A Study of "Map Sense" that Supports the Accuracy of Maps Through Interviews with Imaginary Map Creators

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Abstract:

The study aims to clarify how the knowledge and ability to make maps look accurate, and what its creators refer to as "map sense," is developed and used by interviewing the creators of what are known as "imaginary maps." Maps depicting imaginary worlds have been used in novels such as "Treasure Island" by Robert Lewis Balfour Stevenson in 1883 and "The Lord of the Rings" by John Ronald Reuel Tolkien in 1954. In modern times, fantasy maps have been created along with stories in role-playing games such as "Dragon Warrior" and in movies such as "The Marauder's Map" in the Harry Potter series. Satirical maps depicting the real world can also be regarded as one of the imaginary maps in that it was expressed without going through objective data (Haga, 2021), and it can be said that imaginary maps have been drawn in the political world as well.

In recent Japan, the use of maps in creative activities, what is called "imaginary maps," has gained a lot of media interest and discussion on social networking services. Imaginary regions and cities that do not exist in reality are depicted on maps as if they did. Cartographers of these maps often use well-known map designs, such as city maps and topographic maps.

Among the cartographers of "imaginary maps," the works of Takayuki Imaizumi are well known. He draws imaginary maps of the nonexistent city "Nagomuru-shi" based on the design of a city map known as "Mapple," which is widely sold in Japan by a private map company (Figure 1). He also conducts workshops and lectures using this map, publishes books, and exhibits his works in museums. The public recognizes his activities as a form of map art. There are also fantasy and imaginary maps that depict nonexistent cities and regions, such as those depicting the worlds of fantasy stories and worlds in movies and video games. However, the cities and regions depicted in the works of Imaizumi and others seem to exist as ordinary, commonplace towns that may be anywhere in Japan.
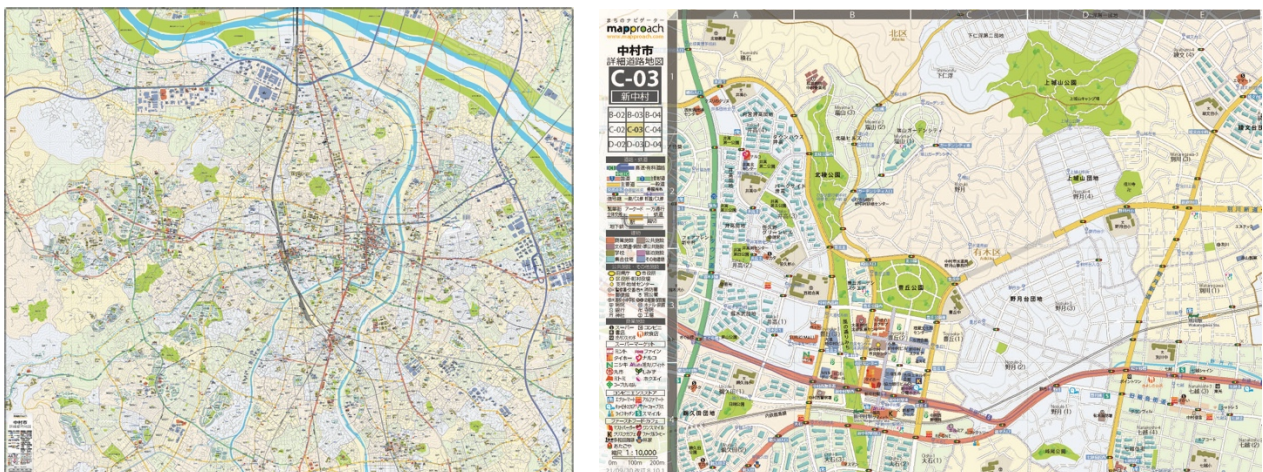
Figure 1. Imaginary map "Nagomuru-shi" (left) and a part of the map (right) drawn by Takayuki Imaizumi

Why do imaginary maps look like maps of real cities? Maps are usually considered to be representations of real features based on certain rules. However, we do not always verify that our maps accurately reflect the ground, and we can accept a map of an unfamiliar city or region as accurate. In other words, we do not evaluate the map's accuracy or usefulness based on how closely it corresponds to reality. Imaginary maps also seem to correctly depict cities in reality, even though they depict imaginary cities that do not actually exist. Therefore, the accuracy of a map is not primarily

determined by how well it matches the features it shows. One may say that the way the map is made follows rules similar to the grammar of a language and that the map's consistency is read from that.

Imaizumi (2019) states that in order to create imaginary maps, one must have the ability to discern a map's consistency and accuracy. He calls the ability "map sense." What exactly is this map sense and how is it acquired and demonstrated? In this study, six creators of imaginary maps were interviewed in semi-structured interviews about their processes, they use map sense in the process, how map sense is acquired and expressed on maps, and what kind of knowledge and experience shape these maps. We analyzed the text from the interviews based on "case-code matrix" (Sato, 2008). According to Sato, this analytical method takes an inductive approach that allows general principles and laws to be derived from individual, concrete facts, forming a conceptual model of the thing or event under study.

The results of the interviews are the following: Cartographers of imaginary maps have been self-training to consider the relationship between actual space and maps through significant fieldwork experience, visiting cities and regions, and looking at maps. Therefore, all creators said that they could imagine the landscape by looking at the map, and conversely, they could recall the map from actual or imagined landscapes. In addition, the results also show that different map specifications used in the imaginary map use distinct features and scales differently. For example, the cartographers who use topographic maps' specifications (on a scale of 1: from 25,000 to 200,000) mainly focus on natural geographic phenomena, such as uplift, erosion, and sedimentation (factors in the formation of topography), as a precondition for the accuracy of the map. In addition, the cartographers who use the city maps' specifications (on a scale of 1:10,000) tend to focus on the social and economic factors that form urban areas. These facts suggest that there is a suitable specification, depending on the scale of the subject that the map is intended to cover. Furthermore, the cartographers who were raised in areas with significant topographic ups and downs, such as hills and mountains, tended to utilize specifications that could depict topographic features in detail, while those from suburban areas tended to utilize diagrams that could depict urban areas in detail. The results show that "map sense" is the ability and knowledge to connect three things: real space, cartographic representation, and knowledge of the subject matter. Cartographers of imaginary maps draw their maps back and forth between these three, ensuring their accuracy.

This study starts the examination of "imaginary maps" and conducts a qualitative survey on their creators. In the future, we would like to conduct a quantitative survey of more diverse imaginary map designs by examining more creators and audiences. This study contributes to a better understanding of the representations and rules that enable maps' accuracy and consistency in order to design maps. We also believe that if this research is further deepened, the results will contribute to the map's reality and authenticity about fantasy and satirical maps.

Acknowledgements

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