



English Translation of TCM Terms of Pulse Manifestations from the Perspective of Eco-translatology – A Case Study of Seven Moribund Pulses

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Abstract: The English translation of contemporary Chinese terms of pulse manifestation is a major academic problem in the translation of traditional Chinese medical terminology, which has a great impact on the foreign academic propaganda and research development of traditional Chinese medicine. As one of the essences of modern Chinese medicine, pulse not only has a concise form but also has a rich connotation, which makes it a great test for translators. Based on the ecological translation theory proposed by Professor Hu Gengshen, this paper analyzes the terms of pulse manifestation objectively, takes the seven moribund pulses as an example, and studies it from the perspective of translation in the three dimensions of linguistic, cultural and communicative dimensions, and refers to the current situation of research on the English translation of terms of pulse manifestation in China, to explore how to apply the ecological translation theory to the practice of English translation of terms of pulse manifestation in traditional Chinese medicine, so as to provide a new theoretical way of thinking for the development of the research of the English translation of terms of pulse manifestation in China.

Keywords: Ecological Translation Theory; English translation of pulse manifestation terms; seven moribund pulses

1. Introduction

The translation of Traditional Chinese Medicine (TCM) terminology, particularly pulse manifestations, is of significant importance for the international dissemination of TCM culture. In the early 2020s, during the outbreak of the novel coronavirus epidemic, TCM played an indispensable role in combating the epidemic, highlighting the necessity for accurate and effective translation of TCM terms. Pulse diagnosis, as a cornerstone of TCM, relies on the accurate interpretation of pulse manifestations to diagnose diseases. Therefore, the English translation of pulse signs is crucial for global understanding and acceptance of TCM.

This study aims to explore the application of Eco-translatology in translating TCM pulse manifestations, focusing on seven moribund pulses. The research questions are: (1) How can Eco-translatology be applied to improve the accuracy and global understanding of TCM pulse manifestation translations? (2) What are the challenges and potential solutions in translating these terms from linguistic, cultural, and communicative perspectives?

2. Literature Review

2.1 Domestic Studies

Current domestic research on the English translation of traditional Chinese medical (TCM) terminology is extensive but incomplete. Studies cover various aspects, such as translating TCM terms related to "poison" from a purpose-driven perspective, acupuncture point terms using eco-translation theory, and pulse terminology through translation adaptation and selection. However, many translation techniques remain unexplored.

The "Eco-Translation Theory," proposed by Professor Hu Gengshen of Tsinghua University, is based on Darwin's "survival of the fittest" and emphasizes the translator's central role. Translators must adapt to the translation environment, make independent judgments, and achieve balance in linguistic, cultural, and communicative ecologies. Pulse terminology, particularly the seven moribund pulses, exemplifies the challenges of translating TCM terms without direct English equivalents. Eco-translation theory advocates analyzing these terms in three dimensions: ensuring linguistic consistency, capturing cultural metaphors, and using accessible language while preserving TCM characteristics through annotations.

Some scholars argue that accurate translation requires an understanding of TCM's cultural context. As TCM globalizes, translation difficulties persist, especially in pulse terminology. Standardized translation practices guided by eco-translation theory are essential to avoid miscommunication. Existing research highlights the need for improved eco-translation practices, especially for pulse terminology.

2.2 Overseas Studies

Giovanni Maciocia, who studied Chinese medicine in China, proposed a balanced translation approach in his book *Fundamentals of Traditional Chinese Medicine*. He advocated revising translations while respecting conventions to address non-uniformity.

In translating *Treatise on Cold Damage Diseases*, Luo Xiwen used a naturalization strategy to accommodate Western linguistic habits, while Wei Jie employed a dissimilation strategy to retain TCM's unique features and provide detailed explanations. Both approaches contribute to TCM's global dissemination. In the current cultural context, preserving



cultural characteristics while using Western language and expressions is crucial for enhancing TCM's cultural connotation and achieving wider dissemination.

3. Theoretical Framework

Ecological Translation was proposed by Professor Hu Gengshen of Tsinghua University. Professor Hu believes that ecological translation is a translator-led, text-based, cross-cultural information conversion for the purpose of the translator to adapt to the ecological environment of translation and transplantation of the text selection activities. Translation ecological environment is also the sum of all external conditions affecting the survival and development of translation subject. The survival of the subject includes all the living organisms involved in translation activities, i.e. the author of the original text, the translator, the readers, the initiator of the translation and the sponsor, etc., while the external environment includes the natural economic environment, the linguistic and cultural environment and the socio-political environment related to the translation activities. Translation ecology combines translation activities with the ecological environment, establishes the sequential chain between translation and the natural world, and shows the interconnection between translation activities and the natural world, as well as the basic characteristics of the common interaction between the natural ecosystem and the human social system. In addition, the three core concepts of eco-translation, namely, translation as ecological balance, translation as text transplantation, and translation as adaptive choice, provide scholars with more and newer bases for translation research. The "three-dimensional" conversion method (linguistic, cultural and communicative) advocated by Ecotranslation also provides a more comprehensive guidance for translators in their translation activities. Therefore, when translating, we should take the principle of "three-dimensional" linguistic transformation into full consideration and make comprehensive use of a variety of translation methods in order to produce the best translation.

4. Research Design\Methodology

4.1 Linguistic Dimension

Linguistic transformation refers to the translator's adaptive choice of linguistic forms in the translation process. The linguistic form includes the normality of writing, the accuracy of diction, and the correctness of grammar, that is, choosing the common adaptive relationship between each other; the adaptive choice of cultural dimension conversion refers to the translator's attention to the transmission of cultural connotation, interpretation and influence in different languages in the translation process.

4.2 Cultural Dimension

Language carries culture and conveys culture between different regions. Due to the variety and diversity of cultures around the globe, there are certain barriers to expressing culture in language. Therefore, when translating, the translator should consider whether the translation can accurately convey the cultural information of the original language, and at the same time avoid misinterpreting the meaning of the original language culture from the cultural point of view of the translated language, and aim at adapting to the whole cultural background to which the culture belongs.

4.3 Communicative Dimension

The communicative dimension of the conversion refers to the fact that the translator not only pays attention to the textual and symbolic information of the language in the process of translating, but also pays attention to the adaptive selection of the conversion of the communicative intention of the bilinguals, and finds out that the speakers in the dialogue process have to adapt to the communicative. The communicative dimension refers to the fact that the translator should not only pay attention to the linguistic and symbolic information in the translation process, but also pay attention to the adaptive selection of bilingual communicative intentions, and find out what the speakers in the dialogue have expressed in order to adapt to the communication.

5. English Translation of TCM Terms of Pulse Manifestations from the Perspective of Eco-translatology

5.1 Naming of Seven Moribund Pulses

The Seven Moribund Pulses is a special pulse used in Traditional Chinese Medicine (TCM) to describe the pulse in certain critical conditions. These pulses usually appear in the advanced stages of a disease and are considered to be signs of a life-threatening condition. The seven moribund pulses are named after their characteristics and manifestations, each of which has unique features and clinical significance.

The seven moribund pulses (qijuemai, 七绝脉) include the following:

Bubble-rising pulse (fufeimai, 釜沸脉): "fu (釜)" is a pot used to cook things, "fei (沸)" means boiling, and cauldron boiling means boiling water in a pot. The pulse is the same as boiling water. It can be said that the pulse is extremely shallow, almost floating above the skin, and has no root when pressed. The pulse beats so fast that it cannot be counted clearly, and rises and falls, and this kind of pulse mostly appears before death.

Waving fish pulse (yuxiangmai, 鱼翔脉): The activity of a fish is generally realised through the swaying of its tail, so the specific manifestation of waving fish pulse (yuxiangmai, 鱼翔脉) is that the pulse floats on the surface of the skin, the head is fixed while the tail is swaying, just like a fish swimming in the water. The appearance of this pulse often indicates the depletion of yang energy in the body.

Shrimp darting pulse (xiayoumai, 虾游脉): shrimp swimming in the water has a characteristic, it can produce a kind of bouncing, therefore, shrimp darting pulse (xiayoumai, 虾游脉) refers to the pulse in the skin, such as shrimp swimming in the water, sometimes jumping under the finger, and accompanied by signs of restlessness of a pulse. The appearance of

the shrimp darting pulse (xiayoumai, 虾游脉) implies depletion of essence in the large intestine.

Leaking roof pulse (wuloumai, 屋漏脉): The leakage of rain from a broken house is often a drop, and then another drop after a long time, which is both slow and impactless. Leaking roof pulse (wuloumai, 屋漏脉) is like a leakage of rain from a broken house, the pulse is very slow and weak, and only pulsates once in a long while, this kind of pulse is often seen when the Stomach Qi is about to die out.

Sparrow-pecking pulse (quezhuomai, 雀啄脉): the pulse is between the sinews and the flesh, the pulse beats like a sparrow pecking for food; it comes rapidly for three to five times, and then stops for a while, and there is no certainty as to the number of times the pulse comes and goes; this kind of pulse is a manifestation of the extinction of the Spleen-Qi.

Untwining rope pulse (jiesuomai, 解索脉): The pulse is between the tendons and flesh, and the pulse beats fast and slow, sometimes dense and sometimes sparse, scattered and disorderly, like unravelling a messy rope; this kind of pulse is a manifestation of Kidney-Qi exhaustion.

Flicking stone pulse (tanshimai, 弹石脉): the pulse is more sedentary and extremely hard, crackling and snapping the fingers, as if pressing on a hard rock, without any sign of softness and gentleness; this kind of pulse is mostly seen when the Kidney Qi is about to be extinguished.

5.2 Translation of Seven Moribund Pulses

As an important element of pulse diagnosis in Chinese medicine, the pulse is the description of the patient's pulse made by the medical practitioner, that is, the image of the pulse. The formation of the pulse is closely related to the internal organs, qi and blood, and the doctor is based on this close relationship to determine the health of the internal organs, qi and blood, etc., to provide the basis for disease treatment. In order to express the needs, coupled with the limitations of thinking and understanding, the ancients would inevitably rely on the natural world and life experience and its structure, characteristics, traits to understand and explain the abstract concepts. In the process of translation, translators should not use obscure and difficult-to-understand English words, nor should they use words that are too colloquial, but should take into account both professionalism and readability. Secondly, Chinese medicine transmits traditional Chinese culture, including Chinese thinking patterns, customs and other cultural factors, while spreading traditional Chinese medical theories. Therefore, in the process of translation, translators should fully consider the similarities and differences between Chinese and Western cultures, and choose appropriate translation methods to build a bridge of cultural communication and exchange. Once again, the English translation of Chinese medical terminology carries the mission of spreading human medical knowledge, and the translator has to refine and integrate the original text to convey the essence of Chinese medical theories and treatments to the readers, which should be not only focused but also concise and clear. Therefore, the English translation of Chinese medicine terminology cannot be rigidly translated word by word, but should take into account the comprehensive factors of language, culture and communication. In terms of language dimension, the English translation of Chinese medicine pulse terminology should pay attention to the consistency between the structure of the translated text and the structure of the original text, and the words chosen by the translator should accurately reflect the meaning of pulse, avoiding the direct use of Western medical terminology; in terms of cultural dimension, the English translation of Chinese medicine pulse terminology should pay attention to the metaphorical character of pulse and the conveyance of Chinese medicine's "taking images and comparing with analogies" thinking; in terms of communication dimension, the Chinese medicine pulse terminology should be translated into Chinese by using the following words. In terms of the communication dimension, the English translation of TCM pulse terminology should use commonly used words to improve the adaptability of the communication dimension. In short, the linguistic dimension pays attention to the consistency of language style, the cultural dimension pays attention to the communication and interpretation of cultural connotation, and the communicative dimension pays attention to whether the translated text reflects the communicative intent of the original text.

5.2.1 Language Dimension

The adaptive selection and conversion of language dimension requires translators to focus on language form and analyse the source language and the translated language in terms of bilingual linguistic differences, including the differences in language style, style of writing, sentence structure, etc. Chinese and English belong to different language families. Chinese and English belong to different language families, so the translator must understand the differences between the two languages: Chinese sentences focus on meaning, while English sentences focus on form; Chinese expressions focus on dynamics, while English expressions focus on static. Translators should adapt to the respective characteristics of Chinese and Western medical languages, coordinate the differences between the two languages, and translate the medical knowledge contained in Chinese medicine to foreign audiences at the same time as the uniqueness of the language of Chinese medicine.

The translation of the word "jue (绝)" in the "qijuemai (七绝脉)" is controversial, and some people would translate it as "strange", but "strange" means "unusual or surprising, especially in a way that is difficult to understand". It is not quite in line with the Chinese meaning of the character "jue (绝)", and the most appropriate meaning of "jue (绝)" in "qijuemai (七绝脉)" is "on the verge, near", which implies that the patient's condition is critical and on the verge of death. When dealing with this, the translation strategy of adaptive transformation of "linguistic dimension" in ecological translation is needed to make the information conveyed in the target language meet the linguistic and grammatical requirements. The word "moribund" means "in a very bad condition", which is similar to the meaning of the original text, so it is more appropriate to translate it. Therefore, from the linguistic point of view, the better translation of "qijuemai (七绝脉)" is "seven moribund pulses".

Secondly, there is also the English translation of the "tanshimai (弹石脉)", which mainly lies in the word "tan (弹)", meaning "like pressing on the hard rock, without any sign of softness". If you use "knock" and "tap" to translate the word, it will not be so appropriate, "knock" corresponds to "qiao (敲)" in the Chinese context; "tap" means "lightly hit something". There is another word "flick", meaning "throw or toss with a quick motion", which is more accurate than the first two. Therefore, from a linguistic point of view, a better translation of "tanshimai (弹石脉)" is "flicking stone pulse".

The word "jie (解)" in "jiesuomai (解索脉)" means "to untie", while "suo (索)" means "rope", and specifically refers to a rope that is twisted together and requires a lot of effort to untangle. Some people use "unwind" to mean "separate the tangles of", but this does not necessarily refer to the action of unwinding, and "unwind" is more often used to refer to a person's ability to unravel the tangles of a rope. "unwind" is more often used to refer to a state of being relaxed. The verbs "untwine" and "untie" used to translate "jie (解)" can more accurately convey the connotation of the word. The word "untie" means "cause to become loose". "Untwine" means "undo what has been twined together", i.e. to untwine what has been twisted together, which can be used to refer to untwining a rope. Therefore, from the language dimension, a better translation of "jiesuomai (解索脉)" is "untwining rope pulse".

5.2.2 Cultural Dimension

Chinese medicine culture outreach translation is to translate Chinese medicine culture information with Chinese national characteristics to overseas audiences, promoting and spreading Chinese medicine culture to the outside world is the purpose of Chinese medicine culture outreach translation, and preserving Chinese medicine culture characteristics in Chinese medicine culture outreach translation is the prerequisite for realizing this goal. If the characteristics of Chinese medicine culture in the original language are not preserved in the translation, it is impossible to talk about the translation of Chinese medicine culture, and there is no way to talk about the dissemination of Chinese medicine culture to the outside world. Translators should grasp the cultural information of Chinese medicine through the surface structure of the original language, and under the premise of giving full consideration to the linguistic characteristics of the translated language and the cultural psychology of the translated audience, accurately translate the cultural information of Chinese medicine which is rich in the characteristics of the Chinese nation to the readers in the translated language, so as to make the audience in the translated language feel the unique charms of the culture of Chinese medicine, and to inject fresh and exotic cultural blood into the translated country and nation. Metaphor, as the main way of semantic expansion, adds the feature of multiple meanings of words to the metaphorical thinking of Chinese medicine, which makes Chinese medicine terminology not have the univocal character of modern scientific and technological terminology, and tends to use some figurative words to describe the pulse in order to better appreciate the characteristics of the disease. Some scholars have examined the meanings of TCM terms and pointed out that more than 14% of TCM terms contain multiple meanings.

For example, the word "xiang (翔)" in "yuxiangmai (鱼翔脉)" has more than two meanings in our Chinese language, "flying" and "travelling". Some would translate it as "soaring", meaning "the activity of flying a glider", but the fish Xiang pulse because of its "head set and tail shake, seemingly without, such as fish swimming in the water" and so named, so the translation should reflect this feature. Translated as "waving" and "swimming" will be closer to the original meaning. "Waving" is a noun meaning "the act of signalling by a movement of the hand". The translation is analogous to the gesture of a fish swimming in the water with the movement of a human waving hand, which retains the characteristics of a "yuxiangmai (鱼翔脉)" in the translation, which is a good translation. Therefore, I believe that from the cultural point of view, a better translation of "yuxiangmai (鱼翔脉)" is "waving fish pulse".

Similarly, there is also the translation of the "xiayoumai (虾游脉)". Some people would translate the word "you (游)" directly into "swim", but the meaning of "swim" is broader, and it can refer to all the movements that float on water without sinking. "Swim" does not distinguish between fast and slow swimming. The main characteristic of the "xiayoumai (虾游脉)" is "like a shrimp swimming in the water, sometimes leaping away, and then coming back in a short while, with the same rapid and restless appearance as before", emphasising that the pulse comes and goes quickly. "dart" means "move very quickly", describing something moving fast, here used to describe the "shrimp swimming in the water" is more accurate. To sum up, "xiayoumai (虾游脉)" is more suitable to be translated as "shrimp-darting pulse".

Similarly, there is also the "quezhumai (雀啄脉)", the main controversial translation lies in the word "que (雀)", some people use "bird", but also use "sparrow". This is mainly due to the origin of "quezhumai (雀啄脉)", and some scholars have pointed out that "quezhumai (雀啄脉)" has gone through an evolutionary process from "wu (乌)" to "niao (鸟)" to "que (雀)", and that the inconsistencies in the transcription of the word in the later generations have caused some confusion. The terminology is confusing. There is still insufficient evidence to determine whether it is "bird" or "sparrow", but this study takes the Chinese name of the pulse as the standard and interprets it as "sparrow". However, the Chinese name of the pulse is used in this study as the basis for interpreting it as "sparrow". Therefore, according to the present-day terminology, the translation as "sparrow" has a better retranslatability. Therefore, from a cultural dimension, a better translation of the "quezhumai (雀啄脉)" would be "sparrow-pecking pulse".

5.2.3 Communicative Dimension

The purpose of translation is to promote the communication between various cultures, and the English translation of Chinese medicine terminology is to interpret and reproduce Chinese medical theory in English through English translation. Adaptive selection and conversion in the communicative dimension require the translator to make clear the communication intention, convey the information completely and provide accurate translation. Translators should fully consider the psychological needs of target language readers, not only accurately conveying the information in the original

language, but also integrating, refining, simplifying, and converting the original language, so as to make the translation more suitable for the expression habits of the target language and achieve the communication purpose. In order to adapt the translation of pulse terminology to the communication dimension, the following factors need to be considered: whether the translation is simple and easy to understand, whether the choice of words will cause misunderstanding, how easy it is to retranslate, and how well it distinguishes between similar pulse terminology.

The "wuloumai (屋漏脉)" means: "A leak in a broken house is often a single drop that falls, and then another drop that falls a long time later, slowly and without impact". The "wuloumai (屋漏脉)" is like a leakage from a broken house, the pulse is very slow and weak, and only pulses once in a long while. If translated as "water leaking pulse", although it is free translation, it does not reflect the slow and feeble character, while "dripping pulse" also belongs to free translation. As a noun, "dripping" means "a liquid (as water) that flows in drops (as from the eaves of house)", which can be used to refer to the eaves of the house. There is also a direct translation of "leaking roof pulse", both of which have the same meaning, but "leaking roof pulse" can quickly remind the reader of the scene of a leaking roof, which is suitable for communicative use. Therefore, from the point of view of communication, the better translation of "wuloumai (屋漏脉)" is "leaking roof pulse".

A translation of "fufeimai (釜沸脉)" is "seething cauldron pulse". The word "seething" is used to describe things such as boiling liquids, and this translation is more faithful to the original form and achieves a one-to-one correspondence between the literal meanings of the words, but there is a tendency to translate word by word, whereas "fufeimai (釜沸脉)" means: the pulse is the same as that of boiling water. It can be said that the pulse is extremely shallow, almost floating above the skin, and the pulse beats so fast that it is impossible to count the number of times it rises and falls. The simple stacking of the two words does not naturally reflect the characteristics of "fufeimai (釜沸脉)". The translation "bubble-rising pulse" adopts a free translation, which departs from the literal interpretation of "kettle" and "boiling" in the original text and focuses on the characteristic of "large number of bubbles rising" when water boils, which is able to reflect the characteristics of "fufeimai (釜沸脉)". It focuses on the characteristic of rising bubbles when water boils, which can better retain the connotation of the original terminology and conforms to the principle of correspondence. Although the back-translation is insufficient, it can achieve a good communicative effect, and from the perspective of the communicative dimension, the better translation is "bubble-rising pulse".

5.3 Potential Misunderstandings and Solutions

Despite the efforts to improve translation accuracy, potential misunderstandings may arise. For example, the term "moribund" in "seven moribund pulses" may be misinterpreted as implying imminent death, whereas it is intended to describe critical conditions. To mitigate such issues, annotations and explanations can be provided to clarify the context and meaning of each pulse term.

6. Conclusion

The application of Eco-translatology in translating TCM pulse manifestations offers a comprehensive approach to addressing the challenges of linguistic, cultural, and communicative dimensions. By analyzing the seven moribund pulses through this framework, this study proposes translations that enhance accuracy and global understanding of TCM terminology. The proposed translations include:

- "Seven moribund pulses" for "qijuemai" (七绝脉)
- "Waving fish pulse" for "yuxiangmai" (鱼翔脉)
- "Shrimp darting pulse" for "xiayoumai" (虾游脉)
- "Leaking roof pulse" for "wuloumai" (屋漏脉)
- "Sparrow-pecking pulse" for "quezhuomai" (雀啄脉)
- "Bubble-rising pulse" for "fufeimai" (釜沸脉)
- "Flicking stone pulse" for "tanshimai" (弹石脉)
- "Untwining rope pulse" for "jiesuomai" (解索脉)

While these translations represent an improvement over existing practices, further research is needed to refine and validate their effectiveness. Future studies should focus on empirical testing and feedback from both TCM practitioners and English-speaking audiences to ensure the translations meet their intended communicative goals.

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