**Translating Zhuang Folktales with DeepSeek: An Analysis of Error Types and Post-editing Strategies**

**Abstract**

Machine translation in literary translation remains great challenges due to the high cultural and artistic elements inherent in literary texts. In the context of artificial intelligence, this study uses a large language model-based machine translation system, DeepSeek-V3, to investigate its performance in translating folk literary works. Methodologically, a qualitative approach is conducted and the renowned Zhuang folk tale *Ye Xian* is selected as the sample. Based on the Multidimensional Quality Metrics framework, this study identifies common error types in the DeepSeek-translated text. Subsequently, appropriate post-editing strategies are proposed to address these issues. The findings reveal that the common error types involve accuracy, terminology, fluency, and locale convention errors. In response, four post-editing strategies are proposed, namely semantic correction, fluency optimization, terminology standardization, and cultural annotating. It is hoped that these strategies could enhance the quality of machine translation with large language models in folk literary works, hence contributing to the advancement of machine translation in the field of literature.

**Key Words**: machine translation, error types, post-editing strategies, Zhuang ethnic group’s folktales

**1.Introduction**

The folktales of the Zhuang ethnic group, as vital components of China’s intangible cultural heritage, are imbued with unique historical content, moral values, and ethnic cultures. These ancient tales reflect the richness of the Zhuang people’s spiritual life and serve as the foundation of their social relationships, hence playing an important role in shaping their cultural identity. Additionally, the Zhuang folktales always convey themes such as reverence for nature, ancestral wisdom, and communal solidarity, which are deeply imprinted in the group’s collective memory.

Given their cultural specificity, Zhuang folktales represent a valuable yet challenging task for literary translation in the field of machine translation (MT). While MT has developed rapidly in recent years, its application to the translation of culturally rich literary texts, especially the ethnic minorities’ folktales, remain underexplored. Most existing studies focus on mainstream literary works, leaving a gap in understanding how MT performs with the traditional folktales which are heavily culture-bound and passed down in generation.

 Furthermore, the rapid advancement of artificial intelligence (AI) has enhanced the translation efficiency and, in some contexts, improved the translation quality. This development, to a great extent, increased the applicability of large language models (LLMs) in the field of literary translation. This study, therefore, attempts to investigate the performance of the AI-assisted translation engine DeepSeek-V3, a Chinese large language model released in 2025. Specifically, it attempts to identify common errors in MT and propose proper post-editing strategies to enhance the overall translation quality.

 Against the backdrop of growing MT use in cross-cultural exchanges, challenges in preserving cultural uniqueness and linguistic subtleties in Zhuang folktale translations have been noted in existing research. These stories, rich with oral traditions, ethnic terms, and cultural metaphors, require careful handling. Yet, few studies have thoroughly examined the specific error patterns in MT systems. Hence, this study is conducted to identify the common error types in machine-translated Zhuang people’s ethnic folktales and formulate post-editing strategies tailored to these error categories. To operationalize these objectives and guide the research design, two questions are addressed:

*RQ1: What are the typical errors in the machine-translated Zhuang people’s folktales?*

*RQ2: How to solve these errors in the machine-translated Zhuang people’s folktales through post-editing strategies?*

**2. Literature Review**

To provide a solid foundation for this study, this section reviews relevant literature in three key areas. First, it explores existing scholarship on the translation of Zhuang people’s folktales, highlighting the cultural and linguistic challenges involved. Second, it examines research on the use of machine translation in rendering literary texts, with a focus on its applicability to culturally rich and stylistically complex materials. Finally, it considers comparative perspectives on human and machine translation of Zhuang folktales, aiming to identify gaps and insights that inform the present research.

Literary translation remains a challenge for MT. Features such as metaphors, idiomatic expressions, and style coherence are hard to handle for machines. Even though technical writing has been made easier by neural machine translation (NMT), literary translation is an issue. MT has to overcome verb variety, syntactic complexity, and discourse coherence in a bid to offer natural, high-quality translations, as proposed by Weng and Wang (2020). They demand a human-machine collaborative translation ecology to transcend technical limitations. Because human translators are more adept at creative adaptations and contextual adjustments, compared to MT’s sequential calculation.

In addition, translators in literary translation often choose between close to the original text or paraphrasing according to their understanding. Xu Tianzhen, in Xu and Xie (2018), mentioned that when judging a good translated literary work, it is also important to evaluate whether the translated work can help readers enter the literary world of the original work, which cannot be achieved through absolute faithfulness alone. Translators need more translations to express, to retranslate and to find the beauty of the original work. And Wen Min, in Xu and Xie (2018) separated translators into two groups: “character actors,” who precisely emulate the source tone, and “natural-style actors,” who volunteer to adopt their own style. This categorization sheds fresh light on the ethical boundaries of translator intervention.

The career of post-editing combines human linguistic skills and technology. Contemporary research targets workflow optimization, reducing cognitive load, and compensating for MT limitations. Hybrid approaches achieving a blend of efficiency and precision using automatic techniques supplemented with human sense prove optimum for technical jargon and stylistic consistency. While MT is employed to provide initial translations, human intervention is still required to address complex semantic and terminological issues.

Cognitive ergonomics is crucial in maximizing post-editing productivity. Eyetracking and keystroke logging experiments, Daems et al. (2017) note, show that heavy source text organization, such as lengthy sentences or idiomatic phrases, raises cognitive demands, provoking longer fixation times and pauses while editing. To counteract this, scholars suggest visual annotation tools and adaptive interfaces that break complex text into tiny fragments, speeding up processing. However, overreliance on MT challenges homogenized translations and loss of cultural touch. Vardaro et al. (2019) observed that stylistic corpora-trained neural MT models enhance literary writing uniformity but that human editors remain required in order to keep authorial voice and cultural metaphors, infusing accuracy and artistry. The future development may be done by introducing machine learning systems which learn from a human input, automating recurrent tasks and maintaining human knowledge for high-grained decisions.

Zhuang folk tales of rich symbolism and cultural depth and historical thickness pose special translation difficulties. Liu (2016) emphasized the need to keep cultural identity intact while translating such ethnic literature as early Zhuang ballads. Translating the words used to denote states of nature or rituals of Zhuang is challenging because they typically do not have their equivalents in other languages and the translators therefore have to strike a balance between literal translation and cultural translation. This calls for both linguistic skill and culture competency in the translators to make no misconstruals.

Xiao (2023) advocated for the “creative adaptation” method for the translation of Zhuang people’s stories in the face of such challenges. Applying this method, translators are able to effectively translate information creatively without losing valuable cultural values. For example, translating Zhuang people’s folktales in metaphorical sentences may need rewording or adding short notes so that the text can be comprehensible by foreign readers without sacrificing its original meaning. Such methods are designed to render translations more aesthetically and interculturally attractive.

Notwithstanding these initiatives, MT contribution to this subject is still quite small. Oral cultures and dialect differences in Zhuang literature are culturally specific features against which current MT systems lag behind. Researchers suggest future work in investigating hybrid models that bridge human knowledge and machine learning, training ethnic literature corpora for MT systems, and creating a Zhuang cultural concept vocabulary.

**3.Methods**

This research adopts a qualitative research framework in the field of MT error analysis and proposes post-editing strategies. The reason for choosing a qualitative approach mainly lie in the cultural elements of Zhuang folktales that require in-depth interpretation of textual contextual consciousness, which is hard to be examined by quantitative methods. Furthermore, the MT of minority ethnic literature proposes specific strategies rather than empirically test them, and to this purpose the exploratory nature of qualitative research fits better.

**3.1 Material**

The Zhuang people’s folktale *Ye Xian* was selected as the sample via purposeful sampling. The original Chinese text consists of 1,021 characters, and its reference English translation has 1,124 words. The story is about a virtuous girl named Ye Xian who discovers a magical fish bone that grants wish, ultimately teaching the values of kindness and contentment through her journey from hardship to become the queen.

**3.2 Translation Tool and Prompts**

With the advancement of AI, LLMs have demonstrated remarkable potential in MT, improving translation speed, quality, and versatility. Numerous AI-powered LLMs like Chat GPT, Ernir Bot and DeepSeek have appeared and made great strides in bridging the linguistic gap. This study used the DeepSeek-V3 model, which specializes in cross-language integration and supports real-time translation in multiple languages for multilingual scholarship. To get better translation, this study compared two prompts:

***Prompt 1****: Please provide the English translation for the following text.*

***Prompt 2****: Your are a professional translator, the following is a Chinese folktale, please translate it into English with fluency and readability.*

Prompt 1 is general prompting while prompt 2 encompasses the role (professional translator), domain information (Chinese folktale), and specific requirement (translate, fluency and readability). This study invited two professors in translation to compare the outputs between the two prompts, and found that prompt 2’s translation was more appropriate. Additionally, considering the uncertainty and variation of the AI output, this study used DeepSeek-V3 to generate three outputs by prompt 2. And the most suitable version was chosen according to its fluency and readability. For corpus cleaning and sentence alignment, the original text, DeepSeek-V3 translation, and reference translation were put into Tmxmall Aligner.

**3.3 Error Identification Framework**

The current study employed the Multidimensional Quality Metrics (MQM) framework which was developed in the QTLaunchPad project (www.qt21.eu), categorizing errors into eight dimensions: Accuracy, Fluency, Terminology Consistency, Locale convention, Style Adaptation, Verbatim Fidelity, Cultural Annotation, and Coherence (see Table 1). This metric aims to provide a translation error annotation methodology for different purposes and at different granularities (Lommel 2013), and furthermore contains error categorization and annotation guidelines. Collection of errors is incorporated into the table through using annotated material and some post-translation editing practice is recommended. When there was something wrong with analysis, say when handling slang or ethnoculturally specific lexemes, authors used recourse in order to follow the context and appealed to the sources in order to correct them through phonetic or other ways.

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| --- | --- |
| Error Category | Description |
| Accuracy | Addition | Translation includes information not present in the source. |
| Omission | Translation is missing content from the source. |
| Mistranslation | Translation does not accurately represent the source. |
| Untranslated text | Source text has been left untranslated. |
| Fluency | Punctuation | Incorrect punctuation (for locale or style). |
| Spelling | Incorrect spelling or capitalization. |
| Grammar | Problems with grammar,other than orthography. |
| Register | Wrong grammatical register (e.g., inappropriately informal pronouns). |
| Inconsistency | Internal inconsistency (not related to terminology). |
| Character encoding | Characters are garbled due to incorrect encoding. |
| Terminology | Inappropriate for context | Terminology is non-standard or does not fit context. |
| Inconsistent use | Inconsistent use |
| Style | Awkward | Translation has stylistic problems. |
| Locale | Address format | Wrong format for addresses. |
| convention | Currency formatDate format | Wrong format for currency.Wrong format for dates. |
| Name format | Wrong format for names. |
| Telephone format | Wrong format for telephone numbers. |
| Time format | Wrong format for time expressions. |
| Other |  | Any other issues. |
| Source error |  | An error in the source. |
| Non-translation |  | Impossible to reliably characterize distinct errors. |

Table 1. MQM hierarchy

**4. Post-Editing Strategies in the Translation of Zhuang People’s Folktales**

This chapter mainly categorizes the errors in the translations produced by DeepSeek-V3, summarizes frequent error types, proposes post-editing strategies for different translation errors, and analyzes some examples to apply these strategies in practice.

**4.1 The Translation Error Types**

Translation errors are divided into multiple broad categories under the MQM framework, each of which focuses on a different facet of translation quality (see Figure 1).

Figure 1. MQM errors distribution

According to the study, accuracy errors were the most common, at 48.28%. These errors cause the translation to fail in conveying the main information or key details of the original text. Terminology errors followed at 15.52%, while locale convention and fluency errors each accounted for 13.79%.
　　The work elicited four types of errors. Inaccuracy errors arise because of mistranslation, as in an erroneous rendition of “我给你做件新衣裳穿” without the whole import of the source. Narrative coherence is affected by cause-effect relations without coherence, e.g., choice errors or irrelevant temporal sequence. Historical or locative kind context deficit keeps readers bewildered. Denial of information relevant to the situation like“偷偷地” (secretly) lowers information density and credibility. Inconsistent cause-and-effect, inappropriate word choice, or incorrect temporal sequence can annihilate narrative coherence.
　　Terminology mistakes are examples like invariable use of technical or culture-bound words, such as habitual divergent translation where “陀汗国” has been translated as “Tuo Han” without sonic consistency in using one word or against universal transliteration norms. Inappropriate rendering of “懊女坟” as “Grave of the Frustrated Woman” instead of “Grave of Regret” occurs due to context errors when measurement units or object names associated with cultural aspects are changed at random without annotations or contextual clarifications, or when source-specific terminology loses its symbolic or emotional weight.
　　Fluency errors manifest as unnecessary words or unnatural sentence construction. For example, using “donned” instead of “put on,” or constructions like “left Ye Xian at the mercy of her cruel stepmother.” Joined references, unclear pronouns, and word-order errors make sentences hard to read. Also, lack of proper transitions or incoherence gives an uneven narrative rhythm, which disturbs text flow.
　　Locale convention errors are largely the result of poor cultural management. This can range from the reduction of local terms to generic equivalents, i.e., the translation of the Chinese unit “丈”as “feet” instead of keeping it as “zhang,” to committing geography errors, i.e., misspelling places or failing to record historical and contemporary differences between toponyms. Cultural practices that are context-deficient, i.e., “沙里淘金” being translated literally as “panning gold” without explanatory annotation, will confuse viewers who are not familiar with the source culture.

 **4.2 Post-Editing Strategies**

The author observes that the aforementioned types of errors occur with relatively high frequency, whereas other types of errors exhibit a lower incidence rate. Consequently, the four most common types are presented in the chart. This section primarily proposes targeted strategies for these four error types, applies these strategies through specific examples, and provides an analysis of the examples.

**4.2.1 Post-Editing Strategies for Accuracy Errors**

To enable accuracy in translation, this type of error is subject to semantic correction strategy and requires restoring missing information, ironing out inconsistencies, and maintaining cultural sensitivities.

**Example 1**
**Source Text**: 叶限姑娘从小聪明伶俐,各式各样的活路一学就会,特别会在沙里淘金,深受父亲喜爱｡ (Liu et al. 2017, p.426)
**DeepSeek Translation:** From a young age, Ye Xian was clever and quick to master every task, especially skilled at sifting gold from sand, earning her father’s deep affection.

**Reference Translation:** She learned all kinds of things quickly and was very good at panning gold in the sand. Her father loved her very much. (Yi et al. 2017, p.427)

In Chinese, “活路” refers to the hard work necessary for rural survival. DeepSeek translation renders it as the generic “task,” missing the toil, diversity, and urgency of the original, thus watering down the socio-cultural richness of the story and diminishing the struggles of the protagonist.

With the semantic correction strategy, replacing “every task” with “all kinds of things” lends spatial and logical profundity, bringing attention back to the all-encompassing range and scope of labor. This is consistent with the strategy of introducing contextual specificity, enabling the receiving audience to appreciate the all-encompassing aspect of the work while maintaining the cultural connotation of “活路” as oppressive, unspecific toil.

**Example 2**
**Source Text:** 洞主吴氏,娶了两个妻子｡ (Liu et al. 2017, p.426)
**DeepSeek Translation:** As the southern legend goes, before the Qin and Han dynasties, there lived a cave master named Wu in the land of Wu Cave. He had two wives. His first wife passed away, leaving behind a daughter named Ye Xian.

**Reference Translation:** According to the southern legend, before the Qin and Han dynasties, in Wudong (Fu Sui County in Guangxi today), the cave master Mr. Wumarried two wives. (Yi et al. 2017, p.427)

The original text explicitly uses “吴氏” to denote respect for the character’s surname, a common practice in Chinese narratives to honor social hierarchy. The MT omits the honorific “Mr.,” wording the sentence as a straightforward introduction (“named Wu”), which loses the cultural tact of respect inherent in the original.

 With the semantic correction strategy, for example, “Mr.” (“Cave Master Mr. Wu”), it introduces rational and cultural information, re-emphasizing the original’s focus on deference and social status. This aligns with the approach of inserting socio-cultural background in an attempt to achieve semantic fidelity and reader comprehension.

This strategy shows how literal translation is combined with cultural-linguistic accuracy through post-editing. By emphasizing context-bound terms, exact time measurements, and correct measures, translators make the final translation compatible with the original meaning and the target audience’s expectations. Semantic correction strategies correct semantic errors and improve the overall informational and aesthetic consistency of the text.

**4.2.2 Post-Editing Strategies for Terminology Errors**

To preserve cultural sensitivities enable terminology consistency in translation, this type of error is subject to terminology standardization strategy and helps to sustain terminology in the translation towards the source text’s logic and improved readability across cultures.

**Example 3**

**Source Text:** 洞人把捡来的那只金鞋卖到陀汗国,落到国王手中｡ (Liu et al. 2017, p.430)

**DeepSeek Translation:** The villager sold the golden shoe to the kingdom of Tuo Han, and it was obtained by the king.

**Reference Translation:** The cave dweller sold the golden shoe to Tuo Khan, and it fell into the king’s hands. (Yi et al. 2017, p.431)

There are two culturally specific terms, “洞人” (cave dwellers), in the source text. DeepSeek translation incorrectly translates “洞人” as “villager” and loses the peculiarity of southern China’s cave inhabitants. It also transliterates “陀汗国” as “Tuo Han” rather than “Tuo Khan,” creating phonetic confusion and hiding historical reality. These errors arise from not using standard glossaries and transliteration conventions, thereby compromising cultural and historical fidelity and causing the translation to lose meaning and socio-cultural richness.

With the terminology standardization strategy, changing “villager” to “cave dweller” aligns with glossary principles, highlighting the residents’ lifestyle and domicile. Changing “Tuo Han” to “Tuo Khan” follows historical conventions to ensure consistency and cultural recognition. Lastly, changing “was obtained by the king” to “fell into the king’s hands” better captures the spirit of the source document. These adjustments demonstrate how spatial, logical, and cultural specificity can be incorporated to make literal translations more contextually appropriate.

**Example 4**

**Source Text:** 洞人可怜她们,把她们埋在一个石坑里,起名叫“懊女坟**”** (Liu et al. 2017, p.432)

**DeepSeek Translation:** Villagers buried them in a pit, naming it “The Grave of Regret”.

**Reference Translation:** People in Wudong had pity on them. They buried them in a stone pit, and called it “Grave of Frustrated Woman”. (Yi et al. 2017, p.433)

“懊女坟” combines “懊丧” (frustration) and “女” (women) to suggest a mass grave overflowing with profound, unrequited sadness. DeepSeek translation as “Grave of Regret” loses emotional intensity and gender-specific meaning.

With the terminology standardization strategy, its translation as “Grave of Frustrated Women” ensures cultural and emotional context consistency by using the same terminology to preserve the complexity and integrity of the term, thereby retaining cultural authenticity and emotive strength.

These processes prioritize standardization of terminology as a way to transcend linguistic and cultural divides. With historical transliteration, maintenance of units of measure, and smoothing out of culturally slanted descriptions, translators produce translated texts loyal to the original and to a global reading public. These processes refrain from meaning distortion but retain cultural and emotional content of the story.

**4.2.3** **Post-Editing Strategies for Fluency Errors**

To maintain Fluency in translation, this type of error is subject to fluency optimization strategy and avoid undermine readability, conceal the logical sentence structure, or lead to misinterpretation by the target readers.

**Example 5**

**Source Text:** 后妈回到家里,只见叶限抱着庭院里的果树在打瞌睡,也就打消了对她外出这件事的怀疑｡(Liu et al. 2017, p.430)

**DeepSeek Translation:** The stepmother came back home, only to see Ye Xian hugging the fruit tree in the courtyard and dozing off, thereby dispelling her doubts about Ye Xian having gone out.

**Reference Translation:** When the stepmother returned home, she found Ye Xian dozing against a fruit tree in the yard and dismissed her suspicions about the girl’s absence. (Yi et al. 2017, p.431)

The DeepSeek translation retains literal phrasing (“hugging the fruit tree”), which inaccurately emphasizes physical action, whereas the original implies Ye Xian was casually leaning against the tree. The phrase “thereby dispelling” is redundant and wordy, which is contrary to the informal style required by the folk tale.

With the fluency optimization strategy, replacing “hugging” with “dozing against” formalizes the composition of the scene, and replacing “thereby dispelling her doubts” with “her suspicions were dismissed” removes the redundancy. This is consistent with the style of simplifying cumbersome phrases and smoothing out sentence structures for easier narration. The DeepSeek translation is overly redundant and wordy in phrases like “hugging the fruit tree” and “thereby dispelling her doubts.” “Hugging the fruit tree” inappropriately highlights an act of physical contact; the original suggests that Ye Xian was leaning on it while sleeping. Additionally, “thereby dispelling” is too formal in tone for the folk tale.

**Example 6**

**Source Text:** “叶限照他说的试了几次,不论金银财宝､衣服食物,都能够随心所欲地弄到｡” (Liu et al. 2017, p.428)

**DeepSeek Translation:** “After Ye Xian tried several times, the fish bones, as expected, bestowed upon her gold, silver, fine clothes, and delicious food.”

**Reference Translation:** “After several attempts, the fish bones granted Ye Xian gold, jewels, fine garments, and food.” (Yi et al. 2017, p.429)

The redundant expressions like “as expected” and “bestowed upon her” in the DeepSeek translation unnecessarily add excessive formality and disrupt flow. With the fluency optimization strategy, removing “as expected” and replacing “bestowed upon her” with “granted” improves the sentence flow. Because the outcome-expectation implication of “果然” normally depends on context, “as expected” is unnecessary. In traditional English folklore, overt markers disrupt the flow of the narrative. Their absence requires the reader to infer the connection between Ye Xian’s action and the reaction of the bones. This reflects how fluency-oriented post-editing reduces redundancy, clarifies references, and improves sentence construction.

By emphasizing concision, tone consistency, and native language use, translators make the text read as lively oral stories while preserving its emotional and cultural resonance. These practices balance literal accuracy with reader engagement, turning literal translations into engaging stories.

**4.2.4** **Post-Editing Strategies for Locale convention Errors**

To keep locale conventions in translation, this type of error is subject to a cultural annotation strategy and aligns cultural signs, geographical reference points, and context cues with the perspective of the target audience.

**Example 7**

**Source Text:** 他是邕州那一带的人,记得许多南方的神奇怪异故事｡(Liu et al. 2017, p.432)

**DeepSeek Translation:** He was fromYongzhou and remembered many strange southern stories.

**Reference Translation:** He was from Yongzhou (present-day Nanning) and remembered many strange tales of the south. (Yi et al. 2017, p.433)

The DeepSeek translation is devoid of critical context in the source text. First, “邕州” (Yongzhou) is transliterated without noting its modern equivalent (Nanning), which misleads readers regarding the geographic location. Second, “那一带的人” (“people from that area”) highlights regional identity but is translated as the more general “from Yongzhou,” losing the spatial texture. Third, “南方的神奇怪异故事” (“strange tales of the south”) is translated as “southern stories,” losing the rich cultural texture of southern China’s folklore.

With the cultural annotation strategy, adding “(modern-day Nanning)” after “Yongzhou” bridges past and present geography. Changing “southern stories” to "strange tales of the south" restores emphasis on mythic folklore. To add greater cultural depth, a note like “Yongzhou was an ancient Guangxi region, now part of Nanning, with rich oral traditions” can be added. This kind of flagging for toponymic changes emphasizes cultural and geographic importance.

**Example 8**

**Source Text:** 吴洞靠近海岛｡ (Liu et al. 2017, p.430)

**DeepSeek Translation:** Wu Dong is near the island.

**Reference Translation:** Wu Dong (near the coastal islands of southern China). (Yi et al. 2017, p.431)

The DeepSeek translation of “吴洞靠近海岛” as “Wu Dong is near the island” loses “海岛” (coastal islands), neglecting its regional context. In the original text, “海岛” refers to southern China’s coastal islands with historical and ecological value. The generic translation misleads readers who are not familiar with China’s geography and culture.

 With the cultural annotation strategy, the revised version, “Wu Dong (off China’s southern coastal islands),” uses parentheses to maintain the original name while adding geographical specificity. This reflects an annotation strategy for locale variation, situating the story in real geography and highlighting the historical and cultural importance of the locale. It facilitates readers’ comprehension of the setting and socio-cultural significance, fulfilling the demands of linguistic fidelity and contextual accuracy.

Locale convention errors recall a common DeepSeek translation error: word-for-word correspondence without considering cultural significance. Historic or geographical terminology presents the translator with the task of weighing target-audience context against source-text fidelity. Annotation conventions and terminological consistency are essential in culturally rich texts. Such treatment aids readers in their comprehension of the worldviews of the text without sacrificing coherence of the story.

**5. Conclusion**

This study identifies the common errors in the DeepSeek-V3 outputs according to the MQM framework: accuracy, terminology, fluency, and locale convention errors. To address these issues, four post-editing strategies are proposed, namely semantic correction, terminology standardization, fluency enhancement, and cultural annotation. These strategies aim to mitigate the limitations of machine translation in preserving ethnic cultural nuances. The findings not only enhance the understanding of MT’s constraints in maintaining cultural literacy but also offer practical guidance for the development of culturally sensitive translation technologies.

This research focuses on the subject of Zhuang people’s folktales but may overlook regional and thematic variations within Zhuang oral traditions. To some extent, DeepSeek-V3 encounters challenges in translating certain high cultural and artistic elements embedded in Zhuang folktales. Additionally, the insensitivity of machine translation to cultural nuances and grammatical structures compromises both linguistic accuracy and cultural authenticity. Future improvements could involve expanding databases to incorporate dialectal variations and underrepresented stories, thus capturing a richer array of cultural nuances. Enhanced computer algorithms sensitive to subtleties can minimize errors in MT when dealing with cultural metaphors and subtexts. Advanced translations of Zhuang folktales necessitate both human creativity and technological proficiency. The integration of responsive AI with meticulous post-editing ensures accurate translations. This collaborative process combines technical expertise with human sensitivity, enabling the global dissemination of Chinese national folktales while preserving their vitality in multicultural and digital contexts.

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