Research on the External Communication of Chinese Excellent Traditional Culture from the Perspective of Machine Translation

Li Shan\textsuperscript{1,*}

\textsuperscript{1}Dalian Polytechnic University, Dalian, Liaoning, China 116034

*Corresponding author e-mail: veryshanli@dlpu.edu.cn

Abstract: In recent years, under the guidance of the strategy of "Chinese culture going out", Chinese culture has made great progress in foreign relations and more and more foreign audiences begin to understand and accept Chinese culture. However, according to the traditional Chinese culture, translation quality problems still exist in such important links as external advertising translation and media communication. Translation language is not unique, and media integration and communication are not solid enough. Therefore, this paper studies the external communication of Excellent Traditional Chinese culture from the perspective of machine translation. This article will outstanding traditional culture propaganda machine translation strategy as the key object of study, expounds the present situation of the traditional cultural translation, problems and causes, analyze the construction of China's outstanding traditional culture value and ideology is facing opportunities and challenges, to solve the problem of Chinese excellent traditional culture of foreign spread new conditions to provide a new research idea. Research results show that the Chinese excellent traditional culture heralded the exploration of the machine translation needs to be further discussed, need to collect more up-to-date data, establishing the system of regulation, continue to test and practice to explore the new era of Chinese excellent traditional culture of translation strategy, build a three-dimensional, omni-directional, multi-channel publicity translation system of Chinese excellent traditional culture.

Keywords: Machine Translation, Excellent Traditional Culture, External Communication, Translation Strategies

1. Introduction

The excellent traditional Chinese culture \cite{1-3} represents the creativity of all nationalities and expresses the feelings and aspirations of the Chinese people. Its breadth, depth and uniqueness make it one of the oldest and richest cultural systems in the world, and an integral part of world history and
culture. In the complex new world, finding a way to promote and develop the best of Chinese culture has become one of the most important ways to achieve China's great rejuvenation.

The ability of external communication is one of the decisive factors in spreading Chinese traditional culture to the outside world and sharing Chinese civilization with the world. As the only way of cultural communication [6], publicity translation [4-5] is the direct factor and basic condition to determine the effect of cultural communication. Each language contains rich cultural and historical background, carries its own unique cultural code [7] and carries unique humanistic information. Different theories among nations lead to different ways of language expression. The translation of some words in one language may not be understood in another. Chinese traditional culture carries rich historical and cultural information. In the process of foreign publicity machine translation [8-9], translators usually face the dilemma of not finding the corresponding words in the target language. Or because of the influence of Chinese expression and not accurately find the corresponding words, resulting in the loss and loss of semantics in the process of language conversion, leading to the failure to fully display the charm of traditional Chinese culture, the communication effect is greatly reduced, which is the objective reason for the problems existing in the publicity translation of Chinese traditional culture.

Therefore, this paper examines the external relations of Chinese traditional culture from the perspective of machine translation. This paper takes the machine interpretation strategy of the promotion of excellent cultural culture as a key research, describes the current situation, conditions and causes of cultural interpretation, and analyzes the opportunities and challenges of building the best cultural values in China [10]. It provides new research ideas for solving the new situation in China.

2. Application Model Research based on Machine Translation
At present, the target language of Traditional Chinese culture is mainly English, and the representative traditional culture is mostly translated into English in external publicity. The media languages of traditional Chinese culture are not diversified enough, and there are few translations into small languages related to traditional Chinese culture. The unitary language of media communication will inevitably result in limited audience size, limited communication coverage and limited influence. In the process of Chinese traditional culture "going out", the application models based on machine translation mainly include maximum entropy model and conditional random field model.

2.1 Maximum Entropy Model
If the letter $y$ represents the set of all categories and the letter $x$ represents the set of all information of the context, in order to build the maximum entropy model, $p$ needs to meet the following two conditions:

1. $p^*$, $p(x)$ represents the probability of $x$ appearing in the sample where the conditional entropy is maximized:

$$p^* = \arg \max H(p)$$  \hspace{1cm} (1)

$$H(p) = \sum_{(x,y)} p(y|x) \cdot p(x) \log \frac{1}{p(y|x)}$$  \hspace{1cm} (2)

2. $p$ shall conform to the known statistical data.

The advantage of the maximum entropy model is that it can add arbitrary features. The user does not care how the feature is used, but only needs to put the selected feature into the model, and the model can automatically select the feature. In addition, the feature selection of the maximum entropy model is not limited by internal constraints, and can add overlapping or interdependent features, with high flexibility. The disadvantage of maximum entropy is that features cannot be fused in parameter training, and data sparsity is also a serious problem.
2.2 Conditional Random Field Model

Conditional Random Fields (CRF), can be regarded as a given condition of input nodes, undirected graph model to calculate the conditional probability output node, $G = (V, E)$, $V$ said the undirected graph expression node set, $Y$ said $V$ corresponds to each node in a random variable, $E$ said no to the edge of the collection of two adjacent nodes in figure $w-v$, $G$ said to observed sequence $X$, every $Y$ random variables to meet the following characteristics:

$$p(Y | X, Y_w = v) = p(Y | X, Y_w = v)$$

CRF has the advantage of conditional randomness and can only consider the existing characteristics of observed states. CRF can be effectively applied to the internal information and external observation information of the whole sequence without the problem of marker deviation in the maximum model. The maximum entropy model is lower than the conditional random field model in terms of the accuracy of the corpus. The reason is that the maximum entropy model USES an exponential model to calculate the next condition for each current situation, while the CRF USES a numerical model to calculate the common probability of all accounting sequences.

3. Experimental Thinking and Design

3.1 Experimental Ideas

Therefore, this paper examines the external relations of Chinese traditional culture from the perspective of machine translation. This paper takes the machine interpretation strategy of the promotion of excellent cultural culture as the key research, describes the current situation, conditions and causes of cultural interpretation, and analyzes the opportunities and challenges of constructing the best cultural values in China. It provides new research ideas for solving the new situation in China.

3.2 Experimental Design

When presenting the face of the country to the world and enhancing its spiritual significance, the external publicity and translation of excellent Traditional Chinese culture is endowed with the particularity of The Times and its importance cannot be replaced. It can be seen that the publicity of China's best cultural heritage and the study of foreign language translation work provide a foundation for the relevant government departments to make implementation plans. It lays the foundation for the research of universities, scientific research institutions and academic groups. On the basis of the influence of traditional culture, its profound deposits and values, the development of brand culture industry and the expansion of international communication and cooperation channels have increased the practical application of China's best cultural heritage to the international level.

Countries that tend to globalize recognize the importance of exporting their culture to international competition, and China is no exception. Recognizing the importance of spreading national culture abroad, we must begin to study the spread of Chinese culture abroad. This needs to be based on the country's actual situation, combined with domestic and foreign experience, and the renewal of cultural communication channels. Chinese traditional culture needs to pass the "translation" and "communication" to go abroad and enter the world stage. Only by constantly improving the translation quality of Traditional Chinese culture and innovating the ways of media integration can traditional Chinese culture go to the world, strengthen the soft power of culture and build a good image of a strong cultural country. A comparison between external translation of traditional culture from the perspective of machine translation and external translation of traditional culture is shown in Table 1.

| Translation of traditional culture publicity | Cultural translation from the perspective of |
|---------------------------------------------|---------------------------------------------|
| Translation of traditional culture publicity | Cultural translation from the perspective of |

Table 1. Comparison of cultural translation from the perspective of external Publicity translation of traditional Culture and machine translation
4. Discussion

4.1 Discussion on the External Communication of Chinese Excellent Traditional Culture from the Perspective of Machine Translation

Machine translation is a systematic strategic project, which needs the cooperation of the whole society. Further consideration should be given to the significance of China's advanced cultural propaganda. It is important to gather more up-to-date information, establish rules and regulations, and test them regularly. In the context of modern culture, we need to strengthen internal development and cultural export, change the mode of economic development, use culture to drive economic development, so as to achieve sustainable development of the national economy. To disseminate Chinese culture is to actively disseminate the essence of traditional culture, and to discard cultural connotations that do not conform to the age or keep pace with The Times. This is an important way to realize the Chinese dream and realize the great rejuvenation of the Chinese nation. China's socialism is still at the forefront of socialism, and its economic, political and cultural development is still uneven. Communism may take a long time to realize, but we must strengthen Marxism and China's socialist culture. The socialist invasion must take advantage of the dissemination of good Chinese culture, clearly understand the situation, and oppose the peaceful change of capitalism. With the continuous improvement and expansion of the perspective of cultural confidence, a three-dimensional, all-round and multi-channel external publicity and translation system of excellent Traditional Chinese culture should be established to provide new research ideas for solving new situations and problems in the external communication of excellent traditional Chinese culture.
Figure 1. Comparison of cultural translation functions from the perspective of external publicity translation of traditional culture and machine translation

If Chinese culture wants to go abroad to enter the world stage, it must go through "translation" and "communication". Only by constantly improving the quality of translation, interpretation and communication methods can Chinese culture reach the world. As can be seen from Figure 1, compared with the traditional cultural publicity translation, they have established a good foundation in terms of technical level, semantic loss, ideology and ideology. In the process of cultural "going out", it is well known that traditional technology and methods have unique shape, backward technology and boring content, which make it difficult to attract overseas audiences. The dissemination of the best Chinese culture will deepen our understanding of the good Chinese culture, enhance the unity and centrality of the Chinese nation, enhance national pride, and contribute to the occurrence of Chinese culture in the world culture, increase external influence, and more conducive to the sustainable development of the domestic economy.
As can be seen from Figure 2, the languages of foreign propaganda machine translation aimed at Chinese culture are mainly divided into English and Japanese. It can be seen that the definition of Chinese cultural communication machine plays an important role in international communication and regional cooperation. Introduce the project itself, explain the cultural interpretation and development history behind the project strengthen the management's quality control and evaluation of the traditional culture communication machine, and conduct a comprehensive and in-depth evaluation. In addition, efforts will be made to strengthen cultural exchanges among foreigners in China, enhance their sense of identity and understanding of excellent traditional Chinese culture, establish a team of foreign cultural ambassadors, and expand the space for promoting good Chinese culture.

4.2 Opportunities and Challenges of Machine Translation for the Publicity of Chinese Excellent Traditional Culture

1. Connotation of the New Era

Traditional cultural connection should be the selection of literary works or non-material culture from the representatives of Chinese culture and culture to promote and display the image of cultural representatives, the cultural understanding of the translator and the understanding of local culture and target language. In translation, it integrates preconceived ideas, excavates the cultural carrier and ideology behind Chinese, and tries to bridge the gap between linguistic practice, emotional value and logical thinking of target language.

2. The policy environment is fully supported

In recent years, China has, for the first time, formulated a series of guidelines to actively promote and promote China's rich culture and arts, such as strengthening cultural exchanges and cooperation with foreign countries, as well as international promotion, promotion of culture and culture and support of international projects. It provides policy guarantee and development condition for translating the best cultural tradition of China.

3. Values are constrained

On the one hand, ideology, social order, ideology and other factors have great differences in attitudes and values between Chinese and Western cultures. In addition, the formation of the great
Chinese culture existed in different times and had many different elements, which led to external propaganda and machine translation. Various cultural conflicts with the cultures of target countries have a profound impact on the meaning of machines and limit the speed of communication of external publicity and cultural diplomacy strategies.

4. Negative transfer of native language expression

Interpretation between different languages usually results in semantic loss and loss, and the expression of native literature is often difficult to fully establish in the target language. The vocabulary part with the best Chinese culture may have problems with the target language in the machine translation process, or may not be completely related to the target language due to the influence of Chinese expression. In the second loss of the interpretation of traditional culture, external communication faces major language challenges and fails to achieve the expected goals.

5. Conclusions

On machine translation perspective in the application research of the spread of foreign Chinese excellent traditional culture, this article will outstanding traditional culture propaganda machine translation strategy as the key object of study, expounds the present situation of the traditional cultural translation, problems and causes, analyze the construction of China's outstanding traditional culture value and ideology is facing opportunities and challenges, to solve the Chinese excellent traditional culture spread to foreign new situation provides a new research idea. According to the research, the spread of China's great culture to the outside world is conducive to the diversity of world culture, promotes the common interests of world culture, and thus promotes world peace and development. Culture is a national and international culture, and cultural diversity is the foundation of human life. In the colorful world of human life, it is precisely because of the diversity of cultures that the world is so beautiful. With the accumulation of Five thousand years of Chinese culture, it has given rise to many cultural traditions, customs, techniques and ideas, and its development is bound to increase the cultural diversity of the world.

Acknowledgement

Scientific research project of Liaoning Provincial Education Department in 2020 " A Study on the publicity and Japanese Translation of Chinese Excellent Traditional Culture" (JGLX2020079)

References

[1] Beuchat, L. R., & Mann, D. A. . (2016). Comparison of new and traditional culture-dependent media for enumerating foodborne yeasts and molds. Journal of Food Protection, 79(1), 95.
[2] Richard, M., Mafu, A. A., Darakhshan, A., Francis, D., Gilbert, P., & Pierre, B. . (2017). Comparison between flow cytometry and traditional culture methods for efficacy assessment of six disinfectant agents against nosocomial bacterial species. Frontiers in Microbiology, 8, 112.
[3] Tave, D., & Hutson, A. M. . (2019). Is good fish culture management harming recovery efforts in aquaculture - assisted fisheries?. North American Journal of Aquaculture, 81(4).
[4] Su-Han, S., Yue-Wei, J., & Yuan, J. . (2017). Derivation of cultural factors involved in publicity translation strategy. Overseas English, 000(004), 153-154.
[5] Weber, O., Sulstarova, B., & Singy, P.. (2016). Cross-cultural communication in oncology: challenges and training interests. Oncology Nursing Forum, 43(1), E24.
[6] Subbotina, O. A., & Sonawane, U. . (2015). Cooperation across cultures: from basic components of cross-cultural communication to new strategies in diversity marketing. Journal of Molecular Biology, 251(1), 9-14.
[7] Chakrapani, C., & Leger, J. M. . (2017). How researchers used analytics to crack the cultural code. Research World, 2017(64), 54-56.
[8] Renzhi, C., Colton, F., Leong, C., Miao, S., Haiqing, J., & Zhangxin, C.. (2017). Prolango:
protein function prediction using neural machine translation based on a recurrent neural network. Molecules, 22(10), 1732.

[9] Chen, S. H., & Zhou, Q. (2019). Cultural values, social status, and chinese american immigrant parents' emotional expressivity. other, 50(3).

[10] Embrick, D. (2015). The making of an illusion: diversity, ideology and white male bonding in the post-racial era- tentative title. Endocrinology, 141(4), 1332-1337.