BENEDETTA MARIANI

*A Cosmogram of Its Time - A Conceptual Analysis of the Catalan Atlas**

Abstract

This article aims to evaluate the role of maps in the Middle Ages and to assess whether they should be understood uniquely as antique geographical tools or, rather, as important historic records of a certain-time culture. Thus, the concept of *cosmogram* is applied to a specific case-study, the medieval portolan chart known as Catalan Atlas. The paper challenges what makes a map a complete and tangible representation of the understanding of the world at a specific moment, as opposed to a "simple" instrument to navigate the physical environment. In addition, the whole concept of medieval maps being just orientational aids will be put under pressure, comparing the Catalan Atlas with another medieval map, the Peutinger Tabula. Ultimately, it demonstrates that any map, even a contemporary one, always presents a degree of interpretation in the way it may mirror the historic context in which it was produced.

Contemporary cartography values maps and cartograms as unbiased geographical tools in aid of people's orientation in the world's physical space[1]. Yet, applying this very same principle to early modern and medieval maps would be highly anachronistic. Early modern and medieval maps can be read on multiple tiers as they often do not have the sole purpose of charting territories. While there are specimens in which a representation of the physical world is at the core of medieval cartographical diagrams, this is not always the case[2]. In the ancient world, as well as the medieval period, geographical "unbiased" knowledge was often spread through written compendia[3]. On the other hand, cartograms of any sort would have had a much richer and complex agenda[4]. In actual fact, the artistic rendering of early cartograms aimed to highlight a specific political or social message, through the presence or absence of certain physical elements[5]. Thus,

* This article was first developed by the author as an unpublished MA coursework with the title *To What Extent Can the Catalan Atlas Be Considered a Cosmogram of Its Time?* at the Warburg Institute, London, UK.

[1] For further information on maps and their role in society see ANDREWS in HARLEY (2001, 1-32); KURGAN (2013, 9-18).

[2] For further information on the role of maps in the Middle Ages see HARLEY (2001, 34-49); HARLEY (1988, 57-76).

[3] For further information on the relationship between maps and written sources in the Middle Ages see BAGROW (1964, 39-50); DILKE (1985, 21-38); EDSON (1997, 18-35); HARLEY (2001, 54-81).

[4] *Ibidem*.

[5] For further information on the representation of politics in medieval cartography see BAGROW (1964, 39-50); DILKE (1985, 21-38); EDSON (1997, 18-35); HARLEY (2001, 54-81); HARLEY (1988, 57-76).

one can affirm that these geographical diagrams would not only aim to guide people in the physical space, but in time too. Hence, it is when considering maps as geographical and chronological visual aids that the term *cosmogram* comes to play. A *cosmogram* can be defined as the representation, the summary, of the universe's understanding at a specific time, and it can be presented in any given form (TRESCH 2005, 57-76). As such, any early map could potentially be a *cosmogram*. But, then, how could one distinguish when that is the case? Or rather, when can one state with a sufficient degree of certainty that the early cartogram at hand is not only a geographical tool, but rather a more complex instrument of universal understanding?

The aim of this article is exactly to address these questions, through the analysis of a case-study: the so-called Catalan Atlas, supposedly compiled by a Majorcan-Jew cartographer, Abraham Cresques, in the late fourteenth century. By inspecting its context as well as its physical characteristics, I will examine the extent to which it can be considered a *cosmogram* of its time. First, I will briefly introduce the history of cartography in Europe, with a specific focus on the medieval tradition. Second, I will present the historic context in which the Catalan Atlas was produced, with an in-depth analysis on the circumstances under which this manuscript has been commissioned. Finally, I will conduct a comprehensive visual analysis of the Catalan Atlas. In this instance, I will also relate physical elements present in the Catalan Atlas with those present in the Peutinger Tabula. This process will eventually result in a comparative analysis of the two objects. Given the diversity of the two objects, their comparative analysis will enlighten the difference between a *cosmogram* and a medieval map with a potentially hidden political agenda. Ultimately, I will pinpoint which specific features enable the Spanish manuscript to be a wider understanding of the universe, rather than "just" a medieval map.

«A map is not the territory it represents. They are documents of power, prestige, ownership» (KORZYBSKI 1993, 58). This is the definition that Alfred Korzybski, American founding father of semiotics, gives for maps. Maps are the result of a varied and continuous decision-making process, dictated by the historic and social context in which they are made[6]. As a consequence, in order to fully understand and appreciate a map, one should ideally know the basis determining the inclusion or exclusion of the elements in the said map as well as the decision-

[6] For more information on how historic and social context may influence the map-making process see ECO (1994, 95-106); TUFTE (2001, 53-78).

process which led to the creation of the map itself; yet, this is not always possible. The active visual recording of maps allows them to be interpreted in the same manner as any other item of the visual culture (TUFTE 2001, 53-78). While, at first, maps may seem easily accessible and readable, they are never fully translatable. Maps are often difficult to decode as their language, which is extremely symbolic and codified, is embedded within the society who has produced them (HARLEY 1989, 1-20). Arguably, maps already seem not to be only orientation tools, but rather more complex systems for understanding the world. Thus, it should not be particularly striking that the history of cartography is much more convoluted than only having to do with «[…]graphics and data recorded in graphical forms» (TUFTE 2001, 53-78).

As a scientific discipline, cartography is rather new, as it started to be developed only in the 1980s (HARLEY 1989, 1-20). Overall, it concerns with any graph representing physical, political or social elements of the Earth, a specific nation or city. Nevertheless, when looking at the history of cartography, cartograms are not the only elements to take into account as written geographical, cosmological or even theological treatises may still retain cartographic knowledge[7]. For example, when facing an early (pre-medieval) map, there will always be a degree of doubt regarding its categorisation, given that in this kind of representations the line between map and landscape image is extremely blurred (DELANO SMITH 1982, 9-25). Yet, there are certain fixed patterns across ages and/or cultures which seem to stick and facilitate such a distinction.

In pre-historical times, specifically in the Middle-East, cartographic diagrams often had a spherical/circular form. In most depiction, the population of the given area positioned itself at the centre of the world, surrounded by an endless Ocean, which encircles and encloses the inhabited land. These elements appear to have later fed into both the early Arabic and European mapping tradition. Nevertheless, both Ancient Greek and Roman mapping traditions, founding-bases for the early-medieval European maps, are completely different from their neighbouring cultures (DILKE 1985).

Practically no Ancient Greek cartographic diagram survived and there is no physical evidence that they ever existed. Yet, we know that this society played a significant role in the development of geographical knowledge, given that many geographical treatises have survived.

[7] For more information on how cartographic knowledge may have been presented in the Middle Ages see BAGROW (1964, 39-50); DILKE (1985, 21-38); EDSON (1997, 18-35); HARLEY (2001, 54-81).

Theoreticians and philosophers have written extensively on the matters of geography, cosmology and cartography, actively creating the foundations for the subsequent mapping traditions. In such treatises, these topics were often debated in a combined manner, analysing how one interacted with the other. Hence, it seems only consistent that cartographic diagrams often ended up being *cosmograms* too. This duality can be explained by taking into account how different societies decided to represent themselves within the world they lived in; by the time they were taking into account their position in the world and in the attempt to represent it, they ultimately ended up willing to represent more than just their geographical position. Such practice resonates both with Roman and medieval mapping traditions, in which maps were conceived as tools to control a territory, as well as means to assert political power or spread astrological and religious theories (TALBERT 2010).

The Roman mapping tradition differs entirely from the neighbouring Ancient Greece. Maps were ways to record the acquired territory and to monitor it. They were produced under the form of *itineraria* (road-maps), and they had a very practical and political function in signalling the roads which unified the Empire, as well as emphasising the centrality of Rome. Arguably, this genre of maps does not fully correspond to the definition of *cosmograms*, even though they still retain much more information on the Roman society than simply showcasing their ability in tracing geographical charts. Such a feature of conveying layered information remains in the medieval mapping tradition too.

It is hard to trace a univocal European mapping tradition. In the early medieval period, right after the fall of the Western Roman Empire, only 500 geographical surveys had been produced, probably due to the progressive difficulty in travelling (EDSON 2007, 11-32). The widespread political instability as well as the reduced amount of travels, lead to the development of different local mapping traditions. For example, in mainland Europe, we see in the seventh century the emergence of the so-called T-O map (the world is represented in a circular form, O, and the different continents are divided in three parts, T), as accounted in Isidore of Seville's *Ethymology*. This kind of map, though apparently simple, is important as it will become one model for the later representation of Paradise and the location of Biblical places (SCAFI 2006, 160-190). On the other hand, places like Sicily or Spain, at the time real melting-pots of different

cultures, were greatly influenced by the Arabic and Jewish cultures, even in their mapping tradition (PINTO 2016, 23-58). Such a phenomenon can be explained by the significant presence of members of both the Arabic and Jewish societies in these territories. For their extensive knowledge of different languages as well as of Classical texts, many Arabs and Jews in these territories were often appointed as official mapmakers or translators. Hence, maps produced in these areas tend to represent a larger portion of the inhabited land, with a rather detailed representation of Africa and the Middle East as well as showcasing more precisely the Mediterranean coastlines. Thus, in maps original of these areas, one can more frequently recognise attempts to portray far away lands and populations. Nonetheless, these maps too remain faithful to certain canons of the general European mapping and visual tradition in representing the "Other".

The "Other" can be identified in all those populations and cultures that in the medieval period were either despised for their religious beliefs or unknown, if not on the basis of Classical and travels' accounts[8]. These foreign and distant populations were often represented as uncivilised and monstrous. They were not so often included in maps, but often featured in manuscripts' marginalia and their representation was based mostly on fantastical literary accounts[9]. Their features were often associated with the creatures from the Mouth of Hell who were dark-skinned and deformed due to the lack of the Light of Christ and God. Hence, arguably, this iconography was at the core of the symbolism used for those "Other" populations in maps too. The presence of these "monstrous" races in medieval Christian European maps provides us with a level of cosmological understanding. They account for the way in which Christendom perceived the unconverted cultures: just as if they came straight out of the Mouth of Hell. The Catalan Atlas makes no difference in these respects.

The Catalan Atlas is a late fourteenth-century manuscript, produced in Majorca, seemly by the converted Jewish cartographer Abraham Cresques, who at the time was working as official cartographer and amanuensis for the Spanish royal family of Aragon (THISSEN-LORENZ 2014, 103-120). The Atlas is written in Catalan, thus the name Catalan Atlas. There is still an open debate on whether the illuminator and the scribe can be identified in the same person of

[8] For more information on medieval mapping of the "Other" see CLASSEN (2013, 229-248); STRICKLAND (2003, 157-209).

[9] For more information on how the representation of distant populations was developed in the Middle Ages see CLASSEN (2013, 229-248); STRICKLAND (2003, 157-209).

Abraham Cresques. For the sake of the paper at hand, such identification does not impact in any major way the findings, yet it may shift slightly the perception of certain visual elements of the Atlas. Hence, the articles' focus will be more on linking the visual elements with the known historic context and less so with the individual who supposedly created the map. The Catalan Atlas was created as a gift to the King of France, Charles VI (1368-1422), by the infant King Jean d'Aragon in ca. 1381. The gift was made to seal the alliance between the two kingdoms, in a time when the young King of Spain was attempting to assert and reinforce his new role of power (THISSEN-LORENZ 2014, 103-120). In actual fact, he had been enthroned only months prior to this royal gift and he was continuously being challenged by the Spanish aristocracy (ibid.). Nowadays, the Catalan Atlas is part of the foreign collection of manuscripts held at the Bibliothèque Nationale de France in Paris[10]. The manuscript is 65 cm long and 50 cm wide and it is composed by six double pages of veal parchment, stuck together onto five wooden boards[11]. Overall, the twelve pages are rather well preserved, except for signs of water on the margins; they all present some form of illustration, too (Fig. 1). All the illustrations are made with pen-nib and vivid inks such as green, blue, gold and red (Fig. 1). The first few folios are dedicated to astrological charts, while the rest is entirely devoted to the charting of the known navigable world of the time. It is within this rather small manuscript and, specifically, in its visual palimpsest that one can recognise a cosmological image. Further, as it holds both astrological knowledge and cartographical charting, the Catalan Atlas seems to attempt an entire representation of the universe.

In the first two folios, 1v to 2r, the main recognisable illuminations are cosmographic and, in this section, the Atlas is characterised by the continuous alternation between cosmographic, astrologic, charts and explanatory text (Fig. 2). The reason for the inclusion of this kind of material must be sought in the history of the manuscript itself as well as the astrological writings of the medieval tradition. Astrological and cosmological images were often included in geographical, medical and philosophical manuscripts, as well as in royal manuscripts and gifts, both as a sign of respect and as means to calculate the fortune of the sovereign (GARIN 1983). In

[10] The exact signature of the manuscript is Catalan Altas, Paris, Bibliothèque Nationale, Ms. Espagnol 30.

[11] For more information on the materiality of the manuscript see the catalogue entry in the library online database [http://gallica.bnf.fr/ark:/12148/btv1b55002481n].

the Catalan Atlas, the first two cosmological images on the back of the front cover are the most essential for design (Fig. 3). They represent the spheres of the zodiac and the calendar months, both depicted as series of concentrical circles, enclosed in a square frame in a predominantly red and violet palmette-pattern. Below these two decorations, in the bottom right corner, one can recognise the depiction of the so-called Zodiac Man (Fig. 4). Often found in many medieval, specifically medical and astrological, manuscripts, the Zodiac Man represents the correspondence between each bodily part and its zodiac constellation[12]. The image is often associated with the prediction of the best time to act upon an illness, depending on the age or the bodily part involved in the action and it was usually consulted together with the other two astrological charts included in this folio[13]. In folios 1v and 2r, another astrological chart spreads across the two pages. This chart seems to be the summary of the two previous ones, as it includes both the spheres of the Zodiac and the circles of the calendar months (Fig. 5). It is comparatively far more complex in its illumination style and the explanatory text is aligned to the figurative discourse. Here, once more, the signs of the Zodiac are paired with their corresponding human activities and classes. The main colours are blue and red, but there is also an intense use of burnished-gold gilding. Furthermore, these same colours are picked up by the frame of the chart, where a lilied pattern can be recognised too (Fig. 5). This pattern may evoke the symbol associated with the royal French family and it confirms the manuscript as a gift to the royal King of France (THISSEN-LORENZ 2014, 103-120). At the four corners of the frame, there are four seated figures each holding a vane with an inscription. The continuous alternation between text and images in this manuscript, may suggest the intent of summarising in a direct and accessible manner all the universal knowledge of the time. In addition, it is specifically the presence of images, that renders the Catalan Atlas a perfect *cosmogram*. The Atlas not only represents a complex and layered degree of knowledge of the world, but also the wide accessibility of that knowledge through a universal language, the visual one. Even from folio 2v, where the actual world map begins, one can still notice the ever present explanatory text mixed up with figurative images.

[12] For further information on the Zodiac Man and its significance in the Middle Ages see GARIN (1983); HARTNELL (2018, 159-162); PAGE (2017, 91-117).

[13] *Ibidem*.

The world map of the Catalan Atlas can be defined as a portolan chart, as it represents both the main navigational trade routes and the winds[14]. Yet, it has a much richer figurative composition. The map represents the known world from West (Spain) to East (China) and from North (England) to South (Northern Africa). In folios 2v and 3r, the Western Mediterranean and the Atlantic coastlines are represented (Fig. 6). Here, there are the Canaries, the mythical island of Thule, the British Islands and Inland, Corse and Sardinia, Scandinavia as well as the Bohemian mountains. In folio 2v, there is also the winds' rose, featuring the main winds (*Tramontana, Grego, Levante, Laxaoch, Merzodi, Labetzo, Ponente, Magistro*), and indicating the North (Fig. 7). This is one of the most characteristic and innovative inclusions of the Catalan Atlas, given that other examples of wind's rose in previous portolan charts are hard to find (Campbell 1987, 371-464). Folios 3v to 4r, depict the Middle East, with Palestine and the Black Sea, all the Eastern Mediterranean, and the Red Sea (Fig. 8). Here, the Italian and Northern African coastlines are both represented. Between folios 4v and 5r, the first section of the Asian continent, from the Caspian Sea to India, is depicted (Fig. 9). Here, even the Persian Gulf and Mecca are identified. In folios 5v and 6r, there is Eastern Asia, where the most illustrations relating to Biblical and literary accounts are gathered (Fig. 10). One can recognise a representation of the Last Judgement as well as the Princes Gog and Magog and Alexander the Great protecting the Caspian Mountains. There is also an attempt to represent China, with Catayo as well as the Island of Trapobane, Illa Jane and India. The inclusion of so many mythical figures and lands in this part of the world, may be explained by the lack of first-hand explorational knowledge of the area at the time (CLASSEN 2013, 229-248). Yet, their inclusion seems to suggest an interest and willingness to achieve a "complete" world map, with all the means and knowledge available at the time, including literary, religious and historic accounts. These illustrations, ultimately, fit in a context where maps were unifying both cartographic and geographical knowledge with more broad cultural notions. In the Catalan Atlas' case, the map was based on other available portolan charts and *mappae mundi* of the time, as well as on texts such as the Bible, Marco Polo's travel accounts, Pliny the Elder's Natural History, Caius Julius Solinus' Collectanea Rerum Memorabilium, Honorious Augustodunensis' Imago MundI, Isidore of Seville's Etymologiae and Pseudo-

[14] For further information on portolan charts and their use in relation to the Catalan Atlas see CAMPBELL (1987, 371-464); THISSEN-LORENZ (2014, 103-120).

Callisthenes' Romance of Alexander[15]. Such a practice of founding medieval maps on previous knowledge acquired through other maps and/or texts, was a rather common one[16]. Yet, very few medieval contemporary examples seem to display such a complete view as the Catalan Atlas does.

An example of a map produced at about the same time of the Catalan Atlas and yet with a very different intent and layout, is the Peutinger Tabula (Fig. 11). The Peutinger Tabula, as much as the Catalan Atlas, is not just a "map", a simple tool to navigate the physical space of the world. As Emily Albu suggests in her study, this map was also a mean of political propaganda (ALBU 2014).

The Peutinger Tabula was produced in the late thirteenth century in Southern Germany, possibly in Swabia. The world is stretched out from West to East, while compressed between North and South (Fig. 11). It clearly represents physical elements of the territories represented such as lakes, mountains and forests. Cities are depicted depending on their sizes and relevance within the Empire. In fact, this map was produced under the reign, and possibly patronage, of the Emperor Fredrick II in order to represent the extensiveness of the "new" great Empire. The presence of a seated Emperor can be found in the representations of both Rome and Constantinople (Fig. 12). As Albu argues, these figures resemble earlier portraits of Fredrick II. If this is the case, one could further stretch Albu's argument by understanding the Peutinger Tabula as a metaphor for Fredrick II as the new rightful heir of the declined Roman Empire in the medieval Christian world. That said, it seems as if the Peutinger Tabula was mostly based on Classical literary and somehow geographical knowledge, with only little input from contemporary medieval culture. The Peutinger Tabula was supposedly based on a Roman lost roadmap prototype, where the whole Empire and the streets connecting it, were charted. This feature may arguably be the main difference with the Catalan Atlas. Such a difference with the Catalan Atlas may not only showcase the goal of both maps to portray more than just the geographical layout of the known territories of the time, but also the different aims of the two. On the one hand, the Peutinger Tabula tries to encapsulate Classical knowledge to fit a political agenda; while on the other hand, the Catalan Atlas manages to perpetuate its political and social aims through the inclusion

[15] For further information on the history of medieval portolan charts and their relationship with earlier cartograms and written accounts see CLASSEN (2013, 229-248); MASSING (1991, 27-34).

[16] *Ibidem*.

of a varied and layered medieval knowledge. By doing so, the Catalan Atlas actively summarises all the knowledge of the universe acquired up to that point, while the Peutinger Tabula may be identified as a clear example of a typical medieval map with a specific political purpose.

In conclusion, this article through the case-study of the Catalan Atlas has examined which features turn a "simple" medieval map into a *cosmogram*. Overall, all medieval maps have layered agendas and meanings, rather than just representing the physical territory of a portion of land[17]. Yet, not all have the characteristics of a *cosmogram*. They all summarise more knowledge than only geographical notions through their visual elements, but few manage to combine all the theological, mythical and philosophical culture of the time in a clear and accessible visual manner. Some of these elements may still resonate in contemporary digital maps and, possibly for this reason, it would be all the more interesting to investigate how they manage to portrait an understanding of the universe we now live in. Overall, no map will ever be completely objective as human knowledge, whether geographical or philosophical, will always depend on a variable: humankind.

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[17] For further information on medieval maps agendas see HARLEY (1988a; 1988b).

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Fig.12 Details' collage of the Peutinger Tabula, late 12th century/early 13th century, 6.7 m, National Austrian Library, Vienna © Österreichische Nationalbibliothek.

Appendix

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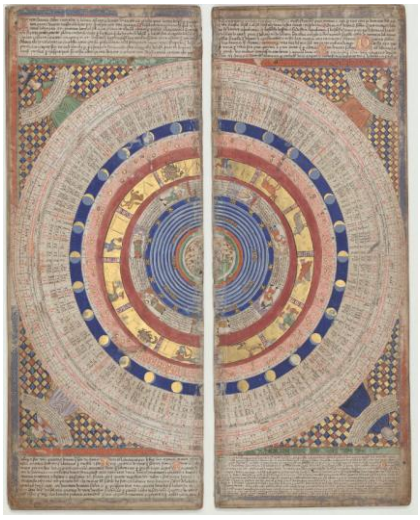

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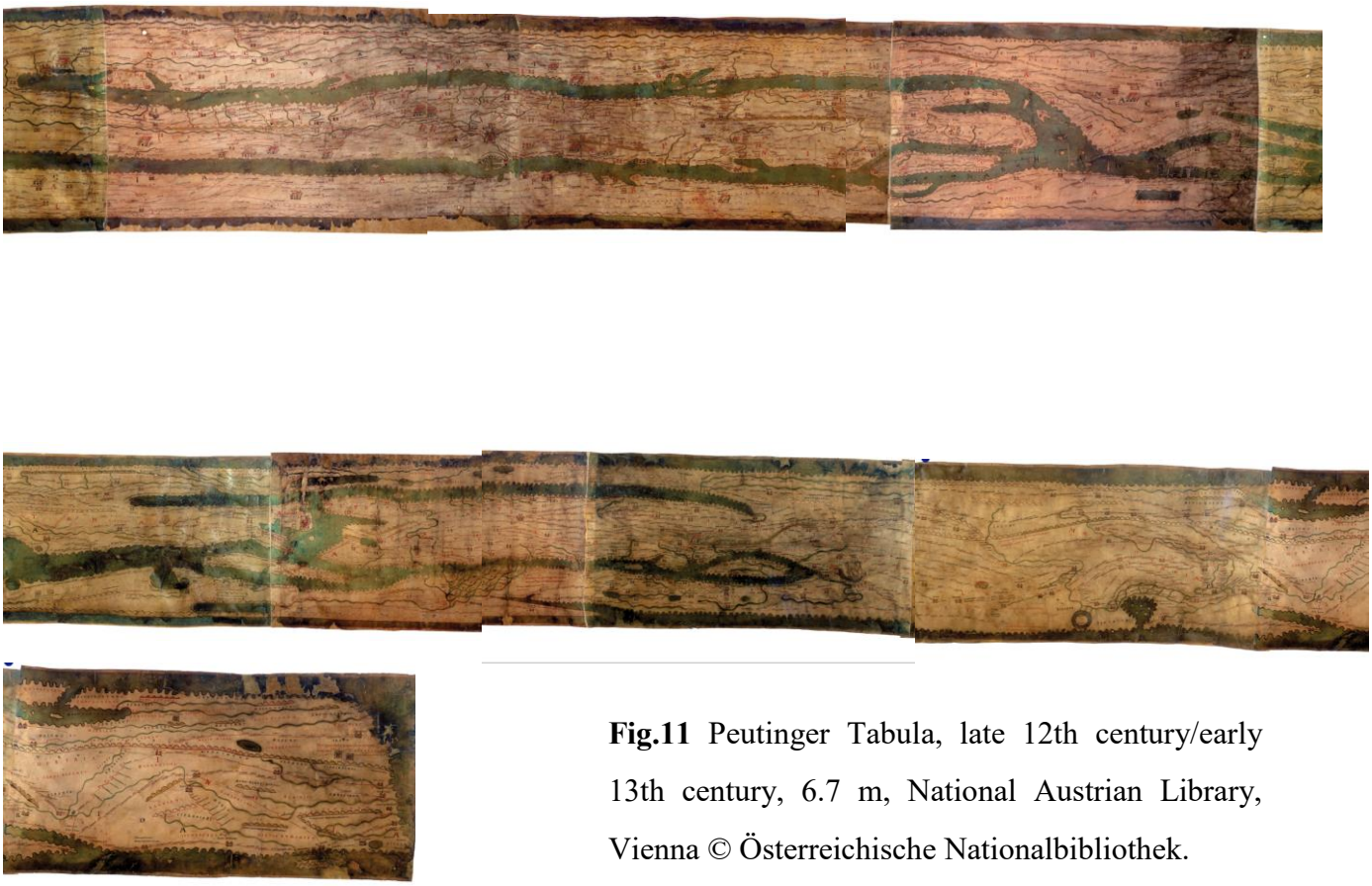

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