

## Digitising (Historical) Patterns of Power

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### Extended Abstract

Perception, depiction and organisation of spaces and places in the Middle Ages encompass an interdisciplinary research field that helps to understand historical processes and relations within the medieval period.

The representation of space in medieval texts, the appropriation of land and the subsequent installation of new structures of power are central research topics of the project "Digitising Patterns of Power" (DPP). The focus on spatial phenomena prompts the use of spatial technology and geocommunication to analyse and represent these phenomena.

DPP is a multidisciplinary project, conducted by the Austrian Academy of Sciences the Institute for Medieval Research (IMAFO) in cooperation with the University of Vienna, Department of Geography and Regional Research. It is part of an initiative to promote digital humanities research in Austria. DPP will bring together expertise from historical and archaeological research as well as cartography and geocommunication to explore medieval geographies. Via regional case studies of comparable areas (i. e. Eastern Alps, Moravia-Thaya region, the historical region of Macedonia and historical Southern Armenia) with similar mountainous ecologies on the peripheries of historical empires, generalizable workflows and methodology will be developed.

By bringing together selected written sources as well as material evidence in a common spatial referenced database, further research-oriented analyses with digital tools become possible. Methods of geographical analyses like spatial statistics, network analyses, least cost calculations and view shed analyses (Breier 2013, Bodenhamer et al. 2010) can identify the patterns of influence, untangle and re-trace complex processes and make networks of power visible.

By incorporating digital cartographic expertise, relevant facts can be depicted in a more effective visual form (Kriz 2013). The communication of space, time and spatial interconnectivity is an essential aspect of DPP. Optimal cartographic visualisation of base data as well as the historical and archaeological information are important features.

To provide a framework for these tasks, an interactive map-based online platform, based on open source technology, will be developed. Querying the database and overlaying various thematic layers will allow the user to explore the data and retrieve spatial relations, yet undiscovered. It will be a tool which can be used in the research process itself. Furthermore it will also be a platform to present and disseminate DPP's results in order to provide access to relevant data for fellow researchers and the general audience alike. "OpenATLAS", a database system established during previous research at the Institute for Medieval Research, will provide the backend for the application. Modular design, generalised workflow and compliance of data standards will guarantee sustainability.

Geocommunication and cartography are important contributors for the historical research questions. Within DPP however, experts in cartography will not only provide technical know-how. The project offers opportunities to address research questions of these domains.

Data collected by archaeologists and historians is very inhomogeneous, and have various levels of accuracy, spatial as well as temporal. Specific entities as well as events can be located and dated precisely, whereas others can only be sited and assigned vaguely. These uncertainties and their representation have to be considered, if entities are to be displayed on a map. When showing the results of database queries, the quality of uncertainty will be reflected in the representation of the objects. Therefore, various methods of representing these uncertainties will be explored.

## References

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- Breier M (2013) *Getting Around in the Past: Historical Road Modelling*. In: Kriz K, Cartwright W, Kinberger M (Eds.), *Understanding Different Geographies*. Berlin, 215-226.
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