

Manuscript Maps as Sources for Cultural History and the History of Climatology

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Summary: This article, which is part of my doctoral thesis, deals with selected manuscript maps (particularly forensic maps), which can serve among other things as excellent sources for cultural history because they document former vegetation like the erstwhile viticulture in the dukedom of Bavaria or the early-recent glacier advances in the Eastern Alps. Therefore, it intends to contribute to interdisciplinary science in the history of climatology.

Zusammenfassung: *Manuskriptkarten als Quellen für die Kultur- und Klimageschichte.* Dieser Artikel, der Teil meiner Doktorarbeit ist, behandelt ausgewählte Manuskriptkarten (vor allem Forensische Karten), die unter anderem ausgezeichnete Quellen für die Kulturgeschichte darstellen, weil sie ehemalige Landschaftszustände wie einstigen Weinanbau im Herzogtum Bayern oder frührezente Gletschervorstöße in den Ostalpen dokumentieren. Somit wird beabsichtigt, einen Beitrag zur interdisziplinären Klimageschichte zu leisten.

1 Introduction

In the history of cartography we can see a domination of studies of printed maps, whereas manuscript maps, which are nowadays mostly stored in archives, are usually not taken into consideration. This is amazing because old maps (like city maps, cf. HORST 2006) and former pictures can serve as excellent sources for interdisciplinary studies like cultural history as well as the history of climatology.

2 Classification of Manuscript Maps

Manuscript maps can be classified in multiple ways (HORST 2009): On the one hand, they can be ordered according to their authors (if they are known), which produced the unique cartographic picture with special methods. On the other hand, these maps (HARVEY 1980 and 1987) can be divided, according to their contents, into “*legal/litigation maps*”, which were drawn for the court, and “*regional maps*”,

which were designed by special painters at the order of educated sovereigns in the time of the humanism. Besides, these “*regional maps*” often were printed as early as from the 16th century onwards and serve as self-portrayal of the independent duchies in the Holy Roman Empire as well as for the administration (BRUNNER 2006, STAMS 1990).

3 Forensic Cartography

But let us look more closely at the so-called “*forensic cartography*” (HORST 2008): These “*legal maps*” are always part of court-files and can be sketchy or colored pictorial maps mostly showing illustrations regarding a court dispute. In order to prepare the people involved, the region in question was inspected closely and mapped by sworn artists. Therefore these highly specialised maps show small areas and are very close to the reality of the past.

As products of “*forensic cartography*”, these maps initiate a major shift in the cartography of the 16th century, when these maps started to

boom. With the institution of the so-called “Reichskammergericht” [Supreme Court] in 1495 it became a tradition in the state of the early modern times, which was characterised by an increase in administrative documents, that legal proceedings were assisted by an inspection of the border (NEUMANN 2002, VOLLET 1991).

However, the beginning of these picture-maps, also called “*Augenscheinkarten*” or “*Tyberiede*” (HELLWIG 1992), was much earlier: Predecessors were found in Italy, England (HARVEY 1980 and 1993), France as well as Burgundy (DAINVILLE 1970), and the Netherlands already in the 14th and 15th centuries (GAUTIER-DALCHE 1996). Therefore, it is worthwhile analyzing, with the required historical meticulousness, these important documents, which show the first steps towards our contemporary cartography. Of great importance to this is the interdisciplinary collaboration between cartographers and historians, who can read the corresponding files (especially in the case of paleographic questions).

4 Manuscript Maps as Sources for the Cultural History

As an example, we can survey the realistic manuscript map of a legal inspection in the farmland between Oberbergen and Schwabhausen (near Landsberg am Lech) in the former dukedom of Bavaria (HORST 2008; cf.

Fig. 1). This south oriented gouache painting, dated December 5th 1562, shows three situations in winter scenery: On the right side we can see a corn dealer with his two sons and two traps. The group walks through the snow to the left side of the map, where the observer can see the father bidding farewell to his sons who continue without him to the farmer’s market in Landsberg am Lech (cf. the legend: “*hinther diesem perg ligt Landsperg*” [behind this hill is Landsberg]). It is unknown why the father, who can be seen in a third scene, goes another way back. Probably he wanted to take a faster shortcut. In any case, we can see him again with his footsteps in the snow. But his tracks end at a new well (legend: “*Prunnen*” [well]), which was burrowed by the farming community of Oberbergen. The poor man has fallen into this well, which he certainly was not able to see because of the snow, and is now dead.

On other “legal maps” of the time, we can see more details such as the whole committee of a legal inspection in a village with realistic-looking houses (cf. the manuscript map of Prühl near Würzburg in Franconia of 1581, cf. LEIDEL & FRANZ 2006) as well as an agrarian festival, a church procession, farmers working in the field or in the woods, juridical elements like gallows and even a witch dance (cf. the details of the parade map of Graisbach near Donauwörth of 1570; HORST 2009). Other maps also illustrate exactly the architecture of former days with red tiled roofs and thatched



Fig. 1: Delineation of an accident near Landsberg am Lech in several scenes, 1562 (Bavarian Central State Archive, Munich, Pls. 20607).



Fig. 2: Manuscript Map of Neumarkt in Upper Palatinate, around 1510 (State Archive, Amberg).

roofs. This can be seen in the manuscript map of Neumarkt in Upper Palatinate, which shows the city around 1510 after the Bavarian war of succession with its damaged city walls as well with new buildings (cf. Fig. 2 with the uncovered house in the left side and a tower crane). These genuine maps can serve as snapshots of the past before the time of photography, because they show many details of the history of arts, justice, economy and anthropology.

5 Documentation of the Former Cultivated Landscape: Viticulture

Furthermore, these maps document the cultivated landscape of the past and demonstrate erstwhile viticulture in Bavaria, which is proven also through written archival files (HÄUSSLER 2008). Not until a number of years ago it was realised that manuscript maps also show cartographic vine-symbols as well as explanatory legends (BRUNNER 2007).

As an example may serve a manuscript map of the valley of the Fils River (Baden-Württemberg) of 1534/1535, where we see a big vineyard in the middle of the map in a region, where winegrowing existed until the beginning of the 17th century. Moreover, this map was carved into two parts, so that one part of it nowadays is in the Main State Archive of Stuttgart, whereas the other lies in the city archive of Ulm.

Another map is the drawing by the Bavarian Philipp Apian (1531–1589), who also produced views of castles besides his official function as cartographer of the dukedom (DIEPOLDER 1989). Here we can see among other things the castle of Gumpenberg (near Neuburg an der Donau) around the middle of the 16th century and precisely named vineyards. From 1554 to 1563 this universal genius, who also was a mathematician, an astronomer and a medical scientist, mapped the dukedom of Bavaria at the order of its duke Albrecht V. (1528–1579). The result of this first topographic survey of the dukedom was a master drawing of 40 square meters with a measuring unit of about 1 : 45 000 (WOLFF 1988). From this original drawing, which is now lost, the cartographer duplicated the so-called “*Bairischen Landtafeln*” in 24 sheets with a major measuring unit of about 1 : 140 000, which was repro-



Fig. 3: “*Bairische Landtafeln*”, woodcarving from 1568 by Philipp Apian. Detail of plate 9: vineyards near Neuburg an der Donau.

duced as woodcarving for the first time in 1568 (GASSER 1904, WOLFF et al. 1989). This eminent opus explicitly documents viticulture on seven sheets at the Danube river in Neuburg an der Donau (“*Bairischen Landtaflen*”, plate 9, cf. Fig. 3), Kelheim (plate 10), Regensburg (plate 6), Pfaffenmünster and at the Bogenberg hill (plate 11), as well as viticulture near Pöttmes (plate 13), at the Isar river southerly of Landshut (plate 14) and last but not least also southerly of Rott am Inn (plate 18). This is very important because here we can retrace the winegrowing in the former dukedom of Bavaria, where the steel slope viticulture boomed throughout the Danube River until the Thirty Years’ War. The background of its decline in Bavaria is closely connected to different factors. Among these especially the climatic change during the Little Ice Age has to be emphasised (BRUNNER 2007).

6 Manuscript Maps as Sources for the History of Climatology

Apart from drawing a cartographic picture of former viticulture, manuscript maps also allow us to trace the catastrophic advancement

of glacier ice in the central and eastern Alps (KINZL 1958, WINKLER 2002). Thus, in addition to written documents, biological data and physical data, these maps serve as “*anthropogenic proxydata*” for the history of climatology, which until today has been noticed only marginally by this interdisciplinary science (BEHRINGER et al. 2005, BEHRINGER 2008, GLASER 2008 and PFISTER 1999).

The climatic change can be followed on pictures and maps from the “*Little Ice Age*” (from 1600 onwards) throughout the time of the European Enlightenment. As an example serve winter landscape-pictures like the water colours by Court Palatine Friedrich Casimir of Ortenburg (1591–1658), which were painted around 1625. It shows everyday life in Lower Bavaria throughout the seasons (ALTSCHÄFL 2000, BLEIBRUNNER 1982).

On the other hand, we can follow the advancement of glacier ice in the manuscript maps of the “*Zillertal*” valley by Hilarius Duvivier († 1643), a Parisian painter in the dukedom of Tyrol, which are preserved in the Austrian National Library, in the Bavarian Central State Archive and in the Tyrolean State Archive. His oil-paintings on canvas from around 1630 entitled „*Aigentliche Grundlegung der*



Fig. 4: Manuscript Map of the Zillertal from around 1630 (Austrian National Library, Vienna, Map Library, K III 98.594).



Figs. 5 and 6: Early-recent glacier advances of the “Vernagtferner” in Manuscript Maps from 1601 and 1681 (Tyrolean State Museum Ferdinandeum, Innsbruck, Fb 3631).

Fürstl. Salzburgischen Herrschaft Kropfberg im Zillertal nach Compaß vnd Stunde“ show the domain of the archbishopric of Salzburg with the Inn River on its right side (cf. Fig. 4). Behind that scene, the snow-covered crests of the alpine main ridge are illustrated in a naturalistic way as painted icebergs (KINZL 1955).

Another example is the representation of early-recent glacier advances in the eastern Alps like the Oetz valley, especially of the glacier “Vernagtferner”, which is depicted in three manuscript maps throughout the 17th century (GROVE 1988, NICOLUSSI 1990; cf. Figs. 5 and 6). At this point, regional maps of the dukedom of Tyrol (BRUNNER 2005) as well as new-found manuscript-maps can give more details (BRUNNER & HORST 2007).

Finally, the discovery of photography (FABER 2008) led to the first terrestrial surveys with an early photogrammetric technique, the plane-table photogrammetry (intersection photogrammetry), when Sebastian Finster-

walder (1862–1951) made his first glacier photographs of the “Vernagtferner” in 1886 (BRUNNER 2000 and 2004; cf. Fig. 7).



Fig. 7: Glacier photography in the region of the “Vernagtferner” by Sebastian Finsterwalder in 1886.

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