

# New Approaches to Visualization of Land Administration within Space and Time: the Land of Bohemia

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**Keywords:** tenure, patrimonial ownership, manor, domain maps, topography, Bohemia, the Modern Times

## Abstract:

The paper focuses on the development of territorial possession, the formation of tenure units and their hierarchy over time and, in general, on a gradual transformation of medieval forms of ownership into the modern society of the 19th and 20th centuries. This is done using contemporary digital cartography and geographic information system techniques on the historical Bohemian region as an example.

Among the professional and lay public, there is an ever-increasing deficit in capturing comparable territorial units over time using modern cartographic methods, especially in the Central European area, which represented a part of the multinational Habsburg Empire for several centuries. This problem has been investigated on many sub-probes processing isolated areas over time or larger areas at one temporal point. A more comprehensive view of the global development of tenure over time is lacking in the Czech environment and is currently being addressed by interdisciplinary research on the boundary of historiography, historical geography and digital cartography, which was made possible by the implementation of modern methods, especially the use of geographic information systems within several recent years.

There are several primary sources of knowledge for the formation and transformation of estates and territorial administration units and their influence on the development of the landscape in the modern age. Mainly, the map works created by precise geodetic measurements, especially the later period from the mid-19th century and the so-called Stable cadastre of the Habsburg monarchy. These maps are not only topographically accurate but incredibly user-friendly and understandable; likewise, thanks to their properties, they enable comparative studies concerning the interpretation of long-term development trends. But it is still a time-isolated source. On the other hand, helpful information on the development of the manorial administration can be found in topographies and schematisms, particularly for the period spanning the entire Czech Lands from the second half of the 17th century to the middle of the 19th century and showing the development of the given units in various time levels. These inventories also provide valuable insight into the beginning of the spatial differentiation of the territory, which includes the gradual emergence of municipalities and their hamlets. All aforementioned sources, accompanied in cases of well-organised manors (domains) with large- to mid-scale maps of their area, denote the formation of the economic background of the manors in the form of factories, sawmills, sheepfolds, farms and other works.

The maps of domains are an essential part of the cartographic heritage and form an important part of map collections of memory institutions. The maps were usually created on order from the owner of the manor (a noble family, an ecclesiastical institution, a royal chamber) mainly for economic reasons, i.e. to improve the registration of land ownership and land boundaries, tax collection, coordination and planning of estate development, forestry administration, etc. At first, from the 16th century, these were rather partial maps, plans and sketches; from the 18th century onwards, they often represent extensive works, depicting entire manors. The elaboration and quality of the maps vary over time, according to the purpose, the sponsor and the compiler (surveyor, cartographer). Most of these maps are manuscripts, but they were also printed in the case of wealthier manor owners from the mid-19th century onwards. Especially maps of manors owned by noble families often have a representative function in addition to their administrative role and are decorated.

Due to their heterogeneity, these maps cannot be used as a comprehensive data source on land administration and tenure. This paper aims at the presentation and cartometric evaluation of selected types of manor (domains) maps and, in addition, to spread knowledge of these types of maps to a broader audience. They may also represent a valuable evaluation of the outputs of the database, making them more accurate within the frame of particular manors, as well as posing an uncommon insight into the problematics using a visual medium instead of words and tables.

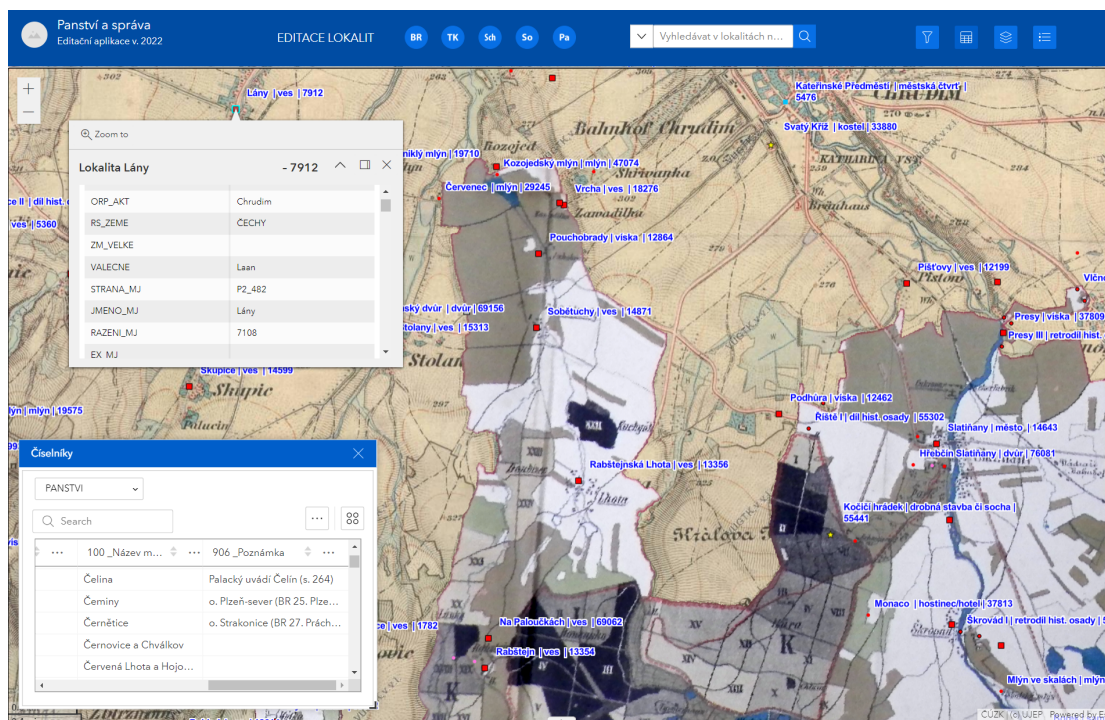


Figure 1. Example of the map application showing localities, background cartographic works and maps of manors.

The primary outcome of the project will be a map application that will allow users to track the evolution of the subject matter over time, from the mid-17th century to 1848, when new forms of territorial government took their place and superseded the classical manorial system. The application will also make it possible to understand the rebirth of classical feudal ownership into later manor estates and administrative units emerging in parallel. Through a robust database model, it is possible to store information extracted from source editions or topographic manuals into a point database of sites through a web map application. Based on spatial relationships, it is also possible to monitor the development of the localities and their tenure structure over time, which may also be compared through the view of land and its evolution given by the maps of manors. The application reflects not only the development of area units, such as cadastral municipalities or entire domains, but also, according to possibilities within individual sources, allows to capture relations of small economic units, works or hamlets to larger settlements and, to a particular degree, monitor economic ties in the area and their changes.

## Acknowledgements

The research was supported by the Eta programme of the Technological Agency of the Czech Republic, grant No. TL03000264, and by internal grant programme of the CTU in Prague, grant No. SGS22/048/OHK1/1T/11. The authors thank to this support.