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Maps of estates in Bohemia as an example of an undervalued historical geographic source – research survey and examples of utilization

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ABSTRACT

As an interdisciplinary discipline, historical geography uses a diverse aggregate of historical sources, from traditional written through tangible up to pictorial, i.e., iconographic. From the pictorial sources, we can separate an individual group of cartographic materials – old maps and plans, which are one of the most important sources of information in current historical geographic research. The paper briefly summarizes the development of historical geography and then addresses the presentation of the source materials in historical geography. It draws attention to classification of the sources concerning their form and purpose and then focusses on historiographic sources of comparative and individual character. In addition to traditional comparative cartographic works (the Müller map, the military surveys and the stable cadaster), the paper emphasizes the individual maps of smaller territorial units – maps of estates – as sources that originated until the mid-19th century and as still relatively insufficiently utilized material. Through their analysis and interpretation, it is possible to obtain relatively detailed knowledge on the historical landscape of the pre-industrial period, thus filling blank spots in the research on past landscapes. The paper documents the testimonial value of these maps with an example of two aristocratic estates, those of Jilemnice and Nové Hrady, and a comparison of several specific features (depiction of the settlement, land cover, and map legends).

KEYWORDS

historical geography; cartographic sources; maps of estates; 18th and 19th centuries

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1. Introduction

"Geography must never be separated from the history," says the famous sentence of the French lawyer and enlightener Louis-René de Caradeuc de la Chalotais from the 18th century, a sentence frequently cited by geographers and historians but in particular by historical geographers (Semotanová 2007: 197). The interconnection of chronological and spatial arrangement of phenomena is one of the main tasks of historical geography (Schenk 2011). Historical geography is referred to as an interdisciplinary discipline bordering on the natural and social sciences (Semotanová 2006) or as "geography of the past" (Matthews, Herbert 2008; Baker 2003). Similarly to the other scientific disciplines, it is undergoing a diverse development in its thematic focus. It is also undergoing transformations not only of methodologies but also in the definition of itself (for various concepts between island and continental historical geographies, see Heffernan 2009; Baker 1987; Denecke 2005; Schenk 2011; in the Czech Lands Kašpar 1990; Semotanová 2006; Semotanová, Chromý 2012; Jeleček 1983; Nováček 2008; Kučera 2007). Although the roots of historical geography can be traced back to ancient times, the birth of modern historical geography is dated in the 19th century (e.g., works focussing on geographical determinism or topography, such as those of Fratišek Palacký or V. V. Tomek). In the 1930s, Henry Clifford Darby and his students transitioned research in historical geography to new concepts - from the reconstruction of landscapes in the form of description or typologization through quantitative approaches and evaluations of the phenomena and processes in the 1960s–1980s up to post-modernist methods of searching for the roots and causes of the current issues in landscapes and society. Historical geography taken this course up to now (Baker 1987, 2003). The range of studied themes has greatly extended, and the interdisciplinary approaches are applied through a variety of tools to address research issues (Chromý 2001).

Although the definition of the discipline, its history and the theoretical methodological issues of historical geographic knowledge receive great attention, the materials as sources of information and knowledge for historical geographic study stand alone. This paper therefore attempts to evaluate the material basis of historical geography, note its classification, the variety of forms, its variability over time and the necessity to search for new, insufficiently studied and unexploited resources. Its broad potential will be introduced and discussed in an example of the most widely used sources of historical geography - old maps and plans, particularly from the 18th century. In addition to traditional sources of a comparative nature, the article notes a still very little appreciated type of individual source (maps of estates), which can significantly enrich the current research on historical landscapes before the mid-19th century. The essay thus aims to answer the following questions: What types of historical sources are applied in current historical geographic research? Why are the cartographic sources significant? How can they be classified and applied? Which old maps can be used for reconstructions of historical landscapes at the various stages of development of the society (pre-industrial, industrial, and post-industrial)? What are maps of estates? From what point of view can we use them?

2. Sources of historical geography

Historical geography uses a diverse aggregation of sources. They include historical resources and resources of other related disciplines (particularly from technical and other natural sciences) (Semotanová 2006). Many papers have been written on historical geographic sources, their classification and methods of application (e.g. Hroch 1985; Butlin 1993; Morrissey, Nally, Strohmayer, Whelan 2014). Sources of information on the past can be classified according to various criteria (e.g., their form or content). Most frequently, however, the sources are simply classified according to their external features – tangible, written and illustrative, i.e., iconographic, from which the group of cartographic materials is separated (Fig. 1).

The tangible sources are most frequently utilized by archaeologists, architects, urbanists and geographers. They include all tangible artefacts (mostly archaeological findings) and traces of the past, primarily the surviving relics in the landscape. Such artefacts and traces can be applied to the study of the change in reliefs (remains of extinct sites, roads or ponds) (Pavelková, Frajer, Havlíček et al. 2016), transformed composed landscapes and areas (parks, gardens, and alleys) (Šantrůčková 2012), agricultural and industrial objects and other small architectural elements (e.g., brickworks, iron mills, glassworks, mills, crosses, and chapels) (Chodějovská, Semotanová, Šimůnek 2015).

Written materials are the main source of information for historians. They include not only official sources, sources of a narrative or literary nature, legal documents, official books, statistical documents, chronicles, diaries, correspondence, belles-letters, but also topographical and natural-scientific descriptions of territories and landscapes until the year 1800. In many cases, they supplement the other types of sources; they form textual parts of cartographic materials (the first or the second military survey or the stable cadaster) and express what cannot be captured by "pictures" (Chodějovská, Semotanová, Šimůnek 2015).

The third group of sources includes pictorial, i.e., iconographic sources such as paintings, city views, postcards, photographs, aerial photography and modern media such as film and video. These sources can provide visual information on how the landscape or

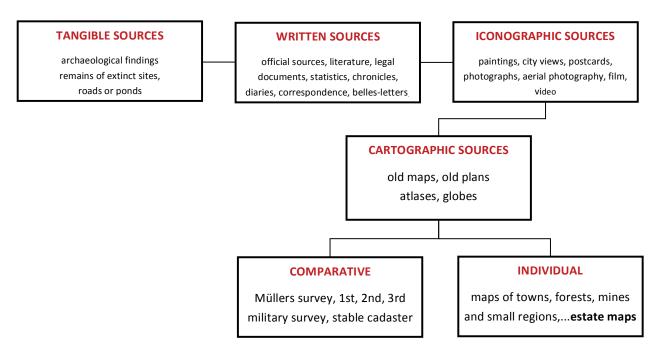


Fig. 1 Historical sources of historical geography (author's simple clasification of historical geographic sources with a focus on position of estate maps).

the particular buildings, phenomena and processes appeared in the past and how they were visually captured by their creators and actors.

Work with historical geographic sources requires an interdisciplinary approach that applies knowledge of history, geography, auxiliary sciences of history and other disciplines. The sources must be subjected to meticulous external and internal criticism and subsequent interpretation based on the source in the context of time and place. External criticism consists of describing and examining the authenticity of the source - an analysis of the date and place of origin, the authors, the material, and the techniques of production used. Internal criticism considers the content of the work in particular in relation to generally known facts (e.g., ideological and political situation, or accuracy and comparison with other parts of that time) and the person of the author (e.g., his social status, education, and nationality) (Chodějovská 2014; Semotanová 1994). Each work (either intentionally or unintentionally created) contains a large portion of subjectivity that can be detected only through a critical approach, knowledge and comparison with various sources (for criticism, see e.g. Harley 2001).

2.1 Cartographic sources, their classification and potentials for application

The iconographic sources also frequently include cartographic materials, i.e., old maps and plans (potentially also globes and atlases as collections of map compendia) classified more as fine arts between the 18th and mid-19th century (e.g. Woodward 2007), which has been one of the most applied group of sources in historical geography over the past few decades.

Old maps can be classified according to many aspects. One criterion is the scale, i.e., the size and detail of the depicted territory. According to the geographic approach (which differs from the geodetic approach), we divide the maps into maps of large scale (greater than 200 000), medium scale (1: 200 000 to 1: 1 000 000) and small scales (less than 1:1000000). From this point of view, maps and plans can also be distinguished; a large-scale map is considered a plan that captures such a small area that there is no distortion in terms of cartographic use. Additionally, the maps can be classified according to their content - what was the purpose of their creation and what information were they to convey with their content - for example, the displayed territory, the means of creation, the form of the record, the number of map sheets, the limitation of the map field, the time period, the concept of expression of reality or other criteria (Bláha 2017). The most useful classification of the cartographic materials for the study of historical landscapes in historical geography is the comparative and individual classification. In most cases, this division also coincides with the emergence and development of the map creation - from works originating as individual initiatives to works organized officially (by the state). The division also characterizes one of the essential features of Modern Age cartography - the absence of accurate geodetic materials for creation of maps until the mid-19th century - hence the emergence of highly individualized works of individual authors (an exception is, e.g., the first military survey) (Chodějovská, Semotanová, Šimůnek 2015). Comparative cartographic sources thus include maps that cover larger areas, particularly entire lands and states in the same depiction, scale and in particular

the map key, thus allowing broader research in the vertical and horizontal plane. These works include the first maps of Jan Kryštof Müller, in particular the military surveys, the stable cadaster, collections of aerial photographs, newer maps of larger territorial units (e.g., districts) and of course the most recent state map. The individual sources are represented by maps of smaller territories – for example, parts of the lands, estates, the particular enterprises, and towns – that emerged as initiatives of individuals, usually for purely practical needs (Semotanová 2006).

Cartographic sources are applied in historical geography particularly by probes into particular areas from particular periods as the old maps were gradually found, publicized and interpreted. Interest in studying old maps started to grow in the early 18th century due to librarians and archivists who found them in collections and due to the interest of collectors who were concerned with the actual map content, its description and clarification for the study of geomorphology, archaeology, landscapes or towns (Roubík 1961).

The use of (primarily) cartographic sources, or old maps and plans, can be divided into two main directions. The first is concerned with the study and reconstruction of the cultural landscape, specifically its individual parts concerning the typology and area, for example, composed landscape complexes (Šantrůčková 2014), the individual landscape features (Havlíček 2013) or stages of development of the countryside as a whole, e.g., industrial or post-industrial (urban and rural) (Kolejka, Klimanek, Hrádek, Kirchner 2017). This direction therefore encompasses a broad period from the Middle Ages to the present, but it often reconstructs the period only through individual probes without a major effort to evaluate the long-term development. The second direction is concerned with the study of long-lasting transformations of the landscape, research of historical land use and land cover and interpretation of the motion forces that brought about these changes (e.g. Hrnčiarová, Mackovčin, Zvara et al. 2009; Bičík et al. 2015; Lipský 2000) (Chodějovská, Semotanová, Šimůnek 2015).

Interest in processing and utilizing cartographic materials as the main source of information for the reconstruction and interpretation of the historical landscape within the mentioned directions remains, however, limited to lands mapped by accurate geodetic surveys - the military surveys (except the first military survey, which was made without an accurate geodetic base but is more studied), the stable cadaster and the later period from the 19th century onwards (Kain, Baigent 1992; Hrnčiarová, Mackovčin, Zvara et al. 2009). These maps of so-called comparative character are not only topographically accurate but also very user-available and comprehensible. Due to their properties, they allow deeper comparative research concerning interpretation of long-term development trends. They include maps and plans that are made available via website map portals. These maps and plans are also useful for the application of geographic information systems and other tools of modern cartography and geoinformatics (for example, processing of 3D terrain models). The stable cadaster, a unique work created in a detailed scale for the entire territory of Cisleithania, is particularly useful for research on long-lasting changes in land use and land cover. Information from both of its record types (maps and written sources) creates the oldest layer of data in a database created for the territory of the Czech Lands. Its scope allows comparing the processes of land use on the Central European scale (Gabrovec, Petek 2002; Krausmann 2001; the LUCC Czechia database; see e.g. Bičík et al. 2012; Bičík et al. 2015). The stable cadaster served as a base for the creation of the second and third military surveys, which are commonly used for the reconstruction of landscapes at the time of transformation from the pre-industrial to industrial ages (Demek et al. 2007; Vichrová, Čada 2005; Havlíček 2013). The subsequent cadastral and topographic nationwide maps represent the core of modern geographical research. From the wide range of research, we must mention the application of comparative cartographic works in landscape ecology (Trpáková 2013), works dedicated to researching natural hazards (Raška Emmer 2014), tourism (Fialová, Steyerová, Semotanová 2015), and urban processes (Ouředníček et al. 2008-2014) or the mentioned research on land use and land cover (LUCC in Selected Regions in the World 2001–2015).

However, available cartographic materials, which can be used in research on historical landscapes, also come from an older period. Works that more-or-less depict conditions of landscapes and their individual features emerged around the 16th century. They can thus document the character of the pre-industrial landscape, i.e., the landscape until the mid-19th century, which had not yet been hit by the wave of industrialization. Knowledge of the conditions of the Modern-Age landscape is fragmentary and often varied. The literature on the history of this period provides more-or-less general characteristics of the individual smaller territories (Löw, Míchal 2003; Semotanová 2006), but landscape probes documenting various types of landscapes are sporadic. The landscape was more described (using predominantly written materials) than reconstructed. Research on significantly fragmented sources of varied character (pictorial, i.e., cartographic) is relatively difficult. It demands meticulous archive research, a critical approach and knowledge of many disciplines including linguistics and palaeography (Semotanová 2010; Chodějovská 2012; Chodějovská, Semotanová, Šimůnek 2015). Old maps of the early Modern Age (from the 16th until the 18th century) thus serve as one of the essential materials, which, together with other iconographic materials, allow the complex study of still insufficient research on the pre-industrial landscape. These

materials can simultaneously deepen our knowledge of the condition and reconstruction of past landscapes and of the evaluation of long-lasting transformations of the landscape (research into long-lasting land use and land cover) or support debates on the relationships, protection and approaches to the landscape and landscape heritage until the present and into the future (Marcucci 2000; Antrop 2005; Kučera, Kučerová, Chromý 2008). To date, attention has been given only to comparative works that include maps created by Jan Kryštof Müller (a map of Moravia and Bohemia), Jan Wolfgang Wieland (a map of Silesia) (Kuchař 1959; Novák 1951) and, most importantly, the first military survey, which is the oldest map processed by the application of geographic information systems (Brůna, Uhlířová 2001; Mikšovský, Zimová 2006; Cajthaml 2012). These maps have already been subjected to analyses of their content, which provides a rich source of information on the landscape primarily due to their military purpose (Brůna, Buchta, Uhlířová 2002). The other publications addressed the rich map symbols used in this work and, more recently, with the accompanying written records, have even been editorially processed (Chodějovská 2012; Kudrnovská 1985; Kuchař 1967; Šimůnek, Antoš, Havrlant 2014; Tůmová 2015).

The period of the early Modern Age is particularly rich in the so-called individual maps. Historical descriptive essays and cartographic works focussed on cartometric analyses of selected old maps utilize individual maps from the early Modern Age (Chrást 2015; Drápela 2003; Semotanová 2001). The oldest maps of Bohemia, Moravia and Silesia created by Klaudyán, Fabricius, Arentin, Vogt, Comenius or other persons do not provide detailed or topographically accurate information on the landscape (Mucha 1992; Kuchař 1959). This role, however, can be supplemented by regional works, primarily the maps of estates.

3. Maps of estates as an undervalued historical geographic source

Maps of estates are individual maps of smaller territorial units. They originated not only in the Czech Lands but also worldwide in relatively large numbers (Bendall 1992). They were created beginning in the 16th century, primarily for economic reasons. With growing demands for higher financial gains from the land (increase in taxes) and hence transformations of the economy of estates, the registration of land ownership became crucial. As a means of depicting the situation and relatively high level of survey activities (although the available knowledge was far from completely utilized in the creation of the maps of estates), maps were thus the main tool to achieve new demands (Honl 1940). They initially emerged in the form of simple drafts and plans that have frequently not survived. They captured disputes over borders of plots and estates, parcelling of the noble estates, discussions concerning the direction of roads and collection of duties and charges from the plots or other properties, which were then resolved by the provincial court (Roubík 1961). From the 18th century, these works are preserved as large maps of entire large and important estates. Given their magnitude, the 18th century is often referred to as the century of "general maps of the landlords".

The arrival of the maps was accompanied by several persons who then affected their further development. The nobility (usually the church or aristocracy) played the role of customers and ordering parties. They thus determined their content – the area of the mapped territory, the elements to be emphasized in the map drawing (the types of enterprises) and also the embellishment and additional features in the corners of the maps. The map authors then created the work according to the specification. They were official state or manorial surveyors or other employees of the estates. The official state surveyors were trained predecessors of today's surveyors who worked for the State Registration Office. They were hired by the nobles and paid for the surveying of their estates, particularly on large estates. The manorial surveyors worked directly on the estate as did the regular staff, but the surveyors' occupation was only surveying. However, the maps were frequently composed by other employees, particularly foresters, as special assignments. They had the benefit of personal knowledge of the territory when drawing the map.

Similarly to other types of maps, the maps of estates can be divided into several types from various perspectives – particularly the form of creation, the age, the size of the mapped territory and the function and content that they primarily depicted.

In most cases, the maps of estates are manuscripts, with the exception of large and rich estates on which they were frequently printed (using lithography), particularly at the beginning of the 19th century as a result of the rapid development of mapping. Manuscript maps also include painted, or pictorial, maps, but the classification has only been artificially created for a group of works typologically bordering on a landscape painting and a map. In the past, the difference, which we observe in these works today, was not perceived (Simunek 2012). We can find extant maps of estates on various scales, capturing variously sized areas. They were usually made on relatively large scales. In the 18th century, overview maps of the entire estates (they provided an overall record of the business on the estates), but also maps of individual parts of the estate, the farmsteads and the accompanying grounds, farms or forest districts, became increasingly popular. With respect to processing, we can encounter maps with primarily documentary function or conversely representative function with application of further iconographic features (parergons and illustrations). Concerning the content, we encounter

maps of waterworks, forest and mining maps, road maps or maps of towns and individual residence.

3.1 Study of maps of estates in Czechia and abroad

Maps of estates and similar smaller territorial units were produced by various companies throughout the world. The extant maps are deposited in many memory institutions – map collections, archives, libraries and museums. They primarily belong to resources of the state archives, particularly at the regional level. The condition of preservation of these maps is very difficult to grasp. It is clear that a large number of them are hidden in the previously mentioned institutions; in the literature, we can trace references to maps of smaller territorial units in Britain, Germany, Italy and various parts of North America, up to Jamaica (Buisseret 1996). Maps of estates in the Czech Lands are mostly preserved in state regional archives in which resources of this type belong according to the law and the archive hierarchy. They are assigned to archive collections of the manor farms, family archives of the aristocratic families, central administrations or head offices of their estates, both for individual maps and larger map sets. However, there are no clearly arranged inventories in the Czech or foreign milieus (only basic overview lexicons can be used e.g., the World Directory of Map Collections; Roubík 1955; Semotanová, Šimůnek 2000); in most cases, they lack archival processing, so they are difficult to reach. The situation has recently been improved by digitalization of cartographic materials and creations of website portals, which open the maps to the public on the Internet (e.g., the Chartae-antiquae website portal). The only information on the condition of preserved maps from the individual territories then comes from the particular papers on the particular themes (see an example in Table 1).

Tab. 1 Representation of the maps of estates in state regional archives of Bohemia.

The State Regional Archive of Bohemia	The number of archive resources with a larger amount of extant maps of estates	The number of estates (archive funds) with extant overview maps of estates from the years 1750–1850
Prague	37	26 (18)
Litoměřice	25	9 (9)
Pilsen	27	11 (8)
Třeboň	28	23 (23)
Zámrsk	30	14 (12)

Note: Given the absence of processing of several archive collections, it can be assumed that research into the particular cartographic sources can never be considered entirely complete.

Foreign research focusses on the early Modern Age cartographic materials of an individual nature from various partial perspectives, which are summarized in the third volume of the History of Cartography dedicated to maps from the Renaissance period. With its

content, the History reliably reflects the trend of the Modern Age cartographic production and the contemporary potentialities and methods of their research (Woodward 2007). The individual maps from the mediaeval period are preceded by maps of estates particularly from the Austrian territory (Stercken 2006). The most intensively examined maps from the period of the early Modern Age are maps of British estates or counties (many papers are dedicated to the maps of Christopher Saxton; Bower 2011) and smaller territorial units in Germany and Italy (Bendall 1992; Buisseret 1996; Ravenhill, Rowe 2000; Harvey 2010). However, these territorial units primarily focus on the popularizing of individual maps and their basic descriptions. Additional frequent subjects of the essays are questions concerning the emergence of the maps and their potential comparison with state cartographic production – particularly in the period from the mid-19th century, when maps were built on more-accurate geodetic foundations (Wolfart 2008; Česnulevičius 2013). The creation of maps of estates and other smaller territorial units tends to be connected with actual land ownership. The importance of maps for registration of the property is the theme of essays by David Fletcher and Laura Federzoni (Fletscher 1998; Federzoni 2013); however, the meaning of the landscape and its development remains overshadowed in these works. The potential comparison of this type of map with other materials has been noted by Steve Boyle, who compared a map of a Scottish estate from 1769 with local archaeological research data (Boyle 2009). These individual maps, however, are important not only for this knowledge. According to Thomas Horst, they are in fact the only works preceding modern mapping of the 19th century, which can be used for research on the pre-industrial landscape as a whole (Horst 2014: 375). However, they remain undervalued from this perspective and, as is clear from the mentioned examples, they are only occasionally used.

The interest in maps of estates in the Czech territory arrived in the 1950s when some of the agricultural and forestry archive collections were publicized. The first works presented only basic general descriptions of the maps, with information on their visual features and on how they might have been initiated (Roubík 1961; Honl 1960; Kalný 1990; Semotanová 2001). Over the past few years, papers on these maps have concentrated on large areas, which were mapped by significant surveyors – e.g., Šimon Podolský z Podolí, Ondřej Bernhard Klauser, Johann Glocksperger, and Ignác Hötzel (Černý 1955; Tlapák 1957; Brejnik 1997; Uhlířová 2006; Marečková 2010). These maps are sporadic, but due to the important positions of their creators, we can obtain more information on the emergence of these maps. Other partial essays address basic characteristics and archival descriptions of these documents (not only overview maps but also maps of individual aristocratic estates and

farms) or their analyses concerning iconography and artistic processing (Chodějovská 2009; Šimůnek 2012; Severa 2015; Valenta 2016). This direction is also reflected in individual student works and other works that have until now concentrated only on the particular examples of maps of estates and their description (Čermáková 2011; Ourodová-Hronková 2011). The so-called polyfunctionality of this type of map – i.e., the emphasis on the multi-purpose role of a map (in addition to the documentary role, particularly the representative role through iconographic materials – e.g., the early Modern Age maps were frequently accompanied by views of important towns) is one of the main directions of research on individual cartographic works (Šimůnek 2012).

Maps of estates are maps of large scales. Given the level of cartographic processing, they are preserved as relatively detailed but at the same time schematic illustrations of smaller territorial units with economic and administrative data. Their aim was to register the aristocrats' property and represent it. They also inform about the thinking and progress of the given society through artistic and technical elaborations. They have rich potential for historical geographic research. Information that they contain can be divided into two levels – the content of the map drawing and the marginal notes.

The content of the map drawings reflects the condition and visual features of the cultural landscape. With the help of these drawings, it is possible to reconstruct the landscape at the time when the map was produced. By comparing them with maps from different periods, we can monitor developments and evaluate the various types of transformations and their dynamism. Maps of estates can capture different types of landscapes - their chronological aspects (pre-industrial and industrial landscapes) or concerning their character (rural, urban). Similarly to the maps created from the mid-19th century onwards, the content of these maps is very suitable for reconstruction of the land use and land cover. They allow monitoring the depiction and development of the landscape structure of the estates – the individual partial landscape features, road networks, watercourses, business objects or other small architectural features. Their added value is the use of regional toponyms - the frequently extinct names of the given regions.

Marginal notes and structural elements – map decorations, other supplementary data (tables, legends, graphic illustrations of the scales and map roses) can greatly enrich the content of the map. They reflect the given time and its society – the authors, customers or users of the maps. They allow us to gain information on the given estate concerning its functioning, its main dominants, important sites, the economy and important activities that provided the local population with sustenance. The map decorations also represented the estate and in particular its owners. Thus, they do not always reflect the reality.

3.2 Utilization of maps of estates on the example of model territories of Jilemnice and Nové Hrady

As mentioned above, estate maps of various types are preserved in relatively large numbers in archives and other memory institutions (not only in Czechia). Therefore, working with these sources cannot be accomplished without an initial, thorough archival search - finding, gathering and selecting the map of the estate according to the types and the predetermined objectives of the research. Within the framework of the dissertation research, 261 archive collections deposited in the state regional archives in Bohemia were processed. These collections were selected based on a search of available tools - the archive fund database of the Archival Administration of the Ministry of the Interior, the internal databases of individual state regional archives made available to researchers, the Guide to Archival Funds available for all state regional archives from the 1950s to the 1970s, and the previous Roubík map listing. Based on the study of the individual inventories of these archive funds, a typological definition (only overview maps of estates), the time perspective (the century from 1750 to 1850 because of the greatest preservation of the estate maps), and a database of the main archive collections containing maps of the estate from the territory of Bohemia (the number of important collections that include maps of estates is given in Table 1).

The uniqueness of the maps of estates, their differences and similarities can be documented by mutual comparison of maps of this type from various territories. Reflecting the author's main research interest, it is possible to present two important works from the area of eastern Bohemia. Significant and very similar but to some extent also very different maps can be found on the estates of Jilemnice and Nové Hrady. Both of these territories were mapped on the initiatives of the aristocrats in the second half of the 18th century, when manorial land surveying become important in Bohemia. Both estates were at that time in the hands of important and wealthy families (the Harrach and Harbuval Chamaré families), and the role of the maps was not only documentary but also largely representative. The main difference is the position of both territories on different latitudes – in the hilly regions around Jilemnice and the lowland of Nové Hrady (Fig. 2).

The Jilemnice estate spreads across the Giant Mountains and their foothills, historically situated in the Bydžov region. First mentioned in the 14th century, the estate had mediaeval roots. Throughout various modifications – associated with Branná yard – it remained within its borders until the land reform in the mid-19th century. The estate was attractive because it was owned by important noble families, primarily the Harrach from the end of the 17th century; the data on it survived many modifications and various types of archival materials (Severa, Kamenická 2016). The main reason for the interest was its

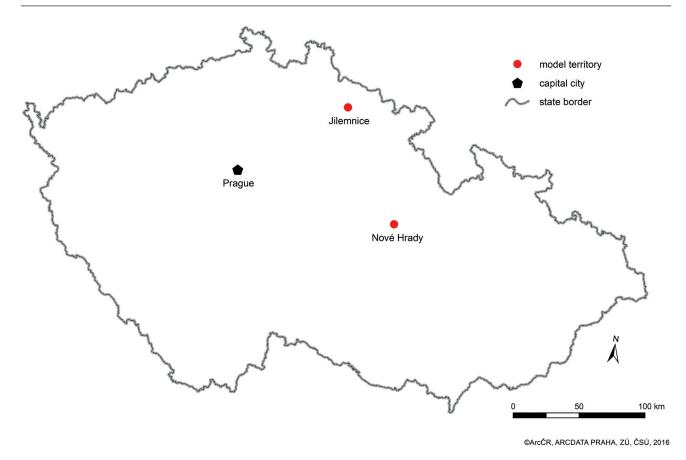


Fig. 2 Location of the Jilemnice and Nové Hrady estates on the territory of the Czechia. Author: Iveta Lžíčařová.

large businesses - the glassworks and textile production, which spread particularly in the hilly regions. The Giant Mountains was the highest mountain range in Bohemia, and the borderland was also a mysterious region that attracted many authors, including cartographers and surveyors. From the several extant cartographic works, we must focus on the map of the Jilemnice estate, the Branná entailed estate and the Žďár farmstead from 1765. This map is an overview of the entire estate, with dimensions of 199.5 \times 355 cm, that was created by the Jilemnice estate administrator Jan Antonín Graupar. The map is a magnificent work not only for its size but also particularly for the artistic design and the information content. It provides a detailed overview of the estate landscape, its structure and the individual landscape features. The decoration provides information on the everyday life of the population, particularly their livelihoods.

Similarly to the Jilemnice estate, the Nové Hrady estate has a long history. It was located in the historical Chrudim region and developed from a village called Boží Dům and the accompanying Nový Hrad Gothic castle. Before the extinction of the patrimonial administration system, it incorporated a small town (Proseč) and 22 villages. The estate, located in a typically lowland area, prospered particularly due to the linen production, which spread across the estate in the mid-18th century under its owner, the Harbuval Chamaré family. At least two cartographic works have

survived from the activity of these aristocrats – a map of the Potštejn estate from 1772 (which was already studied in the 1950s) and a map of the Nové Hrady estate from 1775, which remains a valuable but inadequately recognized gem of early Modern Age cartography. The latter depicts the individual locations, types of land cover and parcels and provides a detailed list of the toponyms (Severa, Kamenická 2016).

By comparing these two important maps, we can obtain an overview of not only the landscapes but also the societies of both eastern Bohemian estates in the second half of the 18th century. We can also gain an awareness of what information we can find on maps of smaller territorial units of this type and how they can be exploited. We can compare these two maps on both mentioned aspects – the content of the map drawings and the marginal notes – and focus in detail on the individual features. Table 2 presents a simple analysis of map legends, basis identification and statistical information on maps and their content (chosen by the random selection method).

From the perspective of the first content level (see above), we can focus on reconstruction of the manor landscape. Both maps capture the manors in an oblique view. They capture the individual houses in the built-up areas and the accompanying plots. The buildings are not depicted accurately; on both maps, we can observe considerable plainness in the drawings of the houses, usually simple symbols of the

Tab. 2 East Bohemian maps of estates – two model probes.

Information on the map	Map of the Jilemnice estate	Map of the Nové Hrady estate
Name of the map	Mappa der Hoch Reichs gräfflich harrachichen Herrschaft Starkenbach und Majorat Branna dann Gueth Zdiar	Mappa der in Königreich Böheim Chrudimer Creißes situirten in Anno 1775 geometrice ausgemessen Herrschaft Neuschloß,
Author	Jan Antonín Graupar	Franz Xaver Thiel
Year of issue	1765	1775
Scale	approx. 1:12 000	approx. 1:5313
Size of the map	199.5 × 355 cm	220 × 135 cm
Estate owners – the aristocrats	Harrach	Harbuval and Chamaré
The number of towns and villages on the estate	34	39
Depiction of the manors	oblique view	oblique view
Legend	villages, farmsteads, glassworks, ironworks and iron mills, textile manufactures, breweries, other manorial buildings, ponds, springs, manor forests, manor meadows, other map symbols of the individual features	types of plots, boundary points (trees, stones), other map symbols of the various features
Types of grounds	church, aristocratic, serf, municipal, defunct courts	dominican, rustic, farmsteads, forest districts, church
Map embellishment	city views, parerga (business facilities, surveying equipment, Sněžka, hunting, family coat of arms), decorative borders	parergon (the family coat of arms)
Point of interest	chalet economy	toponyms, plot numbering

building with a reddish-brown roof. However, important buildings - churches, palaces, town halls or important business objects (farmsteads with the typical square layout) – are distinguished in both maps. By comparison with newer maps, we can observe the layout and territorial development of the given manor. The comparison is facilitated by the areas of public spaces - the village and town squares, which practically did not change layouts in the history of the manor. The specific feature of the Nové Hrady estate is the accurate segmentation of individual plots not only in the immediate vicinity of the manors (Fig. 3) but across the entire estate. All plots are numbered, which might suggest the existence of a written addendum to the map that has not survived. The map of the Jilemnice estate contains many decorations including several vedute - town views that provide closer details of the dominants of individual manors. Concerning the depiction of the manor structure, it is necessary to mention the Giant Mountains chalet economy, whose reconstruction is facilitated by the map of the estate. In a simple drawing, it depicts all chalets that existed at the time of the map's conception. It also refers to them in the legend, in which they are described in more detail (Severa, Kamenická 2016; Valenta 2016; maps of the Jilemnice and Nové Hrady estates).

Meticulous depiction of forest, field and grassy areas in the maps of estates can be used in research on land use and land cover. Both maps capture various types of land cover: fields, meadows, forests and, in the case of the Jilemnice estate, the clearings and forest stands in the hilly region of the Giant Mountains. These areas represent symbols of stylized trees,

slightly varying according to the type and density of the vegetation (Fig. 4).

However, the legends of the maps of estates offer not only these map symbols. Due to the practical but also representative use of the map, they include many other data. The map of the Jilemnice estate contains a legend divided into four cartouches, three of which contain only the explanations of the numerical and literal references given on the map itself (settlement, farmsteads, ponds, springs, huts, glassworks, breweries, textile manufactory and others). The branding key then adds the last part of the legend, which, in addition to the coloured markings of the boundaries of the estate of individual plots within the estate, includes a large number of individual buildings - primarily farm buildings (e.g., mills, saws, oil plants, bleachers, and barns). The map of the Nové Hrady estate is not so detailed in this respect; we find a sign for mills, roads, bridges and ponds. In contrast to the Jilemnice map, however, it distinguishes a large number of boundary stones and trees (mapped primarily on the western border with the Litomyšl estate and the eastern border of the Rychmburk estate).

The Jilemnice estate map was clearly used not only from the point of view of the map symbols and the extent of the map legends but also for the very careful recording of all of the economic objects within the aristocratic manor. The map also incorporates a large number of illustrations and decorative elements (so-called parergon) that serve to represent the owners and the overall promotion of the prosperous territory of the Giant Mountains. The business activity on the estate is documented by parerga pastorage,



Fig. 3 View of the town of Proseč on the map of the Nové Hrady estate from 1775.



Fig. 4 The Giant Mountains region with a vicarage and pub in Rokytnice on the map of the Jilemnice estate from 1765.

wood flooding, textile manufactory, glassworks, mining, which are complemented by several landscape sceneries. The map of the Nové Hrady estate, except for a coat of arms, does not contain any decorative elements. By the careful view of individual plots and border points, it demonstrates its registration character and, most importantly, its practical function (Severa, Kamenická 2016; maps of the Jilemnice and Nové Hrady estates).

4. Conclusion

Historical geography uses a diverse aggregation of historical sources that can be classified as tangible. written and pictorial, i.e., iconographic. The most important resource is a group of cartographic materials – old maps and plans of a comparative or individual nature that have an indisputable importance in historical geographic research. They facilitated the reconstruction of the landscape over a certain period in the past. By mutual comparison, they facilitate evaluation of the developments and transformations in the landscape. Through their artistic elaboration, they document the level of cartographic knowledge and technological advancement, also exhibiting the relationships within the society. In addition to the known comparable cartographic works (the Müller map, the military surveys and the stable cadaster), there exist individual maps that can significantly move forward the research of historic landscapes deeper into the past. Blank spots in the research on the pre-industrial landscape (until the mid-19th century) can be filled by surveys of individual maps of smaller territorial units - particularly maps of estates, which bring detailed information on smaller regions that mostly cannot be obtained from other historical sources. Although they did not survive for all estates or territories of similar administrative character, their great documentary value is undeniable at least for their age. Based on the example of the model territories of the eastern Bohemian estates of Jilemnice and Nové Hrady, it is clear that maps of estates document the past landscapes and lives of people by virtue of their content and marginal information. Via a comparison, we can obtain valuable knowledge on the manors of the estates, the areas and types of land cover at various altitudes, and the business focusses and sources of the people's livelihood. Each of the maps also has its own specific features - the Jilemnice map illustrates the chalet economy, whereas the Nové Hrady map has very rich toponyms. The maps of estates thus represent a significant contribution to the regional geography or regional history. However, they can also serve the needs of territorial planning or reclamation and revitalization of the landscape. They should therefore not be neglected in any historical geographic research.

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State Regional Archive in Zámrsk, archival fund Nové Hrady Manor, map of the estate from 1775, non-processed resource. Scan from State Regional Archive in Zámrsk. State Regional Archive in Zámrsk, archival fund The Harrach Central Administration, map No. 2. Scan from VÚGTK, Zdiby.