

A literature map construction approach combining reality and virtuality for the Eastern mythological novel *Journey to the West*

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Abstract:

The practice of creating literary maps has a long history, providing rich examples of literary maps from the hell map in *Divine Comedy* to the navigation map in *Robinson Crusoe* and the treasure map in *Treasure Island*. In China, there are also practices of constructing maps based on literary works such as *The Classic of Mountains and Rivers (Shan Hai Jing)* and the *Book of Songs (Shi Jing)*, but they are not yet independent forms of literary maps. Since the 20th century, the analysis and research of literary maps in novels have gradually become rich, and then inspired by the wave of digital humanities, researchers began to focus on using forms such as graphs, maps, and trees to re-present literary works, so that readers would no longer be trapped in the details of reading (Tally Jr. 2007). At the same time, some research teams began to explore the generation path from text space to geographic space and some specific literary mapping methodologies (Piatti et al. 2009, Reuschel and Hurni 2011, Guo 2020) to solve the problem of cluttered spatial information in novels.

In the East, mythological stories, as one of the early sources of literature, contain abundant natural and cultural scenes, providing ample resources for the creation of literary maps. *Journey to the West* is the first long romantic novel about gods and demons in ancient China, which exhibits a rich and diverse range of spatial types, including the heavenly realm, netherworld, and the mortal realm. Its space is intertwined by two reference systems: one is the real world as a geographic base in the historical literature *Great Tang Records on the Western Regions*, the other is the virtual imaginary space. However, there is a lack of a map that reaches consensus to support the spatial visualization of this novel. Based on the above premise, we believe that taking into account the background of the novel and the author's subjective imagination, and drawing a map that matches the content of the novel is a meaningful attempt.

The novel *Journey to the West* has a total of 860,000 characters. By extracting the spatial information of the full text, we constructed a spatial information database of the novel. Then, by analyzing, summarizing, and standardizing these spatial information, we preserved the true coastlines or spatial position relationship of important landmarks that can match the real geographic space, and provide reasonable and fictional supplements to the vague or uncertain spatial information described by the author. At the same time, combined with the prevalent spatial cognition of the four major continents under the influence of Buddhism at that time, we constructed the entire novel's geographic space that combines reality and virtuality. In this process, a set of coordinate grids was designed to assist in the localization of natural and human geographic information, as well as to correspond to the key description about the geographical distance of 108000 li (a distance unit using in ancient China) to the temporal distance of 14 years. Meanwhile, different landscape rendering styles for mountains, rivers as well as forests were designed for matching the geomorphic environment and the textual description, and various symbol systems of landmarks, role types, and movement methods was built to clarify the complex relationships of roles' activities and their moving path.

Journey to the West contains a relatively complete worldview and complex spatial information, which is difficult to visually display without the use of maps. Our map of *Journey to the West* (figure 1) integrates virtual and real space and covers a route of 108000 li, which is completely consistent with the description in the novel. We hope this work, on the one hand, can help novel readers to have a more concise understanding of when and where each story takes place throughout the entire journey, and to grasp the progress of the story at a macro level, on the other hand, can provide a methodological basis for the subsequent construction of mythological literature maps combining virtual spatial

information and real spatial information and promote the formation of a practical system from literary works to literary mapping.



Figure 1. The full map of *Journey to the West*

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