinguish the priority of the three metafunctions of the ST and then try to reproduce the primary function of the ST.[12] Based on the above scholars' discussions, it can be concluded that the ideational function should be preferentially and then interpersonal and textual functions achieved in translating hydropower engineering texts with outstanding ideational meanings.

4.1 Equivalent Translation of the Ideational Function

According to Si Xianzhu (2014), ideational function mostly refers to the narrative function of language, answering the questions of "what" and "why."[7] Therefore, the terminology, terms-excepted jargon expressions, geographical names, etc., to a certain extent, determine the linguistic characteristics of the hydropower engineering texts. So intensive attention should be paid to the translation of professional terms, terms-excepted jargon expressions, geographical names, etc., with the consideration of expression differences between the original language and targeted language, thus furthest realizing the ideational meaning and reproducing the information of the original language into the most natural equivalent in targeted language while conducting translation activities for hydropower engineering texts.

4.1.1 The Translation of Professional Terms

According to systemic functional linguistics, the ideational function aims to express people's views, experiences, and other things about their inner world and the natural objective world, which ensure normal human activities. A hydropower project may involve many engineering fields, such as building, ecology, etc. So many professional terms in various areas are commonly used in hydropower engineering texts, and the ideational meanings of these terms need to be thoroughly expressed in the translated texts. According to the definition of the terminology by the Quebec French Office, a term or terminological unit consists of a single word (single term) or several words (compound term) used to express a targeted concept within a certain semantic field. Jargon serves for a specific area as well, but Jargon is more extensive than terms, so terms belong to Jargon to some degree. Therefore, there are many expressions that appear to be terms but actually not, which will be an intrusive existence for the translator to deal with terms in hydropower engineering texts. So the first step in doing C-E translation of hydropower engineering texts is to extract the terminology within the ST. However, thanks to the characteristics of specificity and targeting of the terminology, some tools based on databases can be used to help extract professional terms within one area. Furthermore, as many professional terms are characterized by international universality, it is possible for the translator to find corresponding expressions or the most natural equivalent of these professional terms in the target language to maximally achieve the ideational function of professional terms in ST.

4.1.2 The Translation of Terms-excepted Jargon Expressions

Table 1: Categories of Terms-excepted Jargon Expressions

No.	Categories
1	Professional Terms Combined Expression
2	Borrowed Expression
3	Simplified Expression

Dealing with professional terms is not the most challenging part of the C-E translation of hydropower engineering texts. Instead, more attention should be laid to these jargon expressions except professional terms. According to the definition of jargon, jargon is mainly used among professionals within a certain field, many of which have been simplified over the course of their development in order to aid the discussion of topics. Different industries possess different jargon expressions. Therefore, a jargon expression may have a more precise definition than its standard explanation within a specific area. In general, the authors of hydropower engineering texts are professionals in the industry, and they are very likely to use some terms-excepted jargon expressions which can only be understood by professionals within the hydropower area. So there is no wonder that these terms-excepted jargon expressions are easily mistaken as professional terms by translators. Through corpus-based analysis, this paper roughly classifies the terms-excepted jargon expressions in general Chinese hydropower

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engineering texts into the following three categories:

Category No.1 in Table 1 refers to the combined expression composed of professional terms and some other words or phrases, such as “in-situ habitat restoration”, “secondary functional region”, “stratified excavation”, etc. The professional terms in combined expression should be primarily extracted, and then nouns or verbs need to be appropriately added in translation.

“Borrowed Expression” in Table 1 means the cross-disciplinary expression made up of the words or characters borrowed from other areas, and it will be endowed with specific meanings within the hydropower field. For instance, the phrase “ma dao” means a concreted ramp located on the inner side of the city walls and can help horses transport food, transfer information, and push the movement of troops. In addition, “ma dao” refers to the pathway for constructing and maintaining the houses’ roofs as well. However, “ma dao” in hydropwer field, means the platforms set at regular intervals on the slope of earth and rock dams in the hydropower engineering area and is translated into “Berm” in English. Some of these borrowed expressions will develop into professional terms, while some may become common jargon expressions within a specific field. On the one hand, to translate such kind of specific borrowed phrases in the hydropower area, translators need to find and accumulate relevant expressions through searching parallel texts. On the other hand, translators can explore the specific meaning of the borrowed words or phrases in the ST and then translate them by using the method of explanation if the relevant fixed expression can not be found in the parallel texts. Last but not least, these translated borrowed phrases or words need to be verified by matching the pictures or activities, so that the translators can recognize whether the translated words or phrases refer to the same meaning as that in the source language after searching the translated words or phrases on the websites of the target language to maximally seek the natural equivalent between ST and TT.

Category No. 3 in Table 1 refers to simplified expressions with Chinese characteristics, often in short phrases but containing a significant amount of information. For instance, “shi di shi shu”、“tian ao zao di”, etc., are actually simplified expressions that seem like professional terms within specific ecology areas in hydropower engineering texts, and the translation method of explanation is usually adopted to deal with this kind of expression.

According to the definition of jargon, many jargon expressions have been gradually simplified in the courses of their development. Therefore, the jargon expressions mentioned above, including professional terms, mostly follow the simplicity feature. Furthermore, language has ideational, interpersonal, and textual meanings based on systemic functional linguistics. Therefore, Zhao Dequan (2006) proposed that it would be an ideal situation for translation if, on the basis of achieving the ideational meaning, the other two meanings, i.e., the interpersonal meaning and the textual meaning, could be fully translated.[12] In view of this, the translation method of explanation could be preferably chosen to seek the most natural equivalent of ideational meaning in TT. And then the simplified textual meaning of these jargon expressions needs to be achieved in the translated text as far as possible. Moreover, to simplify these jargon expressions in TT, the noun phrases could be adopted in C-E translation since English prefers nouns while Chinese prefers verbs.

4.2 Equivalent Translation of the Interpersonal Function

According to the metafunction theory, the interpersonal function is used to communicate and express views on the objective world, achieved by a modality, mood, and evaluation system. A general hydropower engineering text is mainly used to make summaries and descriptions of the construction of one hydropower project, facilitating technical communication between national industries and professionals. Through corpus-based analysis, it is found that a great number of non-principal sentences with modal verbs which can directly express the author’s attitude are cleverly used in hydropower engineering texts to avoid the frequent occurrence of the subjects and keep the texts from being aggressive and demanding, thus preferably achieving the interpersonal function of the language used in the hydropower engineering environment. After comparison, it is also explored that non-principal sentences are not frequent in English hydropower engineering texts. As mentioned in Water Conservancy English (Wang Ying, Tsinghua University Press 2016 Edition), the non-principal sentence is specialized and exists on account of the transference of subjects in the E-C translation of hydropower engineering texts.[8] That is to say, most of the subjects in ST are usually treated as objects in TT of the hydropower texts, thus giving birth to more non-principal sentences in Chinese hydropower engineering texts. In other words, many sentences in English hydropower texts would be translated into non-principal ones in Chinese to satisfy the expression habits of the target language, which also means that there are more non-principal sentences in Chinese hydropower engineering texts

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than those in English hydropower texts. Liu Hui and Zhang Yulin (2019) have mentioned in their study on the translation of non-principal sentences in petroleum engineering texts that the frequent occurrence of non-principal sentences in Chinese is mainly due to the fact that Chinese is a paratactic language which makes the sentence structure tend to rely more on the internal connection of the sentences themselves rather than on the structural words.[5] On the one hand, non-principal sentences can make the description of the hydropower engineering projects more objective. On the other hand, in Chinese hydropower expressions., the text would be more formal in tone, and the actions would be highlighted without the appearance of the subjects. Therefore, it is necessary to skillfully deal with the non-principal sentences in Chinese hydropower engineering texts with full consideration of the interpersonal function. Based on the corpus-based analysis, it is found that most of the non-principal sentences in hydropower engineering texts appear in the following two forms.

Table 2: Forms of Non-principal Sentences in Chinese Hydropower Texts

No.	Forms of Non-principal Sentence Structures
1	Verb+Object+Other Components(VOOC)
2	Adverbial+Verb+Object+Other Components(AVOOC)

The forms of non-principal Chinese sentence structures in hydropower texts are categorized into three types in Table 2. And the structure type of form No.1 usually begins with a predicate verb, aiming to objectively describe the technology and process of construction of a certain hydropower engineering project, while form No.2 in Table 2 of the non-principal sentence commonly starts from an adverbial part which mainly refers to the adverbials of place and manner, primarily used to emphasize and objectively describe the construction of one hydropower engineering project in a specific area or a particular way, etc.

Zhao Dequan (2006) has suggested that in translation practice, in order to pursue the ideational functional equivalence between the original and the translated text, the functional components which can reflect specific linguistic ideational functions such as participants, ways of discourses, environmental elements, etc., are always preferentially achieved in translation activities.[12] In many cases, the other interpersonal and textual functions are simultaneously realized and integrated into the ideational function as the ideational function is accurately translated. However, in specific contexts, the interpersonal function sometimes takes precedence over the other two functions. The greater the gap between the two languages in terms of linguistic structure, the more they express their interpersonal functions differently, which leads to an imbalance between the ideational and interpersonal functions in the two languages. In other words, the interpersonal function expressed behind the ideational function in one language is different from that in another, and this is defined as the displacement of the relationships between ideational function and interpersonal function in translation by Zhao Dequan(2006).[11] Sometimes, to avoid the removal of interpersonal functions between two languages, some conceptual-functional components would be omitted or altered, and the formal equivalence of the conceptual-functional components would be abandoned during the translation activities. Therefore, Liu Hui and Zhang Yulin (2019) put forward five translation methods for dealing with the non-principal sentences in Chinese petroleum engineering texts: 1. the method of subject complementary; 2. voice transformation; 3. take advantage of the sentence with “it” as formal subject; 4. use non-predicate sentence structure; 5. adopt the sentence pattern of “there be.”[5] It is known that petroleum engineering texts and hydropower engineering texts are both engineering informative texts, so these above translation methods for dealing with non-principal sentences in petroleum engineering texts are applicable to the translation of non-subject sentences in hydropower engineering texts as well. With the analysis of many translation practices of hydropower engineering texts, this paper founds that the first three methods mentioned above are mostly adopted in C-E translation of non-principal sentences in hydropower engineering texts.

ST 1: Make full use of the animal rescue station to enrich and perfect the function and power of the station in monitoring wild animal resources and related scientific researches.（Literal translation of VOOC Chinese sentence)

TT 1: It is recommended to take full advantage of the rescue station to improve and perfect its effects on monitoring wild animal resources and related scientific researches.（Use sentence with “it” as formal subject in authentic English expression）

In many cases, the subjects of Chinese hydropower sentences are hidden or omitted to make sure the text is in formal expression. Literal translation will make VOOC Chinese sentence in to no-subject English sentence which is uncommon in English hydropower texts. Therefore, as the strong attitude is implied or expressed by the verbs in ST, the translation method of using the sentence with "it" as

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formal subject can be adopted to deal with no-subject issue and highlight the author's views, thus maximizing the interpersonal function of the translation in the same way as the original.

ST 2: Scientific research and experimental site of the hydropower station sets up an office building for management and scientific research personnel to deal with ordinary affairs.（Literal translation of AVOOC Chinese sentence)

TT 2: One office building is set up in the scientific research and experiment site within the hydropower station, mainly used for management and scientific research personnel to deal with ordinary affairs.（Object in active sentence in ST is processed for the subject in passive sentence in TT）

More attention should be paid to the choice of the subject in translating non-principal Chinese sentences which take the form of "Adverbial+Verb+Object+Other Components." Since Chinese and English own different thinking patterns and expression ways, adverbial part is frequently used at the beginning of one Chinese sentence, which may confuse the translator and bring some difficulties to do C-E translation. In some cases, many C-E translated texts will mistake the adverbial part as the subject of the English sentence, and then put the translation into this way which can be seen in ST 2: Scientific research and experimental site of the hydropower station sets up an office building for management and scientific research personnel. It seems that this translation is reasonable as well, but you will find it very strange that taking adverbial of place, time, etc, as subjects in English sentence. The targeted readers may know the meaning of the sentence but not identify with this kind of expression. Moreover, finding or using the correct subject is the first and also the most important step to put the translated sentence into an authentic expression. Translators need to be very careful and considerate with taking the expression habits of the target language into consideration when dealing with the Chinese sentence in the form of AVOOC. Generally speaking, the subject in the non-principal sentence of AVOOC is usually hidden in the sentence and needs more attention to be discovered. Sometimes, extra addition of the subject based on the context is advisable as well. Therefore, in addition to the TT 2, there is still another way to put the ST 2 into an authentic expression: The team of the hydropower station sets up an office building for management and scientific research personnel for dealing with ordinary affairs in the scientific research and experiment site.

In general, subject complimentary and voice transformation methods are applicable to deal with the non-principal sentences in the C-E translation of hydropower engineering texts. Subject complementary refers to changing the functional ideational components, and voice transformation means abandoning the form equivalence of functional ideational components between ST and TT, thus avoiding displacement and better achieving interpersonal function. Subjects mainly can be obtained through transferring the objects in active non-principal sentences taking the form of VOOC in ST into the subjects in passive sentences in TT. Moreover, some subjects are usually hidden and can be inferred from the context in the non-principal sentences taking the form of AVOOC in ST. In most cases, non-principal sentences in ST are processed for passive corrections on TT so as to meet the the target language’s expression habits .

Besides, some modal verbs used to express the author's attitude in the non-principal sentences of ST are usually processed for "should," "could," "need," etc., maintaining unchanged in both ST and TT, and keeping the form equivalence of functional ideational components without the displacement of interpersonal function. Even in some cases, the recessive or hidden modal verbs in ST will be made explicit by adding "should," "could," "need," etc., in TT to highlight or emphasize the author's point of view, thus maximally achieving equivalent interpersonal function.

4.3 Equivalent Translation of the Textual Function

Discourse or text deals with the mechanism of language planning and is a sentence-based exploration of the structural features of articles. Wang Hongyang (2008), in his study on the functional equivalence of translation in discourse or text, has suggested that in language activities, complete discourse doesn’t make sense with the realization of only two metafunctions (ideational and interpersonal functions).[9] Instead, the textual function should be served as an adhesive to link the ideational function and interpersonal function together in one text so that the text can be complete and meaningful. Without the bonding effect of textual function, the realization of ideational and interpersonal functions would be hindered. Therefore, all of the three metafunctions should be achieved as far as possible in the translation activities. According to the theory of metafunction, textual function mainly relies on thematic structure and cohesion. The thematic structure is an important means of making the discourse coherent and progressive. Through corpus-based analysis, it is found that Chinese

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hydropower texts are mostly featured by long sentences with more than three clauses, and the thematic structure that consists of theme and rheme is not required much. Furthermore, the theme and rheme are not connected with each other tightly, and even in some cases, the themes would change a lot in these long sentences in Chinese hydropower texts, while the thematic structure is demanded a lot in English hydropower texts. In view of this, as for the C-E translation of long sentences in hydropower texts, the changeable theme and rheme need to be extracted and then organized together in line with the features of the thematic structure used in the targeted language. Based on the analysis of the characteristics of textual functions between ST and TT, two translation methods are explored in Table 3 to deal with the long sentences in Chinese hydropower texts.

Table 3: Translation Methods for Textual Function Achievement within Hydropower Texts

No.	Methods
1	Thematic Structure Switching
2	Logical Word Addition

ST 3: The animal rescue station is the first one in China to be independently established and operated by an enterprise. It exerts an instinct role in protecting rare animals, and has produced great ecological protection benefits in Yunnan province. It is an awesome project to protect terrestrial animals within hydropower constructions. (Original thematic structure in Chinese)

TT 3: The animal rescue station exerts an instinct role in protecting the rare animals and has produced great ecological protection benefits in Yunnan province, as the first enterprise-established and legally-operated animal rescue station as well as an awesome project to protect terrestrial animals within hydropower constructions in China. (Thematic Structure Switching)

It can be seen that the rhemes with the same functions or meanings are put together in TT by transposing and integrating the theme and rheme in the sub-clauses in original thematic structure, so the expression of the translated text can be more logical and the information more clear and centralized in TT.

ST 4: The design meets the reasonable requirements of professional rescue and economic-technical soundness, effectively solves many difficulties in the construction and operation of the small temporary rescue station, and to some degree slows down the adverse effects of people's activities, water storage and hydropower station operation on animal habitats and populations during the construction and operation period. (Original long sentence structure in Chinese)

TT 4: The design meets the reasonable requirements of professional rescue and economic-technical soundness, effectively resolving many difficulties in the construction and operation of the small temporary rescue stations. Meanwhile, it also, to a certain degree, slows down the adverse effects of people's activities, water storage and hydropower station operation on animal habitats and populations during the construction and operation period. (Logical Word Addition)

The fact that Chinese hydropower texts are mostly filled with long sentences is fully shown in ST 4. If these long sentences in ST are not properly split, the translation will be redundant and not comply with the English linguistic feature of simplicity. So the long discourse is split in TT 4, and the logical word "Meanwhile" is added to link the meanings of the two separated parts with each other, which makes the original meaning expressed in long sentence structure more integrated and finally achieves the textual function to some degree.

Both thematic structure switching and logical word addition methods presented in Table 3 are suitable for dealing with long discourses in hydropower engineering texts. With the consideration of the expression differences between Chinese and English, thematic structure switching is committed to making the loosely-structured Chinese discourse more connected and the meanings more clear through integrating the theme and rheme at the same functional level. At the same time, logical word addition is aimed at connecting the theme and rheme in different clauses, thus keeping the textual characteristics of ST and maintaining the meaning of the original long discourse complete.

5. Conclusion

To a certain degree, the translation of hydropower engineering texts differs from that of other texts such as culture, advertising, law, etc. Under the theoretical framework of Halliday's systemic-functional linguistics and corpus-based analysis, this paper first analyzes the characteristics of the Chinese hydropower engineering texts in terms of fields, modes, and tenors. It is found that there are many

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multi-domain professional terms related to geology, ecology, and other areas, and a lot of terms-excepted jargon expressions, some place names, etc., contained in Chinese hydropower engineering texts. Meanwhile, the texts are mostly composed of many long sentences with more than three sub-clauses connected in loose structures. And a large number of non-principal sentences with some explicit or recessive modals are frequent in the texts. Then, based on the metafunction theory under systemic functional linguistics and some viewpoints of seeking equivalences in three metafunctions between ST and TT proposed by many scholars, several translation methods are explored in this paper. For instance, the methods of subject complementary, voice transformation, etc., can serve for non-principal sentence translations; thematic structure switching and logical word addition are suitable for dealing with the discourse filled with long sentences and so on. Some explicit modal verbs in original texts should be kept, and even some recessive modal verbs that imply the author's attitude should be made explicit in TT to ensure the equivalences of ideational and interpersonal functions. However, there are still many translation skills or thoughts to be explored within the hydropower engineering field. It is just hoped that some of the humble opinions in this paper can provide inspiration and reference for related translators engaged in hydropower engineering text translations.

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