Retraction

Retraction: Research on English Translation based on Computer Technology (J. Phys.: Conf. Ser. 1744 042112)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on English Translation based on Computer Technology

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Abstract. With the rapid development of science and technology, computer technology has been applied to all walks of life, including English translation. Through computer technology translation, we can greatly improve the efficiency of translation production, which has an unprecedented impact on the language service industry. At the same time, with the rapid development of global economy, the economy and society put forward higher requirements for the translation industry, which requires us to constantly improve the quality and speed of translation. Therefore, in order to better English translation, computer science and technology has brought a significant basis for it. However, due to the limitations of computer language translation technology, we must adopt post editing method to adjust the machine translation, which will improve the accuracy of translation, such as computer aided technology (hereinafter referred to as CAT) software. First, this paper introduces the main role of computer-aided translation technology. Then, this paper analyzes the important principles of computer-aided translation software. Finally, some suggestions are put forward.

Keywords: Computer Technology, English Translation, Cat, Translation Cooperation

1. Introduction

Computer technology has been widely used in English translation, which is collectively referred to as computer-aided translation in the industry. CAT can help translators to complete translation with high quality, efficiency and ease. Unlike dictionary software, CAT does not provide ready-made dictionaries and automatic machine translation. CAT provides a software platform, which is a tool for translators to work. Users must translate manually after entering\[1-3\]. At present, at the practical level, machine translation can’t meet the needs of professional translation. At present, the efficiency of ordinary manual translation is low and the cooperation is not strong, which makes it impossible to coordinate the translated resources with the resources to be translated. However, CAT provides a better solution from the technical level, which is the best technical way for professional translation\[4-6\].

At present, the most effective core technology of computer-aided translation is translation memory technology, which plays an important role in the field of professional translation. Therefore, machine
translation is also an indispensable and important technology for human translation. At Lisa conference, machine translation and translation memory are eternal topics. At present, translation memory technology almost dominates the foreign professional translation and localization market. Once an enterprise decides to adopt translation software in the workflow, it needs to consider translation memory, which will decide which translation memory product to choose. Many international enterprises and organizations have become loyal users of translation memory, including IBM, Microsoft, Bowne global, Lionbridge, Berlize, etc.

2. The main function of computer aided translation technology

2.1. Reuse language assets
In the computer-aided translation environment, the platform will automatically identify the repeated translation content, which saves the time of repeated input and language organization. In the translated product documentation, customer support guide, etc., the text will contain a lot of repetitive content. Therefore, CAT environment can greatly save time. In practice, translation memory provides "100% matching content" or "fuzzy matching content" from the original translation database, which can help translators to translate. Incomplete matches will be marked in other colors. When the mismatch is a number, we can automatically replace it with a new number, which will make it exactly match. For the same type of project, the more content is stored in the translation memory, the faster the subsequent content will be translated. In the process of non-literary translation, we will have a lot of repetitive translation, CAT tools can replace a lot of unnecessary human repetitive labor. In addition, using corpus alignment technology, such as SDL Trados winalign, we can recycle bilingual corpus in batches, which can reuse language assets and save time and cost of translation.

2.2. Control translation quality
The more time spent on translation quality control, the higher the translation cost. Under the background of increasingly fierce global competition, large-scale language service providers have been deeply aware of the contradictory choice between translation quality and translation cost. With the help of CAT technology, we can realize the automation of translation quality inspection. In the process of translation, the system will automatically spell, grammar, numbers, units, abbreviations, labels and so on. After translation, we can use automatic proofreading tools, such as SDL QA checker, QA distiller and other tools, for manuscripts with a large amount of proofreading, which can complete the automatic inspection of large projects in a short time. At the same time, one of the key factors affecting the quality of translation is the problem of terminology unification. For the text with more glossary, we can load the term library through computer technology, which can make the term consistent in the same article or project.

2.3. Simplified translation format
Under the traditional translation mode, translators will spend a lot of time on editing complex formats and converting various types of formats, which requires a lot of time for translators. Through CAT software, the translator mainly focuses on the translation of text content, basically does not involve too many formats. For example, translators can process PPT files through SDL Trados Studio. The text in the original text is automatically extracted, and large sections of text are divided into short sentences, which will be arranged as translation units in the original text area. When inputting the corresponding Chinese translation in the translation area, SDL Trados will basically keep the same font and font size as the original text. For the text with special format, purple label will appear in the original text. When translating, we just need to insert the label into the corresponding position in the translation in order. In the process of translation, SDL Trados Studio can intelligently process non translation elements such as time, number, website address, unit, etc. the interpreter does not need to input manually, which can reduce the amount of labor. For example, localization tools such as SDL PASSOLO and alchemy catalyst will automatically resolve translatable elements in software programs. In the process of
translation, the translator only needs to translate translatable elements, which does not destroy the source program and does not need to recompile, which reduces the unproductive working time of the translator.

2.4. Assisted translation collaboration

Many modern translation memory systems can help translators to keep terminology consistent, which can help translation agencies maintain terminology consistency of large translation teams. A modern project usually requires a lot of translators' cooperation, which requires a lot of repetition in the same document. It is very difficult for different translators to achieve the same translation results, and the same translator's translation is likely to be different. Through the C/S or B/S architecture, we can carry out collaborative translation system, which will effectively guarantee the consistency of translation and terminology. The translation memory database and term base can be stored in the web server. The system can process sentence breaking rules, translation memory, term base and bilingual documents, which can be shared and updated in real time.

3. English translation based on computer technology

3.1. Machine translation

Machine translation is a subject that uses computers to translate one language into another, which involves linguistics, computer science and technology, mathematics and other disciplines. This belongs to the field of artificial intelligence in computer linguistics. Machine translation system can be divided into the following five categories: rule-based, corpus based, instance based, multi-engine and voice type. With the development of computer science and technology, the performance of machine translation has been greatly improved. In dealing with formal or standardized content, machine translation has become an important part of the high-quality translation process. However, the quality of machine translation often depends on the differences of vocabulary and grammar between the source language and the target language, which is particularly obvious in English Chinese translation. Therefore, machine translation is not satisfactory.

3.2. Machine translation process

There are many similarities between machine translation and manual translation. Machine translation system completes the conversion between source language and target language. The process of machine translation includes three stages: analysis, transformation and generation. Machine translation mechanism is considered to be the most appropriate machine simulated human translation. The workflow is shown in Figure 1.

![Figure 1. Machine translation process.](image-url)
3.3. Translation workflow of translation memory system
CAT involves the use of various computer operating systems and application software in the translation process, including word processing, word count, document management, quality management, network search, term management, translation memory, corpus, etc. CAT is a software and technology specially designed to improve translation performance, which takes machine translation and translation memory as the core technology. Statistical based machine translation is more accurate, which is conducive to improving efficiency. CAT software can automatically put the translation that has been edited after translation into the translation memory database, which will facilitate the translator to engage in the same or similar translation tasks. The translator can take full subjective initiative, which realizes the positive interaction between machine translation and translation memory.

Translation memory is a language database used to store source text and translation. The software can automatically search for similar or identical translation resources in translation memory, which reduces the repeated work of translators. Therefore, the translator only needs to pay attention to the translation of new content, and the background will continue to learn and automatically store the new translation. By fully adopting the matching content, we can modify the matching translation, which realizes the human-computer interaction. There are three ways to construct translation memory (TMS). First, the system automatically saves the files being translated into the database. Second, import the existing memory file. Thirdly, parallel text is used to create the memory. The translation workflow based on translation memory system is shown in Figure 2.

Figure 2. The translation workflow based on translation memory system.

4. Conclusion
Translation cooperation is an inevitable choice for large-scale translation projects or translation projects that cannot be completed independently on schedule. Computer aided translation tool is integrated into translation cooperation with its excellent project management and translation assistance function. The process of dealing with large-scale projects in translation institutions is more complex. The translation technology teachers in Colleges and universities should strengthen the communication with language service industry personnel, which needs to master the latest information and resources. Therefore, it is natural for CAT to enter into translation. With the increasingly close international communication and cooperation, the translation market puts forward higher requirements for English translation. A good translator should not only have good translation ability, but also complete the translation task more efficiently.

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