

# Translation of Mechanical and Electrical Product Manuals from the Perspective of Skopos Theory

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## **Abstract:**

Being a common kind of applied text in science and technology, mechanical and electrical product manuals play a vital role in popularizing enterprises and products and the accurate translation of mechanical and electrical product manuals is of great importance. The Skopos Theory is proved to be the right guiding theory for translating this kind of texts. Under the guidance of Skopos Theory involving the Skopos rule, coherence rule and fidelity rule, this paper exemplifies and analyses the translation principles and techniques of mechanical and electrical product manuals like literal translation, free translation, omission, division, conversion, etc. so as to offer some related reference for other translators to do translation.

**Keywords:** *Mechanical and electrical product, Skopos theory, Translation strategies.*

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## I. INTRODUCTION

Mechanical and electrical products mainly refer to the use of machinery, electrical, electronic equipment produced by all kinds of agricultural machinery, electrical appliances, electronic properties of production equipment and household machinery which not only make a comprehensive introduction about product information to the user's, but also has a publicity effect on the product. For the past few years, as China's foreign trade has expanded rapidly, more and more Chinese technical products are exported to the international market. Being the core of technical products, mechanical and electrical products are no exceptions. The proper translation of those texts demands not only the standards and accuracy of scientific writing, but also the strong persuasion and attraction to enhance the desire of consumers and improve the performance of enterprises.

The aim of this paper is to analyze the right translation of mechanical and electrical product manuals from the perspective of skopos theory systematically. The first part is the theoretical framework, introducing the relevant theoretical basis to support this study. The second part discusses distinctive language features of Chinese and English mechanical and electrical product manuals in lexical and syntactic levels. As the focus of the whole translation practice report, the third part makes a detailed exposition of the translation strategies used in the translation of mechanical and electrical product manuals under the guidance of Skopos Theory, combining with the specific translation examples.

## **II. TRANSLATION OF MECHANICAL AND ELECTRICAL PRODUCT MANUALS GUIDED BY SKOPOS THEORY**

Mechanical and electronic product manual is a kind of practical text belonging to the category of scientific and technological translation which means the translation has a clear predetermined function. In order to translate those scientific and technological texts well, the target language should be professional, scientific, concise and most importantly understandable so that consumers can really know functions, features, usages, after-sale service and other detailed information of the products. In the following part the author will make a detailed exposition of the translation strategies used in translation of mechanical and electrical product manuals guided by Skopos Theory, combining with the specific examples to summarize the translation experience and provide a reference for other readers. In the practical translation progress, translator must have enough correct translation concept and relevant technical knowledge to make the target text faithful to the source text. In the process of translation, certain effective and functional translating strategies and methods should be adopted, like literal translation, conversion, division, omission, amplification and so on.

### **2.1 Basic Rules of the Skopos Theory**

Originally, Skopos theory focused on the purpose of source texts [1]. It proposed that translators should use various strategies to fulfill the purpose of the source text. Later, the theory extended to coherence rule and fidelity rule which meant besides fulfilling the original purpose of the source texts, translators should also realize coherence and loyalty to the source texts. This section will make an introduction to the three rules involving in the Skopos Theory respectively.

#### **2.1.1 The Skopos rule**

The “Skopos rule” also named the principle of purpose is the primary rule for all translation activities following the principle of “purpose”. Namely, the translation activity is determined by the way that the target language receiver anticipated. There are three possible purposes translation field: the general purpose of the translator in the process of translation (possibly ‘to earn a living’); the communicative purpose (possibly to ‘guide the reader’) and the purpose of a particular translation strategy or procedure (for example, ‘verbatim translation to show the structural characteristics of the source language’) in the context of the objective text [2].

#### **2.1.2 The coherence rule**

Vermeer believes that the target text should meet the criteria of intra-textual coherence. The coherence rule requires the target text to be in accordance with the criteria of coherence (intra-textual coherence). Target text must be readable and acceptable. That means any reader can understand the information of the source text in the context of target culture. Under guidance of the Skopos theory, context of the target culture determines validity of the translation, rather than that of the source culture. The intra-textual

coherence indicates that the translator can present the information from the source text in a meaningful way that target audiences can understand it in their own language cultures.

### 2.1.3 The fidelity rule

The fidelity rule, also known as the inter-textual coherence, means that both the source text and target text need to fulfill coherence in translation. That is both the content and purpose of the translation should be coherent between the source and target texts, while adopted translation activities depend on the purpose of the translation.

Generally, among the rules mentioned above, the Skopos rule is the top priority, followed by intra-textual coherence and inter-textual coherence. Translators should first realize the purpose of the source text and then keeping the target readers in mind adjust translation methods to let the target text be understandable to the target audience, which means translators need to not only respect the original language purpose but coordinate with the target language culture as well as target audiences.

## 2.2 Translation of Mechanical and Electrical Product Manuals Guided by Skopos Theory

The translation of mechanical and electrical product should be considered from the perspective of the Skopos theory involving the Skopos rule, coherence rule, fidelity rule [3]. The main function of product manuals is to deliver product information and usages the consumers. So, words, expressions and sentence structures used in the manuals have specific purposes. Meanwhile, being the main part of the German Functionalist School of thought, the Skopos theory indicates that the translation is mainly governed by its purpose and target readers, which requires translators always keep translation in mind and make the target text as understandable, readable and culturally acceptable as possible. Thus, the Skopos theory is the right guiding theory for translating product manuals.

### 2.2.1 Literal translation guided by objective principle

According to the Skopos Rule proposed by Vermeer, the objective principle is the primary and determinant rule for all translation activities, which means every translation behavior has a basic level of purpose. And to fulfill every purpose in the target text, the translator must adopt a certain kind of translation strategies. That is to say no matter what kind of translation strategy to adopt or apply, the translator needs to keep in mind what the target text should achieve in the target language culture.

Literal translation, commonly used in science and technology texts, mainly refers to translating the original text while maintaining the original message to the utmost extent, including the using of words, the way of metaphor and sentence structure. The advantage of literal translation is that it cannot only preserve the original meaning but also express the denotative meaning. In translation studies, literal translation is given priority in denoting technical translation of scientific, technical, technological or legal text [4]. As has been discussed before that mechanical and electrical product manuals belong to this kind of text, literal

translation is one of the most primitive translation techniques suggested in the translation process of mechanical and electrical product manuals. Here are some examples:

Examples 1:

ST: Zixi jiancha gebufen lianjie (baokuo jiexie bufen he dianqi bufen), quebao kekao.

TT: Carefully check all the connections (including mechanical and electrical section) to guarantee the stability.

Examples 2:

ST: Dang youyu mouzhong yuanyin shi youlu yali gaoyu zhengchang gongzuoyali shi, duolufaqishengjiangji huo huzhuanjigou shangde yiliufa zidong kaiqi, dadao baohu xitong de mudi.

TT: When pressure of the oil path is higher than normal operation pressure for some reasons, hoisting mechanism of the multi-way valve or relief valve of it will automatically open so as to protect the system.

Examples 3:

ST: Ge ke xihua gang de jingli, shi dang de qiangdu he yingdu zhengjia, yinwei jingli yuexi, yingdu jiu yuegao.

TT: Chromium makes the grain of steel finer, thus increasing the hardness and strength of steel, because the finer the grain is, the stronger the steel becomes.

The above three examples show that the components including terms, sentence structure and meaning in source language are totally equal to those in target ones. Therefore, literal translation which can express original meaning of source completely is applied to make the translated text faithful to the source text. In quite a lot cases when doing mechanical and electrical product manuals translation, many translators see literal translation as the first choice, because it conveys messages to the target readers fully.

### 2.2.2 Free translation guided by objective principle

It is known that objective principle requires that the process of translation should be based on the realization of its communicative function in the target language culture. Free translation, also named liberal translation, is a way to accurately expressing the source text based on understanding of the source language from the perspective of the target readers [5]. As discussed in part 4 that in mechanical and electrical product manuals, sometimes there are some long and complex sentences. To those long sentences, translators should maintain the original meaning of the text as well as to express it in a best way for target readers to understand, therefore free translation is applicable in these cases. Here are two typical

examples:

Example 4:

ST: Gongzuo fangshi duo, tiaosu sudu kuai, caozuo xingneng hao, shiyong fanwei guang, benjizhongji de qishengjiegou, bianfujigou, huizhuanjigou caiyong dangqian zui xianjingde bianpinwuji tiaosu fangan, gongzuo gengneng pingwen kekao.

TT: The lifting mechanism, amplitude changing mechanism and rotary mechanism of the crane adopt the most advanced variable frequency speed regulation scheme, which makes it works more stable and reliable with multiple working modes, fast speed regulation, good operation performance and wide application range.

Example 5:

ST: Qzhongji zai bu gongzuo shi, bu yongxu cahngshijian ba zhongwu xuanyu kongzhong, fangzhi lingjian keneng chansheng yongjiu bianxing.

TT: It is not allowed to hung heavy objects in the air when the crane is out of use so as to avoid permanent deformation of spare parts.

In translating the above two sentences, literal translation cannot express the source text well. The translator must understand the source text totally and then express the source text in the way that target reader can understand. Therefore, free translation is adopted so that the translation versions not only show the implicit meaning of the sentences, but also conform to the English culture and language rules, enabling the target readers to have a similar sense and understanding the meaning of the whole sentences [6].

### 2.2.3 Omission guided by coherence principle

Due to the linguistic differences between Chinese and English, in some situations, faithful translation of the original information may lead to the failure of cross-cultural communication. Thus, a good translator sometimes adopts the omit strategies. That means omit some unnecessary information, and focus on the subject information in the target reader service. So sometimes, for some long Chinese mechanical and electrical product manuals, it is not necessary to translate every part in the sentence fully. Namely in the process of translation, according to the differences between Chinese and English and the actual language situation, without affecting the meaning of the source sentence, the author modifies some of the contents and makes appropriate vocabulary omissions. The following table gives clear examples of translating those manuals into English in this practice:

TABLE I. Vocabulary Omissions

ST	TT
Chanping gaishu	overview
Caozuo shiyong	operation
Fangxianwu	fender
Pinlv Fanwei	frequency
Weiguan zucheng	microconstituents
Chanping fujian qingdan	product accessories
Xiaochu neiyong duihuo	stress-relief anneal

Take “Caozuo shiyong” which is shown in Table I as an example, as mentioned in part three, Chinese often uses four-character to make the expression sound rhythmic and catchy. Here the meaning of “operation” and “usage” are repeated, so the author adopts the word “operation” directly in translation, omitting “usage” to avoid duplication as well as meeting the requirement of concise instructions. When translating “Chanping gaishu” into English, as the Chinese expression “Chanping gaishu” is the general description and introduction of the product, it can be directly translated into “overview”, deleting the word “product”. Generally, proper omission in mechanical and electrical product manuals often including the omitting of articles, prepositions, conjunctions, linking verb be, etc which are indispensable in the original text, but indispensable in the target text.

#### 2.2.4 Division guided by coherence principle

Like translating any other product manuals, it’s common to meet some long sentences with Chinese word-group, phrases, clauses, etc in translating Chinese mechanical and electrical product manuals. To make the meaning of the target language clearer and the structure more reasonable, the author needs to divide the sentence in two or more short sentences using translation method called division.

Examples 6:

ST: Jizuo wei yuantongxing hanjie jigou, ta yonglai chengdan qizhongji de quanbu zhengyali he qinfuliju, shangbu falanmian yonglai lianjie huizhuan zhicheng, xiabu caiyong hanjie fangshi yu jiaban dizuo xianglianjie, jizuonei zhuangyou diandongji, bing sheyou yige gong anzhuang he weihu de renkong.

TT: The pedestal is of cylinder shape and welded structure, serving to bear overall positive pressure and overturning moment of the crane. Flange face on upper side is used for connecting slewing bearing, while the lower side is connected to deck base by welding. The pedestal is equipped with electromotor inside with a manhole for installation and maintenance.

#### Examples 7:

ST: Diaobing wei quanfengbi de bianjie miangxiangxing jiegou, neibu jiayou geban, yonglai zhengjia diaobi de wendingxing, qi bichang wei 12m, toubu wei huachezu, genbu tongguo huadongzhoucheng he xiaozhou yu tasheng lianjie, diaobishang huan zhuangyou qisheng jiegou.

TT: The hoisting arm is of enclosed box structure with variable sections, of which, the inside is installed with baffle plates to increase the stability. The length of hoisting arm is 12m. Its head is tackled while its end is connected to tower body by sliding bearing and pin shaft. The hoisting arm is also equipped with hoisting structure.

Example 6 is a typical Chinese running long sentence which is composed of a main sentence followed by several sections: Jizuo yonglai chengdan..., sahngbu falanmian yonglai lianjie..., xiabu caiyong hanjie fangshi..., jizuonei zhuangyou..., bing meiyu.... If we translate the sentence directly into the same long target sentence accordance with the source text, the English version would be lengthy or even in disorder. Therefore, as the target text version showed above, the sentence was divided into three parts so as to make the target sentence more logic and clearer, the same to example 7.

#### 2.2.5 Amplification guided by loyalty principle

To faithfully present the ideas in the source language and make the target text more vivid, consistent, appropriate and understandable to the language habits of the target language, the practice of adding some explanatory words, connectives, generic words, general words and pronouns, etc. is often adopted in C-E translation. This translation technique adopted in C-E translation is called amplification. In C-E translation of mechanical and electrical product manuals, amplification is employed once in a while. Following is some examples:

#### Examples 8:

ST: Renhe wuti, buguan ta shi guti, yeti huo qiti, doushi you yuanzi zucheng de.

TT: Any substance, whether a solid, a liquid or a gas, is made up of atoms.

#### Examples 9:

ST: Butong de gang, qi linjie wendu gebuxiangtong.

TT: Different steels differ from critical temperatures.



Examples 10:

ST: Cuihuogang hennan jiagong, dan jingguo tuihuohou bie hen rongyi jiagong.

TT: Quenched steel is difficult to machine, but it is easy to process after annealing.

In these examples, to keep the original meaning of the source language as well as meet the target language's grammatical rules, three indefinite articles "a" have been added to the target version in example 8, one preposition "from" added to example 9 and one personal pronoun "it" added to example 10. Generally, in mechanical and electrical product manuals translation, amplification is applied frequently for it can make the target text more reasonable, smooth and easy to understand, and at the same time meet the expressing habits of the target language.

## 2.2.6 Conversion guided by loyalty principle

As is known to all that Chinese and English are belonging to two totally different language families, to make the target text be faith to the content of the source text as well as convey information faithfully, literal translation, free translation and other translation methods are not enough. Conversion is a frequently used method in Chinese-English translation of mechanical and electrical product manuals. Conversion means the transformation of parts of speech or voices in some expressions while maintaining the original content unchanged which will be stated in details in the following part.

### 2.2.6.1 Parts of speech

In the mechanical and electrical product manuals translation, conversion of parts of speech is a commonly used translation technique. As we mentioned previously, English is noun-prominence and Chinese verb-prominence, part-of-speech conversion is not a easy job in translation. In many cases, verbs in Chinese converted into nouns, adjective, preposition, etc, adjective is converted into verbs or adverbs and so on. Here are examples:

Example 11:

ST: Dianhu changdu keyi zhengzhang dao yi yingcun. TT: The electric arc may grow to an inch in length.

Example 12:

ST: Dasheng wei gangban hanjie ercheng de xiangxngjieyou, juyou qiangdugao, chongfengliyong youxiaokongjie de tedian.

TT: The tower body is of box structure welded by steel plate, being characterized in high-strength and



space-saving.

Example 13:

ST: ganggan yao kefu de mochali henxiao.

TT: Levers have little friction to overcome.

In order to keep loyal to the source sentence and more importantly to get better versions in target text, example 11 concerted the subject “changdu” into prepositional phrase “in length” as a complement, example 12 concerted the noun form “tedian” into English verb “characterize”, and example 13 concerted the subject “mochali” into object “friction”. Consequently, parts of speech conversion is a very good strategy in translating Chinese mechanical and electrical product manuals into English ones which not only fulfil faithfulness to the source text but also guarantee accuracy of the target text.

#### 2.2.6.2 Active voice into passive voice

As discussed above that the passive voice is used much more frequently in English than in Chinese especially in scientific and technical writing, product manuals are no exception. And so are mechanical and electrical product manuals. Naturally, in the process of translation mechanical and electrical product manuals, some Chinese sentences in active voice are usually translated into the form of passive voice. The following is some examples:

Example 14:

ST: Xuduo zhuzao quexian shi you shazi de pengzhang xingzhi suo zaocheng de.

TT: Numerous defects are caused by the swelling properties of sand.

Example 15:

ST: Zai chuandao he duiliu shi, nengliang tongguo muzhong jiezhichi chuandi.

TT: In conduction and convection, energy is transmitted through some medium.

Example 16:

ST: Zazhi quchudaio, jinshu de zhenzheng huanyuan jiu kaishi le.

TT: When the impurities are removed, the real reduction of the metal begins.

Generally, in Chinese sentences there are two ways to express the passive meanings. One is that words with passive meanings like “bei, wei, jiao, shou, gei, you, zao, yu, ai, wei, suo” are often applied in Chinese sentences which do not need to use passive voice. Example 10 is a typical example using the word “suo” in source text which needs to be translated into English with the passive voice. Another way to express passive meaning in Chinese sentences do not use passive words or expression but rely on practical language context as is shown in example 14 and example 15. There are so many sentences that suggest the passive meaning without the passive structure in Chinese, which includes non-subject sentence, active sentence in general and non-personal sentence. In this situation, they should be translated into English sentences with the passive voice.

#### 2.2.6.3 Affirmation and negation translation

Owing to English and Chinese are belonging to two completely different language families, they differ in affirmation and negation sometimes. In translation, according to target text purpose, the original form of sentence structure needs to be broken through with the affirmation in source language being translated into negation in target text, or vice versa. This kind of translation method called affirmation and negation translation is often applied in mechanical and electrical product manual [7]. Here are a few of these translation examples:

Example 17:

ST: Jinshu yao jiare dao yiding de wendu caihui ronghua.

TT: The metal does not melt until it is heated to a certain temperature.

Example 18:

ST: Wendu dui jinshu de daodianxing yinxiang buda.

TT: Temperature has little effect on the conductivity of metals.

Example 19:

ST: Yi ban feijinshu cailiao suxingcha, qiangdujiaodi.

TT: The common non-metals tend to be less ductile and weaker.

Example 17 shows that in some cases to dig out the hidden meaning of the source sentence as well as adjust to the text sentence expressing habits, it's better to translate the positive sentence into negative one. Therefore, the target sentence in example 17 became negative sentence used English negative sentence structure “not...until” to present the hidden meaning of the original sentence. Conversely, example 18 and

example 19 were used negation to affirmation translation method to faithfully present the ideas in the source language as well as make the target text more vivid, consistent and smooth.

### **III. CONCLUSION**

Through large and detailed study and analysis, it is found out that product manual translation belongs to the category of applied translation and translation of mechanical and electrical product manuals not only needs to be vivid, accurate and in format correct, but most importantly be understood so that consumers can really know functions, features, usages, after-sale service and other detailed information of the products. Therefore, the Skopos theory involving the Skopos rule, coherence rule, fidelity rule is proved to be the right guiding theory for translating product manuals. Thus, under guidance of Skopos theory with objective, coherence and loyalty principles, translation strategies like literal translation, free translation, omission, division, amplification and conversion are proved to be feasible choices in translation of mechanical and electrical product manuals. The author elaborates that if the components of the manual including terms, sentence structure and meaning in source language are totally equal to those in target ones, literal translation is usually adopted. To those long sentences, in order to maintain the original meaning of the text as well as to express it in a best way for target readers to understand, free translation is applicable in these cases. Omission and division are usually employed to make sentences more coherent and logic. Naturally, to faithfully present the ideas in the source language and make the target text more vivid, consistent, appropriate and understandable to the language habits of the target language, conversion and amplification are used. To those long sentences, in order to maintain the original meaning of the text as well as to express it in a best way for target readers to understand, free translation is applicable in these cases. Omission and division are usually employed to make sentences more coherent and logic. Naturally, to faithfully present the ideas in the source language and make the target text more vivid, consistent, appropriate and understandable to the language habits of the target language, conversion and amplification are used. All in all, during the translation process, under guidance of the Skopos theory, keeping the target audience in mind, translators should use translation methods flexibly and accordingly.

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