

Original Paper

The English Translation Strategies of Culture-Loaded Words in *The Three-Body Problem* from the Perspective of Eco-translatology

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Abstract

*This study takes eco-translatology as the theoretical basis. It examines how Ken Liu deals with words with cultural connotations in the English translation of *Three-Body Problem* from the three dimensions of language, culture and communication. The study focuses on the analysis of five categories of vocabulary, namely, ecology, society, religion, language and material. The results show that Ken Liu flexibly adjusts his translation strategies according to the specific context. Specifically, when dealing with ecological terms, he mostly uses transliteration, focusing mainly on the linguistic dimension; for social terms, he strives to achieve a balance between the three dimensions by means of transliteration or literal translation with annotation; when dealing with religious and linguistic terms, he usually resorts to domestication or free translation, giving priority to the communicative dimension; when introducing material terms, he facilitates the coordination between the three dimensions through transliteration and interpretation. Ken Liu's flexible choices in the three dimensions help the translation achieve ecological balance in English science fiction literature and provide practical insights for the translation of culture-loaded words in the global promotion of Chinese literature.*

Keywords

*eco-translatology, *The Three-Body Problem*, culture-loaded words, three-dimensional transformation, adaptive selection*

1. Introduction

In 2015, Liu Cixin's (2008) science fiction novel *The Three-Body Problem* won the Hugo Award. The English translation by Ken Liu (2014) has been widely praised after its publication, attracting not only ordinary readers at home and abroad, but also the attention of politicians. The translation has since

become a benchmark and milestone in the overseas promotion of Chinese science fiction.

Culture-loaded words refer to words, phrases, and idioms that represent unique things or concepts in a particular culture (Liao, 2000). The story background of *The Three-Body Problem* is set in China in the 20th century, and the book contains a large number of such expressions. Translating them requires both conveying the distinctiveness of the source culture and making sure that target readers can follow. A search of the CNKI database using the keywords “Three-Body Problem” and “culture-loaded words” shows that most journal articles approach the topic from perspectives such as Skopos theory, memetics or translator subjectivity, while relatively few take an eco-translatological angle.

In this context, from the perspective of eco-translatology, this study examines Ken Liu’s English translation of *The Three-Body Problem* (2014; 2016) from the three dimensions of language, culture and communication, and analyzes how the translator adjusts his translation decisions in the face of different translation contexts.

2. Theoretical Framework

The theoretical framework of eco-translatology originates from Hu Gengshen’s (2004) book *Translation as Adaptation and Selection*. This book interprets translation as a process in which the translator makes the best choice in the process of adapting to the translation ecosystem, and it also incorporates Darwin’s principle of adaptation and selection into translation studies. It emphasizes that translators should not only take the initiative to adapt to the translation ecosystem, but also consciously choose translation methods, so as to produce an ecologically balanced translation.

Specific to the operational level, this framework is mainly carried out from three dimensions. The first is the linguistic dimension. The translator needs to make appropriate judgments on the linguistic forms of the source text and the target text. A high-quality translation should be able to retain the linguistic features of the source text. The second is the cultural dimension. Translators should regard translation activities as a practice that transcends language and culture, which means they need to deeply grasp the source language culture, adapt to its environment and strive to bridge the gap between different cultures while avoiding excessive preference for any party. The third is the communicative dimension, which focuses on the transmission of communicative intention. The translator must ensure that the communicative intention of the original author can reach the target readers and retain the communicative context of the original text as completely as possible.

In the actual translation process, these three dimensions are often closely intertwined and difficult to separate, and this perspective constitutes the core of eco-translatology theory and practice. The three dimensions work together to guide the translator to make reasonable decisions by adapting to the translation ecosystem and help to achieve effective cross-cultural information transmission and translation ecological balance (Hu, 2013).

3. A Three-Dimensional Analysis of Culture-Loaded Words

Culture-loaded words are the language carriers of unique phenomena or concepts in a particular culture, and their translation quality is directly related to the effectiveness of cross-cultural communication. Based on the three-dimensional transformation framework of eco-translatology, the culture-loaded words in *The Three-Body Problem* can be divided into five categories: ecological, social, religious, linguistic and material (Nida, 1945). This section will analyze Ken Liu's translation strategies from the three dimensions of language, culture and communication and examine his adaptive decisions in the context of translation ecology.

3.1 Ecological Terms

Ecological culture-loaded words convey information about China's landscape and territories, most of which have no direct equivalents in English. Ken Liu primarily uses transliteration for these terms. He focuses on adaptive transformation in the linguistic dimension, and adjusts it to the narrative needs of science fiction stories in the cultural dimension. For example, “齐家屯” is translated as “Village of Qijiatun”, “大兴安岭” is translated as “Greater Khingan Mountains”, “黑龙潭” as “Heilongtan”, and “京石高速” as “Beijing-Shijiazhuang Highway.”

At the linguistic level, transliteration is the best way to retain the original pronunciation and name order. “Village of Qijiatun” uses Pinyin for “Qijiatun” and adds the word “village” to indicate the type of location. “Greater Khingan Mountains” takes “Khingang” and adds “Greater” and “Mountains” to the Chinese characters “大兴安岭” to indicate the type of location. “Heilongtan” retains the Pinyin form of “黑龙潭.” “Beijing-Shijiazhuang Highway” uses the abbreviated forms “京” and “石” to refer to Beijing and Shijiazhuang respectively, and adds the word “Highway” to clarify the road type. Culturally, Liu does not provide any further explanation for these place names. As a fan of science fiction, he uses these place names in *The Three-Body Problem*, but simply uses them as location markers, rather than as cultural symbols. Too much explanation may disrupt the narrative tension of the story. From the perspective of communication, transliteration makes it easy for readers to locate the target places, and the original function of place names as location markers has been fully conveyed. Ken Liu's choice takes into account both the linguistic level and the cultural level. On the one hand, it satisfies the readers' curiosity about foreign culture, and on the other hand, it does not interrupt the narrative rhythm of science fiction texts.

3.2 Social Terms

Social culture-loaded words are often closely related to historical systems and ideologies. They are deeply embedded in the cultural context. In many cases, they have no direct equivalents in English. Ken Liu's practice is transliteration or literal translation with annotation. Specifically, from the linguistic dimension, he retains the form of the original text; from the cultural dimension, he supplements the necessary background information to the text through annotations; in the communicative dimension, these practices can help readers cross the cultural gap.

Example 1: “你好，我是墨子。”他自我介绍道。

Translation: “Hello,” the man said, “I'm Mozi.”

Note: Mozi was the founder of the Mohist school of philosophy during the Warring States Period. Mozi himself emphasized experience and logic, and was known as an accomplished engineer and geometer. From the perspective of the linguistic dimension, the translator adopts transliteration, translating “墨子” into “Mozi”, and retaining its pronunciation directly. Turning to the cultural dimension, the annotation plays a key supporting role. It does not explain Mozi’s philosophical thoughts in detail, but highlights his identity as an engineer and a geometer. This practice is highly consistent with the science fiction theme of *The Three-Body Problem* and the role setting of the dialogue between the scientist and Wang Miao in the story, which also fully shows that the translator has an accurate grasp of the cultural context of the source language. From the communicative dimension, transliteration with annotation can help readers quickly identify the role and understand the key meaning of the role in the plot progression, so as to effectively avoid the obstacles caused by unfamiliar cultural background.

Example 2: 找到的两个合适的候选人宁肯待在五七干校也不来。

Translation: I did find two possible candidates, but both would rather stay at the May Seventh Cadre Schools rather than come here.

At the linguistic level, the translation “May Seventh Cadre Schools” adopts literal translation, retaining the basic structure of the original expression and the number of “May Seventh”. At the cultural level, the note explains its historical nature as “labor camps during the Cultural Revolution.” This annotation builds a bridge for English readers to understand why people would rather stay there. It may be more dangerous to go back. At the communicative level, the annotation provides English readers with a channel to understand by clearly explaining this social phenomenon rooted in a specific historical background, so that the communicative goals can be fully realized.

3.3 Religious Terms

Religious culture-loaded words are often related to abstract concepts such as belief, karma or destiny. In most cases, they have no direct equivalents in English. In translation, on the one hand, Ken Liu uses religious terms familiar to target readers to render these expressions. On the other hand, when dealing with the cultural context, he puts the communicative dimension in the first place.

Example 3: 她两次处于仅次于上帝的位置上, 却两次以爱的名义把世界推向深渊, 而这一次已没人能为她挽回。

Translation: Twice, she had been placed in a position of authority second only to God, and both times she had pushed the world into the abyss in the name of love. This time, no one could fix her mistake for her.

On the linguistic dimension, Liu directly translated “上帝” as “God,” which is typical domestication strategy. On the cultural dimension, “上帝” here is not really a theological term. It’s a rhetorical way to talk about a hierarchical power structure. Although the translation is not a perfect match, it touches the core meaning of “supreme authority.” On the communicative dimension, the translation has clearly conveyed Cheng Xin’s strong position and the tragic consequences of her actions. Readers can appreciate the tension between responsibility and failure hidden in “second only to God.” When precise cultural

equivalence is not critical, the translator may seize the opportunity to achieve effective communication.

Example 4: 现在她不可能退却，只能接受这个报应。

Translation: She could not back off now. She had to accept karma. It was her turn.

From the perspective of language, Liu chooses to use “karma” to translate “报应” instead of “retribution” because it’s a Sanskrit word that is well known to English speakers. From the cultural perspective, in Chinese, “报应” usually refers to the moral consequences of good and evil acts. But Cheng Xin’s “报应” stems from responsibility. Others sacrifice for her, not because she did something wrong. “Karma” emphasizes the causal relationship linked to one’s own behavior. In this sense, “Karma” is not entirely appropriate, but Liu still chooses it because this translation is functionally close. At the communicative level, “karma” enables readers to quickly understand the meaning of “consequence” or “fate” and maintain reading fluency. This is an adaptive choice: when cultural fidelity may hinder understanding, the translator will give priority to communication effect.

3.4 Linguistic Terms

Linguistic culture-loaded words cover those distinctive idioms, daily expressions and metaphorical expressions in Chinese. Since they are often based on life experience and specific ways of speaking, it is easy for English readers to lose their minds by directly copying the literal meaning. The main approach adopted by Ken Liu is free translation. He sets aside the original image, retains the core meaning and focuses entirely on conveying the information.

Example 5: 那时怀着各种目的直接给中央写信的人很多，大多数信件石沉大海，也有少数人因此一夜之间飞黄腾达或面临灭顶之灾。

Translation: Back then, many people wrote to the central leadership with all kinds of personal agendas. Most of these letters were never answered, but a few of the letter writers did see their political fortunes rise meteorically overnight, while others invited catastrophe.

This sentence has three metaphorical Chinese expressions. On the linguistic dimension, “石沉大海” becomes “never answered,” losing the image of a stone sinking into the sea but getting straight to the point. “飞黄腾达” is rendered as “see their political fortunes rise meteorically overnight,” swapping the mythical flying horse for the more familiar image of a meteoric rise. “灭顶之灾” turns into “invited catastrophe,” where “invited” means “brought upon oneself.” On the cultural dimension, none of the original images, like a stone in the sea, a mythical horse, or a drowning disaster, can survive in English. So Liu lets them go and focuses on what the expressions actually mean. On the communicative dimension, “never answered” is clear and direct; “rise meteorically overnight” captures the drama of sudden success; “invited catastrophe” neatly conveys causing your own disaster. Together, they turn the dense Chinese phrases into smooth, natural English. Readers can feel the political tension of that time, and the message comes through without getting lost.

Example 6: “怎么样老弟，扛不住了吧？我说你不成吧，你还硬充六根脚指头。”

Translation: “So how’s it going, buddy? Finding it hard to bear? I said you couldn’t handle it. And you insisted on playing the tough guy.”

From the linguistic perspective, Liu has completely eliminated the original image of “six toes” and restructured the sentence using the English idiom “playing the tough guy.” Culturally, since the local, colloquial atmosphere unique to the Chinese expression cannot be conveyed, he discards that image, retaining only the intent to tease and banter. In terms of communication, “playing the tough guy” conveys a subtle meaning: even though Wang Miao is not actually feeling tough, he still pretends to be calm and composed. English readers can easily understand Da Shi’s playful tone towards Wang Miao and feel the friendly interaction between the two.

3.5 Material Terms

Material culture-loaded words refer to the unique items, food and daily necessities in China. They’re very concrete. Ken Liu’s approach is to combine transliteration with annotation. By retaining the original sound at the linguistic level and adding annotations at the cultural level, he provides readers with a reference, thus achieving a balance between the three dimensions.

Example 7: 我们下了班也用它热馒头、烤土豆。

Translation: After work, we would use it to warm mantou bread, bake a potato, that sort of thing.

On the linguistic dimension, “mantou” keeps the original Chinese pronunciation. On the cultural dimension, Liu adds “bread” to give English readers a rough idea. It’s a food kind of like bread. At the same time, “mantou” stays as a distinctly Chinese food. On the communicative dimension, readers can tell that “mantou” is something edible you can heat up, without getting stuck on a completely foreign word.

Example 8: 行动的代号是“古筝”，这是很自然的联想，而纳米丝构成的切割网则被称为“琴”。

Translation: The operation’s code name was “Guzheng,” based on the similarity between the structure and the ancient Chinese zither by that name. The slicing net of nanofilaments was thus called the “zither.”

On the linguistic dimension, “guzheng” retains Chinese pronunciation and “zither” serves as the English equivalent, which ensures the consistency in the use of terms. On the cultural dimension, “ancient Chinese zither” draws a comparison to the zither (a box-shaped string instrument, played with fingers or dials) that Western readers are already familiar with. This not only gives readers a basic understanding of guzheng, but also clearly defines it as a traditional Chinese musical instrument. On the communicative dimension, readers can naturally link the operation code name “guzheng” and the nano-wire mesh known as “qin” together, and then understand the logic within the sci-fi setting. The strings of the guzheng are like a network of nanofilaments. Liu’s decision is in line with the special ecology of cultural symbols in science fiction narratives that must balance strangeness and readability. The transliteration not only retains the exotic atmosphere, but also satisfies readers’ curiosity, while the annotation ensures that the story is not distorted by cultural differences.

4. Conclusion

From the perspective of eco-translatology, this paper discusses how Ken Liu deals with five types of culture-loaded words in the English version of *The Three-Body Problem*. The results show that his strategies vary according to different categories of culture-loaded words, and each strategy reflects a different pattern of adaptive selection in the translation ecology. Ecological terms are mostly transliterated, in which the linguistic dimension takes precedence. Social terms are processed by transliteration or literal translation combined with annotation, thus balancing all three dimensions. Religious and linguistic terms are usually localized or paraphrased, focusing on the communicative dimension. Material terms are introduced through transliteration and interpretation, thus coordinating the three dimensions.

Liu does not stick to a single, fixed strategy. On the contrary, he flexibly switches between different dimensions according to the function of terms in the text, the cognitive effort required of readers and the need for cultural mediation in the context. This flexibility shows how the translator adapts to the complex translation ecology. Therefore, the translation has achieved an ecological balance in the field of English science fiction literature. As Chinese literature moves towards global readers, this study also provides practical insights into the translation of words with rich cultural connotations.

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