

Historical GIS for Premodern Kyoto: An Spatial Analysis of Maps, Documents and Paintings

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Recently, use of Geographic Information Systems (GIS) to analyze historical space has attracted more interests; this approach is known as "Historical GIS (HGIS)". By applying this new methodology to multiple historical materials, I aim to contribute to development of the HGIS scholarship and various historical fields. This thesis focuses on (1) maps (2) topographic documents, and (3) paintings as examples of historical materials.

(1) Maps: In this research, I examine accuracy of Rakuchu-Ezu (circa 1642), a map of Kyoto. This study with GIS systematically measures distortions in the map and analyzes the overall and local precision of the map. An analytic method with GIS measures distortions on the map and visualizes them in the drawn area by linking the points of intersections which appear both on Rakuchu-Ezu and on survey maps.

(2) Topographic documents: There are many guidebooks of Kyoto published during the Edo period (17th century-18th century). In this research, I start with construction of a database of the almost existing guidebooks in Kyoto. Spatial information and various attributes were added to each record of landmark points on map. The results clearly show the spatial distribution of sights and its changes over time.

(3) Paintings: The subject of this research is a series of Japanese screen paintings known as Rakuchū? Rakugai zu, created during the 16th to 18th centuries. The analytic method presented in this research involves not merely mapping landmarks that appear on the screens, but projecting a 'virtual screen' onto a survey map. The results show that screens painted in the 17th century and later distorted real space more than screens in the 16th-century, indicating less in adherence to perspective-like conventions. In short, these case studies with this HGIS method suggest new approaches to various historical fields.