

# A Study on the Application of Computer-assisted Translation in Henan Museum Translation

Yanan Sun

Foreign Language School, Zhengzhou University of Science and Technology, Henan, Zhengzhou, 450064, China

**Abstract.** Museum is the Treasure House of human history and culture, which bears the responsibility of inheriting history and spreading culture. The Henan Museum is also attractive because of its rich and profound traditional culture. In order to make the world fully understand Henan culture, it is necessary to actively explore scientific and reasonable English translation strategies based on Henan Museum text features and incorporating Trans-cultural diffusion features. In the context of intelligent translation scenarios, the advantages of computer-aided translation are becoming more and more obvious, and the full play of Computer-assisted translation will provide effective support for improving the quality of Henan Museum translation.

**Keywords:** Computer-assisted translation; Henan Museum; Literature Translation; applied research.

As a branch of translation, museum document translation plays a bridging role in the process of connecting Chinese and Western cultures and expanding China's foreign exchange. Therefore, it is of great practical significance to improve the quality of museum translation and strengthen the communication with the western museum circles. The Henan Museum is a microcosm of Central Plain's cultural history. With the advent of the information age, the demand for translation is increasing day by day, and supported by Computer-assisted translation and MT software, it will provide effective support for the English translation strategy of innovative Henan Museum.

## 1 Computer-assisted translation in the English translation of Henan Museum

The English translation of Henan Museum documents is highly professional and practical, and its translation should pay attention to information translation, accurate content and natural expression, the report adopts the model of tmxall + Google Translate + post-edit. The term base and memory base are established by using computer-aided platform, and the matching degree between the term base and the target text is analyzed. By comparison, it is found that the matching degree of terms and proper nouns is high, but the matching degree of sentences is low, which is mainly due to the lack of relevant corpus and low reference value. In addition, machine translation also has some limitations, the machine translation to

simple sentences, sentence components complete processing effect is better, but for some non-subject sentences, passive sentence processing is not satisfactory.

Computer-assisted translation is a combination of translation memory and machine translation and human proofreading, a set of human computer interaction processes that are useful for non literary text translation. Computer-assisted translation. Generally speaking, Computer-assisted translation can be divided into two categories, the first is the general purpose software and hardware, which includes the more commonly used word processing software, E book software and some search engines, etc. , some of the hardware, such as erasable optical drives, digital cameras, and some scanning equipment, among which OCR plays an important role in the processing of language files before translation. Currently, most fan Yuyuan files are in multiple formats, especially those in image format, but Computer-assisted translation's software is currently unable to accurately identify and edit text between images, this can only be done with the help of OCR software technology, which is one of the most important tools for translators to deal with pre-translated source files. In the process of translation, some simple mechanical but repetitive work can be transferred to the computer, and better assistant translation technicians to translate, at the same time, it can help the work item to carry on certain processing and the analysis, can help the translator to set up the translation division of labor clearly and the effective conformity mechanism, realizes the more fluent translation work process.

The impact of Computer-assisted translation on translators. In general, Computer-assisted translation is concerned with the clever use of computer software to improve the efficiency of human translation, thus ensuring the efficiency and quality of further human translation, at the heart of this technique is the memory of the translation. The memory of translation can record and store the relevant content on a certain basis, which can significantly improve the efficiency of subsequent translation tasks, and can greatly help the translators to alleviate the pressure of work, to obtain a large amount of useful information in a short period of time so that it can carry out more translation tasks. The structure of the Computer-assisted translation system has certain advantages, such as improving the relative efficiency of translation and reducing unnecessary duplication of work for translators At the same time, it can ensure the consistency of the meaning between the translated text and the source text. In the whole translation, one source document can avoid the inconsistency of the translated language effectively through the cooperation of many people. At this point, the database of applied terms can ensure the consistency of the translated text and the source text, thus ensuring the quality of translation and the use of system structure can help the translator to improve the translation efficiency greatly, therefore, the quality of the whole translation can be guaranteed, and the translation process can be further speeded up by reducing the cost of translation and memorizing the data in the database.

## **2 The application of Computer-assisted translation in Henan Museum**

The English translation of the Chinese version of the museum is a good bridge to introduce our country's long history and culture to friends around the world. But in the original language, the introduction of cultural relics is usually in accordance with the customs of some dynasties and proper nouns, for people with relevant background, these are easy to understand; However, for the target language readers who know little about Chinese culture and history, relevant background information should be included in the process of translation.

## **2.1 System architecture**

As far as translation services are concerned, the Computer-assisted translation supports an online BS mode of operation that prevents redundancy when different translators recycle their libraries and reduces rework. Based on the result of automatic translation, the system optimizes and Perfects the result of automatic translation through the information of the intermediate result of machine translation decoder, Memory Bank, dictionary, etc. , at the same time, it provides multiple interactive modes for manual editing, which can realize the organic combination of machine translation and manual translation, optimize the user experience, and guarantee the translation efficiency and overall quality. The input-output function module transmits the original text to the system translation module, and then outputs the results based on the translation module, a balanced bilingual parallel corpus, in which the data are linked to the translation module, which receives the original text based on the input and output module, this method is based on the maximum reverse matching method and the corpus module, in which the sentences are matched mainly by the elicitation words to provide the most suitable translated sentences. The Computer-assisted translation's translation process, which automates the translation and generation of intermediate result data through machine translation of source language oriented documents, and decodes intermediate results through machine translation, based on the auxiliary translation information, the automatic translation results can be corrected by means of auxiliary translation adjustment, thus the target language documents can be generated.

## **2.2 Translation strategy design**

In terms of Computer-assisted translation, the translation strategy is oriented to the actual needs of the translation users, and the translation results are produced through the system human-machine interface, and the translation corpus is used as the carrier to help the users complete the translation task. In the Computer-assisted translation system design, the translation strategy corpus can support a large number of bilingual source language sentence auxiliary balance alignment, support various file format conversion and word count statistical analysis, it has a functional corpus alignment device, a search function, which can query words and sentences in the translation memory and provide translation suggestions, and a sentence segment screening function, which can select the required sentence segments between the original text and the translated text; Support translation management function, easy for translators to achieve multi-document management, managers can distribute files through the management side, view the translation process, export translation results.

## **3 The application of Computer-assisted translation in Henan Museum translation**

There are still many problems in word order and word selection for the translated documents generated by machine translation technology, but their readability is relatively high. After the implementation of the online machine translation engine, the word order of the translated documents has reached a level similar to that of the artificial language to some extent, and after the preliminary translation of reference materials to screen key information, the translation engine interface, in terms of daily interpretation, there is a trend to replace junior translators.

### **3.1 Understanding language differences and enhancing cultural sensitivity**

Both English and Chinese belong to the indo-European language family and the Sino-Tibetan language family respectively, this paper analyzes the causes of cultural heterogeneity in English and Chinese from four aspects: cultural origin, language structure, thinking mode and values. Chinese sentence structure, often start from the verb, according to the action or semantic relevance of the arrangement of verbs, so Chinese is a dynamic language. The process of C-E translation is the process of transforming dynamic Chinese into static English. In this process, we first need to clarify the primary and secondary relations of Chinese verbs. Only the main verbs can be regarded as predicates in English sentences, the rest is accomplished by non-finite verb, prepositional phrases, and clauses. From the traditional point of view of rhetoric, this paper puts forward that Chinese is "fastidious about neat words and sentences" and "likes rhetoric and rhetoric", while Western discourse respects objective facts, does not like strong words and color leakage. A comprehensive comparison of languages will help us to establish the awareness of cultural differences and try to enter into the cultural context of information recipients, so as to seek more effective methods of cross-cultural communication.

### **3.2 Pay attention to the construction of the translation team and optimize the translation workflow**

As translation is not only a transfer between languages, but also a re-creation of basic information, the translator's quality, working time and energy are required. Museums should avoid the marginalization of translators and the ambiguity of their roles, and provide them with adequate time guarantee, supplementary materials and personnel support, in this way, the translators in the embassy can better fulfill their duties and responsibilities. At the same time, as the library-school cooperation continues to advance, we should make good use of the present opportunity, quote the "external brain", properly recruit foreign professional translation scholars, foreigners, English majors to join the translation team, actively seek higher level of professional guidance to ensure the quality of translation. In order to guarantee the accuracy of the translation work, the translator should join the curatorial team as soon as possible and work with the curators while translating. This will be a process of mutual standardization between Chinese and English texts, the Chinese team provides the translators with accurate information interpretation and in-kind reference, while the translators are guided by the principle of "promoting cultural identity and achieving effective cross-cultural communication", remind and advise the team to increase the information background knowledge which may explain the explanation to the foreign audience. The cooperation of the team maximizes the efficiency and realizes the effective communication and standardized operation between the two sides.

### **3.3 Innovative dialogue mechanisms among civilizations**

Museums should have the courage to undertake the mission of spreading the regional culture and the excellent traditional culture of the Chinese nation. In today's increasingly frequent international exchanges, seize the opportunity to explore their own development path, the development vision of municipal museums can not only be confined to domestic, but should have a broader international perspective, through the introduction and introduction of international temporary exhibitions, and the construction of exchanges, dialogues and exchanges with different civilizations, to further promote the international community's cultural level of equality, respect and inclusiveness of the cultural exchange model, strive for the "discourse right" of Chinese excellent culture in the world civilization.

In general, when translating a text, the translator has certain translation standards and principles, such as: Faithfulness and accuracy of the original text, fluency and truthfulness of the language, accuracy of the style of the translation and so on. Of course, these are also suitable for the English translation of the museum text; because of the particularity of the museum text, it contains many cultural relics with a long history and culture, and its own particular principles and standards. It is especially important for the translator to be faithful when translating, especially when translating the translation with special attributes such as museum relics and proper nouns. In the translation of the original, we must uphold the principle of fidelity.

## 4 Conclusion

The Chinese-English translation of museum texts is a special style which can introduce its history and culture to the outside world. The Chinese-English translation of the museum text belongs to the translation of applied style. The Chinese-English translation of cultural relics is especially special and difficult because of its particularity and long history, as well as its own national history and cultural imprint. This requires the translator to have a good command of the written language, to be familiar with the two cultures, and to know the purpose and standard of translation. Although machine translation has not directly hindered the core work of interpretation and translation, it has the potential to upend the translation ecosystem as it matures into what is known as disruptive innovation.

## References

1. Pang Shuangzi. Bibliometric Analysis of International Corpus Translation Research in the Past Ten Years (2008-2018) [J]. *Foreign Languages and Foreign Language Teaching*, 2019(6): 129-140+149.
2. Zhang Yinan, Li Yanhong. Characteristics and principles of translation of museum texts: Taking Hubei Provincial Museum as an example [J]. *Journal of Hubei University of Technology*, 2019(3): 74-77.
3. Yan Xin, Chen Ruizhe, Zhang Jing. The development status and trend of translation technology cloud platform [J]. *China Science and Technology Translation*, 2019 (1): 22-25.
4. Long Minghui. Keeping pace with the times and innovating translation: On the re-translation of Chinese classics in the digital age [J]. *Foreign Languages (Journal of Shanghai International Studies University)*, 2020 (2): 121-128.
5. Zhou Xinghua, Wang Chuanying. Application and evaluation of artificial intelligence technology in computer-aided translation software [J]. *Chinese Translation*, 2020(5): 121-129.