

A Multidimensional Interpretation of A New Story of the Stone Based on Corpus Analysis

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Abstract: As a traditional science fiction novel, *A New Story of the Stone* blends old and new elements. This study employs quantitative descriptions to reveal that the novel's language is rich, vivid, and concise. In terms of narrative features, the novel inherits the traditional Chinese chapter-novel structure and maintains a strong focus on scene descriptions. However, it also reflects Western influences by paying attention to the portrayal of characters' psychological activities. The novel's social utility is pronounced, as it celebrates the dissemination of advanced technology, pursues the ideal society, reflects on societal improvements, and critiques the current society and backward traditional culture.

Keywords: Corpus, *A New Story of the Stone*, Quantitative Analysis.

1. Introduction

Wu Jianren's *New Story of the Stone* is among the earliest examples of science fiction in China. The author revitalizes the classic by depicting the protagonist, Jia Baoyu, experiencing various encounters after traveling to the late Qing Dynasty. In the novel, Jia Baoyu is portrayed as a young man with a nationalistic sentiment who pursues science and seeks to save the country. While the novel offers a grand vision of the "new China" through technological advancements, it also carries strong themes of patriotism and self-improvement, reflecting the complexity of contemporary intellectual thought. It is considered a "masterpiece of late Qing science fiction" and a prominent example of the literary style of the late Qing Dynasty [1]. The technological fantasies, social critique, political ideals, and cultural implications presented in *New Story of the Stone* have attracted considerable attention, but quantitative explorations of its multiple meanings remain scarce.

Corpus linguistics is an empirical science that studies texts through corpus retrieval tools. In recent years, this method has been widely applied in literary studies. On one hand, it allows for objective and quantitative analysis of a work's textual features, themes, and character portrayals from a rational perspective. On the other hand, it provides readers with a more comprehensive and intuitive understanding of important information and thematic content. Technology supports the qualitative analysis of texts with data, making it more objective and persuasive. In China's literary research, the combination of quantitative and qualitative research through corpus linguistics has primarily focused on foreign texts, with less emphasis on Chinese texts. This paper aims to build a corpus of 215,204 characters based on previous studies and analyze the vocabulary frequency and characteristics of *New Story of the Stone* using Python programming and AntConc software. The goal is to explore the

novel's linguistic features and multiple meanings to provide an objective interpretation of its themes and expand the application of corpus and computational methods in modern literary studies.

2. Overall Characteristics of the Text

Based on the original text of *New Story of the Stone*, a corpus of 158,009 characters was created (excluding non-novel elements such as the cover, preface, postscript, edition, imprint, directory, back cover, author preface, and the novel's end notes including time, place, and concluding remarks). After segmenting the text using the Jieba library, a total of 83,026 vocabulary items were identified. The different stylistic features formed in the author's language expression are reflected in the quantitative characteristics, with differences in the frequency of language units demonstrating the novel's linguistic features.

2.1. Linguistic Characteristics

Firstly, *New Story of the Stone* exhibits rich and flexible vocabulary, characterized by diversity. In terms of lexical metrics, the text shows a high vocabulary richness. Vocabulary richness is an important dimension describing the breadth of the author's word usage in a text, indicating the number of different word types in a given length of corpus, which reflects the readability of the text to some extent. The proportion of hapax legomena (words that occur only once in a text) is an important indicator of vocabulary richness. Hapax legomena in the entire vocabulary can reflect the uniqueness of the vocabulary. [2] To reduce the influence of text length on uniqueness rates, this paper uses the logarithmic uniqueness rate as a quantitative indicator of lexical uniqueness, calculated as follows:

$$\frac{\log(\text{Number of Unique Words})}{\log(\text{Total Word Count})} \times 100\%$$

The logarithmic uniqueness rate of *New Story of the Stone* is 80%. Based on previous studies of some Chinese corpora, Yang Jiang's narrative essays have a higher vocabulary richness, with a logarithmic uniqueness rate of only 78.6%. In comparison, the novel's vocabulary is evidently richer. This richness is related to the novel's theme: Baoyu's new experiences and perceptions require a wide range of vocabulary to describe numerous new things and concepts. Moreover, descriptions such as "the entire warship gleamed like a ball of white fire," "the electric lamps on the vehicles resembled countless stars," and "the large ones are like Guangdong oranges, and the small ones are like round eyes" [3] illustrate the author's use of varied vocabulary to vividly and understandably depict new things.

Although the novel's vocabulary richness adds some difficulty in reading, Wu Jianren, from Baoyu's "time-traveler" perspective, describes these new phenomena and concepts in familiar, local, and colloquial language, making the novel's language clear and accessible. The average word length in the novel is approximately 1.44, indicating that the novel frequently uses simple monosyllabic words rather than complex ones. The search results show that long words are not common in *New Story of the Stone*, and the language is concise, reflecting the traditional vernacular style.

Therefore, the novel's language is characterized by richness, flexibility, conciseness, and vividness.

2.2. Narrative Characteristics

New Story of the Stone inherits traditional narrative techniques while incorporating some Western and modern elements, presenting a sense of modernity. As a revised novel with numerous new elements, its traditional aspects are evident from the high frequency of certain traditional terms. The novel follows a traditional chapter-based format. The term "next episode" appears 37 times, and "let's

hear" and "let's say" appear 50 times. The frequent use of phrases like "let's say" reflects the author's omniscient narrative perspective, indicating that the novel adheres to traditional structural constraints.

The term "only see" appears 162 times in the text. On one hand, it reflects the omniscient narrative perspective typical of traditional chapter-based novels. On the other hand, it often introduces concrete scene descriptions, such as "only see the strange rocks towering like mountain landscapes" and "only see the cave entrance with a block of strange stone, translucent and intricate" [3]. These scene descriptions are poetic and vivid, resembling ancient Chinese landscape writing [4]. The frequent use of "only see" shows that *New Story of the Stone* retains the Chinese literary tradition of detailed scene depiction.

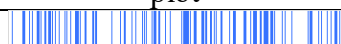
In narrative terms, *New Story of the Stone* also shows the influence of foreign novels with extensive psychological description, reflecting a degree of modernity. Psychological description is relatively weak in traditional vernacular novels, with only a few works (e.g., Jin Ping Mei, Dream of the Red Chamber) including some psychological portrayal [5]. In modern times, influenced by foreign novels, psychological activity depiction has started to receive more attention from writers. The term "in the heart" appears 44 times, often followed by descriptions of characters' psychological activities, such as "in the heart secretly amused" [3]. Psychological description in the novel goes beyond monologic discourse, presenting characters' emotions and states.

3. Social Functionality

3.1. Popularizing Advanced Science

New Story of the Stone describes and introduces many advanced scientific technologies from Baoyu's "alien" perspective, expressing recognition of science and technology, and hopes to rejuvenate China through technological power. Searching for words related to "wonder," such as "strange thoughts," "strange devices," "rare," and "strange shapes," reveals that these terms are evenly distributed in the text, appearing 142 times, with a dispersion of 0.889.

Table 1: Distribution of Words Containing "Wonder" in the Text

Freq	NormFreq	Dispersion	plot
149	1716.427	0.889	

The "wonder" here refers to "steamships," "warships emitting white light," "machines that can create air," "elevators that can ride the clouds," "technologies that can create weather," and "Western medicine that needs dissection." The recurring "wonder" throughout the novel vividly introduces advanced scientific products and affirms and praises the flourishing science capable of creating "wonder devices." The author describes the astonishing changes over decades, narrating not the history of twenty-four surnames but the life changes of ordinary people.

Among the advanced technologies most enthusiastically described in *New Story of the Stone* are weaponry. The terms "guns" and "cannons" appear 214 times. The defeat in the Opium War made Chinese people acutely aware of the formidable power of Western weaponry, leading to a surge in translations of books about Western arms. Between 1840 and 1860, there were as many as 22 books introducing Western weaponry knowledge [6]. However, *New Story of the Stone* does not wholly praise weaponry; it expresses opposition through Baoyu's voice, criticizing modern war's cruelty and revealing its horrors, such as "recently, those cruel countries have made a chlorine gas cannon that hides chlorine gas in shells, causing unknown numbers of deaths when exploded" [3].

3.2. Social and Political Ideals

The terms “civilization” and “barbarism” are used 167 times in the text, reflecting the novel's contemplation of social and political issues. In the twenty-second chapter, the character Baoyu enters a “civilized realm,” which embodies the author's ideal society. Regarding the political system, after the twenty-second chapter, the term “despotism” appears 9 times. The novel discusses the three types of political systems in the world—despotism, constitutionalism, and republicanism—stating that while there is debate about constitutionalism and republicanism, no one supports despotism, yet the author's setting is a despotic regime. This contrasts with the common ideal of “constitutionalism,” which was greatly hoped for by late Qing intellectuals, who confidently viewed Western constitutional monarchy as a new reference for the nation-state's path forward [7]. Instead, Wu Jianren places his hopes in a “civilized despotism.” After the twenty-second chapter, the term “moral education” appears 8 times. This concept, central to the educational content of the civilized realm, reflects the author's political ideal of a morally governed society with Confucian overtones. The term “barbarism” appears 38 times, indicating Wu Jianren's emphasis on traditional morality in response to the widespread moral decay of his time, showing a strong critical consciousness.

Regarding sovereignty, the term “power” appears twelve times. The novel emphasizes the need to “eliminate despotism” and achieve “gender equality.” In Wu Jianren's ideal, both men and women possess their own sovereignty; people of all races, such as the red, black, and brown races, each have their own sovereignty; and the country's “extraterritorial rights have also been reclaimed.

3.3. Realization of Reform Aspirations

The author also explores and answers questions about how to reform society and achieve his social ideals. The term “question” appears 248 times in the novel. Baoyu, as an “ignorant” character, frequently poses pointed questions. Terms like “why” and “what for” appear 34 times, often followed by Baoyu's inquiries into various phenomena of the late Qing era. Examples include questions about foot-binding, the use of watches, the necessity of foreign ships, and the reasons for certain practices. These questions reflect the author's criticism of backward phenomena such as foot-binding, the lack of self-reliance among Chinese people, and blind imitation of Western practices. The author believes that for society to reform, Chinese people should liberate their thoughts, abandon outdated customs, become self-reliant and bold, and learn Western technologies to engage in practical industry rather than blind imitation.

The terms “book” and “newspaper” appear 284 times. Baoyu, in his exploration of the late Qing period, shows a strong preference for learning through books. After reconciling with Xue Pan, he frequently seeks books and newspapers from him, spending his days reading and avoiding leisure activities with Xue Pan. The extensive use of the term “book” implies that the author views education through books as another means to achieve reform, by enlightening new ideas and spreading new technologies.

4. Criticism and Reflection

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5. Conclusion

As a traditional science fiction novel, *New Story of the Stone* blends old and new elements. The quantitative analysis reveals that the novel’s language is rich, vivid, and concise. In terms of narrative characteristics, the novel maintains traditional chapter-based structure and extensive scene descriptions while incorporating modern psychological depictions influenced by Western literature. The novel has strong social functionality, showing an appreciation for advanced technology, a pursuit of an ideal society, reflections on social reform, and critiques of contemporary society and outdated traditional culture. However, the critiques of issues like opium and foot-binding are somewhat superficial, and no solutions are proposed. Despite advancements in psychological depiction, the complexity of character psychology and subjective experience remain unchanged. This paper aims to provide objective data support through quantitative analysis to aid qualitative analysis and inspire new thinking in the application of computational methods in modern literary studies. Due to limitations in both technology and analysis, this study seeks to broaden the application of corpus-based methods in modern literature, offering some preliminary insights for scholars using computational methods in literary research.

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