

# An Analysis of Technical Text Translation from the Perspective of Text Type Theory: Based on the E-C Translation of *H5 Automotive Cab Instruction Manual*

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**ABSTRACT.** According to Katharian Reiss's text type theory, the practical research object of this paper has three kinds of expression functions: information function, expression function and operation function. Figures and tables are widely used in various books, documents and reports and occupy an important position, but the translation study of them in technical texts is still a new field. This paper intends to analyze and study the translation practice from the following levels: First, at the level of vocabulary translation, the translation mostly uses the term fixation, compound words, clipping, initialism, acronyms, and the text structure is concentrated at the meaning level, thus the language is logical; Second, the contextual translation makes extensive use of strong logic sentences and the feature of these sentences is concise and expressive; Third, the format translation starts from the aspects of font, font size, and type setting, emphasizing the creative construction of text and the aesthetic layout of the page. The translation measures mentioned in this paper have practical value and strong operability. The author hopes to provide some reference and inspiration for the translation of subsequent colleagues.

**KEYWORDS:** Katharian Reiss, Text type theory, Figures and tables

## 1. Introduction

### 1.1. Research Background

With the deepening of international economic and cultural exchanges, the role of language as a bridge connecting different countries and cultures has become increasingly important, so new opportunities and challenges have been proposed for translation practice. In recent years, the research on Reiss's text types has become a research hotspot of domestic scholars. In general, the current research focuses on the translation practice of pure text, but the research that combines the theory of text type with the translation of figures and tables is very lacking. Due to the characteristics of figures and tables themselves, namely non-complexity and diversity, the translation research is more difficult, and it is even more difficult to carry out excellent translation practice. In view of this, this paper discusses the translation method of figures and tables in scientific and technological texts based on Reiss's text type theory, aiming to provide reference for this kind of translation practice.

### 1.2. Research Status

Figures and tables are widely used in various books, documents and reports and occupy an important position, but the translation study of them in technical texts is still a new field. The words "figures and tables" in Chinese is different from that in English. As visualization tools, infographics include: chart, diagram, graph, table, map, list etc. The title refers to the subject of the figures and tables. In addition to the title, there is usually a phrase or a paragraph of text below the figures and tables to explain the content of them.

### 1.3. Research Signification

With the deepening of international scientific and technological exchanges and cooperation, the number of translations of scientific and technological texts is also increasing, and the importance of

scientific and technological translation research is obvious. Using the text type theory of Katharina Reiss to explore the translation of figures and tables in scientific and technological texts, it first summarizes the research results of functional translation theory, then classifies figures and tables, and finally analyzes the translation of them and their titles using translation methods. They are used very frequently in literature and reports and play a very important role. They can describe technical principles concisely and vividly, and they show the current state of scientific and technological development. The functions of the figures and tables are different, which determines the different translation strategies of the them. No matter what translation method is used, the translator must take "faithfulness" as the main principle. Therefore, the translator should not only have rich translation experience, but also be familiar with professional terminology. Only by translating according to the different functions of different figures and tables can the translated text be accepted by Chinese readers.

## 2. Cases Study Guided by Text Type Theory

### 2.1. Text Type Theory

Functional translation theory emerged in the second half of the 20th century, and Reiss is one of the main representatives. She divided text types and proposes corresponding translation methods and she published the book *Translation Criticism: Potentials and Limitation*, which introduced textual functions into translation criticism and proposed functional translation theory [4]. Reiss divides text into three types: informative text, expressive text, and operative text. Besides, the characteristics of text types are summarized diversely. As we all known, text types are not singular and immobilized, even a text may contain multiple text types. Reiss believes that text type is the main influence factor for translators when they choose appropriate translation methods. Reiss listed the text genres associated with each text type, which Chesterman vividly displayed, as shown in the Figure. 1 [1].

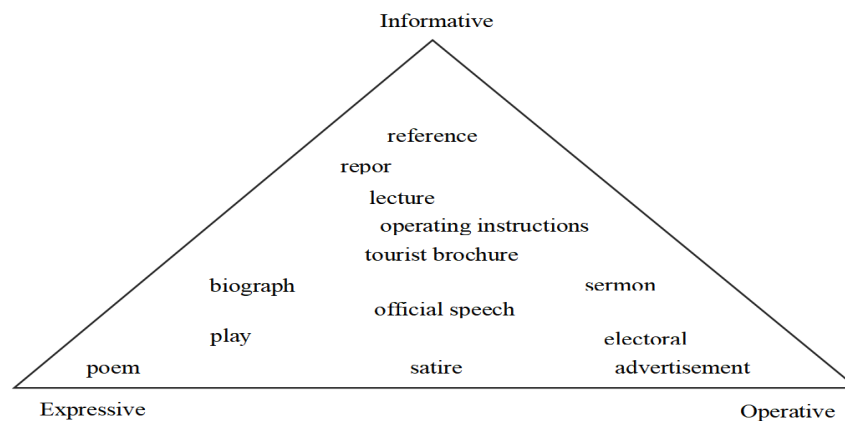


Figure. 1 Reiss's text type theory

### 2.2. Case Study

#### 2.2.1. Lexical Features

The basic characteristics of technical text vocabulary are: a small number of technical words as the backbone, a large number of semi-technical words as the entity, and a large number of non-technical words as the link, logically and strictly organized, and the entire vocabulary has a high degree of formality. Commonly used abbreviations form discourses with special lexical styles [2]. The technical text vocabulary has the following salient features: term fixation, compound words, clipping, initialism, acronyms.

##### 2.2.1.1 Term Fixation

Terminology has also become a technical word, which is an inevitable part of scientific and technological texts. The term is mainly used to refer to concepts in the fields of science, technology and social sciences. Accuracy is the main requirement of terminology, which records and describes various names of states, phenomena, and processes, marking progress in these fields [2].

In scientific and technological texts, technical personnel will inevitably use some professional terms

in the exchange of ideas and research results. These technical terms make up only a small part of the vocabulary of the entire article, but they appear repeatedly and are a key part of the entire article. The meaning of this type of words is relatively fixed, and the meaning will not change due to changes in the context. This is summarized as the fixed feature of the term.

Most of the technical terms contained in the English translation of *H5 Automotive Cab Instruction Manual* are related to the automotive cab. For example, seat belt, cigarette lighter, rocker, wiper and so on. These terms are relatively fixed and highly specialized.

### 2.2.1.2 Compound Words

The biggest difference between technical text and other text lies to the large number of compound words in technical texts. The use of compound words have become one of the important lexical features in technical texts. Sci-tech texts should strive to be concise on the premise of accurate language and clear semantics. There are many techniques to achieve concise writing, and the most common technique in English technical texts is to use compound words to express complex semantic relations. Based on the E-C Translation of *H5 Automotive Cab Instruction Manual*, there are mainly two kinds of compound words, which are noun compound and adjective compound, as shown in the Figure 2.

Example 1:

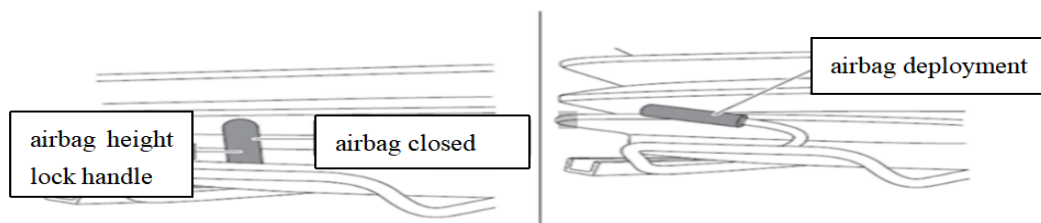


Figure. 2 Airbag deployment and closed

Example 2:

After the door is closed, please check again if it is really closed. Driving in a semi-closed state is very dangerous.

Translators can select specific translation strategies for specific translation purposes [6]. In the above two translation cases, we can see that the word “airbag” is a typical noun compound, and the word “semi-closed state” is an adjective compound.

### 2.2.1.3 Shortening

Shortening is an action or process of making or becoming short specifically the dropping of the latter part of a word so as to produce a new and shorter word of the same meaning. There are many shortening words in the E-C translation of *H5 Automotive Cab Instruction Manual*, which can be seen in the Table 1.

Example 3:

Table 1 Shortening and full name of terminologies

Shortening	Full Name
VOL	volume
INT	intermittent
LO	low speed
HI	high speed
ACC	accessory

### 2.2.1.4 Initialism

There are similarities between initialism and acronym but each has its own characteristics. Acronym is a fairly recent word, and the term was preceded in English by the word initialism, meaning an abbreviation formed from the initial letters of a phrase. Initialism and acronyms are also frequently mentioned in our daily life.

After finishing the translation practice, we can find so many initialism words are used in the E-C translation of *H5 Automotive Cab Instruction Manual*, as shown in the Table 2.

Example 4:

*Table 2 Initialism and full name of terminologies*


Initialism	Full Name
IP	Internet Protocol
ICD	Interface Control Document
CAN	Controller Area Network
TPMS	Tire Pressure Monitor System
FTP	File Transfer Protocol
AST	Auto Store Station

### 2.2.1.5 Acronyms

Some of the acronyms are mostly found in tables, charts, or text descriptions of attachments. Some large industrial equipment instruction manuals may have thousands of pages or millions of words. The words type often appears in the text in its entirety for the first time, and will later appear in a short form. Table 3 is a typical example.

Example 5:

*Table 3 Translator's translated text*

14		lift shaft switch	Press the switch, and the ECAS (electronically controlled air suspension) system rear axle lifts.
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The word “ECAS” is a typical acronym, and its full name is “electronically controlled air suspension”. The use of acronyms will save time and it has an intuitive sense for readers.

### 2.2.2. Sentence Features


A discourse is not a simple combination of a series of isolated sentences, but a complete language unit composed of several language components in order to achieve a certain communicative function. It takes a language component as the core, with several subsidiary components, and the core and subsidiary components are connected by a certain logical relationship.

#### 2.2.2.1 Strong Logic

Scientific and technological texts are typical informational texts, whose main discourse function is to describe facts and have strong logic. In terms of semantic logic, the themes or central content expressed by each paragraph or sentence in a discourse are logically connected and fluent. Common logical relationships include causal relationship, condition and result relationship, concession and transition relationship, contrast relationship, and sequence relationship.


Example 6:

*Table 4 Translator's translated text*

3		rear view mirror heating switch	Press the mirror heating switch, thus frost will be removed from the mirrors.
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Example 7:

*Table 5 Translator's translated text*

 <b>WARNING</b>
④The shoulder strap of the seat belt should be adjusted to the best position for you, but it should be tightened as much as possible, otherwise it will reduce the effectiveness of the seat belt and increase the risk of injury.

We can clearly see that the examples above in Table 4 and Table 5 are typical causal and transitional sentences. The internal segments of scientific and technological texts are not isolated from each other, and deleting paragraphs or changing the order of sentences will cause logical confusion. In order to allow readers to understand the content more intuitively, connectives are usually used for discourse cohesion to make the internal logic of the discourse more explicit. In English texts, connectives representing


various logical relationships are used extensively, such as "thus" representing causality in Example 6, and "but" and "otherwise" representing transitional relationships in Example 7. Through the use of these connectives, the logical relationship between sentences or paragraphs is closer.

### 2.2.2.2 Concise and Expressive

The language of science and technology strives to be concise and clear, and a large number of cohesive devices are used in discourse. In order to avoid the repetition of language, and to increase the cohesion between paragraphs and sentences, cohesion methods such as anaphora, substitution and omission are often used in scientific and technological texts. The translator's translated text in Table 6 could prove it.

Example 8:

Table 6 Translator's translated text

No.	Symbol	Switch	Function Description
4		hazard warning light switch	All turn signal lights will flash regardless of the position of them when the switch button is pressed. The switch will turns off when the button is pressed again.

### 2.2.3. Formats

The types of charts in this translated text are varied and unique. As a translator, it is necessary to translate according to the specific requirements of the company. If the chart is not standard, it cannot express the original meaning clearly and accurately. Therefore, the translator must make a summary translation of the details according to the requirements, which plays a crucial role in the subsequent understanding of the original text. The manufacturer introduces various detailed information of the product to the user. The manual guides the user to use and maintain the product, and also contains some precautions. When translating such information, it must be consistent with the original data, otherwise even a decimal point may affect the use of the product. If the translation process encounters incomprehensible data or operation process, and cannot simply understand the literal meaning, the translator can consult relevant materials and consult relevant technical personnel before carrying out translation practice. Next, the translator will analyze the translation of the chart from four aspects: font, font size, alignment and page design.


#### 2.2.3.1 Font and Font Size

The choice of fonts is very important in the translation of technical texts. Appropriate fonts are beneficial to satisfy consumers' reading experience and facilitate subsequent use and maintenance of products. Appropriate fonts also visually help increase consumer trust in the product, which further increases product sales.

The text in the table is generally divided into the text inside the table and the text outside the table. Generally speaking, the official Chinese text of most companies is mainly in Song Dynasty. When they are translated into English, translators generally choose the Times New Roman font. Zeng Jianping said, "The operation manual can provide all necessary information for new users. For those places that may endanger personal safety or damage the product, it is important to remind users with eye-catching text or graphics [5]." If every letter of a word is capitalized, it signifies the seriousness and urgency of the event. However, there is no such expression in Chinese culture, as shown in Table 7.

Example 9:

Table 7 Translator's translated text

 <b>WARNING</b>
Failure to properly wear the seat belt will increase the likelihood of serious injury or death from a crash.

According to English idioms, each letter of the word "WARNING" is capitalized, which indicates a state of emergency. In addition, this kind of expression is concise and clear, giving people a sense of visual impact, which is more likely to arouse the reader's alertness. The choice of font size is also very important when translating figures and tables. Generally, the font size is based on the page layout of the technical text material. Usually, the header is above the figures and tables, and it includes the serial

number and the figures and tables' name. Usually there is a blank space between them. The table header needs to be centered and is generally bold. In addition, the font size of the header is one size larger than the text in the table. For example, if the table header uses Arial font and font size 4, the text in the table needs Arial font and small font size 4. The serial numbers of the charts are arranged in Arabic numerals and numbered according to the content of the article, such as Table 1-1, Table 1-2, Table 2-1, etc. In special cases, if there is only one table in the text, "Table 1" should also be marked. In short, the figures and tables should be rationally chosen based on the structure of the text.

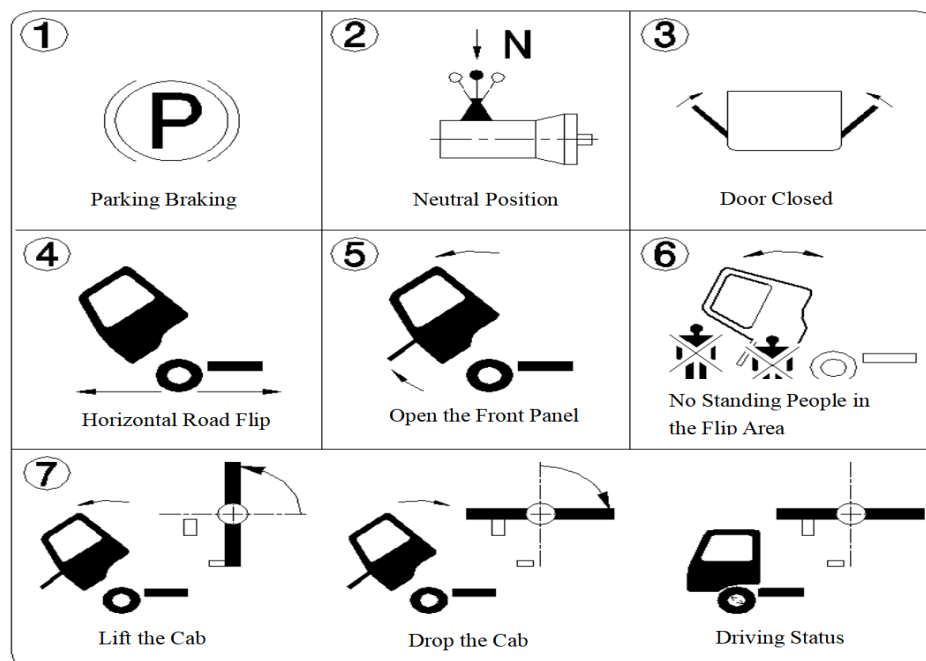
### 2.2.3.2 Type Setting

Designers need to follow the principles of beauty and decency when it comes to layout design charts. Most of the tables in technical texts are drawn by the company's product designers. Therefore, the layout of the figures and tables is generally selected to be aligned at both ends of the page, and the text inside and outside the chart is mostly centered.

Technical texts, especially manual texts, are highly functional, so the design of manuals should focus on simplicity and intuition. The figures and tables in the manual are more intuitive and easier for users to understand and operate. There are various types in the manual, but there is no fixed page layout pattern. A comfortable page layout is convenient for users to read and understand, and it is also conducive to maintaining the user reputation of enterprise products. Finally, the typography design of the figures and tables should also match the font size of the text. It should not be too obtrusive, and it should make users feel comfortable and beautiful visually.

Example 10:

Table 8 Lifting manipulation signs



From the above translation example in Table 8, we can see that the pictures and texts in the manual have adopted the typesetting method of center alignment, which visually satisfies the requirements of beauty and comfort. Therefore, as an excellent translator, the above principles should also be followed in the translation process.

However, manuals are mostly untranslated and untypeset documents in the enterprise. In most cases, when there is text in the source figures and tables, the translator needs to insert a text box for translation.

### 3. Conclusion

Guided by Reiss's text type theory, this paper explores the translation methods of figures and tables in scientific and technological texts by taking the Chinese-to-English translation of handbook reports as an example. The main part of the full text mainly includes the following three aspects: first, it explains the text types and functional characteristics of scientific and technological texts; second, it analyzes the

language characteristics of scientific and technological texts from the perspective of vocabulary, sentences and layout design. Finally, the article summarizes the relevant translation principles based on translation theory. Combined with the characteristics of scientific and technological texts, this paper specifically analyzes the translation methods and strategies of figures and tables and explains the general laws of scientific and technological text translation.

Through this translation practice, the author summarizes as follows. First of all, high-quality scientific translation needs the guidance of translation theory. Only with the participation of translation theory can translators determine a unified and scientific translation standard. Functional translation theory provides people with a new perspective on translation, and realizes the transformation of translation theory from static language translation symbolism to dynamic functional translation analysis[3]. Text type theory plays a prominent role in guiding the translation of figures and tables in technical texts, which is a macro-level guidance. In translation practice, translators need to combine theory with practice and analyze specific problems in detail. Secondly, if the theoretical guidance is actually applied to translation practice, the most important thing is to analyze the characteristics of the text. Finally, in the translation practice, the translator should ensure the professionalism of the vocabulary and the logic of the sentence. The road of translation is long and difficult. As a translator, you need to stay true to the original road and explore new translation strategies. No matter what problems you encounter, don't give up easily, keep your love and be consistent.

## References

- [1] *Chesterman, A. (ed.) (1989). Readings in Translation Theory. Oy Finn Lectura Ab.*
- [2] *Fang Mengzhi (2011). EST: Its Paradigms & Translation. National Defense Industry Press.*
- [3] *Ma Hong and Lin Jianqiang (2007). Translation Principle and Methods of Functionalist Translation Theory. Foreign Language Research, vol. 30, no.5, p.118-120.*
- [4] *Reiss, K (1989). Translation Criticism: Potentials and Limitations: Categories and Criteria for Translation Quality Assessment. St. Jerome Publishing.*
- [5] *Zeng Jianping (2004). Stylistic Features and Translation of Operating Instructions for Mechanical Equipment. Chinese Translators Journal, vol.25, no.6, p.72-74.*
- [6] *Zhang Jinlan (2004). Skopos theory and Translation Methods. Chinese Science & Technology Translators Journal, vol.17, no.1, p.35-37.*