

Mapping complex history on the web: is a point-based approach a better way?

Mariam Gambashidze*, Jana Moser

Leibniz Institute for Regional Geography (IfL), M_Gambashidze@leibniz-ifl.de, [J_Moser@leibniz-ifl.de](mailto>J_Moser@leibniz-ifl.de)

* Corresponding author

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Abstract:

Maps depicting historical regions of the Holy Roman Empire are mostly represented by clearly defined borders and, thereby, areas. This highly fragmented space is usually visualised as a ‘Flickenteppich’ (‘patchwork quilt’; Figure 1), which insufficiently addresses interconnections between territories, as well as human and material border-crossings. The former territorial units are characterised by political fragmentation as well as complex administrative and social organisation, where dominion rights such as manorial, ecclesiastical, judicial and other rules overlap each other. Therefore these decentralised spaces are highly fragmented and inhomogeneous. Only at the beginning of the 19th century began a fundamental reorganisation with homogenisation and centralisation of territories at all levels of administration and jurisdiction (Marges, 2020). Thus, it is essential to question traditional notions of spatial representations and conventional historical cartographic approaches, usually with polygon and line-oriented maps, which can only insufficiently capture the multidimensional space. We address multiperspective representations, together with developing and testing new concepts of collection, modelling, and visualising of early modern spatial data from the Holy Roman Empire (especially the 17th and 18th centuries) in the ongoing interdisciplinary project (involving historical research, information science, and cartography), ‘Digitale Kartenwerkstatt Altes Reich’ (DigiKAR).



Figure 1. Germany in 1555, shown as a “Flickenteppich” in the traditional way; IEG-Maps, Institute of European History, Mainz (Kunz & Moeschl, 2008).

Within our project, the overarching research aim is to model place-based (location-based) spatial constructions and phenomena of historical assignments of authorities, mobility, and networking. The research addresses the central challenge of the manifold borders of the Holy Roman Empire and its territories.

This study aims to experiment with and develop different forms of web-based spatial visualisations for historical datasets by avoiding the usual area-based representations of territories often seen in conventional historical maps. For this purpose, the visualisations will be designed for chosen case study areas of the Holy Roman Empire's different geographical regions and political entities. They will be further developed and tested in an iterative user study process. The research focuses on the one hand on location- and point-based visualisations that enable the illustration of multiple spatial overlaps of affiliations, networks and inter-related human phenomena, as well as capturing the local environment by focusing on individuals' or institutionalised activities in space and time (Merschdorff & Blaschke, 2018). On the other hand, it involves

developing and using a grid-based area visualisation, which can represent a generalised image of the phenomena at different zoom levels. This paper will give insights into these first steps of the development, showing various examples and mock-ups.

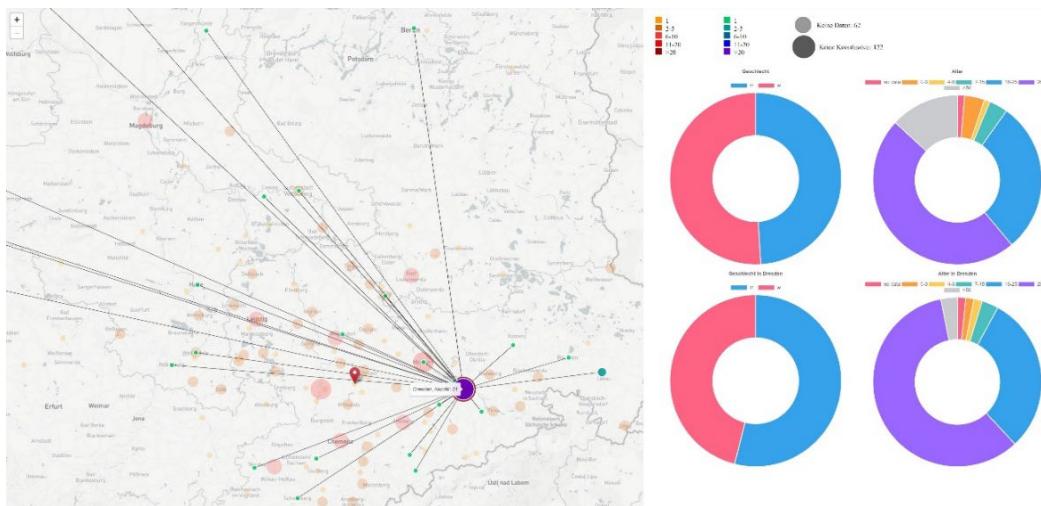


Figure 2. Visualisation is based on an unadjusted sample dataset of committals from the 18th century. The map represents mobility within the territories - from the birthplace to the selected place of conviction (here Dresden), from where all culprits were sent to the prison of Waldheim (marked with the pin). The sidebar shows a legend and attribute information (gender and age) of the whole dataset and selected location. The interactive visualisation is in the working process and therefore incomplete; the next steps will be (1) adaption of lines to make clear that the data do not allow any statement on direct connections between birthplace and place of conviction as people might have travelled around before, (2) integrating historical basemap with border lines, to see how political fragmentation is overcome by social practice.

Furthermore, it is noteworthy that historical data is complex. It includes different categories of uncertainties with space, time, and attribute components. Thus, the research entails finding, implementing, and testing visualisation techniques that can apply to uncertainties of historical datasets. Considering that visualising uncertainties is context-sensitive and not separable from their interpretation, these aspects will also be addressed in a user study.

The novelty of the research is the exploratory and interdisciplinary approach to visualising and comprehending historical spaces by experimenting with cartographic representations. As a result, an alternative representation of borders and investigation of the mobility of actors and objects will open up new research and knowledge perspectives on early modern territoriality and historical data at large. The future potential of our research results will have great importance in the field of cartography and digital humanities by developing data and visualisation-related standards for similar projects. This interdisciplinary project will contribute to a knowledge transfer by communicating research outcomes (such as processed data, visualisations, workflow documentation, and tutorials) and making them accessible to researchers, institutions, and the public.

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