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Ingrid Baumgärtner

MAPPING NARRATIONS – NARRATING MAPS

CONCEPTS OF THE WORLD IN THE MIDDLE AGES
AND THE EARLY MODERN PERIOD

*Edited by Daniel Gnechow, Anna Hollenbach,
and Phillip Landgrebe*



RESEARCH IN MEDIEVAL AND
EARLY MODERN CULTURE

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Preface

Concerned to reconstruct past ideas, historians must approach the generation that held them as the anthropologist approaches an alien culture. They must, that is, be prepared at the start to find that natives speak a different language and map experience into different categories from those they themselves bring from home. And they must take as their object the discovery of those categories and the assimilation of the corresponding language.¹

Although Thomas S. Kuhn here refers to historians in general, his comments capture the present volume's subject especially well. Understanding medieval cartography, the imagination and ideas of the "natives" manifested within it, and the strategies and categories by which they endowed their world with meaning – these are all key objectives of Ingrid Baumgärtner's research.

In Prof. Dr. Baumgärtner's broad and multifaceted oeuvre, the history of cartography occupies a prominent position. But beyond cartographic topics and the history of social spaces, her research also encompasses legal, educational, gender, and regional history. Her dissertation, on the fifteenth-century Italian legal scholar Martinus Garatus Laudensis and his work, marked the beginning of a long-standing preoccupation with legal history.² The focus on Italy likewise remained dominant through her habilitation thesis (1992), which focused on the Roman commune in the twelfth and thirteenth centuries, with special consideration of the monastery of Santa Maria in Via Lata and its charters.³ Prof. Dr. Baumgärtner's strong connection with Italy is likewise reflected in her activity as Research Associate at the Villa I Tatti, Harvard University's Center for Italian Renaissance Studies in Florence.

In addition to that prestigious posting, Prof. Dr. Baumgärtner has held a series of visiting scholarships: Professor at the University of Pittsburgh (1989), Member of the Institute for Advanced Study at Princeton University (1992/93), and Scholar in Stanford University's Department of History (1994). These well-deserved early awards have led to close and ongoing links with North American researchers.

During the time Prof. Dr. Baumgärtner was editing a series of volumes on legal history – concerning, among other topics, *consilia*, civil law, and jurisdiction – she

1 Thomas S. Kuhn, "Revisiting Planck," *Historical Studies in the Physical Sciences* 14, no. 2 (1984): 246.

2 *Martinus Garatus Laudensis. Ein italienischer Rechtsgelehrter des 15. Jahrhunderts* (Dissertationen zur Rechtsgeschichte 2), (Cologne: Böhlau, 1986).

3 "Rom. Studien zu Stadt und Kommune vom Beginn des 12. bis zur Mitte des 13. Jahrhunderts, mit Regesten zu Urkunden des Fonds S. Maria in Via Lata" (Habilitation thesis, University of Augsburg, 1992). The *regesta* appendix was published as a two-part paper in *Quellen und Forschungen aus italienischen Archiven und Bibliotheken* 74 (1994): 42–171 and 75 (1995): 32–177.

began to publish intensively on gender and regional history, focusing especially on Northern Hesse, where she was appointed Professor of Medieval History at the University of Kassel in 1994. In addition to publishing, editing, and teaching, Prof. Dr. Baumgärtner has been involved in numerous academic projects, only a few of which can be highlighted here. Of particular note is her work for the Mediävistenverband (Medievalists' Society), where she served as treasurer from 2003 to 2017. She is currently co-editor of the *Beihefte*, the supplement to the Society's journal, *Das Mittelalter*.

Since her first work on the history of cartography appeared in 1995,⁴ Ingrid Baumgärtner has made countless contributions to the field. The present volume brings together ten of her most significant essays, extending from the Middle Ages to the early modern period. All of the articles but one⁵ were originally published in German. References to the original publications can be found following the preface. With the exception of one essay that has been significantly expanded,⁶ no changes or updates have been made. The essays have been organized into three thematic clusters:

Part I, entitled “Visualizing the Known and the Unknown: Representations and Ideas of the World,” deals with different methodological approaches to analyzing cartographic works. The four corresponding essays examine diverse strategies used to represent known and unknown regions, peoples and their characteristics. In doing so, they shed light on different ways of imparting and illustrating knowledge.

Beginning with a general overview, “The World in Maps: Changes and Continuity in the Middle Ages” addresses the evolution of medieval cartography. It focuses on three different types of maps that represent the world in its entirety: schematic maps, world maps, and nautical charts. From at least the thirteenth century on, these genres existed side by side and were employed for and adapted to a wide range of contexts, such as the representation of fundamental

4 “Weltbild und Empirie. Die Erweiterung des kartographischen Weltbilds durch die Asienreisen des späten Mittelalters,” in *Geschichte und historisches Lernen. Jochen Huhn zum 65. Geburtstag*, ed. Gerhard Henke-Bockschatz (Kassel: Jenior und Pressler, 1995), 11–48.

5 “Winds and Continents: Concepts for Structuring the World and Its Parts,” in *Maps and Travel in the Middle Ages and the Early Modern Period. Knowledge, Imagination, and Visual Culture*, ed. Ingrid Baumgärtner, Nirit Ben-Aryeh Debby and Katrin Kogman-Appel (Berlin: De Gruyter, 2019), 91–135.

6 “Die Portolan-Atlanten des Battista Agnese,” in *Kartographie der Frühen Neuzeit. Weltbilder und Wirkungen. Ergebnisse des in Kooperation mit der Kartenabteilung der Staatsbibliothek zu Berlin durchgeführten internationalen Symposiums am Weserrenaissance-Museum Schloss Brake (4.–6. April 2014)*, ed. Michael Bischoff, Vera Lüpkes and Wolfgang Crom (Marburg: Jonas Verlag, 2015), 19–36.

principles, encyclopedic knowledge, or nautical surveys. By relating spatial order and historical content, medieval maps produced meaning and asserted the significance of the knowledge they displayed. They, therefore, provide an invaluable source for the literal, religious, and philosophical worldviews that they present.

The second article of this group, titled “Winds and Continents: Concepts for Structuring the World and Its Parts,” shows how and why winds and the earth’s parts – only later described as continents – developed a central importance for medieval perceptions of the world’s structure. It addresses the development of concepts of a world divided into three or four and the emergence of eight- and twelve-point wind systems as structural elements of texts and images. Based on several examples from medieval cartography and travel literature, the article explores the ways in which these cultural concepts developed into well-known cartographic and textual motifs.

“Amazons in Medieval World Maps” demonstrates how European cartographers established and disseminated images of the Amazons in their maps. Cartographers illustrated the Amazons and their customs through text and images, uniting the perception of female forms of life with the geographical, cultural, and physical experience of the foreign. The Amazons symbolized a clashing of worlds. They were a fascinating ideal and a terrifying curiosity at the same time. Admirable qualities such as courage, independence, wisdom, and beauty stood in contrast with a lack of civilization, animal instinct, and barbaric customs. Since they were situated beyond the bounds of civilization, the Amazons enabled cartographers to look at women outside of traditional conventions without endangering European gender norms.

Concluding the first section, “From the Journey to the Map and Back: Creative Processes and Cultural Practices” outlines the creative potential of mapping for the realization of travel through a set of associated cultural techniques, such as copying, imitating, quoting, de- and recontextualizing. Based on examples in which travel knowledge was combined with cartographic techniques, the article shows how processes of recontextualizing, copying, and citing enabled travelers to reaffirm the traditional worldviews they held. Ingrid Baumgärtner illustrates the way that mapmakers made use of their experiences through transformative imitation and imaginative understanding. She goes on to discuss the demands cartography had to meet in order to enforce political claims to power, and how it could be recontextualized within new fields of knowledge that emerged with the capture of new worlds around 1500. In this way, the essay looks forward to the subsequent thematic sections.

Part II, “Symbolic, Narrative, and Spiritual Functions of Cartography: Europe and the Holy Land,” contains three articles that analyze the manifold and

dynamic functions of cartographic works. As texts and images enabled the viewer to decode symbolic meanings and mentally reproduce travels based on narratives, this section explores how medieval contemporaries conceived of Europe and the Holy Land, and how these ideas changed through processes of reception.

First, the essay “Graphic Form and Significance: Europe in the World Maps of Beatus of Liébana and Ranulf Higden” analyzes world maps as ways of politically, religiously, and socially constructing knowledge. It examines how images of Europe could change from one copy to another and what criteria determined a particular cartographic representation of the continent. Using images that have been reproduced several times, we can see how the shape and layout of maps varied, despite being integrated into the same text, and how the representation changed in order to highlight new information and pursue new goals.

Next, “Mapping Narratives: Jerusalem in Medieval Mapped Spaces” outlines how medieval world maps establish a spatial narrative or narrative space using the principle of similarity. With their textual and visual representations of Jerusalem, maps created narrative and memory spaces for their viewers. To approach these ideas, Ingrid Baumgärtner illustrates the basic principles of medieval world maps, especially the relevance of geometric signs within narrative spatialization. She thereby shows how cartographers constructed Jerusalem as a comprehensive narrative space and classified it within cartographic traditions and systems of reference using different paradigms of perception and representation.

The last paper in this section, “Travel Accounts, Maps, and Diagrams: Burchard of Mount Zion and the Holy Land,” interrogates the relationship between the description and mapping of spaces. Based on the work of Burchard of Mount Zion, Ingrid Baumgärtner argues that travel accounts have a special ability to generate a mental outline of a spatial layout. By analyzing their divergent roles, she shows how travel accounts are closely interconnected with contemporary political cultures and knowledge of the spaces involved. This applies particularly to the Holy Land, since its cultural, religious, and geopolitical representations in texts and images also served as expressions of power.

The articles of Part III, “Between the Old and the New World: Maps as Means of Power,” revolve around practices of exploration, navigation, and geodesy. Stretching from Europe to the Americas, they are linked by the power represented in maps and the political implications of cartography.

The first of these essays, “New Maps for New Worlds? Cartographic Practices of Exploration,” investigates how experiences, ideas, and thought patterns derived from antiquity drove the exploration of new seas and countries between roughly 1450 and 1550. The analysis concentrates on the discourses, techniques, and practices by which the dynamics of early modern expansion were

translated into cartographic images. This is done by exploring the reception of ancient knowledge in the fifteenth century, the relevance of empirical practices and ancient models to the exploration of the world around 1500, and its reevaluation through atlases and cosmographic works up to the mid-sixteenth century.

“Battista Agnese’s Portolan Atlases” presents the cartographic works of Battista Agnese. Born in Genoa, Agnese produced a series of Portolan atlases in Venice between 1514/1535 and 1564. More than eighty manuscripts from his workshop survive, including both individual maps and atlases, only a small number of which are signed. According to the ownership inscriptions that many of his maps display, his atelier, which dominated the market at the time, also produced luxury copies for the libraries of princes and well-known personalities. Ingrid Baumgärtner contextualizes Agnese’s extensive production in the context of late medieval Venetian cartography. She then investigates a little-known atlas in Kassel, dated 1542, and uses this material to consider the broader meaning of such atlases for contemporaries.

With “Cartography as Politics: The Topographic Land Survey in Hesse around 1600,” Ingrid Baumgärtner turns back to the Old World to address a regional mapping project. At the end of the sixteenth and early seventeenth century, Wilhelm Dilich created his *Hessische Chronica* (Hessian chronicle) and the *Landtafeln hessischer Ämter* (Land tables of Hessian administrative districts) as part of a policy of consolidation by the Landgraviate of Hesse-Kassel. Striving for regional supremacy, Landgrave William IV and his successor, Maurice, acquired a number of castles and regions, and arranged for their border territories to be mapped. This land survey aimed to subject the periphery to the administration of the landgraviate and to survey the local infrastructure for future economic and military purposes. Dilich made use of historiography, geodesy, and mapping on behalf of the landgrave to assert his sovereign’s rightful possessions and to allow the landgrave to legitimize his ambitions and political actions.

We would like to thank the publishers De Gruyter and Medieval Institute Publications for including the present volume in their program. Special thanks go to Robert Forke and Christine Henschel, who have accompanied the development of this volume and competently helped us with all of our questions. Furthermore, we are grateful to Dr. Nicola Barfoot for translating the essays. We also would like to express our appreciation to Dan Terkla for his helpful advice during peer review process. Cornelia Dreer, Michael Schonhardt, and Eric Wolever have supported us and given many useful suggestions, which were of great help in completing the publication. Last but not least, we are indebted to Manon Koch, Christian Howorka, and Leo Felder for their assistance in the formal revision of the contributions.

All of her students, and many others who cannot be listed here, have contributed to our being able to present this book to Prof. Dr. Baumgärtner on the

occasion of her sixty-fifth birthday. In doing so, we would like to express our gratitude and profound attachment to Ingrid Baumgärtner for her invaluable advice, the constant encouragement and the tireless support she offers us. On behalf of all her students, we wish her the very best, good health, continued enthusiasm and joy in exploring the Middle Ages.

Kassel, May 2022

Daniel Gneckow,
Anna Hollenbach,
Phillip Landgrebe

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Part I

1. “Die Welt in Karten. Umbrüche und Kontinuitäten im Mittelalter.” In *Mediävistik und Schule im Dialog*, edited by Uta Goerlitz and Meike Hensel-Grobe (Das Mittelalter. Perspektiven mediävistischer Forschung 22, 1), 55–74. Berlin: De Gruyter, 2017.
2. “Winds and Continents: Concepts for Structuring the World and Its Parts.” In *Maps and Travel in the Middle Ages and the Early Modern Period: Knowledge, Imagination, and Visual Culture*, edited by Ingrid Baumgärtner, Nirit Ben-Aryeh Debby and Katrin Kogman-Appel (Das Mittelalter. Beihefte 9), 91–135. Berlin: De Gruyter, 2019.
3. “Amazonen in mittelalterlichen Weltkarten.” In *Amazonen. Geheimnisvolle Kriegerinnen. Begleitbuch zur Ausstellung im Historischen Museum der Pfalz Speyer, 194–203*. Munich: Edition Minerva, 2010.
4. “Von der Reise zur Karte und zurück. Kreative Prozesse und kulturelle Praktiken.” In *Schaffen und Nachahmen. Kreative Prozesse im Mittelalter*, edited by Volker Leppin with the support of Samuel J. Raiser (Das Mittelalter. Beihefte 16), 563–96. Berlin: De Gruyter, 2021.

Part II

5. “Graphische Gestalt und Signifikanz. Europa in den Weltkarten des Beatus von Liébana und des Ranulf Higden.” In *Europa im Weltbild des Mittelalters. Kartographische Konzepte*, edited by Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10), 81–132. Berlin: Akademie Verlag, 2008.
6. “Erzählungen kartieren. Jerusalem in mittelalterlichen Kartenräumen.” In *Jerusalem as Narrative Space. Erzählraum Jerusalem*, edited by Annette Hoffmann and Gerhard Wolf (Visualising the Middle Ages 6), 231–61. Leiden: Brill, 2012.
7. “Reiseberichte, Karten und Diagramme. Burchard von Monte Sion und das Heilige Land.” In *Geschichtsvorstellungen. Bilder, Texte und Begriffe aus dem Mittelalter. Festschrift für Hans Werner Goetz zum 65. Geburtstag*, edited by Steffen Patzold, Anja Rathmann-Lutz and Volker Scior, 460–507. Cologne: Böhlau, 2012.

Part III

8. “Neue Karten für die Neue Welt? Kartographische Praktiken der Exploration.” In *Maritime Entdeckung und Expansion. Kontinuitäten, Parallelen und Brüche von der Antike bis in die Neuzeit*, edited by Raimund Schulz (Historische Zeitschrift. Beihefte N.F. 77), 243–68. Berlin: De Gruyter, 2019.
9. “Die Portolan-Atlanten des Battista Agnese.” In *Kartographie der Frühen Neuzeit. Weltbilder und Wirkungen. Ergebnisse des in Kooperation mit der Kartenabteilung der Staatsbibliothek zu Berlin durchgeführten internationalen Symposiums am Weserrenaissance-Museum Schloss Brake (4.–6. April 2014)*, edited by Michael Bischoff, Vera Lüpkes and Wolfgang Crom, 19–36. Marburg: Jonas Verlag, 2015.
10. “Kartographie als Politik. Die Landesaufnahme in Hessen um 1600.” In *Fürstliche Koordinaten. Landesvermessung und Herrschaftsvisualisierung um 1600*, edited by Ingrid Baumgärtner with the support of Lena Thiel (Schriften zur sächsischen Geschichte und Volkskunde 46), 189–217. Dresden: Leipziger Universitätsverlag, 2014.

**Part I: Visualizing the Known and the Unknown:
Representations and Ideas of the World**

Chapter 1

The World in Maps: Change and Continuity in the Middle Ages

“THE MAP IS MORE INTERESTING THAN THE TERRITORY.” This is the title given by Michel Houellebecq to an exhibition by his protagonist Jed Martin in the novel *La carte et le territoire* (*The Map and the Territory*).¹ The sentence refers to the contrast between a satellite photo and a digitally processed image of a Michelin street map, whose conventional symbols reproduce the space more attractively than the direct but indifferent satellite image. In the competition between the two media, the winner is the drawn network of symbols and meanings, in whose relational interaction the concrete territory comes to life with astonishing clarity. The implication is that the map’s vividness arises not only from its proximity to reality, but from the relationship between the selected contents and their interpretation by the viewer.

Maps are a substantial part of our experience of the present. In the age of online services such as Google Maps and global positioning systems, we are inclined to see them as direct reproductions of a preexisting reality. The images of medieval maps seem to diverge from this; they visualize the earth’s surface in a manner that is quite unfamiliar to us. Within a tiny space, they offer extremely diverse spatial and temporal images of the world, which operate on different levels of reflection. It is easy to see that they are producing an interpretative version of data and knowledge. Moreover, there is no doubt that the purpose of these depictions and their forms of representation are linked to social, cultural, and scholarly contexts.² The complex graphic and rhetorical images reduce religious, ethical, political, and social facts, values, and norms to the essentials through specific codes, without relinquishing more complex connotations. These insights can also be transferred to modern maps, although in less obvious ways: they are

1 Michel Houellebecq, *The Map and the Territory*, trans. Gavin Bowd (London: Heinemann, 2011), 48 (French original Paris: Flammarion, 2010).

2 Ingrid Baumgärtner, “Weltbild und Kartographie,” in *Enzyklopädie des Mittelalters*, ed. Gert Melville and Martial Staub, 2 vols. (Darmstadt: WBG, 2008), 1:390–94 and 2:443; Ingrid Baumgärtner and Stefan Schröder, “Weltbild, Kartographie und geographische Kenntnisse,” in *WBG-Weltgeschichte: Eine globale Geschichte von den Anfängen bis ins 21. Jahrhundert*, ed. Johannes Fried and Ernst-Dieter Hehl, vol. 3, *Weltdeutungen und Weltreligionen 600 bis 1500* (Darmstadt: WBG, 2010), 57–83; Ute Schneider, *Die Macht der Karten: Eine Geschichte der Kartographie vom Mittelalter bis heute*, 3rd ed. (Darmstadt: Primus Verlag, 2012); Vadim Oswalt, *Weltkarten – Weltbilder: Zehn Schlüsseldokumente der Globalgeschichte* (Stuttgart: Reclam, 2015).

densely packed (re)constructions of social orders and ideas. They not only reproduce existing spatial configurations, but also generate new, relationally defined spaces. As Tanja Michalsky aptly puts it, they “create (spatially defined) reality.”³

The aim of this article is to illustrate how geographic spaces were mapped in the Middle Ages, and what changes took place, despite all the continuities. The following reflections presuppose a plurality of medieval cartographic practices and concentrate on representations of the world in its entirety. On the basis of well-known sources, the article will discuss how and in what contexts spatial meanings were generated, and what kind of transitions took place up to the sixteenth century. After a few preliminary methodological considerations, this paper will focus mainly on three different types of map: schematic maps, world maps, and nautical charts,⁴ which will be examined in their respective contexts, be it as part of texts, as stand-alone media, or in the form of atlases.

Preliminary Methodological Considerations

The alterity of medieval maps from today’s perspective inspires curiosity, a factor that makes this type of source attractive for didactic purposes, and especially in skills-based history teaching.⁵ It allows students – with a playful,

3 Tanja Michalsky, “Karten schaffen Räume. Kartographie als Medium der Wissens- und Informationsorganisation,” in *Gerhard Mercator: Wissenschaft und Wissenstransfer*, ed. Ute Schneider and Stefan Brakensiek (Darmstadt: WBG, 2015), 38. Translation by Dr. Nicola Barfoot.

4 For classification and the associated problems see David Woodward, “Medieval Mappae-mundi,” in *The History of Cartography*, ed. John B. Harley and David Woodward, vol. 1, *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 294–99; Patrick Gautier Dalché, “De la glose à la contemplation: Place et fonction de la carte dans les manuscrits du Haut Moyen Âge,” in *Testo e Immagine nell’Alto Medioevo* (Settimane di Studio del Centro Italiano di Studi sull’Alto Medioevo 41) (Spoleto: Presso La Sede del Centro, 1994), 700–704; also in Patrick Gautier Dalché, *Géographie et culture: La représentation de l’espace du VIe au XIIIe siècle* (Variorum Collected Studies Series CS 592) (Aldershot: Routledge, 1997), no. VIII; Evelyn Edson, “Maps in Context: Isidore, Orosius, and the Medieval Image of the World,” in *Cartography in Antiquity and the Middle Ages: Fresh Perspectives, New Methods*, ed. Richard J. A. Talbert and Richard W. Unger (Technology and Change in History 10) (Leiden: Brill, 2008), 219–21; Johannes Gießauf, “Historische Wissensspeicher: Erinnete Geschichte(n),” in *Mittelalterliche Wissensspeicher: Interdisziplinäre Studien zur Verbreitung ausgewählten ‘Orientierungswissens’ im Spannungsfeld von Gelehrsamkeit und Illiteratheit*, ed. Wernfried Hofmeister (Mediävistik zwischen Forschung, Lehre und Öffentlichkeit 3) (Frankfurt am Main: Peter Lang, 2009), 61–96.

5 See e.g. Meike Hensel-Grobe, report on “Krise, Chance oder Herausforderung? Das Mittelalter in der Schule,” in *Lehre und Schule im Mittelalter: Mittelalter in Schule und Lehre*, ed. Ursula

multimedia approach – to explore different modes of thought, to reflect on their own inescapable connection to a specific place and time, and to develop a capacity for dialogue when seeking to understand contexts other than their own. The divergences from today’s cartographic standards encourage viewers to question their own cultural techniques, expectations, and habits of seeing, to think about the categories used to order and perceive the world, and to scrutinize cultural norms, interests, and dynamics. Maps thus become a multifunctional instrument,⁶ allowing the medieval world to be explored from various perspectives (interdisciplinary or intercultural, method-driven or interpretation-driven), with questions relevant to the present serving as a starting point.

Another point worth noting here is that the history of cartography has undergone substantial development in the last two decades, in both content and methodology. In many cases, however, the more recent insights and approaches within the discipline have not yet made their way into textbooks or history teaching. For example, the common cliché that historical maps present rudimentary medieval knowledge about the earth’s geography and topography, rather than following other paradigms of perception and reproduction, has long since been debunked. Another notion that has proven equally nonsensical is the still-widespread nineteenth-century fabrication that the earth’s spherical shape was unknown in the Middle Ages, and that people lived in fear of tumbling off its edge until the discovery of America by Columbus.⁷ Maps do, however, provide superb demonstrations of the way cultural techniques and practices

Kundert = *Das Mittelalter* 17, no. 1 (2012): 164–73; *Das Mittelalter zwischen Vorstellung und Wirklichkeit: Probleme, Perspektiven und Anstöße für die Unterrichtspraxis*, ed. Thomas Martin Buck and Nicola Brauch (Münster: Waxmann, 2011); *Geschichte des Mittelalters für unsere Zeit: Erträge des Kongresses des Verbandes der Geschichtslehrer Deutschlands. ‘Geschichte des Mittelalters im Geschichtsunterricht,’ Quedlinburg 20. bis 23. Oktober 1999*, ed. Rolf Ballof (Stuttgart: Franz Steiner Verlag, 2003); Meike Hensel-Grobe, “Divergierende Geschichtsbilder? Das (Spät-)Mittelalter im Dialog zwischen Universität und Geschichtsunterricht,” in *Mediävistik und Schule im Dialog*, ed. Uta Goerlitz and Meike Hensel-Grobe = *Das Mittelalter* 22, no. 1 (2017): 75–92; Mario-Marcel Wasserfuhr, “Curricularer Anspruch und unterrichtliche Wirklichkeit: Die Verortung lateinischer Texte des Mittelalters in Lehrplänen und Lehrwerken sowie Möglichkeiten im Schulunterricht,” in *Mediävistik und Schule im Dialog*, ed. Uta Goerlitz and Meike Hensel-Grobe = *Das Mittelalter* 22, no. 1 (2017): 146–65.

6 Martina Stercken, “Repräsentieren mit Karten als mediales Modell,” in *Modelle des Medialen im Mittelalter*, ed. Christian Kiening and Martina Stercken = *Das Mittelalter* 15, no. 2 (2010): 96–113.

7 Felicitas Schmieder, “Der Fall von der Erdscheibe, oder: Wie begrenzt war die Welt im Spätmittelalter?,” in *Grenzerfahrungen*, ed. Achim Landwehr (Studia Humaniora 48) (Düsseldorf: Düsseldorf University Press, 2015), 51–73; Jürgen Wolf, *Die Moderne erfindet sich ihr Mittelalter – oder wie aus der ‘mittelalterlichen Erdkugel’ eine ‘neuzeitliche Erdscheibe’ wurde* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse der Akademie der Wissenschaften und

for describing specific geographical spaces changed over the centuries. In contrast to other eras, the Middle Ages had no uniform cartographical representation of the world, but created a plurality of textual and graphic images, whose messages and objectives were adapted to the given epistemic purpose. Here biblical and religious, astronomical and cosmological, or geographical and physical criteria could prescribe the basic orientation and determine the form.

A glance at the interaction between epistemic interests and representational conventions reveals fundamental changes over the centuries. Greek theorists came close to the idea of a spherical earth anchored in the middle of the solar system, and tried to fathom the principles behind the movement of the spheres. Eratosthenes calculated the circumference of the earth, Marinus of Tyre the latitudes and longitudes, and Claudius Ptolemy the geographical coordinates. This knowledge gradually made its way into the West, where Ptolemy's *Geography*, which had been known in the Arab world since the ninth century but was not translated into Latin until 1406, revolutionized cartographic thinking.⁸ The Romans, who focused on the surveying, administration, and control of the Imperium Romanum, drew the *orbis terrarum* as a flat surface. It should be noted that most ancient maps, such as Ptolemaic maps and the *Tabula Peutingeriana*, are only preserved in medieval reconstructions and interpretations.

The Middle Ages added further forms of expression concerned with specific kinds of knowledge. As inspired by the Bible, the Christian T-O diagrams and *mappae mundi* were often oriented towards the east, the location of Paradise, but they also reused elements of pagan culture and encyclopedic material from late antiquity. The zonal or Macrobian maps, mainly north-oriented, were usually small and included in codices. They divided the world into five zones, or the ecumene into seven graduated climate zones, and their purpose was generally to illustrate scientific insights. Regional maps captured individual fragments of the world, with an aspiration to geographical accuracy. Itinerary maps served to show distances and routes. From the twelfth century onwards, nautical or portolan charts, which recorded coastlines and ports, reflected nautical experiences – first of the Mediterranean, and later of the whole world.

The diverging forms and types coexisted in dialogue with one another and with blurred boundaries between them. All claimed to adequately represent

Literatur 5) (Stuttgart: Franz Steiner Verlag, 2004), 6–10 and 29–41. Contains some astonishing evidence of the idea of the earth as a disc.

8 *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Venetiana 17) (Rome: Viella Libreria Editrice, 2016).

tangible reality, though each had its own emphases. Even in the Middle Ages, this diversity must have caused considerable uncertainty, while simultaneously inspiring efforts to develop representational processes that met individual purposes. Even the non-perspectival mode of drawing, which later led to the misinterpretation of one half of a double-hemisphere world map as a disc,⁹ was not new: Crates of Mallus had already tried to transfer the curved surface of the earth to a two-dimensional drawing. Thus cartographical change and continuity were linked to the reception of certain texts and their contents, and to changes in context.

T-O Schema and Zonal Maps – Visual Reduction in Context

The T-O (or T and O) diagrams, usually oriented to the east, are regarded as typical of the Middle Ages. The rules of real-life geography are of limited use when it comes to understanding them, since they reflect a two-dimensional view of the inhabited Christian world, defined by the culture of memory. The power of the sketch lies in its reduction to the essentials. This is linked to a pragmatic conversion of the spherical form into a circle. A “T” with the Mediterranean as its shaft and the Don (*Tanais*) and Nile as its crossbars inscribes the three known continents into the O of the *Okeanos*, in a ratio of 2:1:1.¹⁰ Herodotus had already opted for this tripartite structure, despite certain doubts, and Pliny the Elder had completed it by defining the borders separating Asia from Europe and Africa.¹¹ The historian Paulus Orosius permanently linked this model of pagan antiquity with Christian world history when he prefaced his writings with a geographical description of the three parts of the earth.¹² His intention was to help the reader to locate time sequences in space, and so develop a better understanding of history since the creation of the world. Its resounding success validated his idea.

⁹ Schmieder, “Der Fall von der Erdscheibe,” 51–73; Felicitas Schmieder, “Nachdenken auf der Karte: Mappae mundi als Spiegel spätmittelalterlichen Weltwissens,” in *Weltwissen vor Kolumbus*, ed. Justus Cobet (Periplus 23) (Münster: LIT Verlag, 2013), 236–57. For the concept of the *mappa mundi* see Patrick Gautier Dalché, “Les sens de ‘mappa (mundi)’: IVE–XVIIe siècle,” *Bulletin Du Cange/Archivum Latinitatis Medii Aevi* 62 (2004): 187–202.

¹⁰ Gautier Dalché, “De la glose à la contemplation,” 700–704; Edson, “Maps in Context,” 219–36.

¹¹ Herodotus, *Histories* 4.42.1–4 and 45.1–5; Pliny the Elder, *Naturalis historia* 3.1.3.

¹² Paulus Orosius, *Adversus paganos historiarum libri* 7, 1.1.14–17.

The model thus created allowed various interpretations, for example historiographic, encyclopedic or religious. The texts into which it was integrated fleshed out the cartographically outlined spaces, and could in turn derive valuable inspiration from the graphic reduction. Isidore of Seville had firmly established the tripartite division in the fourteenth book of his widely distributed *Etymologiae*, in which he gave an extensive description of the earth. The copyists took up this thread, outlining the facts in a few lines. Often they concentrated on the basic information, as in the simple T inside an O in a ninth-century Isidore manuscript in Brussels.¹³ Later they added geographical names for regions and places, as well as coloring and symbols. The version in Aix-en-Provence from the mid-twelfth century includes such lettering only in Asia and Europe, and follows a tradition that adds the Sea of Asov (*Meotides paludes*), at the mouth of the Don, in the form of a triangle.¹⁴

Such illustrations, which translated the structure of the text into simple graphics, were part of the standard repertoire used at the time to make the structure of the Christian world comprehensible. Their model of space could easily be individually adapted. For example, hybrid list maps are akin to texts, filling the T-O diagram with chorographic information, be it names of peoples or geographical places. The early Isidore manuscript of St. Gallen adds, in red letters, the division of the world among the sons of Noah (Fig. 1.1).¹⁵ This last interpretative model retained its validity until about 1500; the version printed in Augsburg by Günther Zainer (first printed in 1472) still assigns the three sons, from whom all peoples are descended, to the continents: the first-born, Shem, to Asia, the accursed Ham to hot Africa, and the youngest, Japheth, to cold Europe.¹⁶ Perhaps this is also the reason why Africa remained empty in the copy in

13 T-O map, ninth century, Brussels, KBR (Royal Library of Belgium), Ms. 9311–19, fol. 89v: <http://www.europeanaregia.eu/de/handschriften/brussels-koninklijke-bibliotheek-belgie-bibliotheque-royale-belgique-ms-9311-19/de>.

14 See T-O map, mid-twelfth century, in Wasserfuhr, “Curricularer Anspruch und unterrichtliche Wirklichkeit,” Fig. 1: Aix-en-Provence, Bibliothèque Méjanes, Ms. 25 (914), fol. 293r: http://www.enluminures.culture.fr/documentation/enlumine/fr/rechguidee_00.htm; see e.g. the T-O map, second half of ninth century, with three continents and inscribed text legends, in Vatican City, Biblioteca Apostolica Vaticana, Pal. lat. 834, fol. 90v.

15 *Noachidenkarte* (T-O map assigning the continents to the sons of Noah), second half of ninth century, St. Gallen, Stiftsbibliothek, Cod. Sang. 236, p. 89: <http://www.e-codices.unifr.ch/de/csg/0236/89/0/Sequence-420>.

16 Isidore of Seville, *Etymologiae*, ed. Günther Zainer (Augsburg 1472; reprint around 1473, around 1476, and in 1483, 1489, 1493, and 1499). See Tony Campbell, *The Earliest Printed Maps, 1472–1500* (London: University of California Press, 1987), 108–11 and Figs. 7–13; Evelyn Edson, Emilie Savage-Smith and Anna-Dorothee von den Brincken, *Der mittelalterliche Kosmos: Karten der christlichen und islamischen Welt* (Darmstadt: WBG, 2005), no. 38.



Fig. 1.1: Noachidenkarte (T-O map assigning continents to sons of Noah), second half of ninth century; St. Gallen, Stiftsbibliothek, Cod. Sang. 236, p. 89. Creative Commons 4.0.

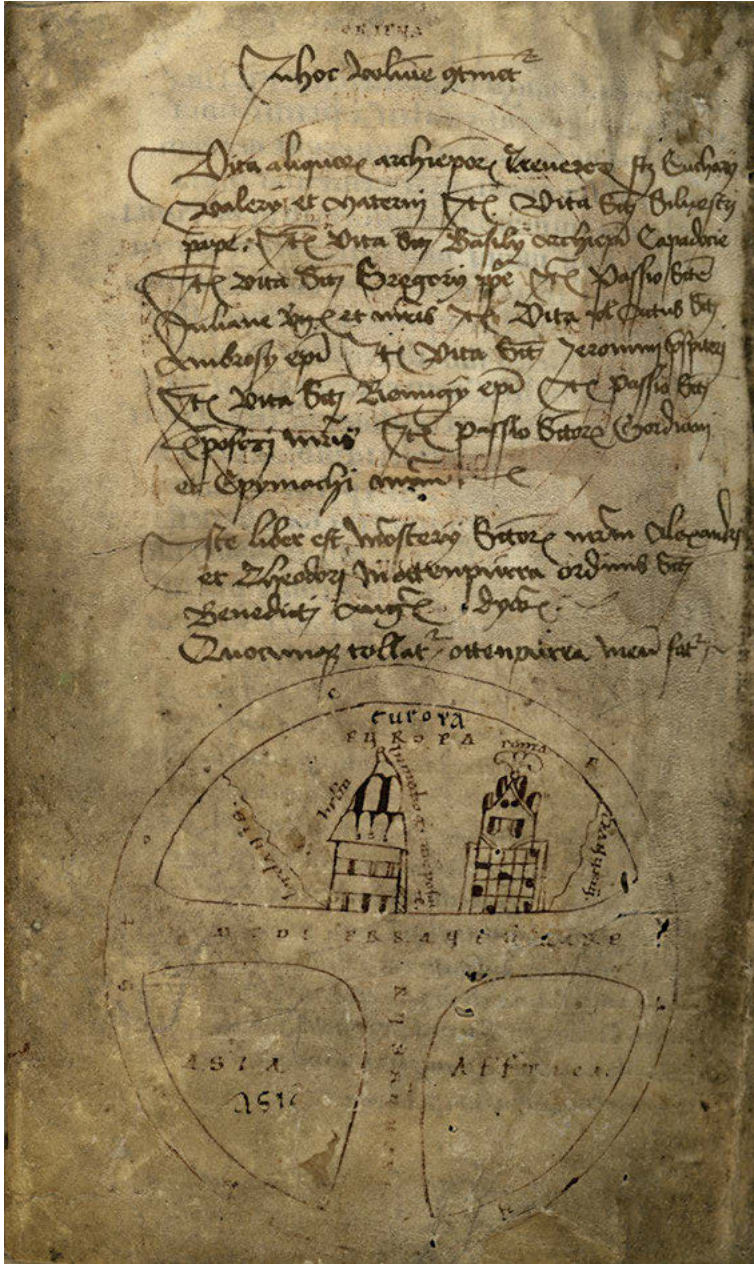


Fig. 1.2: T-O world map, beginning of twelfth century; Augsburg, Universitätsbibliothek, Öttingen-Wallerstein, Cod. I.2.4° 5, fol. 120v.

Aix-en-Provence, while the primacy of Asia in the geography of salvation motivated copyists to add more information about this area.

The transformability of the T-O schema, which has not yet been systematically explored for the Isidore manuscripts, becomes apparent time and time again, not least in the wake of the Crusades, which expanded the territories of Europe as far as Palestine. Thus, for example, a half-page twelfth-century pen drawing, preceded by fourteen lives of saints and a glossary (Fig. 1.2), swaps Asia with an enlarged Europe, in which the city emblems of Jerusalem and Rome are inscribed.¹⁷ It seems as if the T-O representations, despite all conventions, were repeatedly adapted to fit different situations and contexts.

This tendency can be traced right to the present day. For example, the logo of the Mediävistenverband (the German Medievalists' Society) is based on the T of a thirteenth-century Isidore manuscript from Florence, in which a clothed figure, a personification of *Terra*, holds up the framed, tripartite disc of the world behind it. The figure's head forms the center of the disc, the upper body is the Mediterranean, and the material physicality of the earth is harmoniously incorporated into the rationally founded schema (Fig. 1.3).¹⁸

The abstract form of the zonal maps, reduced to a small number of content elements, was used from an early stage to illustrate popular teaching texts such as Macrobius's commentary on the *Dream of Scipio* (*Somnium Scipionis*). There we explicitly read that some arguments are more easily understood by means of a drawing than by language.¹⁹ Conscious of the different forms of knowledge transfer, Macrobius juxtaposes the text (which has a linear structure and is read in sequence) with the diagram, which can be assimilated at a glance. The diagram systematizes stores of knowledge and generates associations that

17 Ingrid Baumgärtner, "Jerusalem, Nabel der Welt (A.1 Ebstorfer Weltkarte; A.2 Vitae et passionum sanctorum mit schematischer T-O-Weltkarte aus Augsburg, Universitätsbibliothek, Öttingen-Wallerstein Hs. I.2.405, f. 120v; A.3 Jerusalemkarte aus Brüssel, Bibliothèque Royale de Belgique, Ms. 9823–34, f. 157r; A. 4 Jerusalemkarte aus Montpellier, Bibliothèque Interuniversitaire, Section Médecine, Ms. H 142, f.67v)," in *Saladin und die Kreuzfahrer: Begleitband zur Sonderausstellung Saladin und die Kreuzfahrer*, ed. Alfried Wiczorek, Mamoun Fansa and Harald Meller (Publikationen der Reiss-Engelhorn-Museen 17) (Mainz: WBG, 2005), 291; for the manuscript see Hardo Hilg, *Lateinische mittelalterliche Handschriften in Quarto der Universitätsbibliothek Augsburg* (Die Handschriften der Universitätsbibliothek Augsburg 1, 3) (Wiesbaden: Harrassowitz, 2007), 37–39. Hilg notes that, in the upper part of the page, under the table of contents appearing here, an erased, east-oriented map of horizontal climatic zones can be discerned.

18 Florence, Biblioteca Medicea Laurenziana, Conv. Sopp. 319, fol. 90v; see Edson, "Maps in Context," 222–23.

19 Macrobius, *Commentary on the Dream of Scipio* 2.5.13.

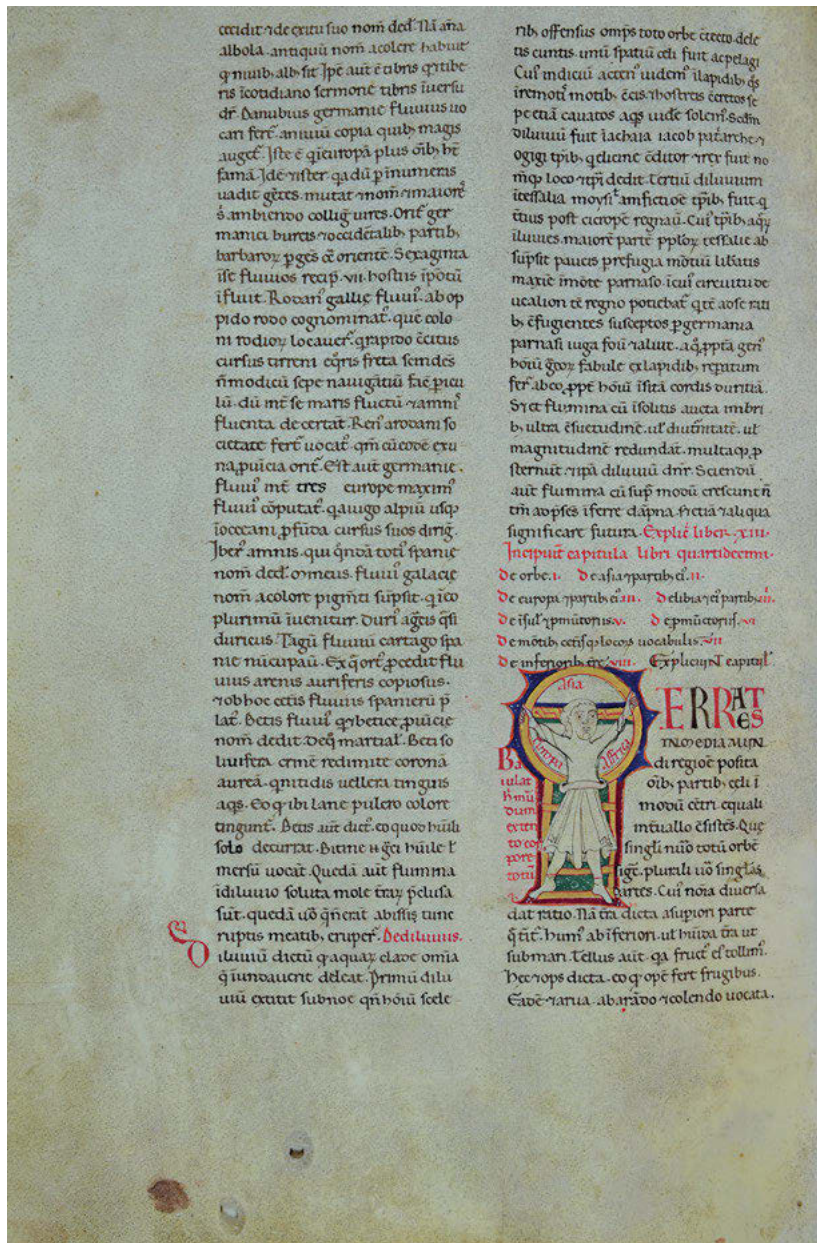


Fig. 1.3: Initial with T-O world map, thirteenth century; Florence, Biblioteca Medicea Laurenziana, Conv. Sopp. 319, fol. 90v. Su concessione del Ministero della Cultura/Biblioteca Medicea Laurenziana, Firenze.

reach far beyond the text. The graphic *Merkfiguren* or mnemonic figures (Fig. 1.4)²⁰ were simple and generally contained no theological proclamations. Compilers such as Boethius, Isidore of Seville, Bede, and others incorporated the cosmological interpretations into encyclopedias and other forms of literature as part of their systematic presentation of learning material. Zonal maps are likewise found in the work of Johannes de Sacrobosco, who interspersed them among the diagrams in his standard textbook *De sphaera*, written around 1230.²¹

Visual schemata of the world made textual content readily accessible and consolidated ideas of spatial order. They were well-suited to fixing knowledge in the memory, using it for contemplation, and supplementing it with associations. Hundreds of extant copies in countless variations make it clear how differently they could be read.²² Moreover, the interpretative potential could be transferred to other formats. For example, the “Beatus” maps, appearing in a commentary on the Book of Revelation and intended to illustrate the dissemination of the faith, created a fourth continent. They presented this as the location of the antipodes, an object of great controversy at the time.²³ Such interpretations led to radical changes, and turned maps into media in their own right.

The World as Encyclopedia

Intellectually the shift to the *mappa mundi* created new spaces, though the transitions from the T-O diagrams to encyclopedic world maps were fluid, and

20 Macrobius, zonal map, tenth century, Zentralbibliothek Zürich, Ms. Car. C 122, fol. 38v: <http://dx.doi.org/10.7891/e-manuscripta-16478>.

21 Kathrin Müller, *Visuelle Weltaneignung: Astronomische und kosmologische Diagramme in Handschriften des Mittelalters* (Historische Semantik 11) (Göttingen: Vandenhoeck & Ruprecht, 2008), 203–51 and Figs. 72–73.

22 *Mappaemondes A.D. 1200–1500: Catalogue préparé par la Commission des Cartes Anciennes de l'Union Géographique Internationale*, ed. Marcel Destombes (Monumenta cartographica vetustioris aevi 1) (Amsterdam: N. Israel, 1964). In his provisional catalogue focusing on the period after 1200, Destombes recorded a total of 283 world maps. Gautier Dalché, “De la glose à la contemplation,” 702, who has been working on a revised edition for many years, remarked in 1994 that he himself had a list of 400 manuscripts containing such maps from before 1200. The number will certainly not have diminished in the meantime. See also Patrick Gautier Dalché, “‘Mappae mundi’ antérieurs au XIIIe siècle dans les manuscrits latins de la Bibliothèque Nationale de France,” *Scriptorium* 52 (1998): 102–62.

23 Ingrid Baumgärtner, “Visualisierte Weltenräume: Tradition und Innovation in den Weltkarten der Beatustradition des 10. bis 13. Jahrhunderts,” in *Tradition, Innovation, Invention: Fortschrittsverweigerung und Fortschrittsbewußtsein im Mittelalter*, ed. Hans-Joachim Schmidt (Scrinium Friburgense 18) (Berlin: De Gruyter, 2005), 231–76.

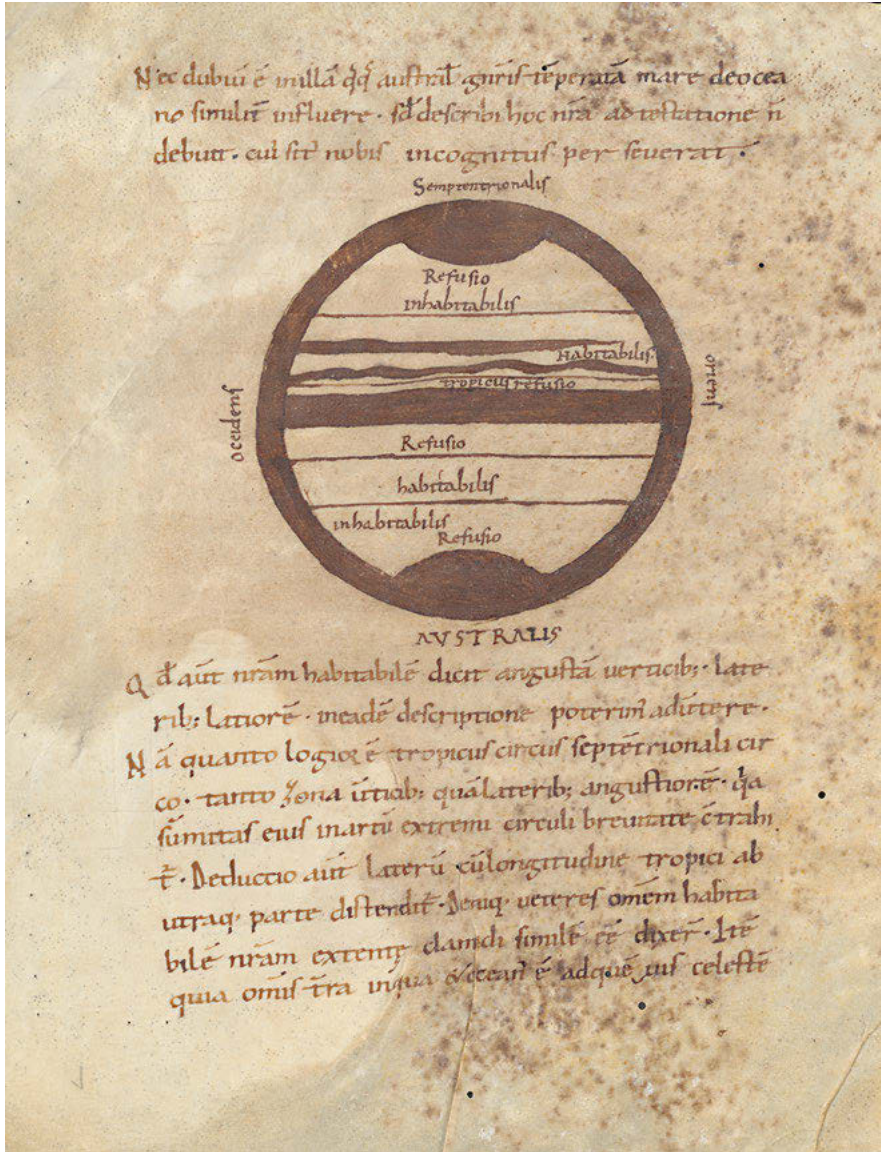


Fig. 1.4: Zonal map based on Macrobius, tenth century; Zurich, Zentralbibliothek, Ms. Car. C 122, fol. 38v. Creative Commons 1.0.

the structural congruence is a matter of scholarly debate.²⁴ Such universal maps, which defined the divinely ordered history of the world in spatial terms, could be realized in any format, from the tiny Psalter map to the large wall maps of Ebstorf and Hereford, and from the Sawley map to Andreas Walsperger and Fra Mauro. They could also be adapted to specific needs.²⁵ Changes and modifications occurred; for example, some locations changed (such as those of Paradise and Jerusalem), as did the general aim. Bettina Schöller has used the Psalter map as the basis for an exemplary study of how textual and visual notation systems worked together in the systematization and contextualization of knowledge, how the transfer from textual descriptions to list maps and then to encyclopedic world maps proceeded, and what functions such as storing, ordering, and transmission were adopted during these processes.²⁶

The largest of these world maps (3.58 × 3.56 m), discovered in the Ebstorf convent in 1834 but destroyed by fire in 1943, contains 2,345 visual and textual entries.²⁷ Such encyclopedic diversity can neither be taken in at a glance nor

24 Patrick Gautier Dalché, “‘Réalité’ et ‘symbole’ dans la géographie de Hugues de Saint-Victor,” in *Ugo di San Vittore: Atti del XLVII Convegno storico internazionale, Todi, 10–12 ottobre 2010* (Atti dei convegni del Centro italiano di studi sul basso Medioevo, Accademia Tudertina. Nuova serie 24) (Spoleto: Fondazione CISAM, 2011), 359–81 at 359f.

25 For a new understanding of these maps see e.g. *The Hereford World Map: Medieval World Maps and Their Context*, ed. Paul D. A. Harvey (London: British Library Publishing, 2006); Marcia Kupfer, *Art and Optics in the Hereford Map: An English Mappa Mundi, c. 1300* (London: Yale University Press, 2016); Lena Thiel, “Wissen im diagrammatischen Kontext: Weltkarte und Weltbeschreibung bei Andreas Walsperger,” in *Editionswissenschaftliches Kolloquium 2015: Die Geschichte im Bild* (Publikationen des Deutsch-Polnischen Gesprächskreises für Quellenedition 8), ed. Helmut Flachenecker, Krzysztof Kopiński and Janusz Tandecki (Toruń: Towarzystwo Naukowe w Toruniu, 2016), 109–31; Piero Falchetta, *Fra Mauro’s World Map: With a Commentary and Translations of the Inscriptions*. Presentation by Marino Zorzi. CD-ROM Project: CIRCE, team headed by Caterina Balletti (Terrarum Orbis 5) (Turnhout: Brepols, 2006); Piero Falchetta, *Il mappamondo di Fra’ Mauro: Una storia* (Rimini: Imago, 2013), Eng. trans.: *Fra’ Mauro’s World Map: A History* (Bologna: Imago, 2013); Nikolaus Andreas Egel, *Die Welt im Übergang: Der diskursive, subjektive und skeptische Charakter der Mappamondo des Fra Mauro* (Heidelberg: Universitätsverlag Winter, 2014).

26 Bettina Schöller, *Wissen speichern, Wissen ordnen, Wissen übertragen: Schriftliche und bildliche Aufzeichnungen der Welt im Umfeld der Londoner Psalterkarte* (Medienwandel – Medienwechsel – Medienwissen 32) (Zurich: Chronos, 2015).

27 *Die Ebstorfer Weltkarte: Kommentierte Neuausgabe in zwei Bänden*, ed. Hartmut Kugler, 2 vols. (Berlin: Akademie Verlag, 2007); Ingrid Baumgärtner, “Erzählungen kartieren: Jerusalem in mittelalterlichen Kartenräumen,” in *Jerusalem as Narrative Space: Erzählraum Jerusalem*, ed. Annette Hoffmann and Gerhard Wolf (Visualising the Middle Ages 6) (Leiden: Brill, 2012), 231–61. See also essay no. 6 in this volume: “Mapping Narratives: Jerusalem in Medieval Mapped Spaces.”

clearly interpreted. A viewer has to explore the east-oriented map step by step, aided by comprehensive prior knowledge, the curiosity to discover new things, or a targeted search. The wanderings of the eye are guided by visual and textual signs of different sizes and colors, geometrically constructed images and explanatory legends. The frame and midpoint provide a structure for tracing the connections between signs and groups of signs, and discovering the multilayered images of history and of the world from the Bible, legends (Alexander), historiography, cosmology, and natural history (Pliny the Elder, Solinus, the Physiologus). The dating and authorship of the Ebstorf map are still disputed, and its localization and function have not been established with certainty. If it was created in the Ebstorf convent, perhaps in collaboration with neighboring abbeys in the Lüneburg area, various sponsors may have been involved, such as the duke, the provost, and aristocratic members of the convent. On the basis of the handwriting, possible candidates for the authorship may be Provost Albert, the prioress, and the sister from the convent school, which was documented around 1307. The genesis of the map can be narrowed to the period from 1288 to 1314, probably even 1298 to 1308, so the theory that this was the work of Gervase of Tilbury is no longer tenable.

The earth is encompassed by a Christ figure; either the ecumene functions as the body of Christ, or the head of Christ between Paradise and the Oracle of Alexander inspires the viewer to contemplation and remembrance. The creation of Paradise far to the east was the first event of world history. From there, biblical, historical, and mythical events can be followed on the countless paths leading westwards to the lower edge of the map. The viewer can link the depiction of space with various levels of time, and can visualize the passage of the centuries in geographic terms.

The representation of the world is centered on the resurrected Christ, who arises as the victor over death with a halo and a flag crowned by the cross. In accordance with Revelations 21:12 and 21:16, the Jerusalem that surrounds him has square city walls and twelve gates. This conception links the myth of the “navel of the world” with the Holy Sepulcher, earthly with heavenly Jerusalem, salvation history with the ideology of the Crusades. Jerusalem is also connected to the world: for example, the resurrected Christ links it to the world-encompassing Christ; the symbol of the cross links it to the palaces in Thebes, Constantinople, Cologne, Aachen, and Lüneburg; the golden flag links it to the ducal seat of Lüneburg; and the ubiquitous veneration of the sepulcher links it to the Ebstorf martyrs in Europe, the Parthian king Darius, the Apostle of India, Thomas, in Asia, and the Nubian pilgrims in Africa. This interplay between the center and the periphery integrates the encyclopedic knowledge into different thematic, temporal, and spatial levels of understanding.

The didactic potential of such sequences is huge. Even in the Middle Ages, such a diagram could serve multiple functions: teaching, contemplation, and representation. Among the elements that can be identified are Noah's Ark from the Old Testament, the mythical settings of Prester John and the Amazons, the Greek campaigns of Alexander the Great, the apocalyptic peoples of Gog and Magog locked in behind the Caucasus, the medieval coronation site of Aachen, and the local residences of the Welf dynasty, Braunschweig (Brunswick) and Lüneburg. The symbolic language used was associated with multiple textual and visual meanings. Firstly, on a literal level, this is a representation of the ecumene, allowing the localization and remembrance of historical events. On an allegorical and moral level, the symbols inscribed into the macrocosm can be related to the viewer's options for action; for example, Sodom and Gomorrah by the Dead Sea remind the viewer of virtuous behavior. On an anagogic level, lastly, the body of Christ with head, hands, and feet emphasizes the relationship between man and God, and the transience of all earthly things. Unmistakably, such maps create spaces of longing, remembrance, knowledge, and narrative, which appear and then vanish again in the play of reflexes.

Nautical Charts and Atlases – A Different Cultural Technique

A noteworthy parallel development in the twelfth and thirteenth centuries was the emergence of rotatable portolan or nautical charts. These recorded the coastal towns and ports of the Mediterranean, and were to be oriented to the north according to the compass.²⁸ The similarity with our modern maps has often misled observers into equating them with geodetic progress and precision in measurement techniques, but the focus has now shifted to the mechanisms of construction and transformation used in dealing with knowledge, and to the significance of these maps as instruments of cultural spatial practices.²⁹ Their

28 Ramon J. Pujades i Bataller, *Les cartes portolanes: La representació medieval d'una mar solcada/Portolan Charts: The Medieval Representation of a Ploughed Sea* (Barcelona: Lunwerg Editores, 2007); Philipp Billion, *Graphische Zeichen auf mittelalterlichen Portolankarten: Ursprünge, Produktion und Rezeption bis 1440* (Marburg: Tectum Wissenschaftsverlag, 2011).

29 *L'âge d'or des cartes marines: Quand l'Europe découvrait le monde*, ed. Catherine Hofmann, Hélène Richard and Emmanuelle Vagnon (Paris: Seuil, 2012); Emmanuelle Vagnon, *Cartographie et Représentations de l'Orient méditerranéen en Occident (du milieu du XIIIe à la fin du XVe siècle)* (Terrarum Orbis 11) (Turnhout: Brepols, 2013); Emmanuelle Vagnon, "La représentation cartographique de l'espace maritime," in *La terre: Connaissance, représentations, mesure au Moyen-Âge*, ed. Patrick Gautier Dalché (L'Atelier du Médiéviste 13) (Turnhout: Brepols, 2013), 443–503.

creation sprang from the desire to more precisely determine distances and directions for navigation, and to graphically fix the location of these points in relation to one another. In combination with the scale, the rhumb lines – which start from a centrally located point, a primary center, and radiate out to sixteen equidistant secondary centers – point to the underlying mathematical calculations. Various indications such as the shift in emphasis from the landmass to the sea, the dominance of coastal towns, and the information on wind directions suggest that the lines are to be understood as the visual implementation of nautical principles, even if they can hardly have satisfied the practical requirements of navigation.³⁰

Regardless of all the unanswered questions about their everyday use, some magnificent individual maps and atlases have been preserved. They present nautical cartography as an elaborate cultural technique serving to integrate the heterogeneous stores of geographical knowledge into a complex system. The atlas of the Venetian captain Andrea Bianco, produced in 1436, also makes it clear that different types of maps coexisted and complemented each other. His ten-plate work contains three general maps: a portolan chart of the Mediterranean region including newly discovered islands in the Atlantic, an east-oriented circular world map in the traditional style, and a new-style illustration of the three continents based on Ptolemy.

Ptolemy's handbook of geography was brought to Florence by the Byzantine ambassador Manuel Chrysoloras in 1397, and its Latin translation was presented to Pope Alexander V in 1409. Its importance lay in the method of conic projection, which involved transferring the distances measured between locations onto a two-dimensional surface, true to scale, while taking into account the curvature of the earth. The aim was to use cartographic reproductions to create a precise depiction of the earth. Continuous improvements were therefore part of the concept. For example, Ptolemy (as reproduced in the Nuremberg Chronicle of 1492) had conceived of the Indian Ocean as an inland sea. Yet by the time of this reproduction Africa had long been regarded as circumnavigable, as shown by the world maps of Pietro Vesconte (around 1321) and Fra Mauro, even before the Portuguese explorer Bartolomeu Diaz proved this empirically in 1498.

30 Piero Falchetta, "The Use of Portolan Charts in European Navigation during the Middle Ages," in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis. Vorstellungswelten des Mittelalters 10) (Berlin: Akademie Verlag, 2008), 269–76. For their actual use at sea, see e.g. Stefan Schröder, *Zwischen Christentum und Islam: Kulturelle Grenzen in den spätmittelalterlichen Pilgerberichten des Felix Fabri* (Orbis mediaevalis. Vorstellungswelten des Mittelalters 11) (Berlin: Akademie Verlag, 2009), 322.

The only traces that remained after this were a spur of the African mainland reaching far into the ocean, and an east Asian chain of islands.

It is therefore not surprising that empirical travel successes gave the impetus for modifying land maps and nautical charts. The converse effect perhaps initially seems less obvious, but in fact the uncertainty caused by Ptolemaic cartography contributed indirectly to the discovery of America. It was possible to deduce from Ptolemy's calculations on the extent of the *ecumene* that journeys to the west could open up the way to the east, as the French scholar Pierre d'Ailly and later Paolo dal Pozzo Toscanelli realized.³¹ Christopher Columbus had both a copy of Ptolemy's handbook and a printed version of d'Ailly's *Imago Mundi*, in which he personally added a marginal note to passages about the size of the Atlantic. A few years later, the illicitly copied planisphere obtained by Alberto Cantino, envoy of the Dukes of Ferrara in Lisbon, was the first map to offer a more accurate view of the new countries, and of the border agreed on in the Treaty of Tordesillas in 1494.³² A virtual and yet unmistakable line separates the Spanish from the Portuguese sphere of influence, and the Caribbean islands from the Brazilian coast. Cuba and Haiti are equated with the mythical archipelago "Antelhas," assumed to be in the Atlantic; this is likely to have been the result of Portuguese policy, since identifying the newly discovered countries as Asia would have meant devaluing their own profitable sea route around Africa. America was finally depicted as a fourth, separate continent on the 1507 world map of the cartographer Martin Waldseemüller (1470–1522); the landmass in the south is separated from the much smaller northern continent by a narrow strait.³³

These rapid changes subsequently dominated the genre of nautical maps and portolan atlases. Cartographers such as Battista Agnese, operating in Venice, were eager to transfer each pioneering discovery in the New World into images.³⁴

31 *Ymago mundi de Pierre d'Ailly: Texte latin et traduction française des quatre traités cosmographiques de d'Ailly*, ed. Edmond Buron, 3 vols. (Paris: Maisonneuve, 1930), Lib. 2, Cap. 11.

32 Cantino's planisphere of 1502, Modena, Biblioteca Estense Universitaria, C. G. A. 2; reproduced in Schneider, *Die Macht der Karten*, Fig. 45.

33 Folker Reichert, "Die Erfindung Amerikas durch die Kartographie," *Archiv für Kulturgeschichte* 78 (1996): 115–43 (also in Folker Reichert, *Asien und Europa im Mittelalter: Studien zur Geschichte des Reisens* [Göttingen: Vandenhoeck & Ruprecht, 2014], 447–76 at 455–61).

34 *Der Portulan-Atlas des Battista Agnese. Das Kasseler Prachtexemplar von 1532*, ed. Ingrid Baumgärtner (Darmstadt: WBG, 2017); Ingrid Baumgärtner, "Die Portulan-Atlanten des Battista Agnese," in *Kartographie der Frühen Neuzeit: Weltbilder und Wirkungen: Ergebnisse des in Kooperation mit der Kartenabteilung der Staatsbibliothek zu Berlin durchgeführten internationalen Symposiums am Weserrenaissance-Museum Schloss Brake (4.–6. April 2014)*, ed. Michael Bischoff, Vera Lüpkes and Wolfgang Crom (Marburg: Jonas Verlag, 2015), 19–36 (a translation and revision of this paper can be found in this volume; see essay no. 9: "Battista Agnese's

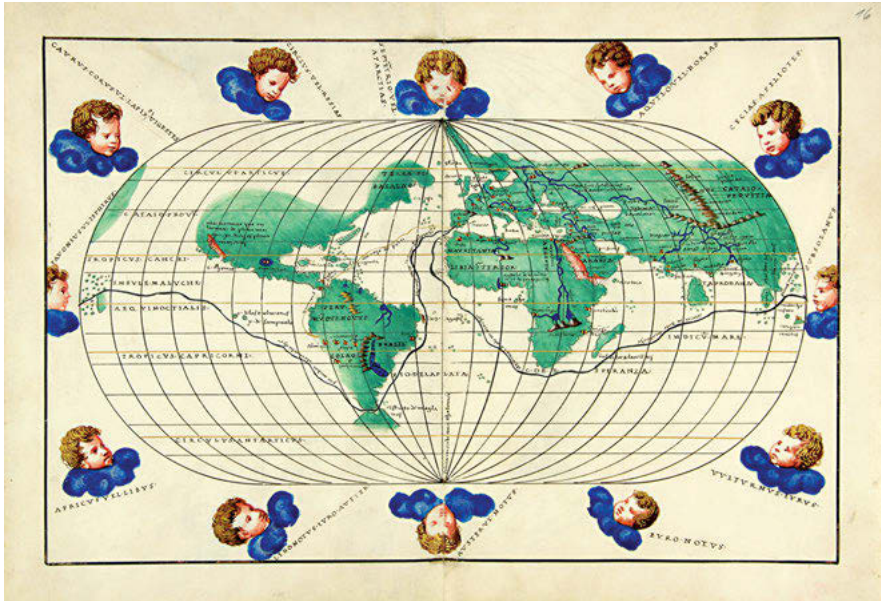


Fig. 1.5: Map in Ptolemaic oval projection, Battista Agnese, portolan atlas of 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, fols. 15v–16r. Creative Commons 4.0.

The Kassel Atlas of 1542 (Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 40 Ms. Hist. 6) brings together four interrelated parts: the cosmos with the armillary sphere and the zodiac; the three major oceans (Pacific, Atlantic, and Indian), which combine to produce a world map in flat projection; the sections of the world relating to the Mediterranean and ancient Europe; and lastly, two world maps in circular and Ptolemaic projection, which unite the earthly world in one overall view. The oval projection with straight parallels of latitude shows Magellan’s route from southern Spain through the Straits of Magellan to the Maluku Islands (Fig. 1.5), and is decorated at the edges with the main winds in the form of cherubs. Agnese’s circular projection of the world (fols. 16v–17r) transfers the geographical perceptions to a globe. Despite the long-standing awareness of the spherical shape of the earth, Ferdinand Magellan was the first person to actually experience it, and his circumnavigation

Portolan Atlases”); Ingrid Baumgärtner, “Agnese e l’atlante di Kassel: La cartografia del mondo nel Cinquecento,” in *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Venetiana 17) (Rome: Viella Libreria Editrice, 2016), 245–70.

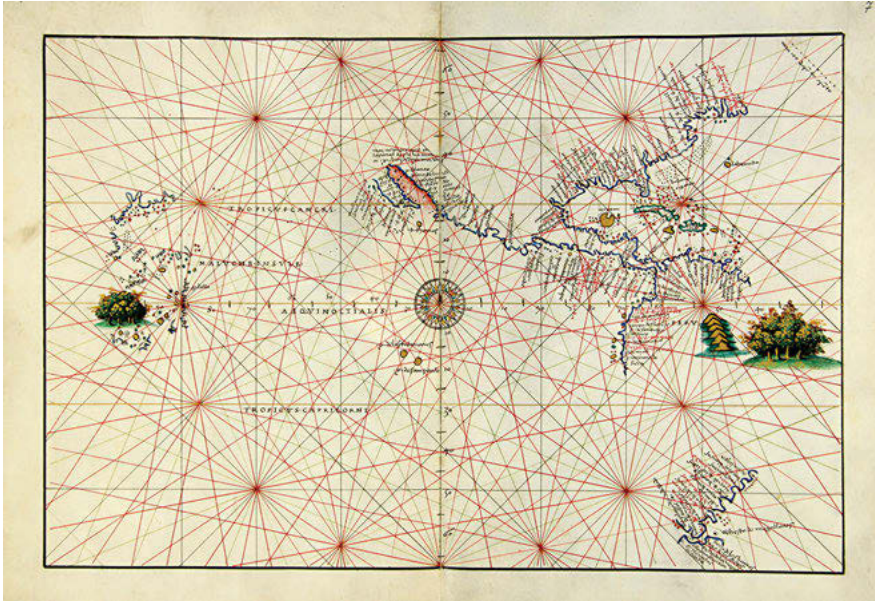


Fig. 1.6: Map of Pacific with North and South America, Battista Agnese, portolan atlas of 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, fols. 6v–7r. Creative Commons 4.0.

of the world was the stimulus for a totally new definition of experiential space. The navigator had sailed through the strait in South America that would subsequently bear his name, had landed in the Philippines, and had tested the navigability of the Pacific Ocean. He had also definitively refuted a belief that had already been in doubt: the Ptolemaic subcontinent to the south of Asia.³⁵

Agnese captured the growth in knowledge on parchment by creating visual abstractions of the journeys of the Spanish and Portuguese fleets to the New World. The map of the Pacific from the Maluku Islands to America reflects these great innovations, in particular the discovery of the Baja California Peninsula by Francisco de Ulloa and the exploration of the east coast of North America by Estevan Gómez, who had been looking for the northern passage to the Orient (Fig. 1.6). Similarly, the charting of the Atlantic and Indian Oceans shows the new explorations of the Portuguese in Africa and India. The combination of maps of the cosmos, nautical charts, and world maps in the atlas brings together various

³⁵ Davide Scruzzi, *Eine Stadt denkt sich die Welt: Wahrnehmung geographischer Räume und Globalisierung in Venedig von 1490 bis um 1600* (Berlin: Akademie Verlag, 2010), 116f.

types of knowledge and various types of map: nautical charts that only reproduce what is known, and world maps that also outline the unexplored parts of the world and relate the fragments to each other.

The medieval history of cartography makes it possible to discern numerous changes in the way the world was viewed, changes that usually took place in parallel, rarely in sequence. What is therefore significant is the differences between the various types of map, whose development was bound to specific contexts and driven by specific interests. Since in each case they pursued individual goals such as a schematic reduction to the essentials, the encyclopedization of the world, or the use of nautical charts to survey the globe, their coexistence was by no means a contradiction. Changing communicative intentions also meant that adjustments to form and content occurred within the individual genres. Maps kept on generating different meanings and attributions from spatial order and historical contexts, by redesigning the relational interaction of the selected elements, thus developing unfamiliar perspectives on the spherical earth. Here maps show not only a society's awareness of spatiality, but also the processual nature of history. Both can undoubtedly be used to acquire fundamental skills, such as understanding the contexts of others and raising awareness of spaces for sociopolitical action.

Chapter 2

Winds and Continents: Concepts for Structuring the World and Its Parts

In his travel report, *Descriptio terrae sanctae*, written between July 1274 and May 1285, the Dominican Burchard of Mount Sion explained his method for a sensible systematic description of the Holy Land:

Considering, however, how I might usefully describe these things, so that they might be easily understood by my readers in their imagination, I thought of defining a central point among them and of setting out all land around it in due measure. And for this centre I have chosen the city of Acre, as it is better known than other places. However, it is not located in the centre but at its western border on the sea. From it I have drawn four lines corresponding to the four parts of the world and each quarter I have divided into three, so that those twelve divisions might correspond to the twelve winds of heaven; and in each division I have placed the cities and places mentioned more especially in scripture, so that the location and disposition of individual places might more easily be found, and the part of the world in which they lie.¹

The figure that Burchard used as a reference was a circle around the city of Acre, the last crusader bastion until its fall in 1291 and the starting point for his exploration. The circle was divided into four quarters, each segmented into three subdivisions, which resulted in the twelve principal winds of Pliny's system with its eight secondary winds distributed in pairs among the four cardinal directions.² This structure formed the basis for Burchard's text and for the location

¹ *Pilgrimage to Jerusalem and the Holy Land, 1187–1291*, ed. Denys Pringle (Crusade Texts in Translation 23) (Farnham: Ashgate, 2012), 241–320, here 242–43; Latin edition: Burchard de Monte Sion, *Descriptio terrae sanctae*, in *Peregrinatores medii aevi quatuor*, ed. Johann C. M. Laurent (Leipzig: J. C. Hinrichs Bibliopola, 1873), 11–94, here 21: “Advertens autem, quomodo possem hec utiliter describere, ita ut possent a legentibus imaginatione facili comprehendere, cogitavi centrum aliquod in ea ponere et circa illud totam terram modo debito ordinare. Et ad hoc elegi civitatem Athonensem, tanquam plus aliis notam. Que tamen non est in medio, sed in occidentali eius fine supra mare sita. Et ab ipsa protraxi quatuor lineas, quatuor mundi partibus respondententes, et quamlibet quartam divisi in tria, ut responderent duodecim divisiones iste duodecim ventis celi, et in singulis divisionibus posui civitates et loca in scripturis magis nota, ut singulorum locorum situs et dispositio posset de facili reperiri ad quam partem mundi esset collocata.” First English translation: Burchard of Mt. Sion, *Description of the Holy Land*, ed. Aubrey Stewart (Library of the Palestine Pilgrims' Text Society 12) (London: Palestine Pilgrims' Text Society, 1896, reprint New York: AMS Press, 1971), here 4–5.

² C. Plinius Secundus, *Naturalis historiae libri XXXVII*, 2.46.119, described Homer's original classification into four winds, which the Greek philosopher Poseidonios expanded to the wind rose with twelve points.

and disposition of various sites within its description. This division of the world into four parts and twelve winds was widely accepted and commonly understood during the Middle Ages. Isidore of Seville, whose *Etymologiae* (13.11.2–14) and *De natura rerum* (37.1–4) relayed the ancient knowledge to a wider public, was among its early medieval proponents.

Based on these preliminary observations, the simple but far from trivial questions addressed in this essay are how and why phenomena such as winds, the parts of the earth, and later continents became so important – at least in the Latin Middle Ages – for the medieval perception of the world and its diagrammatic visualization. A discussion of different examples from medieval cartography and travel literature illuminates the process through which such cultural concepts were developed and used in cartographic and textual works. The analysis considers a representative selection of sources, in particular copies of popular encyclopedic works by authors such as Isidore, as well as chronicles and world maps of the twelfth and thirteenth centuries. The notion of structural elements can thus be studied in a broader context. How their meaning was established, how it transformed, and how forms of representation and different cultural conventions affected the production and interpretation of cartographic images becomes more apparent. Clearly, geographers and cartographers had to invent “instruments” in order to make the underlying invisible configuration of the world visible, whereby concepts that referred to invisible or intangible phenomena became structural constituents of the visualization.

In the following, the abstract thinking in such travel reports as *Descriptio terrae sanctae* is addressed first; second, the correlation between the four cardinal directions and a tripartite earth is discussed; and third, the function of four, eight, and twelve winds as structural elements of cartographic perception is examined. A summary of the results in comparison with an alternative system of organization concludes the observations.

Travel Reports and Cartographic Abstraction – A Case Study

Burchard of Mount Sion gave the world and specifically the region covered on his voyage a well-defined structure when he recorded his experiences during or after several years spent in the Holy Land.³ In revealing his knowledge concerning the

³ On Burchard and his travel report, see Aryeh Graboïs, “Christian Pilgrims in the Thirteenth Century and the Latin Kingdom of Jerusalem: Burchard of Mount Sion,” in *Outremer: Studies in the History of the Crusading Kingdom of Jerusalem presented to Joshua Prawer*, ed. Benjamin Zeev Kedar, Hans Eberhard Mayer and Raimund Charles Smail (Jerusalem: Yad Izhak Ben-Zvi

fortified cities and crusader fortresses, landscapes, holy places and religions, plants, animals, and inhabitants, he took into account not only the regional borders and frontiers between local powers but also the traditional classification systems: the division of the known world in quarters and the demarcation of twelve winds. In this way, he created a relationship between the physical land and an abstract division, that is, between the visible earth and the invisible winds. He also claimed to have observed everything that he conveyed to his readers and to have recorded nothing that he did not see with his own eyes. Of course, the wind directions could hardly be seen – at best, they could be felt – but they were present in the readers' minds. In this form, they became fundamental components of a geographic and cartographic model, which was then completed by additional elements within his account. The whole organization of the report allowed readers to imagine the spaces and to relive the travel experiences, which was why Burchard divided land and sea around the city of Acre into twelve sectors and enriched this structure with accounts of physical distances and specific places.

Burchard's text enjoyed enormous success in the late Middle Ages. Approximately a hundred medieval and early modern manuscripts of the work have survived, as have some early prints. Even more important is the fact that some of the later copies and printed editions illustrate the travel narrative with a range of pictures and cartographic representations, including a city plan of Jerusalem, regional maps of Palestine and the Near East,⁴ and wind diagrams of the eastern Mediterranean,⁵ as

Institute, 1982), 285–96; Paul D. A. Harvey, *Medieval Maps of the Holy Land* (London: British Library, 2012), 94–106; Ingrid Baumgärtner, "Reiseberichte, Karten und Diagramme. Burchard von Monte Sion und das Heilige Land," in *Geschichtsvorstellungen. Bilder, Texte und Begriffe aus dem Mittelalter. Festschrift für Hans-Werner Goetz zum 65. Geburtstag*, ed. Steffen Patzold, Anja Rathmann-Lutz and Volker Scior (Vienna: Böhlau, 2012), 460–507 (a translation of this paper can be found in this volume; see essay no. 7: "Travel Accounts, Maps and Diagrams: Burchard of Mount Sion and the Holy Land"); Ingrid Baumgärtner, "Burchard of Mount Sion and the Holy Land," *Peregrinations: Journal of Medieval Art & Architecture* 4, no. 1 (2013): 5–42 (see essay no. 7 in this volume); Ekkehart Rotter, "Windrose statt Landkarte. Die geografische Systematisierung des Heiligen Landes und ihre Visualisierung durch Burchardus de Monte Sion um 1285," *Deutsches Archiv für Erforschung des Mittelalters* 69, no. 1 (2013): 45–106, who used data, digital copies of manuscripts, transcriptions, and literature provided by a research project at Kassel University; Jonathan Rubin, "Burchard of Mount Sion's *Descriptio Terrae Sanctae*: A Newly Discovered Extended Version," *Crusades* 13 (2014): 173–90.

4 Florence, Biblioteca Medicea Laurenziana, Plut. 76.56, fols. 97v–98r; Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, pp. 70–71.

5 London, British Library, Add. Ms. 18929, fols. 1r–50v (ca. 1380–1420, long version), fol. 51r with a wind diagram; Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Handschriftenabteilung, Ms. Lat. Oct. 293, fol. 1*v (fourteenth/fifteenth century, long version); Munich, Bayerische Staatsbibliothek, Clm 569, fols. 184r–210v (fifteenth century, short version),

well as a T-O schema of the world.⁶ This broad range demonstrates how textual and pictorial systems of recording worked together to create, systematize, and contextualize knowledge; how information was transferred from textual descriptions to diagrams and maps; and which practices were implemented to store, order, and transmit knowledge.

In the following, I focus on the T-O and the wind schemata because Burchard explicitly mentioned both principles in his prologue as means to structure his text. To explain his approach, Burchard's travelogue starts with the short statement, "I have drawn four lines corresponding to the four parts of the world."⁷ Pictorial representations of this concept still survive in several hundred medieval manuscripts. An interesting T-O schema, sketched with a quill (Fig. 2.1),⁸ can be found in a Munich codex. It was inserted in a series of *Descriptio* excerpts and accompanied by a fragment of the historiographical treatise *De bellis sacris*, which includes historical notes on the occupation and destruction of Jerusalem from biblical times until the Islamic conquest.⁹ The diagram's inner lines divide a circular world into two equal parts on which three continents are superimposed. At the top, Asia encompasses a spacious semicircle, whereas below Europe and

fol. 186v with a wind diagram; Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, pp. 10–69 (sixteenth century, long version), p. 13 with a wind diagram. For late medieval cosmologic diagrams in general see inter alia Katrin Müller, *Visuelle Weltaneignung. Astronomische und kosmologische Diagramme in Handschriften des Mittelalters* (Historische Semantik 11) (Göttingen: Vandenhoeck & Ruprecht, 2008); *Diagramm und Text. Diagrammatische Strukturen und die Dynamisierung von Wissen und Erfahrung*, ed. Eckart Conrad Lutz, Vera Jerjen and Christine Putz (Überstorfer Colloquium 2012) (Wiesbaden: Reichert, 2014); Henrike Haug, Christina Lechtermann and Anja Rathmann-Lutz, "Diagramme im Gebrauch," in *Diagramme im Gebrauch*, ed. Henrike Haug, Christina Lechtermann and Anja Rathmann-Lutz = *Das Mittelalter. Perspektiven mediävistischer Forschung* 22, no. 2 (2017): 259–66.

⁶ Munich, Bayerische Staatsbibliothek, Clm 14583, fols. 454r–488v, here fol. 471v (fifteenth century).

⁷ *Pilgrimage*, ed. Pringle, 243; Burchard, *Descriptio terrae sanctae*, ed. Laurent, 21: "Et ab ipsa protraxi quatuor lineas, quatuor mundi partibus respondententes."

⁸ Munich, Bayerische Staatsbibliothek, Clm 14583, fols. 454r–488v, here fol. 471v; cf. the digital reproduction and the description of the manuscript by Julia Knödler, Munich, Bayerische Staatsbibliothek, Katalog der Handschriften aus dem Benediktinerkloster St. Emmeram in Regensburg, since 2012 researchable on URL: <http://www.manuscripta-mediaevalia.de/info/projectinfo/muenchen-emmeram.html> (last accessed July 19, 2021).

⁹ On this text cf. *Thesaurus Monumentorum Ecclesiasticorum, sive Henrici Canisii lectiones antiquae*, ed. Heinrich Canisius and Jacques Basnage de Beauval, vol. 4 (Antwerp: Apud Rudolphum & Gerhardum Wetstenios, 1725), 426–46, here 439–40, extant in many versions; cf. Michele Campopiano, "Tradizione e edizione di una compilazione di testi sulla Terra Santa proveniente dal convento francescano del Monte Sion (fine del XIV secolo)," *Revue d'histoire des textes* 6 (2011): 329–59, here 336, 338, 359 no. 8.

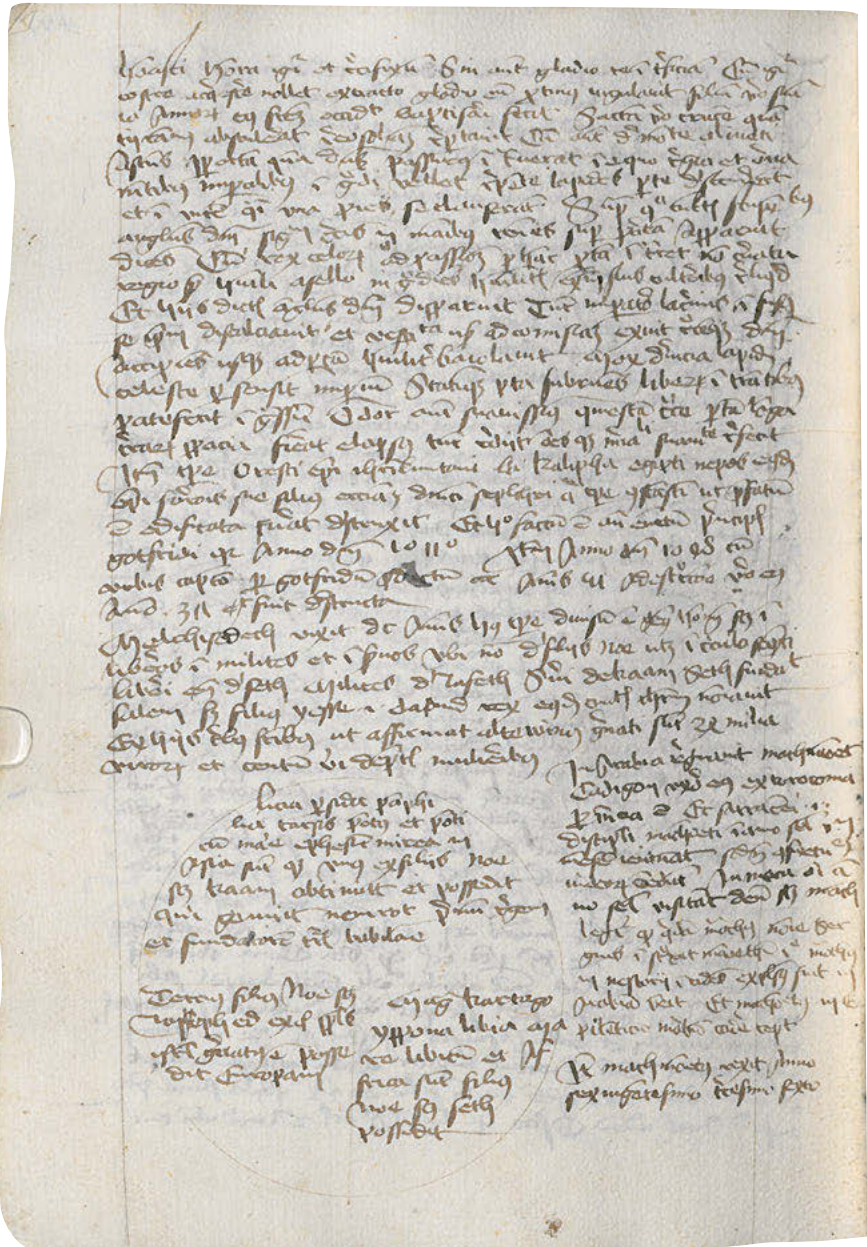


Fig. 2.1: T-O schema, fifteenth century; Munich, Bayerische Staatsbibliothek, Clm 14583, fol. 471v. Creative Commons 4.0.

Africa are each limited to one quarter. There is a certain tension between the four quarters as a geometrical division and the three parts of the earth, which were later equated with the continents. Each of the latter was attributed to one of Noah's sons. The diagram filled the continents with words, which included topographical terms from the Bible and the region's geography as well as the Noachides' names.¹⁰ The most important achievements of their descendants were recorded as well: Nimrod from the tribe of Ham is portrayed as the first king and initiator of the Tower of Babel and Japheth is depicted as the progenitor of the Israelites.¹¹ Such T-O schemata were common not only in encyclopedic treatises and descriptions of the world but also in geographical texts and compilations about the Holy Land, such as those by Burchard, Johannes Poloner, and the anonymous author of *De bellis sacris*, as exemplified by the present example, and the many creators of a wide range of fragments, excerpts, and other literary works.¹²

The prologue in Burchard's report on the Holy Land continues by elucidating the world's segmentation: "each quarter I have divided into three, so that those twelve divisions might correspond to the twelve winds of heaven; and in each division I have placed the cities and places mentioned more especially in

10 On this kind of map with a chorographical text, called "list map" or "Listenkarte," see Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed Their World* (British Library Studies in Map History 1) (London: British Library, 1997), 5–6; Bettina Schöller, *Wissen speichern, Wissen ordnen, Wissen übertragen. Schriftliche und bildliche Aufzeichnungen der Welt im Umfeld der Londoner Psalterkarte* (Medienwandel – Medienwechsel – Medienwissen 32) (Zurich: Chronos, 2015), 70–75, 186–95.

11 Munich, Bayerische Staatsbibliothek, Clm 14583, fol. 471v: "Licia Persida Pamphilia Tarsis Pontus et Ponticum mare Ephesus mirca in Asia sunt quam unus ex filiis Noe scilicet Kaam [sic!] obtinuit et possedit qui genuit Nemrot primum regem et fundatorem turris Babilonis. | Magna Karthago Yppona Libia mare Libicum in Affrica sunt, filius Noe secundus Seth [sic!] possedit. | Tercius filius Noe scilicet Japhed ex quo populus Israel generatus est possedit Europam." The schema is not edited and follows the manuscript in Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 354 Helmst., fol. 290vb of which we have the description by Bertram Lesser (<http://diglib.hab.de/?db=mss&list=ms&id=354-helmst&catalog=Lesser>, last accessed July 19, 2021). In both manuscripts, the T-O schema is accompanied by an excerpt from Honorius Augustodunensis' *Imago mundi*, lib. 3 (PL 172, p. 166), probably written by Johannes Poloner for his text 'De filiis Noe et de divisione mundi' (*Melchisedech vixit DC annis huius tempore . . .*). This part of Poloner's work is not edited.

12 The copy of Poloner's report in Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 354 Helmst., fol. 290 is close to Munich, Bayerische Staatsbibliothek, Clm 721, fols. 70v–86r (written 1454–1457), which also contains a schematic world map in the T-O format and a simple pictorial representation of the Church of the Holy Sepulcher in Jerusalem; cf. Andres Betschart, *Zwischen zwei Welten. Illustrationen und Berichte westeuropäischer Jerusalemreisender* (Würzburger Beiträge zur deutschen Philologie 15) (Würzburg: Königshausen & Neumann, 1996), 268 no. 5.

scripture.”¹³ His chapters follow these divisions in accordance with the twelve principal winds, also taking the political importance of the crusader city Acre in the center into account. From there, the routes extend across Palestine, Syria, and Lebanon, all the way to Lesser Armenia in the north and Egypt in the south. Seven out of the sectors surrounding coastal Acre cover land and five cover water. Colored chapter headings like those in the manuscript in Padua¹⁴ order the expansive fan-shaped arrangement.

The text describes the system of sectors from Syria in the north to the coastal areas in the south. The first four (*prima, secunda, tercia, and quarta divisio*) are followed by two densely populated sectors in the eastern quarter (*secunda and tercia divisio quarte orientalis*), with an additional section on Jerusalem and its surroundings, and lastly the southern sector (*prima divisio quarte australis*) with its coastal towns. The concluding three chapters provide an overview of the Holy Land’s size and its tribes, the crops and animals of the earth that was blessed with fertility, as well as the religions and customs of the region. This structure carries out what was suggested in the preface (*prologus*) of the *Descriptio*’s long version, cited above.¹⁵

The division of the world into four parts and twelve wind directions forms the text’s construction, and that also becomes apparent in the graphic depictions. Of late, it has been assumed that the regional diagrams in the *Descriptio* manuscripts now in London, Munich, and Hamburg¹⁶ were meant to illustrate the travel account’s internal organization; the manuscript in Berlin, formerly Hildesheim, includes a diagram showing twelve winds, named in Latin and German, but does not connect them to the region of the Holy Land.¹⁷ However,

13 *Pilgrimage*, ed. Pringle, 243; Burchard, *Descriptio terrae sanctae*, ed. Laurent, 21: “et quamlibet quartam divisi in tria, ut responderent duodecim divisiones iste duodecim ventis celi.”

14 Cf., for instance, Padua, Biblioteca Antica del Seminario Vescovile, Cod. 74.

15 Burchard, *Descriptio terrae sanctae*, ed. Laurent, 19–21, esp. 21; *Pilgrimage*, ed. Pringle, 241–43, esp. 243; *Description*, ed. Stewart, 1–5, esp. 4–5.

16 London, British Library, Add. Ms. 18929, fol. 51r; Munich, Bayerische Staatsbibliothek, Clm 569, fol. 186v; Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, p. 13.

17 Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Handschriftensammlung, Ms. Lat. Oct. 293 (olim Hildesheim, Bibliothek des bischöflichen Gymnasium Josephinum, Nr. 17*), fol. 1*v. I am grateful to Jonathan Rubin and Michael Schonhardt for bringing this manuscript to my attention. Cf. Joseph Godehard Müller, “Nachricht über die Bibliothek des Gymnasii Josephini und die auf derselben vorhandenen Handschriften und alten Drucke,” in *Programm des Gymnasium Josephinum für das Schuljahr 1875–1876* (Hildesheim: Lax, 1876), 6–7; Bettina Wagner, *Die ‘Epistola presbitri Johannis’ lateinisch und deutsch. Überlieferung, Textgeschichte, Rezeption und Übertragungen im Mittelalter, mit bisher unedierte Texten* (Münchner Texte und Untersuchungen zur deutschen Literatur des Mittelalters 115) (Tübingen: Niemeyer, 2000), 47–48; Rotter, “Windrose statt Landkarte,” 84 wrongly states that the manuscript was lost.

the different modes of visualization have never been studied carefully. Without doubt, these cartographic schemata present highly abstract images. The text follows principal roads, whereas the illustrations employ the straight lines of the wind directions to conceptualize the world as divided into terrestrial and maritime units. Burchard utilized the wind rose for his text, as did later copyists for their illustrations exclusively in regard to dry land, even though contemporary sea charts usually associated these devices with the sea. Burchard's description concentrated on the Holy Land and its surroundings so it reaches only as far as the coastline of the Mediterranean, not beyond.¹⁸

The division into four parts – like the four parts of the world and the four principal winds – was the most obvious solution to provide readers with a reliable orientation, regardless of their own location and education. Burchard opened his description with the shoreline of the Mediterranean south of Acre, which was the most important area for pilgrims, since they usually arrived there:

Let it be known first of all, as has been said above, that I have divided the Holy Land into four parts, corresponding to the four quarters of heaven, that is to say the eastern, western, southern and northern, notwithstanding that the whole of the western division faces the Great Sea as do those parts of the southern and northern divisions that adjoin the western. I shall begin first of all by proceeding in a straight line south from the city of Acre, which in antiquity was called Ptolomaïs, passing by the cities and places that are located on the shore of the Great Sea.¹⁹

Emmanuelle Vagnon points out that the expression “the four quarters of heaven” (*quatuor plagis celi*) relates to the terminology of scholarly astronomy, which – following Aristotle – became part of Dominican university education.²⁰ This quartering as an academic model caused Burchard to implement the encyclopedic and Christian tradition of dividing the space into twelve parts that stood in contrast to

18 Emmanuelle Vagnon-Chureau, “Mesurer la Terre sainte. Mesures de l'espace et cartographie de l'Orient latin, du IXe au XVe siècle,” in *Mesure et histoire médiévale, XLIIIe Congrès de la SHMESP*, ed. Société des historiens médiévistes de l'Enseignement supérieur public (Histoire ancienne et médiévale 123) (Paris: Éditions de la Sorbonne, 2013), 293–309, esp. 301.

19 *Pilgrimage*, ed. Pringle, 245; cf. Burchard, *Descriptio terrae sanctae*, ed. Laurent, 23: “Sciendum igitur primo, sicut supra dictum est, quod terram sanctam in quatuor partes diuisi, que partes respondent quatuor plagis celi, scilicet orienti, occidenti, meridiei et septentrionali, licet pars tota occidentalis respiciat mare magnum, et austri et aquilonis similiter partes ille, que sunt collaterales occidentali. Incipiam primo a directa linea, a ciuitate acconensi, que antiquitus Ptolomayda dicebatur, uersus aquilonem procedendo propre ciuitates et loca, que sunt in littore magni maris sita.”

20 Vagnon-Chureau, “Mesurer,” 301; on the different types of wind roses cf. Patrick Gautier Dalché, “Pere Marsili, une carte majorquine (1313) et l'*ardua controversia* des vents,” *Itineraria* 5 (2006): 153–69.

the practical concepts of eight or sixteen wind directions used by sailors. Burchard related his four-twelve construction to biblical themes that pertain to the structure of the Holy Land. The twelve tribes of Israel, which shaped not only biblical history but also the text's composition, seem to have been especially important:

It should be known first of all that one part of the land that we call the Holy Land, which fell to the lot of the twelve tribes of Israel, was called the kingdom of Judah and contained two tribes, Judah and Benjamin. The other part was called the kingdom of Samaria, that is to say of the city that is now called Sebaste and was the capital of the ten remaining tribes, which were called Israel.²¹

The numbers four and twelve harmonize with Dominican preferences that became visible on different levels concerning the quartering of the whole world and the number twelve as a territorial classification associated with the biblical tribes and the regions evangelized by the apostles.

However, not all of the wind diagrams in manuscripts with the *Descriptio terrae sanctae* follow Burchard's concept in every detail, and, surprisingly, there are slight differences in regard to important elements. In a Munich manuscript (Fig. 2.2), a later scribe or illuminator transformed Burchard's original design into a wind diagram oriented to the north.²² It shows the seaport Acre on the Mediterranean coast as a heavily fortified triangle with nine steepled city gates, the three largest dominating the corners of the walls. Twelve sectors of land and water are separated by double lines: whereas the seven on land are labeled, the five on water are not. All lines emanate from the town's center and lead to individual wind names outside the circle: *septentrio* is in the north, *aquilo* in the north-northeast, *vultumus* in the east-northeast, *oriens* in the east, *europauster* in the east-southeast is not named; next are *eurus* in the south-southeast, *nothus* in

²¹ *Pilgrimage*, ed. Pringle, 243; cf. *Description*, ed. Stewart, 5; Burchard, *Descriptio terrae sanctae*, ed. Laurent, 21: "Sciendum autem est in principio, quod terra ista, quam sanctam dicimus, que cecidit in sortem duodecim tribuum Israel, pro parte aliqua dicebatur regnum Iuda, que erat duarum tribuum, scilicet Iude et Benjamin; pro parte altera dicebatur regnum Samarie, ciuitatis scilicet, que nunc Sebaste dicitur et erat caput decem tribuum reliquarum, que Israel dicebantur."

²² Munich, Bayerische Staatsbibliothek, Clm 569, fols. 184r–210v (short version), here fol. 186v. The city's triangular form in the different versions of Burchard's report relates to the words "habens formam ut clypeus"; cf. Rotter, "Windrose statt Landkarte," 79–80 fn. 108. Jeffrey F. Hamburger, *Haec figura demonstrat. Diagramme in einem Pariser Exemplar von Lothars von Segni 'De missarum mysteriis' aus dem frühen 13. Jahrhundert* (Wolfgang Stammerl Gastprofessor für Germanische Philologie, Vorträge 20) (Berlin: De Gruyter, 2013), demonstrated that diagrams were rarely a consistent part of a text and instead represented an additional means of expression. He showed as well that they were often different in the various manuscripts and thus provided new interpretations of the text.

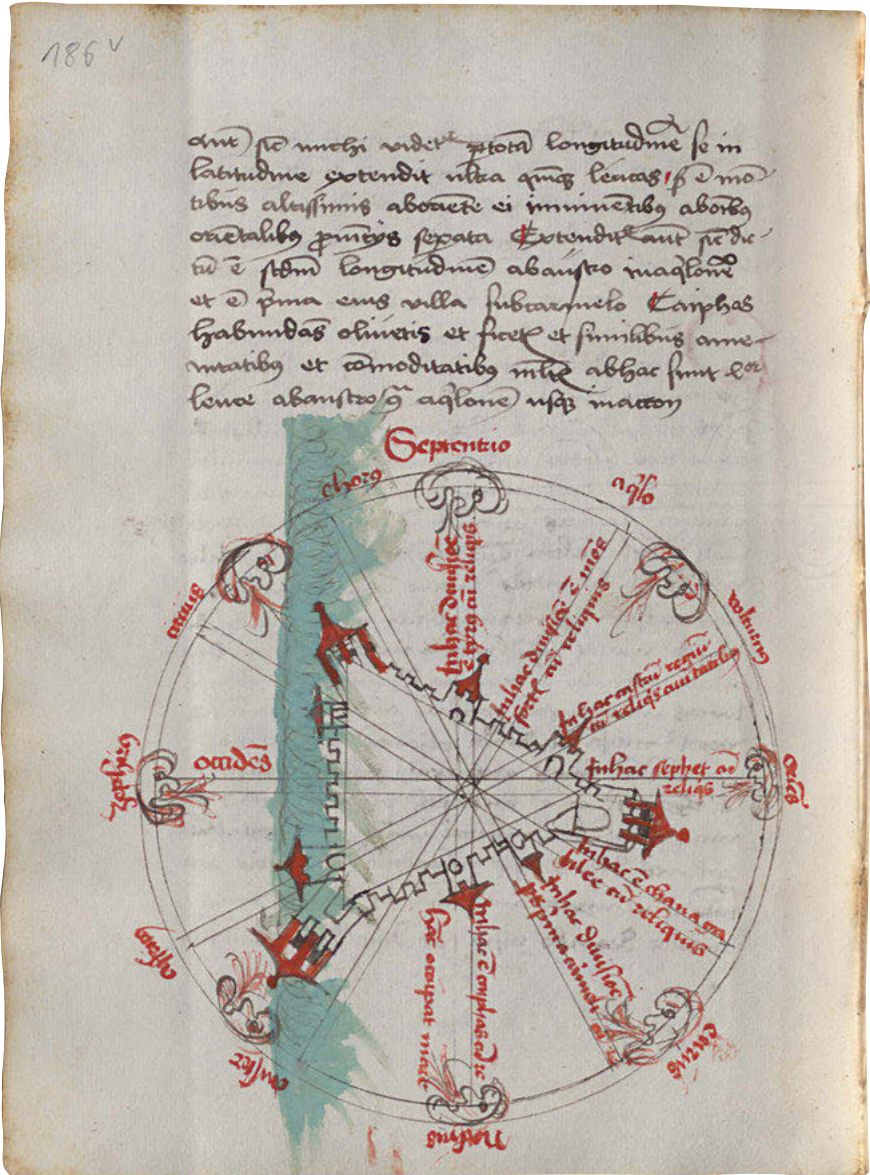


Fig. 2.2: Wind diagram, fifteenth century; Munich, Bayerische Staatsbibliothek, Clm 569, fol. 186v. Creative Commons 4.0.

the south, *auster* in the south-southwest, *africus* in the west-southwest, *zephyrus* in the west, *circius* in the west-northwest, and *chorus* in the north-northwest.²³

Each of the seven land sectors is accompanied by an explicit reference to a biblical or political location. The inscriptions along the double lines refer (from north to south) to the coastal town of Tyre, the Montfort and Château du Roi (*castrum regium*) castles of the Teutonic order, the Templar Castle Sephet (present-day Safed), Cana of Galilee, Mount Carmel, and Haifa on the southern coast.²⁴ Each locale stands for one of the seven districts with all of its various sites, which are portrayed in the respective chapter. Despite the twelve double lines, only eight wind heads are blowing from the outer circle: these are the four principal winds, which alternate with four secondary winds.

In this depiction, a certain tension arises between twelve and eight, that is, between the scholarly and the nautical wind systems and between their connotations and the different structures they imposed. The innovative red and turquoise image incorporates not only numbers and their meaning but also various secular and religious concepts. The coastline accentuates the eastern orientation of the Holy Land, Acre's triangular form in the center evokes the Holy Trinity as a sign of the Christian faith, and the world's circle encompasses the expansive missionary activities of the apostles in accordance with the twelve winds. The eight wind heads might refer to the practical application and usefulness of wind directions.

The location of Acre also defines the layout of the second known wind diagram, in a copy of Burchard's report probably written between around 1380 and 1420 in Germany, which formerly belonged to the Monastery of Saint Peter in Erfurt and now is in London (Fig. 2.3).²⁵ The port city seems to be indicated by a double-lined semicircle in the middle of the text-laden diagram, which is oriented to the south and focuses mainly on the area east of the shoreline. The lines of seven winds, labeled in red, divide the territory into six sections: *septentrio* blows from the north at the bottom, *boreas* from the north-northeast, *wulturnus* (later *volturus*) from the east-northeast, *oriens* from the east, *eurus* from the east-southeast, *euroauster* from the south-southeast, and *auster* from the south.²⁶ The seven lines

²³ Munich, Bayerische Staatsbibliothek, Clm 569, fol. 186v; cf. Harvey, *Medieval Maps*, 95 fn. 13; Baumgärtner, "Reiseberichte, Karten und Diagramme," 475; Baumgärtner, "Burchard of Mount Sion," 19–22; Rotter, "Windrose statt Landkarte," 78–82.

²⁴ Rotter, "Windrose statt Landkarte," 80–81, with a transcription and interpretation of these short texts along the double lines.

²⁵ London, British Library, Add. Ms. 18929, fols. 1r–50v (long version), fol. 51r with the wind diagram; Harvey, *Medieval Maps*, 95–96; Baumgärtner, "Reiseberichte," 475; Baumgärtner, "Burchard," 21–22; Rotter, "Windrose statt Landkarte," 84–85; Rubin, "Descriptio," 173–82.

²⁶ Rotter, "Windrose statt Landkarte," 85–86 fn. 132 with full transcriptions.

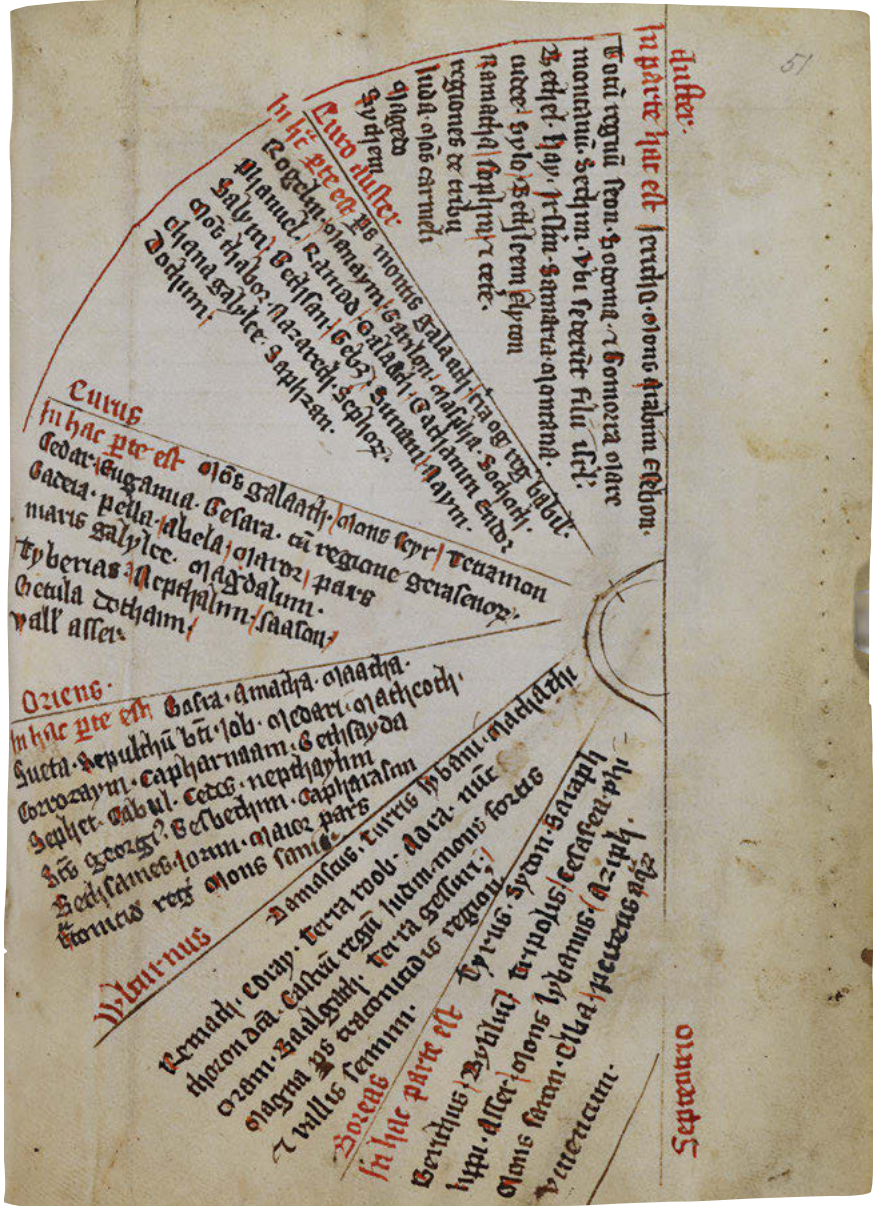


Fig. 2.3: Wind diagram, ca. 1380–1420; London, British Library, Add. Ms. 18929, fol. 51r.
 © The British Library Board.

of the winds or sectors distinguish six territories of different sizes, whose inscriptions list locations and regions (most of them not in the text of the *Descriptio*) in a seemingly uniform manner. The six zones, however, do not correspond to the seven sections of Burchard's text. It is obvious that the illustrator had a twelve-wind schema in mind, which he considered an efficient illustration of the relevant geography. But the semicircle's six parts are unequal and their lines do not all pass through the diagram's center point. The coastline that runs from the south to the north and the east-west intersecting line that meets it at the coast do not connect to the midpoint of the circle as marked by a pair of compasses. The correlation with the quarters of the earth is no longer recognizable. Thus, it seems as if the twelve-wind pattern had become an independent model.

In a later manuscript now in Hamburg, an east-oriented semicircle was sketched in the lower margin (Fig. 2.4).²⁷ The drawing was apparently not produced by the text's scribe, but by a later reader. At first glance, there seems to be hardly any order at all. Various names of crusader castles and other places, fanning out around Acre, have been crossed out. The inscriptions surrounding the semicircle indicate the cardinal directions and winds, namely north (*aquilo*), northeast (*voltumnus*), east (*oriens*), southeast (*nothus*), and south (*auster*). The east-southeast wind (*ventus ost sut ost*), at the top right, was presumably not part of the system as indicated by its name, a mixture of Latin and German, and its irregular position compared to the other winds. To the left and right of the schema, there are calculations of distances taken from the text that describe the length and breadth of the Holy Land.²⁸ In contrast to the labels, which follow Burchard's account at least to some extent, the pictorial elements seem to implement their creator's idea of an eight-wind classification rather than the travelogue's original system of twelve winds.²⁹ It is obvious that the illustrator's mental image was not in line with Burchard's concept, so he encountered difficulty in combining the two

27 Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, p. 13; Reinhold Röhrich, "Marino Sanudo sen. als Kartograph Palästinas," *Zeitschrift des deutschen Palästinavereins* 14 (1990): 84–126, esp. 93 fn. 1; Harvey, *Medieval Maps*, 95–96 with illustration; Baumgärtner, "Reiseberichte," 475–76; Baumgärtner, "Burchard," 22. However, Rotter, "Windrose statt Landkarte," 86–90, judged the diagram to be incorrect ("fehlerhaft") without consideration for the illustrator's intentions.

28 Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, p. 13; cf. Baumgärtner, "Reiseberichte," 476; Baumgärtner, "Burchard," 22; Rotter, "Windrose statt Landkarte," 87 with slightly different readings.

29 Rotter, "Windrose statt Landkarte," 89, contends incorrectly that in regard to the *Descriptio* (and therefore the Munich wind rose), the artist of the wind rose sketch misconstrued several fundamental points: "Der Zeichner der Windrosenskizze geht in Relation zur *Descriptio* (und somit zur Münchner Windrose) in grundlegenden Punkten fehl."

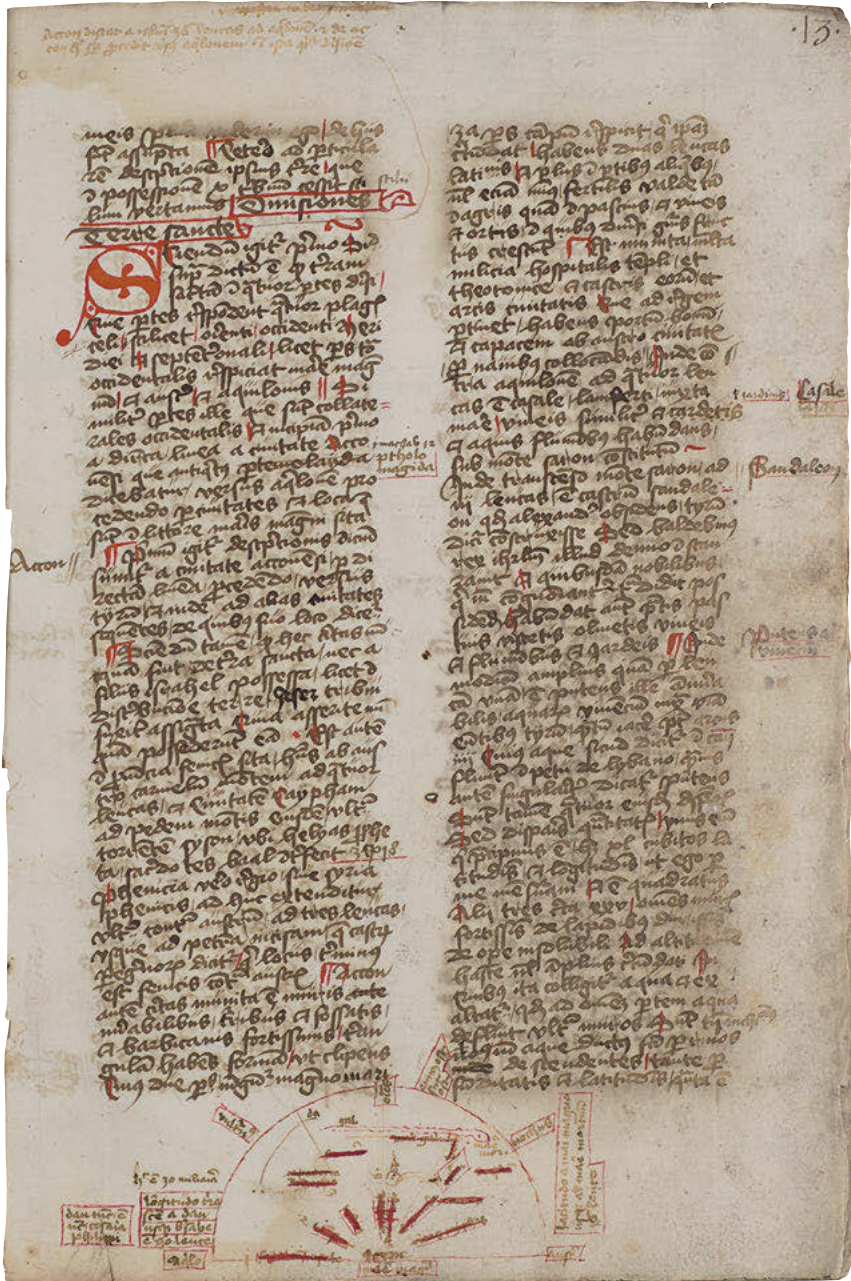


Fig. 2.4: Wind diagram, sixteenth century; Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, p. 13. Creative Commons 4.0.

different wind systems. Interestingly, two additional wind roses with eight radial lines are pictured on a map of the Holy Land at the end of the manuscript.³⁰ The images, which emphasize Acre and Jerusalem, were created in the sixteenth century, perhaps at the same time as the aforementioned sketch in this copy of Burchard's report.³¹ It is even possible that all three visualizations originated in the same context.

To summarize some preliminary results: the graphical illustrations of the text's content are not uniform but relate to specifics of its dissemination from the fourteenth to the sixteenth century. The surviving diagrams show a particular tension between the world's division into four parts and into eight or twelve wind directions. This exemplifies the prevalent mode of cartographical thinking and emphasizes the importance of a reader's or beholder's imagination in the Middle Ages. Not only were geographical schemata organized in accordance with traditional geometric concepts, but they also pictured the world or parts of the world relying on their creators' memories. The ideas of Greek and Roman philosophers, geographers, and sages were often adopted. Antique concepts that structured the world included, for example, the four quarters or corners of the world, the tripartite division of landmasses, the eight or twelve wind directions, and five or seven climatic zones, which determined the earth's habitable regions. Both of the described principles, the four parts of the world and the classifications according to winds, should be considered in a broader context.

The Four Parts of the World and the Tripartite Order of the Continents

Since the phenomenal world as well as the cosmos were (and are) only partially visible to the naked eye, different methods have been invented to systematize the perception of the world in its entirety, in accordance with the laws of nature and the framework of space and time. The continents are among the most common and widespread classifications of geography in the modern world. Their large physical landmasses seem to be natural entities. It is, however, important to be aware that continents are an artificial construct, which often includes simplistic

³⁰ Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, pp. 70–71.

³¹ Rotter, "Windrose statt Landkarte," 87 wrongly states that both of the wind roses on the map can be disregarded because their circles have only eight radial lines: "Diese beiden Windrosen auf der Karte können hier außer Betracht bleiben. Sie haben in der ganzen Kreisfläche nur acht Radien."

notions of their role in a meta-geography.³² Just like the landmasses and their contours, which are in constant motion, geographic models and criteria evolved throughout history owing to changing cultural concepts. Transformations of the collective consciousness pertained to the global scale as well as to borders between known continents.

From the beginning, the fact that Europe, Asia, and Africa are part of one contiguous landmass raised the question as to how and where a border should be drawn and which parts of the earth belonged to which side. The emergent dispute was influenced by ancient Greek divisions of the inhabited world into either two or three parts.³³ If and how the world should be subdivided was a matter of controversy in which a hierarchy of the three continents had not yet been discussed. The historian Herodotus of Halicarnassus championed the trisection of the world introduced by the ethnographer Hecataeus of Miletus, which contradicted the bipartite system of Asia and Europe that circulated at the same time. Both approaches were conceived from a Greek perspective, that is, from the edge of Europe in close vicinity to Asia. Yet, they differed in their assessment of Libya, which represented Africa. According to one viewpoint, its smaller size and aridity disqualified it as an independent unit. Conversely, Herodotus, who was fully aware that every division in itself was artificial and almost paradoxical in light of the contiguous landmasses, disputed at length about where the physical (not political or cultural) border should be drawn if Europe and Africa were to be divided.³⁴ He did not accept the geometrical division along the Nile and argued instead for a united Egypt on both sides of the

32 Martin W. Lewis and Kären E. Wigen, *The Myth of Continents: A Critique of Metageography* (Berkeley: University of California Press, 1997, reprint 2003). This approach was discussed and expanded during an interdisciplinary workshop on “Mapping Continents in the Premodern World,” organized by Christoph Mauntel and Klaus Oschema on November 28, 2014 in Heidelberg; for the result see Christoph Mauntel, Klaus Oschema, Jean-Charles Ducène and Martin Hofmann, “Mapping Continents, Inhabited Quarters and the Four Seas: Divisions of the World and the Ordering of Spaces in Latin-Christian, Arabic-Islamic and Chinese Cartography in the Twelfth to Sixteenth Centuries. A Critical Survey and Analysis,” *Journal of Transcultural Medieval Studies* 5, no. 2 (2018): 295–367.

33 Ingrid Baumgärtner, “Europa in der Kartographie des Mittelalters. Repräsentationen – Grenzen – Paradigmen,” in *Europa im Weltbild des Mittelalters. Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10) (Berlin: Akademie Verlag, 2008), 9–28, esp. 11–17; Klaus Oschema, *Bilder von Europa im Mittelalter* (Mittelalter-Forschungen 43) (Ostfildern: Thorbecke, 2013), 88–96.

34 Herodotus, *Histories*, 4.42.1–4 and 45.1–5; cf. Klaus M. Girardet, “Kontinente und ihre Grenzen in der griechisch-römischen Antike,” in *Europas Grenzen*, ed. Sabine Pentz et al. (Limes 1) (St. Ingbert: Röhrig, 2006), 19–65, esp. 37–39.

river, which formed an entity based on the empirical cartography informed by travel and practical experience.

The twofold and the threefold models existed side by side for a long time. Centuries later, the geographer and historian Strabo continued to criticize the Greeks for placing their own country at the geographical center without considering the whole inhabited earth. However, he accepted the tripartite world and suggested the Red Sea instead of the Nile as Africa's boundary.³⁵ Pliny the Elder discussed the issue as well. In his widely read *Naturalis historia*, which served as an encyclopedic source for many medieval authors, he formulated the oft-cited sentence "Terrarum orbis universus in tres dividitur partes: Europam, Asiam, Africam," followed by information about the rivers Phasis or Tanais (Don) and the Nile as boundaries.³⁶

The most crucial aspect of further developments was how this argument related to the ideas of Western Christianity. At the beginning of the fifth century, the Church Fathers Jerome and Augustine and the Christian historiographer Paulus Orosius attempted to harmonize the different notions. In his *De civitate Dei*, written around 413–426, Augustine distinguished the province of Asia from what was called Asia as a part of the tripartite earth and suggested that half the world should be conceded to Asia and that Europe and Africa were to share the other half.³⁷ With this argument, a mode of thought emerged that had serious

35 Strabo, *Geography*, 1.4.7–8; *Strabons Geographika*, vol. 1: *Prolegomena. Buch I–IV: Text und Übersetzung*, ed. Stefan Radt (Göttingen: Vandenhoeck & Ruprecht, 2002), 162–67; *The Geography of Strabo*, ed. Hans C. Hamilton and William Falconer, vol. 1 (London: Henry G. Bohn, 1854), 102.

36 C. Plinius Secundus, *Naturalis historiae libri XXXVII*, ed. Carolus Mayhoff, 5 vols. (Bibliotheca scriptorum Graecorum et romanorum Teubnerian) (Leipzig: Teubner, 1906, reprint Stuttgart 1967), 1:3.1.3; C. Plinius Secundus, *Naturalis historiae libri XXXVII*, ed. Roderich König and Gerhard Winkler, 2nd ed. (Sammlung Tusculum) (Munich: Artemis & Winkler, 2002), 3.1.3.

37 Augustine of Hippo, *De civitate Dei*, 16.17: "Asiam nunc dico non illam partem quae huius maioris Asiae una provincia est, sed eam quae universa Asia nuncupatur, quam quidam in altera duarum, plerique autem in tertia totius orbis parte posuerunt, ut sint omnes Asia, Europa et Africa; quod non aequali divisione fecerunt. Namque ista quae Asia nuncupatur a meridie per orientem usque ad septentionem pervenit; Europa vero a septentrione usque ad occidentem, atque inde Africa ab occidente usque ad meridiem. Unde videntur orbem dimidium duae tenere, Europa et Africa, alium vero dimidium sola Asia. Sed ideo illae duae partes factae sunt quia inter utramque ab Oceano ingreditur quidquid aquarum terras interluit; et hoc mare magnum nobis facit. Quapropter si in duas partes orbem divides, Orientis et Occidentis, Asia erit in una, in altera vero Europa et Africa." Augustine of Hippo, *The City of God against the Pagans in Seven Volumes*, trans. Eva Matthews Sanford and William McAllan Green, 5 vols., 2nd ed. (Loeb Classical Library) (Cambridge, MA: Harvard University Press, London: Heinemann, 1988), 5:92–93: "Now by Asia I do not mean that portion which is only a

consequences. In his universal history, Orosius, one of Augustine's students, agreed with his teacher's reasoning when he offered an apologetic defense of Christianity.³⁸ Moreover, Jerome, who wrote numerous commentaries on the Old and New Testaments, reinforced the Christian reading through his account of Noah's sons and successors: "From Shem were born the Hebrews, from Japheth the people of the Gentiles."³⁹ From this evolved the narrative that each of Noah's three sons received one of the three parts of the world as his inheritance.

Subsequently, the model was firmly established in the Christian imagination. Isidore of Seville, the great mediator of ancient culture, adopted the theological endeavors and accentuated an orientation towards the east.⁴⁰ Like his predecessors, he promoted the idea that Asia, Europe, and Africa divided the

province of greater Asia, but what we call the whole of Asia, which certain men have counted as one of the two divisions of the world, while the majority make it one of three parts of the whole, Asia, Europe and Africa. This division is not an equal one. For the part called Asia stretches from the south eastward to the north; Europe from the north to the west, and Africa, adjoining it, from the west to the south. Consequently, two divisions, Europe and Africa, are seen to occupy half of the world, while Asia alone occupies the other half. But the first two are considered distinct portions of the world because between them enters from the Ocean the body of water that flows between their shores, and this forms our Great Sea. Therefore, if you divide the world into two parts, east and west, Asia will be in one, and Europe and Africa in the other."

38 Paulus Orosius, *Adversus paganos historiarum libri VII*, 1.2.1–12: "Miores nostri orbem totius terrae, oceani limbo circumsaeptum, triquadrum statuere eiusque tres partes Asiam Europam et Africam vocaverunt, quamvis aliqui duas hoc est Asiam ac deinde Africam in europam accipiendam putarint. [...] Et quia breviter generales tirpediti orbis divisiones dedi, ipsarum quoque partium regiones, sicut pollicitus sum, significare curabo." Cited from Orosius, *Le storie contro i pagani*, ed. Adolf Lippold, trans. Aldo Bartalucci (Scrittori greci e latini) (Milan: Mondadori, 1976, 4th ed. 2001), 1:16; English translation: Andrew T. Fear, *Orosius: Seven Books of History against the Pagans* (Translated Texts for Historians 54) (Liverpool: Liverpool University Press, 2010), 36–37.

39 *Saint Jerome's Hebrew Questions on Genesis*, trans. with introduction and commentary by Charles T. Robert Hayward (Oxford: Clarendon Press, 1995, reprint 2001), 38 on Gen. 9:27; Hieronymus Stridonensis, *Hebraicae quaestiones in libro Geneseos*, ed. Paul de Lagarde, in *S. Hieronymi Presbyteri Opera*, Part I: *Opera Exegetica* 1 (Corpus christianorum Series Latina 72) (Turnhout: Brepols, 1959), 11: "De Sem Hebraei, de Iafeth populus gentium nascitur." In Christian interpretation, the question of whether the Israelites were to be considered as being among the Gentiles was controversial. Cf. Denis de Rougemont, *The Idea of Europe* (New York: Macmillan, 1966), 19.

40 Isidore of Seville, *Etymologiarum sive originum libri XX*, ed. Wallace Martin Lindsay, 2 vols. (Scriptorum Classicorum Bibliotheca Oxoniensis) (Oxford: Clarendon Press, 1911, reprint 1948), 2:14.2: "Divisus est autem trifarie: e quibus una pars Asia, altera Europa, tertia Africa nuncupatur. Quas tres partes orbis veteres non aequaliter diviserunt. Nam Asia a meridie per orientem usque ad septentrionem pervenit; [. . .]. Quapropter si in duas partes orientis et occidentis orbem dividat, Asia erit in una, in altera vero Europa et Africa." The last sentence cites Augustine word for word. Cf. *ibid.*, 13.16.7 on the orientation toward the east. In general cf. Andy Merrills, "Geography and Memory in Isidore's *Etymologies*," in *Mapping Medieval Geographies: Geographical*

world into three with Asia alone occupying one half. This view was further strengthened by certain pictorial strategies, namely the invention of a schematic representation: Asia, Europe, and Africa with a ratio of 2:1:1, encircled by the ocean and divided by the T-shape of the Mediterranean and the rivers Don and Nile. Among the first known T-O schemata are three in a manuscript of Isidore's *De natura rerum*. In the second recension of the text, preserved at the Escorial (ca. 636–686), there are three sketches dating from around the end of the seventh century in the lower margins.⁴¹

At the time, the concept could still be modified at one's discretion because form and meaning had not yet been determined. The famous square design in Clm 210 in Munich, a ninth-century copy of Bede's *De natura rerum*, even offers a world divided in three equal parts with Europe in the lower third. Oriented to the south, the diagram shows the world in the center with four cardinal directions (clockwise from the left) *oriens*, *auster*, *occidens*, and *aquilo*, the four elements *ignis*, *aer*, *aqua*, and *terra*, the four climates *calidus*, [*h*]umidus, *frigida*, and *sicca*, and the four seasons *ver calidum et humidum* (spring), *aetas calida sicca* (summer), *autumnus erigidus siccus* (fall), and *hiemps erigidus humidus* (winter).⁴² There is a significant tension between three and four, that is, between the circle and the square, which had well-known symbolic meanings: the visualizations in quadruples were in accordance with the fourfold interpretation of Scripture. The circle displayed divine perfection in its infinite consistency. Since every point kept the same distance from its center, it unified all the world's contradictions into the harmony of the Holy Trinity. From the early ninth century onwards, the three parts of the world were sometimes also identified with Noah's sons: Shem, the first-born, was associated with Asia, Ham with Africa, and Japheth, the youngest, with Europe. One of the earliest surviving depictions can be found in a manuscript of Isidore's *Etymologiae* now in Rouen; there, the T-O map is combined with a V map to depict the two concepts side by side (Fig. 2.5).⁴³

Encounters in the Latin West and Beyond, 300–1600, ed. Keith D. Lilley (Cambridge: Cambridge University Press, 2013), 45–64 for Isidore's fragmented geography.

41 Madrid, El Escorial, Real Biblioteca R II 18, fols. 24v and 25r with three T-O schemata on both pages; cf. Bede, *On the Nature of Things and On Times*, trans with introduction, notes and commentary by Calvin B. Kendall and Faith Wallis (Translated Texts for Historians 56) (Liverpool: Liverpool University Press, 2010), 10.

42 Munich, Bayerische Staatsbibliothek, Clm 210, fol. 132v; cf. Bede, *On the Nature of Things*, 102–3; Barbara Obrist, "Wind Diagrams and Medieval Cosmology," *Speculum* 72 (1997): 33–84 at 63 on a similar illustration, produced around 818, in Vienna, Österreichische Nationalbibliothek, Ms. 387, fol. 134r.

43 Rouen, Bibliothèque Municipale, Ms. 524, fol. 74v, early ninth century; cf. Chet Van Duzer, "A Neglected Type of Medieval Mappamundi and Its Re-Imaging in the *Mare historiarum* (BnF

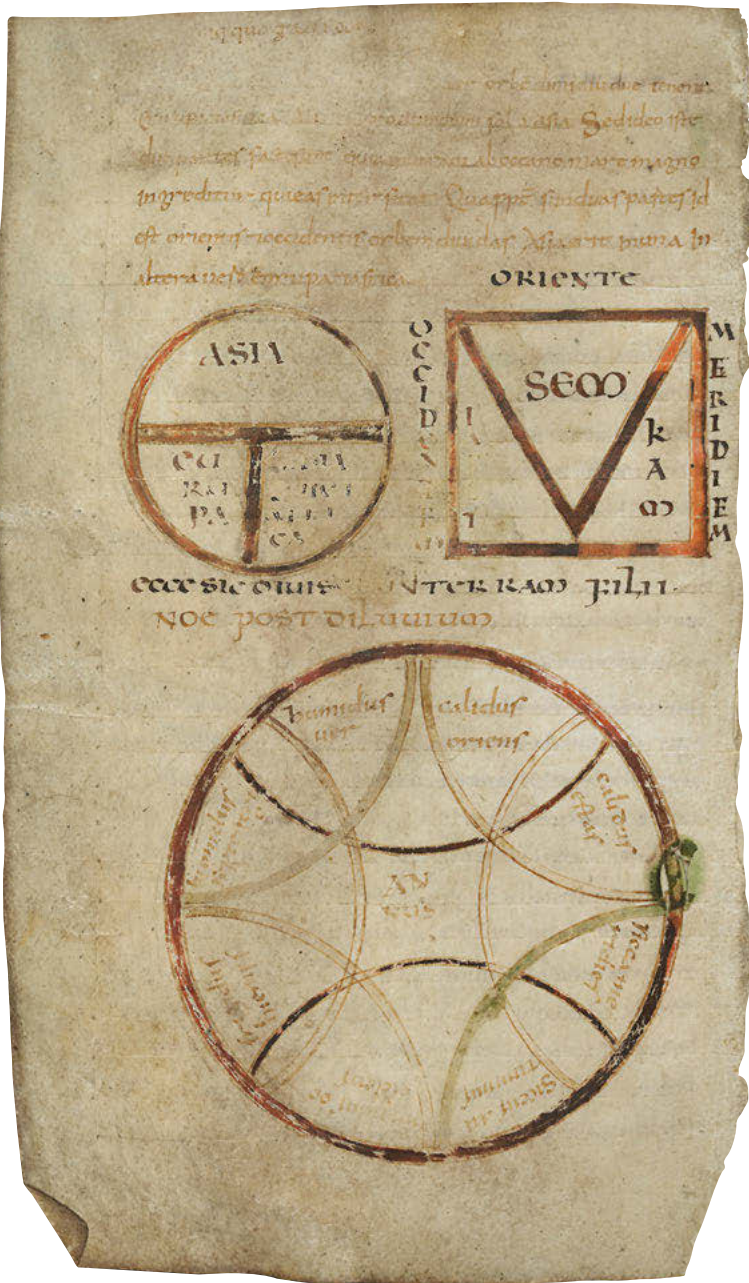


Fig. 2.5: T-O map of continents and V map with sons of Noah, early ninth century; Rouen, Bibliothèque Municipale, Ms. 524, fol. 74v.

The abstract T-O form, influenced by religious ideas but flexible in its production and transmission of meaning, was repeated in many manuscripts. The instantly recognizable design established a convention that helped authors and readers to explain and comprehend the earth and its parts and all the differences among its inhabitants, and a depiction of the schema was not always necessary. Medieval historiographers, travelers, and readers knew that Europe was the third part of the world (*tertia pars mundi*) and that it encompassed only one-quarter of its area and population. In his *Chronica maiora*, the chronicler and cartographer Matthew Paris, a Benedictine monk at the Abbey of St. Albans in Hertfordshire, demonstrated his awareness of this model when he reported that the Emperor Frederick II had been accused of heresy by the inhabitants of the four parts of the world (*quatuor mundi partes*) at the Council of Lyon in 1245.⁴⁴ Matthew probably intended his remark to underscore Frederick's global relevance. The Benedictine preferred to illustrate his own works, was fully informed about the world's structure, and was able to navigate the different connotations. Nevertheless modern researchers have raised doubts as to whether Matthew was referring to the four quadrants of the tripartite circle, to a fourth continent populated by antipodes as represented on Beatus maps,⁴⁵ or even to the other side of the earth seen on hemispherical world maps.⁴⁶

Ms. Lat. 4915, f. 26v,” *Viator* 43, no. 2 (2012): 277–301, esp. 294 with fig. Especially well known is the printed diagrammatic pattern in Isidore of Seville, *Etymologiae*, Augsburg, Günther Zainer, 1472 (London, British Library).

44 Matthaeus Parisiensis, *Chronica maiora*, ed. Felix Liebermann (MGH SS 28) (Hannover: Impensis Bibliopolii Hahniani/Hahnische Buchhandlung, 1888), 107–483 at 260: “Constanter igitur et acerrime in pleno et iam plenissimo concilio imperator Frëthericus, quasi toti ecclesie contumax et rebellis, a quatuor mundi partes inhabitantibus accusatur.” Cf. Oschema, *Bilder von Europa*, 295–97, for similar expressions like “quatuor Europae partes” or “quatuor Christianitatis partes.”

45 The Beatus maps regularly show a fourth continent that is occasionally even inhabited, for example, on the Osma Map by the Sciapode. Cf. Ingrid Baumgärtner, “Visualisierte Weltenräume. Tradition und Innovation in den Weltkarten der Beatus-tradition des 10. bis 13. Jahrhunderts,” in *Tradition, Innovation, Invention. Fortschrittsverweigerung und Fortschrittsbewußtsein im Mittelalter*, ed. Hans-Joachim Schmidt (Scrinium Friburgense 18) (Berlin: De Gruyter, 2005), 231–76; Baumgärtner, “Graphische Gestalt und Signifikanz. Europa in den Weltkarten des Beatus von Liébana und des Ranulf Higden,” in *Europa im Weltbild des Mittelalters*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10) (Berlin: Akademie Verlag, 2008), 81–132 (a translation of this paper can be found in this volume; see essay no. 5: “Graphic Form and Significance: Europe in the World Maps of Beatus of Liébana and Ranulf Higden”).

46 The Wolfenbüttel manuscript of the *Liber floridus* by Lambert of Saint-Omer, written around 1112–1121, depicts the tripartite earth on the left half of the globe and the world's other side on the right half: Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 1 Gud. Lat., fols.

The tripartite pattern can be found reflected in different forms and variations on most medieval *mappae mundi*. The Ebstorf map, for example, presents the capital letters for *EUROPA*, *ASIA*, and *AFRICA* spread out all over its surface. In addition, a T-shape with three names appears outside of the map's circle together with mythological explanations of the terms (Fig. 2.6).⁴⁷ The account follows Isidore, sometimes nearly word for word.⁴⁸ Even the T-form that doubled as a crucifix was adopted from a Christian-Isidorian tradition, which integrated the salvation into the *orbis*.⁴⁹

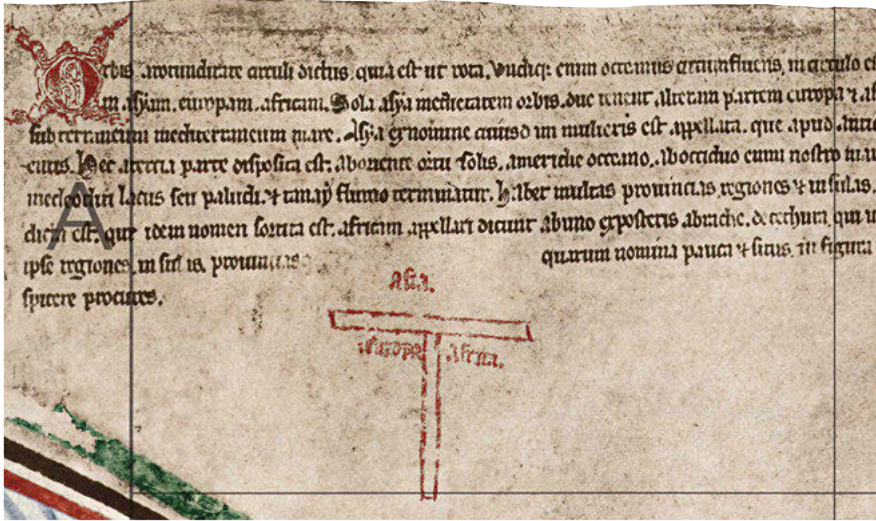


Fig. 2.6: T-diagram in the margin of the Ebstorf map, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, no. 6 A 1, 1:41.

69v–70r; cf. the facsimile by Christian Heitzmann and Patrizia Carmassi, *Der Liber Floridus in Wolfenbüttel. Eine Prachthandschrift über Himmel und Erde* (Darmstadt: WBG, 2014).

⁴⁷ Cf. *Die Ebstorfer Weltkarte. Kommentierte Neuauflage in zwei Bänden*, ed. Hartmut Kugler, vol. 1: *Atlas*, vol. 2: *Untersuchungen und Kommentar* (Berlin: Akademie Verlag, 2007), 1:40–41, no. 6 A 1, and 2:84: “Orbis a rotunditate circuli dictus, qui est ut rota. Undique enim oceanus circumfluens in circulo. Est tripartitus divisus, id est in Asiam, Europam, Africam. Sola Asia medietatem orbis, due tenent alteram partem Europa et Africa, quas intersecat velut subterraneum Mediterraneum mare.”

⁴⁸ Cf. Isidore of Seville, *Etymologiae* 14 (*De terra et partibus*), 2–5; *The Etymologies of Isidore of Seville*, trans., with introduction and notes, Stephen A. Barney, W. J. Lewis, J. A. Beach and Oliver Berghof (Cambridge: Cambridge University Press, 2006), 285–93.

⁴⁹ Cf. Anna-Dorothee von den Brinken, “Die Ebstorfer Weltkarte im Verhältnis zur spanischen und angelsächsischen Weltkartentradition,” in *Ein Weltbild vor Columbus. Die Ebstorfer Weltkarte. Interdisziplinäres Colloquium 1988*, ed. Hartmut Kugler (Weinheim: VCH Acta Humaniora, 1991), 129–45, esp. 131–32.

With regard to the Hereford map, Marcia Kupfer questioned the impact of this intellectual and spiritual model. She argues that the practice of writing and reading a map was influenced by optical theories and that every single cognitive step from the first idea or experience to the memorization of the map was planned systematically. Kupfer shows that the writings of Robert Grosseteste and Roger Bacon in particular must have been known in Hereford circles. William Herebert (ca. 1270–1333), a Franciscan at Hereford, collected, annotated, corrected, and translated manuscripts of Bacon’s works on optics and cosmography.⁵⁰ The younger Richard of Battle, or de Bello, who was, inter alia, canon prebendary of Lafford and probably one of the map’s sponsors or initiators, had a close connection to Lincoln, the former bishopric of Robert Grosseteste, which had a large manuscript collection. The map has been attributed to a learned author or authors, who united Bacon’s moralization of optics with a moralization of geography, and thus created a spiritual vision in an intellectual space with rich potential on many levels.

Based on these ideas, the map’s creators skillfully broke with convention to fashion special effects that delighted their erudite audiences. It was probably part of this intellectual game to exchange the inscriptions of *AFFRICA* and *EUROPA* on the lower half of the east-oriented map, which otherwise depicts the three parts of the inhabited world in a conventional manner. The elaborate gold leaf lettering, with *AFFRICA* written diagonally across the northwest quarter of Europe, and *EUROPA* across Africa in the southwest, probably expressed a unique meaning. Hitherto, scholarly opinion explained this reveal as a slip made by a careless or even ignorant artist or scribe, who was said to have made this strange mistake when applying the expensive lettering to the almost completed image. Kupfer, on the other hand, convincingly explains that this inversion of the T-O schema implied God’s west-oriented view from the east above, which projected a mirror image of the two western landmasses on the tripartite order.⁵¹ The result was the representation of both perspectives in one figure – the conventional tripartite image and God’s inverted view on the world.

⁵⁰ Cf. Marcia Kupfer, *Art and Optics in the Hereford Map: An English Mappa Mundi, c. 1300* (New Haven, CT: Yale University Press, 2016), 43–49.

⁵¹ Cf. Kupfer, *Art and Optics*, 135 on the T-O schema in different contexts; cf. Wesley M. Stevens, “The Figure of the Earth in Isidore’s ‘De natura rerum,’” in *Cycles of Time and Scientific Learning in Medieval Europe*, ed. Wesley M. Stevens (Variorum Collected Studies CS 482) (Aldershot: Ashgate, 1995), no. III, 268–77, esp. 274–77 on the reversed image in texts of Isidore and mirror-image astronomy.

Kupfer's theory is based on the assumption that on the Hereford map Boethius's concept of divine providence was translated into a visual representation that merged the whole world into a gift for Christ enthroned in majesty.⁵² Consequently, the primary motive for this kind of representation would have been the creation of a work of art that inspired its audience to meditate on the reciprocity of human and divine thoughts and acts and to admire God's greatness and omnipotence. The tripartite schema could be converted into a mirrored worldview, as the rational foundation of the multipurpose T-O figure underwent a transformation to become a symbol of Christ.

An unfinished T-O map makes for an enlightening example. The image can be found in a manuscript of Isidore's *De natura rerum* now in the Bodleian Library (ca. 1120, and before 1125),⁵³ which belonged to Salisbury Cathedral when Richard de Bello was there in a move to advance his career.⁵⁴ It shows a reversed T-O schema with transposed western quadrants, similar to the design in a particular, well-defined subgroup in Sallust's *De bello Iugurthino*. This concept for the division of the world, which can be found in a shorter, significantly altered version of Isidore's manual, transformed the T-O motif into a sign aligned with Christ.⁵⁵ It seems that by the twelfth century at the latest two distinct but complementary methods had been developed for visual representations of the earth. The complex *mappa mundi* and the geometrical abstraction of the reversed T-O schema with its religious connotations were finally combined on the Hereford map at the end of the thirteenth century.

52 Cf. Kupfer, *Art and Optics*, 120.

53 Oxford, Bodleian Library, Ms. Auct. F. 3. 14, fol. 19v; cf. Kupfer, *Art and Optics*, 140, Fig. 74.

54 Valerie I. J. Flint, "The Hereford Map: Its Author(s), Two Scenes and a Border," *Transactions of the Royal Historical Society* 8 (1998): 19–44, esp. 27–29; Kupfer, *Art and Optics*, 141.

55 Sallust, *De bello Iugurthino* 17.3–4, trans. John Carew Rolfe (Loeb Classical Library 1921) (London: Harvard University Press, 1980), 170–71: "In their division of the earth's surface geographers commonly regard Africa as a third part, a few recognize only Asia and Europe, including Africa in the latter. Africa is bounded on the west by the strait between our sea and the Ocean, on the east by a broad sloping tract which the natives call Catabathmos." ("In divisione orbis terrae plerique in parte tertia Africam posuere, pauci tantummodo Asiam et Europam esse, sed Africam in Europa. Ea finis habet ab occidente fretum nostri maris et Oceani, ab ortu solis declivem latitudinem, quem locum Catabathmon incolae appellant.") Cf. Patrick Gautier Dalché, "De la glose à la contemplation: Place et fonction de la carte dans les manuscrits du Haut Moyen Age," in *Géographie et culture: La représentation de l'espace du VIe au XIIe siècle* (Variorum collected studies CS 592) (Aldershot: Ashgate, 1997), no. VIII, esp. 710–11; Gautier Dalché, "L'enseignement de la géographie dans l'antiquité tardive," *Klio* 96, no. 1 (2014): 144–82, esp. 166; Kupfer, *Art and Optics*, 139–41.

Naturally, the concept of the world's three parts provided not only a well-grounded structure for maps but also for historiographies, theological commentaries, and travel reports. One example of the correlation between text and visualization is the universal chronicle of the English historiographer Ranulf Higden. His *Polychronicon* was one of the most popular history books in late fourteenth-century England. It is extant in some 135 manuscripts, and those of the second recension prepared by the author after 1340 can include an oval world map (Fig. 2.7).⁵⁶ It is likely that Higden had realized that a cartographic visualization could be enormously helpful, not only to readers who tried to identify the places mentioned in the text, but also to the author who generated and transformed an intellectual perception of the world.⁵⁷ In the context of the present essay, it is interesting that Higden apparently envisioned an east-oriented, tripartite schema and expected his audience to do the same. Cornelia Dreer finds some evidence in favor of this theory within the text of the *Polychronicon*. Higden explained, for example, that the Mediterranean originates at the Pillars of Hercules in the Straits of Gibraltar and continues “with Africa on its right and Europe on its left” (“ad sui dexteram habens Africam, ad laevam vero Europam”).⁵⁸ He apparently referenced the earthly rather than the divine perspective of the globe and assumed that his audience was acquainted with this particular tripartite world image as well as with the location of Europe and Africa within it.

Other examples in historiographical texts show that this imagined structure could also be organized the other way around, that is, according to the Hellenistic or God's view from east to west. Many centuries earlier, Orosius described Asia as an enormous territory surrounded by the ocean in the north, the east, and the south. He portrayed it as the part of the world that occupied the entire east, whereas toward the west, it bordered Europe “on its right” and Africa “on its left.”⁵⁹ It is evident that such a statement could only have been made from

56 San Marino, CA, The Huntington Library, HM 132, fol. 4v.

57 Cf. Cornelia Dreer and Keith D. Lilley, “Universal Histories and Their Geographies: Navigating the Maps and Texts of Higden's *Polychronicon*,” in *Universal Chronicles in the High Middle Ages*, ed. Michele Campopiano and Henry Bainton (Writing History in the Middle Ages 4) (Woodbridge: Boydell & Brewer, 2017), 275–301, esp. 282.

58 Ranulph Higden, *Polychronicon Ranulphi Higden Monachi Cestrensis*, ed. Churchill Babington and Joseph Rawson Lumby, vol. 1 (Rerum Britannicarum Medii Aevi Scriptores 41) (London: Longman, 1865), 1.52; cf. Dreer and Lilley, “Universal Histories,” 282, with note 24; London, British Library, Royal Ms. 14. C. IX, fol. 10v.

59 Paulus Orosius, *Adversus paganos historiarum libri VII*, 1.2.2–3: “2 Asia tribus partibus oceano circumcincta per totam transuersi plagam orientis extenditur. 3 haec occasum uersus a dextra sui sub axe septentrionis incipientem contingit Europam, a sinistra autem Africam dimittit”; Orosius, trans. Fear, 36.



Fig. 2.7: World map in Ranulf Higden's *Polychronicon*, ca. 1340–1360; San Marino, CA, The Huntington Library, HM 132, fol. 4v.

an eastern viewpoint, which, from the tenth century on, reversed T-O schemata in manuscripts by Sallust, Lucan, and a special version of Isidore's *De natura rerum*. The two mental images of the world must have already existed as two different perspectives or two different projections.⁶⁰

Borders, regions, and cities were variable on medieval maps but the cultural concept of the world's three parts and four quarters was present in the mind of every reader and viewer. Thus, the model helped to organize textual descriptions in travelogues and historiographies. For the medieval audience, each of the world's quarters and parts was immediately recognizable, even if it was depicted separately, such as Europe in the *Liber floridus* autograph in Ghent, which dates to ca. 1112–1121.⁶¹ This unique map enlarged the northwest quarter as a detail, retaining its original form and eastern orientation. An educated observer would have been able to imagine its position in the T-O schema.

The structuring of the world into three parts and four quarters shaped the collective consciousness at all levels. It was not only Burchard who organized his report according to these principles: even historiographers such as Ulrich Richental, a citizen of Constance and famous chronicler of the Council of Constance (1414–1418), employed the tripartite concept when he registered the attendees in geopolitical order.⁶² Every author who represented the geographical

60 Cf. Stevens, "Figure of the Earth," 275: "There have always been two perspectives on the *globus caelestis* and its stellar phenomena, which result in two quite different projections of star charts and land charts. If the astronomer looks up at the sky with *Asia* and its *oceanus orientalis* at his head, then *europa est dextra, Africa est laeva*. On the other hand if he imagines himself outside the globe and looking east, he would see that *europa est laeva, africa est dextera*."

61 Map of Europe by Lambert of Saint-Omer, *Liber floridus* (ca. 1112–1121) in Ghent, Bibliothek der Rijksuniversiteit, Ms. 92, fol. 241r; Lambert von St. Omer, *Liber Floridus*, ed. Albert Derolez (Ghent: Story-Scientia, 1968) (facsimile of some parts); cf. Hartmut Kugler, "Europa pars quarta. Der Teil und das Ganze im 'Liber floridus,'" in *Europa im Weltbild des Mittelalters*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10) (Berlin: Akademie Verlag, 2008), 45–61; Oschema, *Bilder von Europa*, 465–69.

62 Ulrich Richental, *Chronik des Konstanzer Konzils 1414–1418*, ed. Thomas Martin Buck (Konstanzer Geschichts- und Rechtsquellen 41) (Ostfildern: Thorbecke, 2010), 142: "Ee das nun diß angefangen werd, so ist ze wissen, das aller umbkraiß der welt in drü getailt ist. Der erst heiß Asia, der ander Affrica, der dritt Europa." Ibid., 143: "Och maint man, das daz tail Asia größer sy dann die andern zway tail, Affrica und Europa." Cf. Christof Rolker, "Die Richental-Chronik als Wappenbuch," *Deutsches Archiv für Erforschung des Mittelalters* 71 (2015): 57–103, esp. 87–92; Christoph Mauntel, "The 'Emperor of Persia': 'Empire' as a Means of Describing and Structuring the World," in *A World of Empires: Claiming and Assigning Imperial Authority in the Middle Ages*, ed. Chris Jones, Christoph Mauntel and Klaus Oschema = *The Medieval History Journal* 20, no. 2 (2017): 354–84, esp. 355–56, 377–78.

schema as an intellectual category to inspire order and reflection was undoubtedly aware of its three- and four-part divisions.

Only later, after the discovery of the Americas, did the secular concept of continents, defined as big landmasses in the vast ocean, emerge to compete with the religiously charged tripartite schema that focused on the Mediterranean. In modern usage, the terms “continent” and “part of the world” are often applied interchangeably. However, for their early users, they carried clearly distinct connotations. When seafarers and their patrons realized that the newly discovered territory did not belong to Asia but was a separate landmass on the other side of the Atlantic, they understood that the *oikoumene* could no longer be described as a single contiguous mainland divided into three parts and encompassed by an ocean. The discovery made the traditional classification appear obsolete and required a new order. Thus, the expression *terra continens* or simply *continens* developed in various contexts but always retained a connection with conventional practices.⁶³

One of the first references to the term *continens* can be found in Amerigo Vespucci’s *Mundus novus*, his famous letter to Lorenzo di Pier Francesco de’ Medici, which was first printed in 1503. In the prologue of the report about his journey under Portuguese command in 1501–1502, Vespucci wrote that the traditional opinion, which still prevailed in his day, was that there could not be a contiguous territory in the southern ocean beyond the equator (“*ultra lineam equinoctialem et versus meridiem non esse continentem, sed mare tantum*”) and that everyone was convinced that even if it did exist it would not be inhabited.⁶⁴ He used the term *continens*, here and especially in the following sentence about

⁶³ I have to thank Patrick Gautier Dalché for bringing this issue to my attention.

⁶⁴ Amerigo Vespucci, *Petri Francisci de Medicis salutem plurimam* (Paris: Jean Lambert, 1503), Ex. Sélestat Bibliothèque Municipale, No. 2380 – K1156e (according to *European Americana: A Chronological Guide to Works Printed in Europe Relating to the Americas, 1493–1776*, ed. John Alden and Dennis C. Landis, 6 vols. [New York: Readex, 1980], 1:7, no. 503/9), fol. a2r: “Etenim hec opinionem nostrorum antiquorum excedit, cum illorum maior pars dicat, ultra lineam equinoctialem et versus meridiem non esse continentem, sed mare tantum, quod Atlanticum vocare. Et si qui earum continentem ibi esse affirmaverunt, eam esse terram habitabilem multis rationibus negaverunt. Sed hanc eorum opinionem esse falsam et veritati omnino contrariam, hec mea ultima navigatio declaravit, cum in partibus illis meridianis continentem inveni in frequentioribus populis et animalibus habitatam quam nostram Europam seu Asiam vel Africam, et insuper aerem magis temperatum et amenum quam in quavis alia regione a nobis cognita.” Cited from Klaus Anselm Vogel, *Sphaera terrae. Das mittelalterliche Bild der Erde und die kosmographische Revolution* (Diss. Göttingen, 1995), 449–50; Ilaria Luzzana Caraci, *Per lasciare di me qualche fama. Vita e viaggi di Amerigo Vespucci* (Rome: Viella Libreria Editrice, 2007), 76–82, 253–54 with the text and an Italian translation.

his breathtaking discovery, for a coherent landmass that presented a kind of counterpart to the huge expanse of Europe, Asia, and Africa. Moreover, he recorded that the newly discovered continent in these southern realms was more densely populated than Europe, Asia, or Africa (“continentem invenerim frequentioribus populis et animalibus habitatam quam nostram Europam seu Asiam vel Africam”). Thus, the new territory was given a specific character and importance. The expression *continens* was not used in a sense that concurred precisely with its modern definition as a landmass separated from other continents, but it opened the way for a new concept of the world’s structure.

A few years later, in 1507, Matthias Ringmann employed the phrase *partes continentes*, that is, coherent parts, for the three parts of the Old World in his *Cosmographiae introductio* (Chapter 9). He used the term *insula* for the New World, which he famously named America after its discoverer.⁶⁵ His views were again based on the long-established model of the world’s four quarters: he conceived of the first three quarters as continuous landmasses and the fourth part as a huge, solitary island surrounded by water. He evidently made an effort to integrate the New World into the accepted image of the earth divided into three and four, since this model represented an important tool that allowed an abstract concept to be understood and given visible form.

Wind Diagrams

In addition to the concept of four quarters, Burchard of Mount Sion used wind directions to structure his travelogue. This subdivision, however, was more ambiguous, owing to different kinds of segmentations and a broad range of wind names. Two distinct systems existed in the thirteenth century: one comprised twelve winds in accordance with the scholarly astronomy of Aristotle, which was adopted by Romans such as Varro, Vitruvius, and Seneca, and the other counted either eight or sixteen winds based on nautical practices.⁶⁶ Both classifications had developed earlier but found their use during the Middle Ages.

⁶⁵ Martin Lehmann, *Die Cosmographiae Introductio Matthias Ringmanns und die Weltkarte Martin Waldseemüllers aus dem Jahre 1507* (Munich: Martin Meidenbauer Verlag, 2010), 163–64: “Hunc in modum terra iam quadripartita cognoscitur et sunt tres primae partes continentes, quarta est insula, cum omni quaque mari circumdata conspiciatur.”

⁶⁶ Cf. Thomas Raff, “Die Ikonographie der mittelalterlichen Windpersonifikationen,” *Aachener Kunstblätter* 48 (1978/79): 71–218; Obrist, “Wind Diagrams,” 33–84; Alessandro Nova, *The Book of the Wind: The Representation of the Invisible* (Montreal: McGill-Queen’s University Press, 2011), 177–79; Gautier Dalché, “Pere Marsili,” esp. 159–69.

Wind, as a natural phenomenon, had shaped perceptions of the world since ancient times. Winds were pictured as personifications or even as gods in many cultures. The geometrical wind schema was probably invented by the astronomer Philip of Opus or by Medma, one of Plato's students and later his secretary. Aristotle developed the system further and described the winds' relative positions in his *Meteorologica*.⁶⁷ The four main winds of the Greeks were *boreas/aparctias* (north), *eurus* (southeast, near to the eastern *apeliotes*), *notus* (south), and *zephyrus* (west). In Aristotle's treatise, three were accompanied by a pair of minor winds. Only *notus* was left alone or flanked by unnamed winds. This resulted in an asymmetrical pattern with ten sections, which did not satisfy the requirements of later geographers.

After 270 BCE, Timosthenes of Rhodes, commander of the fleet and renowned nautical expert under the Egyptian pharaoh Ptolemy II Philadelphus, noted twelve directions to complete the wind rose and made Rhodes, his home port, its center.⁶⁸ As a specialist at surveying, he used the twelve winds not only at sea, but also as a means of locating people, nations, and regions within the inhabited world, as well as sunrise and sunset in summer and winter. The division into twelve parts generated an essentially astronomical diagram that corresponded to the twelve hours of day and night, the twelve months of the year, and the signs of the zodiac.

The twelve-point wind rose persisted for a long time. It was adopted and communicated during the following centuries, especially by Roman authors such as Seneca, Pliny, Suetonius, and Apuleius.⁶⁹ The twelve winds were still an important reference point around 531 CE, when the Neoplatonic philosopher Priscian of Lydia explained them in his *Solutiones ad Chosroem*, his answers to king Chosroes of Persia, which discussed various fields of knowledge, especially in the natural sciences.⁷⁰ Lastly, Isidore of Seville secured the astronomical image of a twelvefold world by adapting it for a medieval audience.

⁶⁷ Aristotle, *Meteorology*, 2.4–6, ed. Henry Desmond Pritchard Lee (Loeb Classical Library 397) (Cambridge, MA: Harvard University Press, 1978), 187–91; cf. *The History of Cartography*, ed. John B. Harley and David Woodward, vol. 1, *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 145 with Fig. 8.14; Raff, "Ikographie der mittelalterlichen Windpersonifikationen," 81; Obrist, "Wind Diagrams," 37.

⁶⁸ *The History of Cartography*, ed. Harley and Woodward, 1:153 with Fig. 9.3; Nova, "The Book of the Wind," 178.

⁶⁹ Pliny, *Natural History* 2.119–21; Seneca, *Quaestiones naturales*, 5.16.1–3; Apuleius, *Liber de mundo*, 10–14; cf. Obrist, "Wind Diagrams," 36–38.

⁷⁰ Priscian, *Answers to King Chosroes of Persia* 98.26–104.1, ed. Pamela Huby, Sten Ebbesen, David Lunslow, Donald Russell, Carlos Steel and Malcolm Wilson (London: Bloomsbury Academic, 2016), 82–86.

Yet winds were irregular, incorporeal, and could turn quickly. To integrate them into a concise symmetrical system was not easy. Aristotle had already noted the minor role of meteorology in a perfect cosmos and emphasized that the winds' natural order was less clear than the regular rotation of the planets.⁷¹ Perhaps this was the reason for another classification that emerged in the Greek world. During the first century BCE at the latest, the Tower of the Winds, the *Horologion* of Andronikos, was constructed in Athens. This octagonal building was set with a frieze of sculptured personifications of eight winds: two triads centered on *boreas* to the north and *notus* to the south and were divided by *zephyr* to the west and *apeliotes* to the east.⁷² The tower was built at the edge of the Roman agora, and, aside from its main purpose of measuring time, it was apparently used to observe the impact of seasonal changes on the winds.

A few decades later, Vitruvius described the octagon, with its sculptured figures on the façade and the roof, in his architectural treatise, when he debated the influence of different wind formations on structural design:

It pleases to say that there are four winds: from equinoctial east Solanus, from the south Auster, from the equinoctial west Favonius, and from the north Septentrio. But those who have studied the matter more thoroughly insist that there are eight, above all Andronicus Cyrrestes, who even went so far as to demonstrate this by means of an octagonal marble tower in Athens. On each side of the octagon he designed sculpted images of the winds, each facing its own blast, and atop this tower he put a conical column and above this he placed a bronze Triton holding a wand in its right hand, so contrived as to revolve with the wind, so that it will always face into the prevailing wind and hold its wand over the image of the wind that is blowing at the moment.⁷³

Vitruvius considered the fourfold system inadequate and asked for further distinctions in accordance with the movements of the Triton on the rooftop. He pointed out that a system of eight, or rather sixteen or twenty-four winds, would be preferable in order to precisely define each individual direction and its impact on architecture. For this reason, he explained step by step how to locate a north and south point and how to divide an imagined circle into eight

⁷¹ Aristotle, *Meteorology*, 1.1.

⁷² Nova, "The Book of the Wind," 30–31; Hermann J. Kienast, *Der Turm der Winde in Athen, mit Beiträgen von Pavlina Karanastasi zu den Reliefdarstellungen der Winde und Karlheinz Schaldach zu den Sonnenuhren* (Archäologische Forschungen 30) (Wiesbaden: Reichert, 2014); cf. Poul Pedersen, Rez. in: *Orbis Terrarum* 14 (2016): 284–88.

⁷³ Vitruvius [Marcus Vitruvius Pollio], *De architectura libri decem* 1.6.4, ed. Curt Fensterbusch, *Zehn Bücher über die Architektur*, 6th ed. (Darmstadt: WBG, 2008), 60–63; English translation: Ingrid D. Rowland and Thomas Noble Howe, *Vitruvius: Ten Books on Architecture* (Cambridge: Cambridge University Press, 1999), 29–30.

equal parts by lines drawn to its center.⁷⁴ Justification for an intersection into sixteen or more winds was derived from mathematical calculations by Eratosthenes of Cyrene, who had estimated the earth's circumference and discovered that each of the eight winds would have to cover the enormous space of 3,937,500 paces in its section.⁷⁵ Hence, Vitruvius developed a more practical system of twenty-four winds by adding a pair of secondary currents to each of the original eight. Every wind was given a name⁷⁶ and an alphabetically designated position in the carefully structured system of the octagonal tower.⁷⁷ To make sure that every reader would understand his explanations, the architect added two drawings to his text,⁷⁸ which were intended to visualize the concept of the winds and to demonstrate its importance for architectural practice, just as its significance was later represented for cartographic purposes.⁷⁹

In all of these different systems of twelve, eight, sixteen, or twenty-four sections, the number four was crucial, for it was deeply rooted in the cosmos as well as the Bible, where it is recorded that since the beginning of the universe there have been four elements – air, water, earth, and fire. Four cardinal points defined the main directions that corresponded with Plato's four cardinal virtues and the four fluids of humoral pathology. The number four determined the seasons based on the movements of the sun and the moon, which God created on the fourth day. Fourfold were the primeval transgressions in the Book of Genesis, that is, the Fall of Adam and Eve, the Fratricide, the Flood, and the Tower

⁷⁴ Vitruvius, *De architectura libri decem*, 1.6.7; Rowland and Noble Howe, *Vitruvius*, 30.

⁷⁵ Vitruvius, *De architectura libri decem*, 1.6.9; Rowland and Noble Howe, *Vitruvius*, 30.

⁷⁶ Vitruvius, *De architectura libri decem*, 1.6.10; Rowland and Noble Howe, *Vitruvius*, 30: "Thus at the right and left of Auster, Leuconotus and Altanus are wont to blow; on either side of Africus, Libonotus and Subvesperus; around Favonius, Argestes and at certain times of the year the Etesian breezes, at the sides of Caurus, Circias and Corus; around Septentrio, Thracius and Gallicus; to the right and left of Aquilo, Supernas and Caecias; around Solanus, Carbas and at a certain time of the year the Ormithiæ; and with Eurus occupying the middle range, Euricircias and Vulturnus take up the extremes (Figure 21). There are many other names for other breaths of wind, derived from places, or rivers, or mountain tempests."

⁷⁷ Vitruvius, *De architectura libri decem*, 1.6.12–13; Rowland and Noble Howe, *Vitruvius*, 31.

⁷⁸ Vitruvius, *De architectura libri decem*, 1.6.12; Rowland and Noble Howe, *Vitruvius*, 31: "Because these things have already been set out by us briefly so that they be more easily understood, it seemed best to me that at the end of this book, I supply two figures or, as the Greeks say *schêmata*, one so drawn that it displays the directions from which the various winds originate, and another showing how their harmful breaths may be avoided by the oblique orientation of streets and avenues."

⁷⁹ Alessandro Nova, "The Role of the Winds in Architectural Theory from Vitruvius to Scamozzi," in *Aeolian Winds and the Spirit in Renaissance Architecture*, ed. Barbara Kenda (London: Routledge, 2006), 70–86.

of Babel. Three symbolized the patriarchs of the Bible and four evoked the female world with the matriarchs Sarah, Rebecca, Rachel, and Leah. The four gospels provided room for various other narratives around the number four in the Bible. From the very start, a fourfold division defined the time, space, and narratives of the world.

In the Bible, each of the four corners of the earth corresponded to a cardinal direction and to one of the principal winds. The four winds stood for devastation and displacement in the Old Testament, as well as in Elam, the ancient pre-Iranian civilization,⁸⁰ but Revelation in the New Testament describes four angels who restrained the strong winds from blowing violently across the earth and instead brought order and stability.⁸¹ These four winds appear in many medieval texts and illustrations, which indicates that the imagining of space was circumscribed by the number four, as shown by the angels on several world maps from the eleventh and twelfth centuries.⁸² The *Commentary on the Apocalypse*, by Beatus of Liébana, provides good examples: its illustrations depict the four corners of the earth as angels blowing wind or as figures sitting astride bags full of air.⁸³ Thomas Raff, who proposes three categories to organize the rich material (winds as figures of myth, as personifications, and as cosmological symbols), suggests that images of the twelve winds developed from the system of four. He elucidates how the division into twelve acquired its own importance in the context of medieval cosmologies and encyclopedias.⁸⁴

The twelve-point wind rose dominated during Roman times as a model that systematized and explained the winds, but its cosmological and religious connotations must have been a medieval conception that was based on the symbolic

80 Jeremiah 49:36: “I will bring upon Elam the four winds from the four ends of heaven. And will scatter them to all these winds.”

81 Revelation 7:1: “After this I saw four angels standing at the four corners of the earth, holding back the four winds of the earth, so that no wind would blow on the earth or on the sea or on any tree”; cf. Bianca Kühnel, “Carolingian Diagrams, Images of the Invisible,” in *Seeing the Invisible in Late Antiquity and the Early Middle Ages*, ed. Giselle de Nie, Karl F. Morrison and Marco Mostert (Utrecht Studies in Medieval Literacy 14) (Turnhout: Brepols, 2005), 359–89. Kühnel connected this passage convincingly with the sign of the cross that stopped the “destructive action of the winds” and brought “order, perfection and stability into diagrams” (ibid., 362).

82 Jörg-Geerd Arentzen, *Imago mundi cartographica. Studien zur Bildlichkeit mittelalterlicher Welt- und Ökumenekarten unter besonderer Berücksichtigung des Zusammenwirkens von Text und Bild* (Münstersche Mittelalter-Schriften 53) (Munich: Wilhelm Fink, 1984), 155–60.

83 New York, The Morgan Library & Museum, Ms. M.644, fol. 115v; Turin, Biblioteca Nazionale Universitaria, Ms. I.II.1, fols. 45v–46r with a world map. Cf. Nova, “The Book of the Wind,” 45–50 on the transformation of winds into angels.

84 Cf. Raff, “Ikonographie der mittelalterlichen Windpersonifikationen,” 139–55.

meaning of the number twelve. Astronomically and chronometrically, twelve referred to the signs of the zodiac, the months of the year, and the hours of day and night, while biblically it was associated with the apostles, the tribes of Israel, the judges, and the gates of Jerusalem. An important source for this development was again Isidore of Seville, who described the winds and their purpose in long passages. His *Etymologiae* distinguished between the four main winds and the total of twelve winds:

There are four principal winds: the first of these, from the east, is *Subsolanus*; from the south is *Auster*; from the west *Favonius*; and from the north blows a wind of the same name (i.e. *Septentrio*, “the north”). Each of these has a pair of winds associated with it. 3. *Subsolanus* has *Vulturnus* from the right side and *Eurus* from the left; *Auster* has *Euroauster* from the right and *Austroafricus* from the left; *Favonius* has *Africus* from the right and *Corus* from the left; finally *Septentrio* has *Circius* from the right and *Aquilo* from the left. These twelve winds whirl around the globe of the world with their blowing.⁸⁵

Isidore tried to explain the origin and significance of each wind name based on classical texts, tracing them back to Greek models as well as citations taken from Lucretius and Virgil.⁸⁶ In the end, he created a hierarchy and assured his readers that the northern *septentrio* and the southern *auster* were the two most important principal winds.⁸⁷ Isidore’s argument in his *De natura rerum* is shorter,⁸⁸ but no less remarkable, especially owing to the variety of illustrations and wind figures that appear in different manuscripts of the text and are always based on the twelvefold pattern.

During the centuries that followed, the twelve-point wind schema with its primary and secondary winds was described in many texts and represented

⁸⁵ Cf. Isidore of Seville, *Etymologiae*, 13.11.1–15, here 13.11.2–3; “2 Ventorum quattuor principales spiritus sunt. Quorum primus ab oriente Subsolanus, a meridie Auster, ab occidente Favonius, a septentrione eiusdem nominis ventus adspirat; habentes geminos hinc inde ventorum spiritus. 3 Subsolanus a latere dextro Vulturnum habet, a laevo Eurum: Auster a dextris Euroaustum, a sinistris Austroafricum: Favonius a parte dextra Africum, a laeva Corum: porro Septentrio a dextris Circium, a sinistris Aquilonem. Hi duodecim venti mundi globum flatibus circumagunt.” English translation cited from *The Etymologies of Isidore of Seville*, trans. Barney et al., 275; *Isidoro di Siviglia, Etimologie, Libro XIII: De mundo et partibus*, ed., trans. and commentary by G. Gasparotto (Paris: Les Belles Lettres, 2004), 55–69.

⁸⁶ Isidore of Seville, *Etymologiae*, 13.11.4–13.

⁸⁷ Isidore of Seville, *Etymologiae*, 13.11.14: “Ex omnibus autem ventis duo cardinales sunt: Septentrio et Auster.”

⁸⁸ Isidore of Seville, *De natura rerum*, 36 and 37.1–4; cf. Isidore of Seville, *On the Nature of Things*, trans. with introduction, notes, and commentary by Calvin B. Kendall and Faith Wallis (Translated Texts for Historians 66) (Liverpool: Liverpool University Press, 2016), 162–65 with the wind diagram of the second version.

even more often as a diagram or by the means of personifications. Under the Carolingians, the wind names were translated into the vernacular. One of the first to implement the Old High German terms was probably Einhard, who listed them in his *Vita Caroli* with the intention of making them part of a veritable education program.⁸⁹ The Isidorian text became a recurrent element of diagrammatic representations from the eleventh century on, mainly through the inclusion of a short poem: “From four thresholds rise four winds. These are joined on either side, right and left. And thus, twelve breezes surround the world.”⁹⁰ Other diagrams inserted the T-O schema into the middle of a circle or square. A manuscript in Trier, for example, shows a rectangle with four diagonal lines that lead to a surrounding circle, cutting it into quadrants; each quarter is divided into three parts, which produces twelve segments that contain the relevant passages on the winds from Isidore’s text as well as the names of the months. The composition gave the appearance of a calendar that organized space as well as time.⁹¹

A similar combination of T-O schema and wind diagram can be found in the Wolfenbüttel version of Lambert of Saint-Omer’s *Liber floridus* (Fig. 2.8).⁹² There, the twelve winds forming a wind rose surround a small, tripartite, east-oriented world in the center. The winds are represented in multiple ways: as wavy double lines, personified as faces with pointed ears, through descriptions of their specific qualities and effects, and simply through their individual names in the outer circle. The different approaches were combined in a single design. The accompanying text refers to Isidore and the Venerable Bede. The illustration is part of a series of four circular diagrams of the earth and its climates, the course of the

89 Einhard, *Vita Karoli magni imperatoris*, ed. Oswald Holder-Egger (MGH SSrG 25) (Hannover: Impensis Bibliopolii Hahniani/Hahnsche Buchhandlung, 1911), chap. 29, 33–34: “Item ventos duodecim propriis appellationibus insignivit, cum prius non amplius quam vix quattuor ventorum vocabula possent inveniri. [. . .] Ventis vero hoc modo nomina inposuit, ut subsolanum vocaret ostroniwint, eurum ostsundroni, euroaustum sundostroni, austrum sundroni, austroafricum sundwestroni, africum westsundroni, zefyrum westroni, chorum westnordroni, circium nordwestroni, septentrionem nordroni, aquilonem nordostroni, vulturnum ostnordroni.”

90 “Quatuor a quadro consurgunt limine venti. Hos circumgemini dextra levaque iugantur. Atque ita bissono circumstant flamine mundum.” Translation by the author of this article. Cf. Obrist, “Wind Diagrams,” 51–52 with an eleventh-century diagram in Fig. 11 (Dijon, Bibliothèque municipale, Ms. 488, fol. 75r); Raff, “Ikonographie der mittelalterlichen Windpersonifikationen,” 150.

91 Obrist, “Wind Diagrams,” 58 and Fig. 18 with a T-O map with winds from St. Maximin, today still in Trier, Staatsbibliothek, Ms. 1084/115, fol. 99r.

92 Lambert of Saint-Omer, *Liber floridus*, Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 1 Gud. Lat., fol. 16r; cf. Heitzmann and Carmassi, *Der Liber Floridus in Wolfenbüttel*, 34, 103.

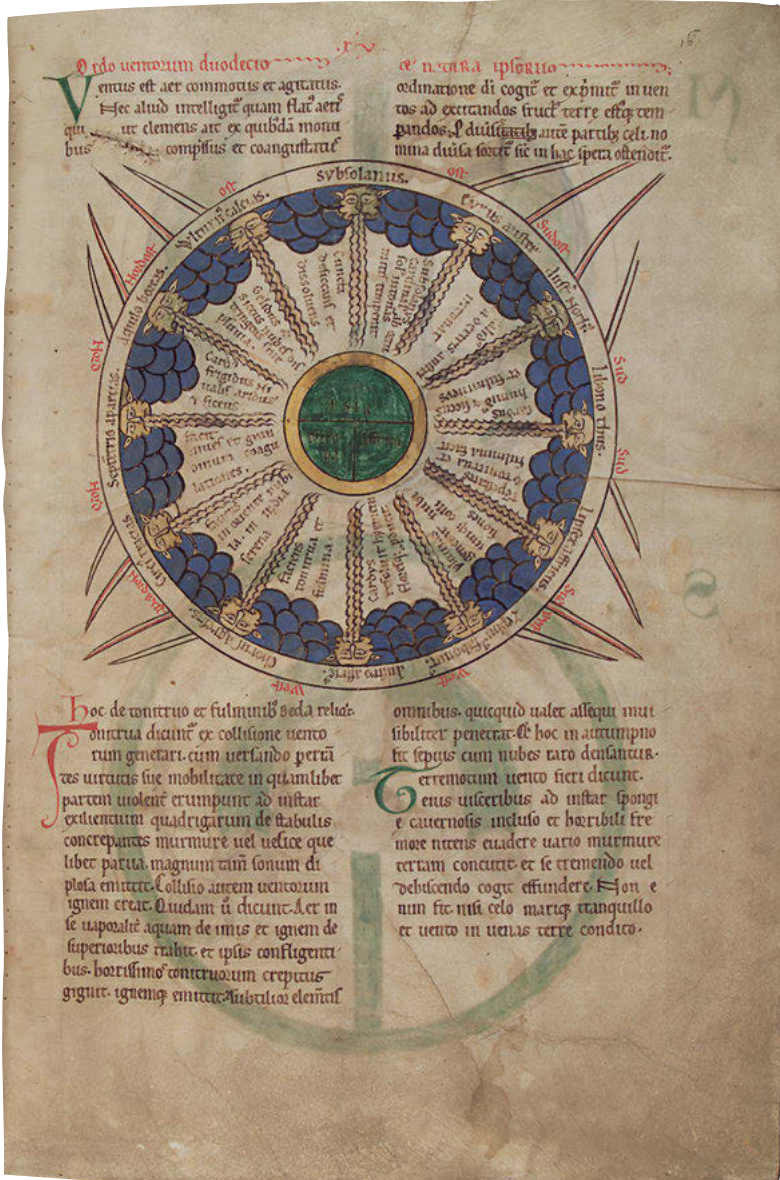


Fig. 2.8: Wind representation, Lambert of Saint-Omer, *Liber floridus*, ca. 1112–1121; Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 1 Gud. Lat., fol. 16r. © HAB Wolfenbüttel, <http://diglib.hab.de/mss/1-gud-lat/start.htm>; Creative Commons 3.0. Heitzmann and Carmassi, *Der Liber Floridus in Wolfenbüttel*, 103.

sun and moon, and the resulting seasons, parts of the day, and elements. In this context, only the astronomical model with its twelve winds was suitable.

The above-mentioned wind rose played a significant role in the organization and communication of geographical knowledge, which also informed the famous world maps of the following centuries. According to Hartmut Kugler, it seems likely that the creator of the Ebstorf map used the technical construction of a wind rose as a basis for the map and as its underlying drawing (Figs. 2.9a and 2.9b).⁹³ Along the ocean surrounding the image, winds are indicated by double circles at regular intervals; each circle was inscribed in Leonine hexameter explaining the connection between each wind and its assigned region of the earth. Accompanying quotations from Isidore enhance the information on natural history, territories, and people. The map's creators broke with convention in only one detail: they reversed the positions of the north wind *septentrio*, usually one of the cardinal directions, and of *aquilo*, the secondary wind in the north-northeast.⁹⁴

Kugler is the first to take this as a deliberate decision and not as the mistake of a careless scribe. He argues convincingly that this modification was part of a program to revalue the northern region. *Septentrio*, with its negative reputation as a violent, destructive storm, was moved upward, closer to the area of the apocalyptic people Gog and Magog, while the immediate north became linked to the less fearsome *aquilo*. Thus, the character of each wind corresponded perfectly with its spatial arrangement, and with the attributes associated with the climate and inhabitants of its particular region.

Apparently the practice of describing and depicting the earth's provinces in accordance with the twelve winds was widespread when Burchard wrote his travelogue in the second half of the thirteenth century. Every writer and artist and every reader and viewer knew this system by heart. The same pattern can be found in connection with wind blowers (sometimes combined with texts by Isidore) on other prominent world maps, such as the human heads on the so-called

⁹³ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:18–19 and 2:29–30, and commentaries to segments no. 4/3, 6/3, 14/7, 28/11, 49/10, 60/3, 57/35, 56/5, 43/12, 15/1, 22/3, and 2/2. Less convincing is Brigitte Englisch's suggestion that the Beatus maps were constructed based on a right triangle; Brigitte Englisch, *Ordo orbis terrae. Die Weltsicht in den Mappae mundi des frühen und hohen Mittelalters* (Orbis medievalis. Vorstellungswelten des Mittelalters 3) (Berlin: Akademie Verlag, 2002); cf. Hartmut Kugler, "Weltbild, Kartenbild, geometrische Figur. Eine Auseinandersetzung mit Brigitte Englischs Analyse mittelalterlicher Weltkarten," *Zeitschrift für deutsche Philologie* 124, no. 1 (2005): 440–52.

⁹⁴ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 15/1 and 22/3.

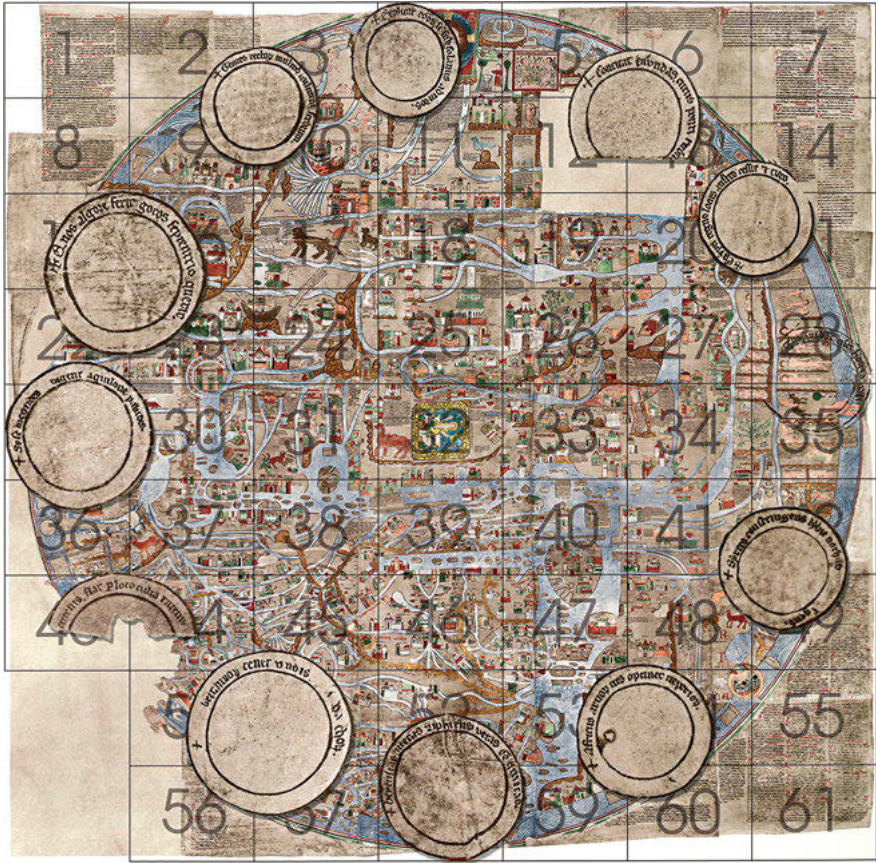


Fig. 2.9a: The Ebstorf map as a twelfold wind rose, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:19.

Munich Isidore map,⁹⁵ the grotesque faces on the London Psalter map,⁹⁶ and the zoomorphic heads on the Hereford map.⁹⁷ All of them relate in many aspects to the *Descriptio Mappe mundi*: probably written by Hugh of Saint Victor, which organized the winds in the same manner and might have influenced cartographic

⁹⁵ Munich, Bayerische Staatsbibliothek, Clm 10058, fol. 154v; cf. Patrick Gautier Dalché, *La descriptio mappe mundi de Hugues de Saint-Victor. Texte inédit avec introduction et commentaire* (Paris: Institut d'Etudes Augustiniennes, 1988), 193.

⁹⁶ Schöller, *Wissen speichern, Wissen übertragen*, 48–49, 99, 257–58.

⁹⁷ Scott D. Westrem, *The Hereford Map* (Terrarum orbis 1) (Turnhout: Brepols, 2001), 10–21, no. 16–19 on cardinal directions, no. 20–31 on winds, no. 32–34 on the earth's three parts.

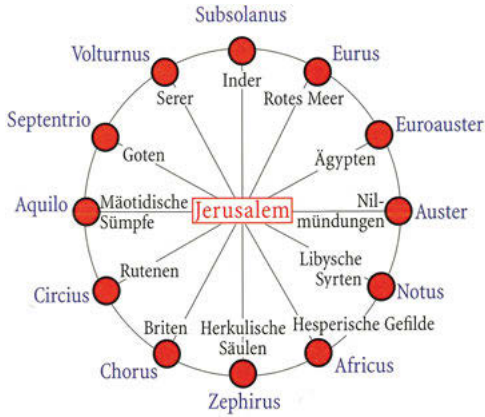


Fig. 2.9b: Schema of the twelvefold wind rose, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:19.

images.⁹⁸ On each map, the twelve personifications⁹⁸ were located where winds supposedly emerged, namely beyond the circle of the earth, from where they affected its territories.

It must have been against this background that Burchard utilized the prevalent theory of twelve (instead of eight or sixteen) winds to structure his travel account. He combined his choice of the accepted contemporary concept with the innovative idea of applying the model to a specific region, namely the Holy Land, where the twelve tribes of Israel and other biblical references reinforced and enhanced its meanings. Instead of classical Rhodes, which was not far away, he brought Acre into focus, the last crusader port on the coast of the Holy Land and the starting point for his expeditions to the Near East. In the prologue of the travelogue’s long version cited above, the world was divided into four parts and twelve wind directions. This concept appears in an almost identical fashion in one copy of the short version that divided the world around Acre into four sectors, each with three parts, and the corresponding winds, whereas other copyists simply misinterpreted the template or reproduced a corrupted text.⁹⁹

⁹⁸ Schöller, *Wissen speichern, Wissen ordnen, Wissen übertragen*, 77–155, 258–70.

⁹⁹ Short version in Klagenfurt, Ms. 10, fol. 173r–173v: “Advertent autem studiosi, quomodo possem utiliter haec omnia describere, ita ut a legentibus posset facile intelligi et ymaginacione facili comprehendere, cogitavi in terra centrum aliquod locare et circa illud totam terram modo debito ordinare et ad hoc elegi civitatem Accinemsem, licet vere non sit in medio terrae, et ab ea protraxi lineas ad quatuor plagas terrae seu mundi et quamlibet partem divisi in tria, ut respondeat XIIcim ventis”; cited in Rotter, “Windrose statt Landkarte,” 64, see 71 on

Regardless of the different versions of the text, all of which need further investigation, Burchard was not responsible for the images, as they were all inserted at a later date. The depiction in a long version held in the British Library in London (Fig. 2.3), produced after 1380, focuses on the half of the world east of the harbor city: six sections between seven winds structure a long list of locations and regions. As a result, the textual description and the graphic image resonate strongly, just as they do in the case of the “list maps,” which were repeatedly created in the twelfth and thirteenth centuries. The lines were not constructed with a pair of compasses; their position depended on the number of words they contained rather than on an attempt to systematically represent the cardinal directions.

The diagram in Munich Clm 569 (Fig. 2.2), which is a short version written in the fifteenth century, adopts the twelfefold structure from the textual description. However, the artist also recorded the other, more practical eightfold concept and inserted eight wind blowers, even though they altered the symmetrical perfection of the visualization as a whole. In contrast, the diagram in the Berlin manuscript, which is a long version dated to the end of the fourteenth or the beginning of the fifteenth century, concentrates on the twelve winds and their names in Latin and German but does not relate them to the journey’s regional focus (Fig. 2.10).

These concepts were, of course, not spontaneous choices but deliberate decisions with due consideration for the existing, long-standing tradition. As Eckart Conrad Lutz and Vera Jerjen point out, diagrammatic representations helped to systemize common experiences and contents related to their own society and order them logically while the knowledge was being conveyed. In this way, they stimulated readers to think about their self-positioning in the world and to reflect on their own ways of judging and acting.¹⁰⁰ Historiographical texts in

differences to other short versions. The old print version of the text supposedly taken from a lost Regensburg manuscript is misleading; cf. Burchard de Monte Sion, *Descriptio terrae sanctae*, ed. Heinrich Canisius, *Antiquae lectiones*, vol. 6 (Ingolstadt: Officina typographica Ederiana, 1601–1604), 295–322, reprint in: *Thesaurus monumentorum ecclesiasticorum et historicum, sive Henrici Canisii Lectiones antiquae*, ed. Heinrich Canisius and Jacques Basnage de Beauval, vol. 4 (Antwerp: Apud Rudolphum & Gerhardum Wetstenios, 1725), 1–28 at 10: “cogitavi centrum aliquod in ipsa terra collocare, & circa illud totam terram ordinare, & ad hoc elegi civitatem Acconensem, licet non sit vere in medio terrae, & ab ea protraxi lineam ad decem plagas mundi, & quamlibet quartam in tria, ut respondeant novem ventis.”

100 Eckart Conrad Lutz, “Geschichte verstehen. Wie mittelalterliche ‘Annalisten’ informieren und was das mit diagrammatischem Denken zu tun hat. Zu Rodulf Glaber, Hugo von St. Viktor, der ‘Oberrheinischen’ und der ‘Limburger Chronik,’” in *Diagramm und Text. Diagrammatische Strukturen und die Dynamisierung von Wissen und Erfahrung*, ed. Eckart Conrad Lutz, Vera

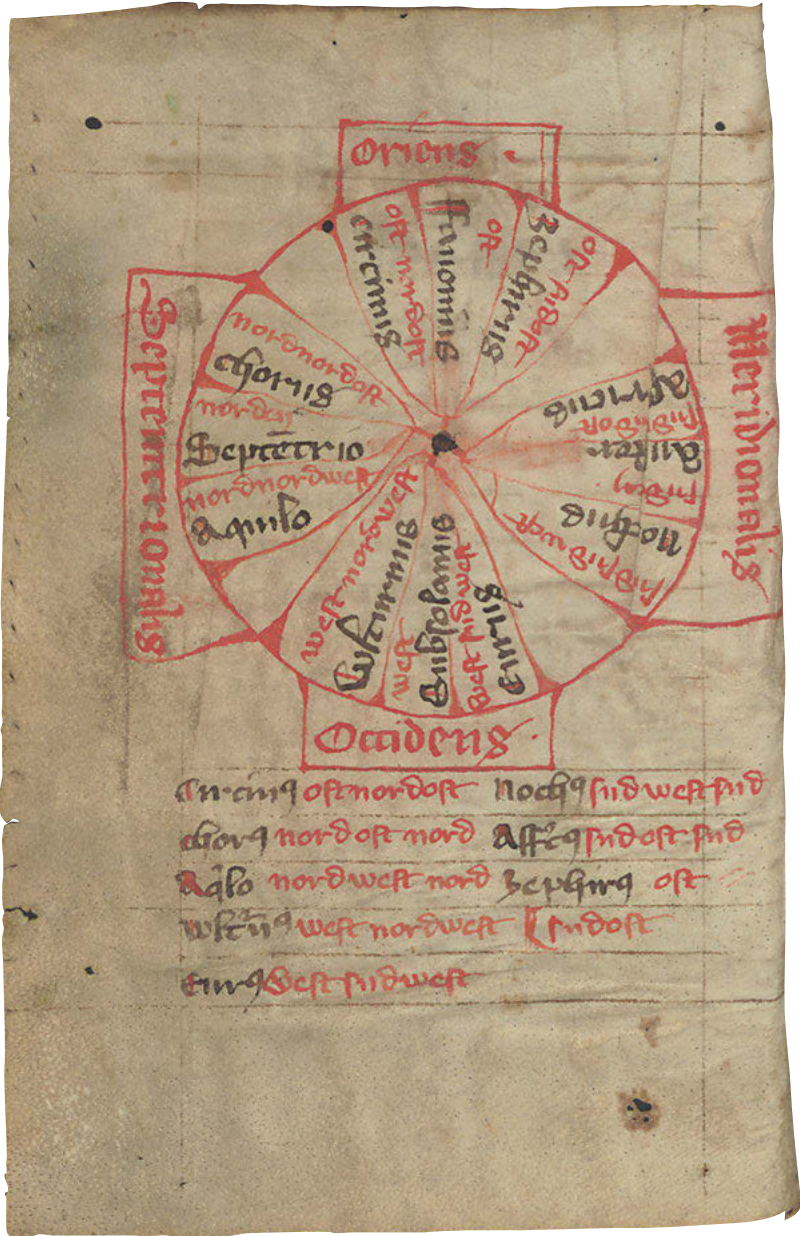


Fig. 2.10: Wind diagram, fourteenth/fifteenth century; Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Handschriftenabteilung, Ms. Lat. Oct. 293 (olim Hildesheim, Bibliothek des bischöflichen Gymnasium Josephinum, Nr. 17*), fol. 1*v.

particular referred over and over again to established structures such as the three parts of the world, the four cardinal virtues, the six ages of the world, and the winds. The last became more prominent in the middle of the thirteenth century.

Two Benedictine monks at the politically and educationally significant Abbey of St. Albans – John of Wallingford, who died in 1258, and Matthew Paris – were already concerned with the subject, when they portrayed the wind rose in historiographic and cartographic contexts. Matthew's notes on the last folio of his *Historia S. Albani* are instructive; he mentioned two medieval interpretations of the wind schema:¹⁰¹ the twelve winds that intersect the circular horizon at regular intervals and the sixteen-point wind rose, which he considered to be mathematically more precise. Considering the limited area of southern England, the first concept betrays a debt or at least a close proximity to a model by Elias of Dereham (d. 1245), canon of Salisbury and architect of the Great Hall at Winchester Palace, whose wall is said to have been decorated with a *mappa mundi*. Elias valued the design that was still predominant in educated circles. Matthew's second concept followed the aforementioned practice that grouped each of the four cardinal winds with two secondary currents, but he arranged them at angles of exactly 23.5 degrees (instead of about 30 degrees), which corresponded to the declination of the southern and northern tropics from the equator. Thus, sufficient space remained to insert four more winds, bringing their overall number to sixteen. He augmented his design with mnemonic verses to ensure that readers could memorize it.¹⁰²

During the same years, John of Wallingford produced a similar wind diagram with accompanying notes on the back of Matthew's map of Britain, also

Jerjen and Christine Putz (Überstorfer Colloquium 2012) (Wiesbaden: Reichert, 2014), 241–86; Vera Jerjen, "Struktur und Erfahrung im 'Welschen Gast' Thomasins von Zerclaere," in *Diagramm und Text. Diagrammatische Strukturen und die Dynamisierung von Wissen und Erfahrung*, ed. Eckart Conrad Lutz, Vera Jerjen and Christine Putz (Überstorfer Colloquium 2012) (Wiesbaden: Reichert, 2014), 349–72.

101 London, British Library, Cotton Nero D.V, last folio; Eva Germaine Taylor, "The 'De Ventis' of Matthew Paris," *Imago Mundi* 2 (1937): 23–26; Nova, "The Book of the Wind," 178. For the description of the manuscript, see Andrew G. Watson, *Catalogue of Dated and Datable Manuscripts c. 700–1600 in the Department of Manuscripts, the British Library*, 2 vols. (London: The Library, 1979), no. 545.

102 London, British Library, Cotton Nero D.V; cited by Taylor, "The 'De Ventis,'" 24. For three other diagrams of winds by Matthew Paris, see Cambridge, Corpus Christi College, Ms. 16I (= former Ms. 16, fols. Ir–Vv), containing inter alia a diagram of the winds, itineraries, and maps, and Ms. 26; London, British Library, Royal Ms. 14. C. VII; cf. Harvey, *Medieval Maps*, 74–75.

preserved in London.¹⁰³ This corresponding copy in another codex is not only a sign that the two creators might have worked closely together and exchanged opinions, but also suggests that both tried to reconcile the scholastic system, derived from antiquity, with the sublunary system utilized by sailors. In any case, it is remarkable that these two wind diagrams and several others originated in the same region within a short time period.

Other authors followed suit: during his exile in France, Brunetto Latini discussed the two concepts in his *Li livres dou tresor*, written between 1260 and 1266. He accentuated their equivalence in his vernacular summary of scholarly erudition and also translated the names of the wind.¹⁰⁴ The Dominican Pere Marsili, who served under King James II of Aragon and Majorca, did not accept a clear distinction between the philosophical and the nautical classification when he described the function of lines on sea charts in the *Chronica illustrissimi regis Aragonum domini Iacobi* written around 1313, which was his Latin version of a Catalan biography of the king. Patrick Gautier Dalché has clearly indicated the contradictions and fluid transitions among the various intellectual contexts, where Pere Marsili favored the nautical terms, whereas his audience still expected the Latin names that prevailed in philosophical writings.¹⁰⁵ Under discussion was not which cultural milieus could claim superiority, but rather the different ways in which the models, which were also associated with different devices, such as the armillary sphere of clerics and the portolan chart of mariners, could be used.¹⁰⁶ As these examples show, the subject was much debated in monastic, civic, and academic milieus and use of the relevant terms changed with the respective context of interpretation.

In view of these developments, it is not surprising that the Hamburg diagram (Fig. 2.4), which was drawn at the beginning of the sixteenth century in a long

103 London, British Library, Cotton Julius D. VII, fols. 51v–52r; cf. Alfred Hiatt, “Topographies of the Past: The Anglo-Saxon Heptarchy and the Birth of Historical Geography,” in *Orbis disciplinae. Hommages en l’honneur de Patrick Gautier Dalché*, ed. Nathalie Bouloux, Anca Dan and Georges Tolia (Turnhout: Brepols, 2017), 689–714, esp. 701; Anna-Dorothee von den Brincken, “Die Klimatenkarte in der Chronik des Johann von Wallingford – ein Werk des Matthaues Parisiensis?,” in *Studien zur Universalkartographie des Mittelalters*, ed. Thomas Szabó (Veröffentlichungen des Max-Planck-Instituts für Geschichte 229) (Göttingen: Vandenhoeck & Ruprecht, 2008), 137–48, esp. 143.

104 Brunetto Latini, *Li livres dou tresor*, 1.106.10–14, ed. Francis J. Carmody (Berkeley: University of California Press, 1948, reprint Geneva: Slatkine Reprints 1998), 92–93, § 10–14; Brunetto Latini, *Tresor*, 1.106.10–14, ed. Pietro G. Beltrami, Paolo Squillacioti, Plinio Torri and Sergio Vatteroni (Turin: Giulio Einaudi Editore, 2007), 148–51.

105 Cf. Gautier Dalché, “Pere Marsili,” 153–69.

106 Cf. Gautier Dalché, “Pere Marsili,” 166.

version of Burchard's *Descriptio*, was elaborated and refined. Text and images no longer corresponded because the draftsman had the eight- or even sixteenfold model in mind. Both concepts were implemented at the time, but the cartography of portolan charts had gained importance and the twelvefold system lived on as scientific tradition. In treatises and *disputationes*, scholars attempted to synchronize the two practices to fall in line with the new requirements. Approaches were compared and contrasted. The efforts resulted in wind roses like those in an early sixteenth-century illuminated French manuscript of nautical instructions in Paris, which shows two circles on the same page: one with twelve rays on top and another with eight, sixteen, and thirty-two segments below (Fig. 2.11).¹⁰⁷ In this way, the anonymous author solved the long-standing debate about the marine wind rose that contradicted Aristotle and Isidore. He considered its regular bisections in quarters and eighths to be the simpler solution compared to traditional schemata, which described physical and climatic conditions, that is, heat and cold and humidity and aridity, outside of as well as within their circles. Only the former could be widely used and helped to understand the different regional sailing techniques in the Mediterranean Sea and the Atlantic Ocean.

On sea charts, compass roses with sixteen or even thirty-two rays had, above all, nautical relevance. Their basic design featured a web of lines that signified order and incorporated directions, distances, and measurements. The practical information these lines provided established a new dimension of map construction and produced a classification system in which a varying number of sixteen or thirty-two centers, that is, intersections of rays, covered the space of a map. Nautical handbooks and treatises, such as Benedetto Cotrugli's *De navigatione*, one of the oldest known manuals of this kind, which combined practical know-how and formalized literary knowledge, referred to the new categories and described them comprehensively.¹⁰⁸ After characterizing the

107 Paris, Bibliothèque nationale de France, ms. français 2794, fol. 2r; cf. Emmanuelle Vagnon, "Un portulan illustré de cartes à la Renaissance, le manuscrit français 2794 de la Bibliothèque nationale de France," in *Orbis disciplinae*, ed. Bouloux, Dan and Tolia, 731–51, esp. 736–40.

108 Piero Falchetta, "Il trattato De navigatione di Benedetto Cotrugli (1464–65). Edizione commentata del ms. Schoenberg 473. Con il testo del ms. 557 di Yale," *Studi Veneziani* 57 (2009): 15–335, esp. 136–43, 240–43, 305–8; *Benedetto Cotrugli, De navigatione/Benedikt Kotruljević, O plovodbi* (Yale University, Beinecke Library, MS 557), ed. Damir Salopek (Zagreb: Ex Libris, 2005), 150–52. For the French translation with a commentary of this passage see Emmanuelle Vagnon, "La représentation cartographique de l'espace maritime," in *La terre. Connaissance, représentations, mesure au moyen âge*, ed. Patrick Gautier Dalché (Turnhout: Brepols, 2013), 443–503, esp. 459–72. Cf. also Piero Falchetta, "Schiffsgeschichten: Michele da Rodi und Benedetto Cotrugli," in *Vom Anker zum Krähenest. Nautische Bildwelten von der Renaissance bis zum Zeitalter der Fotografie/From the Anchor to the Crow's Nest: Naval Imagery from the*

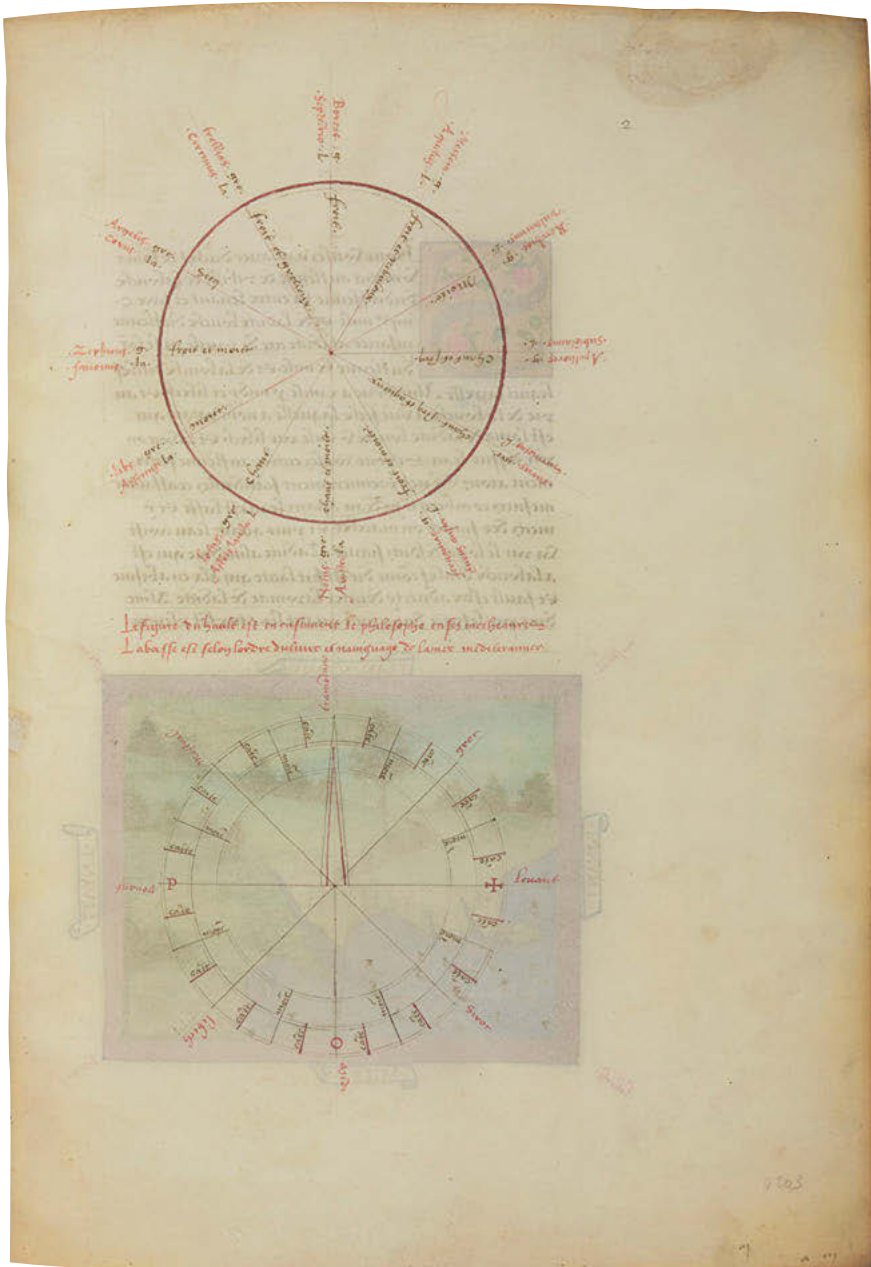


Fig. 2.11: Two wind roses, early sixteenth century; Paris, Bibliothèque nationale de France, ms. français 2794, fol. 2r.



Fig. 2.12: Map of the Indian Ocean with eight wind personifications and their Venetian names, Battista Agnese, portolan atlas of 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 8v–9r. Creative Commons 4.0.

twelfefold scheme, Cotrugli, a wealthy and well-educated merchant, explained the modern system of thirty-two winds associated with the compass and listed their names in Italian. Moreover, he described the way the different colors marked their hierarchical order: black symbolized the eight principal winds, red the half-winds (*meçanici*), and green the quarter-winds (*quarte*). Such texts verbalized regulations and instructions for navigation, whereas portolan charts provided their graphic representation and implementation. Space was usually organized according to wind directions, as the names of winds were the same as their directions.

By the sixteenth century, cartographers in Italy, Spain, and Portugal had appropriated these methods, which were first established for the Mediterranean and later implemented in connection with the earth's vast oceans. Despite their rational, geometrical approach, mapmakers sometimes added wind blowers, personifications deeply rooted in cultural memory, on the margins of their

Renaissance to the Age of Photography, ed. Nicole Hegener and Lars U. Scholl (Bremen: Hauschild, 2011), 140–50.

world maps. A telling example of this contradictory practice is one of the first printed world maps that pictured the New World (1508). Its maker, the Florentine cartographer Francesco Rosselli, surrounded his visualization of the spherical earth with personifications of the twelve winds.¹⁰⁹ By anchoring the new discoveries of the seafarers in the traditional twelvefold worldview, he generated a hybrid depiction that combined Ptolemy's elliptical earth and the Latin winds with new empirical information.

Battista Agnese, an extremely successful mapmaker in Venice, produced at least seventy-seven atlases between 1535 and 1564, many of which ascribed a double meaning to the winds. Their network of lines with sixteen centers visualized directions to assist with basic orientation, and personifications embodied the formations of eight and twelve winds. Agnese's atlas of June 1542, today in Kassel, is a typical example, as it comprises three different wind illustrations in the same manuscript: the portolan maps of the Indian Ocean and the Black Sea (Fig. 2.12), with eight wind personifications and their vernacular names, conveyed nautical meaning in two different styles – in Nordic-German and Venetian, respectively.¹¹⁰ The twelve wind heads on the following Ptolemaic map, which surround an elliptical earth with a modernized geography and the route of the globe's first circumnavigation by Magellan, evoked the ancient scientific tradition through their names in Latin and Greek (Fig. 2.13).¹¹¹ The different concepts matched perfectly with the cartographic picture that was being presented: the first displayed the Indian Ocean in accordance with the seafarers' new information about Africa and Asia and the second showed the Black Sea as a Venetian dominion. On each of these two maps, a part of the earth was combined with geographical knowledge on coastlines and ports. The third map depicted the entire world in keeping with the most recent information, while its elliptical shape and twelve putti referred to the scientific standards of Ptolemy.

The contemporary audience was obviously accustomed to both styles and expected, accepted, and encouraged the discourse with all its contradictions.

109 Francesco Rosselli, Planisphere, copperplate engraving in Florence, Biblioteca Nazionale Centrale, Landau Finaly, *Carte Rosselli, planisfero*; cf. Ingrid Baumgärtner, *Der Portulan-Atlas des Battista Agnese. Das Kasseler Prachtexemplar von 1542* (Darmstadt: WBG, 2017), 18–19.

110 Battista Agnese, Portulan Atlas, Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4o Ms. Hist. 6, fols. 8v–9r and fols. 14v–15r; cf. Baumgärtner, *Portulan-Atlas*, 69–70, 76–78.

111 Battista Agnese, Portulan Atlas, Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4o Ms. Hist. 6, fols. 15v–16r; cf. Baumgärtner, *Portulan-Atlas*, 78–83.

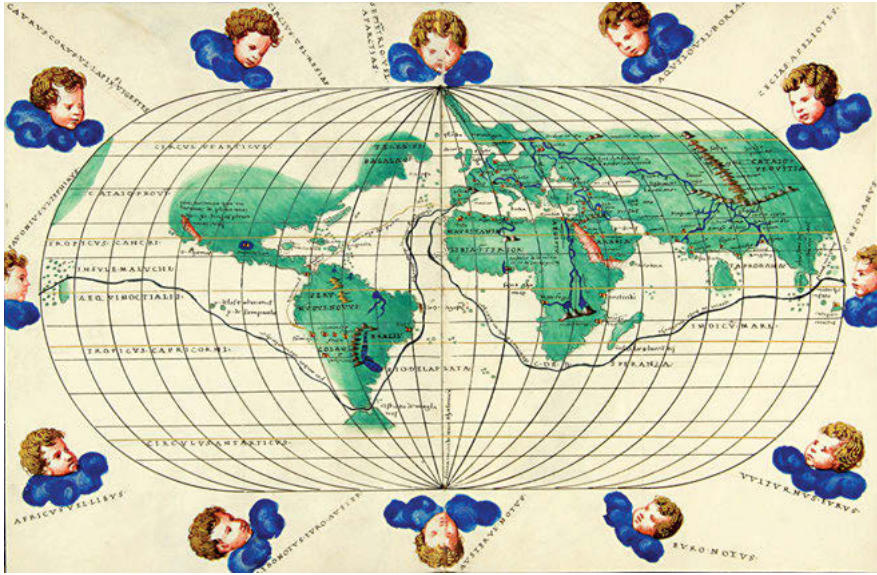


Fig. 2.13: World map with twelve wind personifications, Battista Agnese, portolan atlas of 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 15v–16r. Creative Commons 4.0.

The growing production of portolan charts led to the increasing importance of the eightfold system not only for mariners but even for erudite readers and viewers. The late medieval shift to the vernacular, the multitude of powers concerned with the making of portolan charts, and the international composition of the field forced the question of language into focus. This went so far that, for example, in one of his atlases the Portuguese cartographer Diogo Homem included a concordance of wind names in different languages with explanations of their character and relevance.¹¹² His familiarity with various languages was likely a result of his own life experience, as he had been exiled for a crime and worked first in England and later in Venice, where he died in 1576.

The persistence of contradictory systems might be the reason that Burchard's travelogue attracted a range of visualizations until the sixteenth century, even though or perhaps because his text offered only a rough structure and did not refine the wind names or other parameters. Thus illustrators could conceive their own visual designs based on their own associations.

¹¹² Taylor, "The 'De Ventis,'" 26.

Conclusion

In the Middle Ages, concepts such as the three or four parts of the earth and the twelve or eight directions of the winds were used in texts and images to organize perceptions of the world. This was possible owing to their dual meaning: the parts of the world appeared as its quarters and as three differently sized “continents,” the wind as natural phenomena and as directions. The two models complemented one another excellently and between them described the composition of the world. For research on the intentions behind the use of these concepts, Burchard’s travel report *Descriptio terrae sanctae*, written between 1274 and 1285, provides an exceptional source because the text evolved from both principles. Burchard divided the territory around Acre into four parts and twelve sections, seven on land and five at sea, according to the wind directions. During the text’s history from the fourteenth to the sixteenth century, copyists adopted these guidelines and furnished the travelogue with various graphic representations of the written words. Whereas the travel report itself and its earliest images followed the scientific system of twelve winds, it was subsequently combined with the eightfold model. This alteration in the course of the text’s reception is noteworthy because it was implemented to aid readers’ comprehension of the narratives through a systematic categorization of the information. Apparently, conceptual models were behind these developments.

This essay has demonstrated how and why phenomena such as winds and geographic entities, at first referred to as parts of the earth and only later as continents, became crucial for the perception of the world’s structure. A representative sample of encyclopedic and historiographical writings, cartographic material, and travel literature from the Middle Ages has revealed that these cultural concepts developed over a long period of time. From their conception in antiquity to their wider dissemination as cartographic and textual motifs, they were important for visualizing and memorizing their underlying ideas. Tensions between the four- and threefold concept, on the one hand, and the eight- and twelvefold concept, on the other, led to contradictions and dynamics that evoked changes in their meaning. Ancient scientific knowledge about the physical world was combined with Christian exegesis. Religious content and motifs such as the Holy Trinity, the cross, and the evangelizing twelve apostles were systematically linked to information from pagan sources. The diagrams of the earth and the winds provided sophisticated vehicles for productive reflections on conflicting ideas. The numbers three, four, eight, and twelve came to signify entire belief systems, while their scientific meaning was combined with Christian subtext. Finally, new contexts and new interpretations led to the evolution of the four quarters and three parts of the world into continents when an

additional landmass was discovered on earth. The wind directions acquired new meaning when the portolan chart wind roses with sixteen or thirty-two rays dominated the discourse.

Other spatial models were developed to explain the earth's structure. The climatic zones, for example, organized the globe according to meteorological conditions and their alleged effects on people and cultures. The zones were used to differentiate cultural and political settings not only on maps but even in historiographies and travel literature. William of Malmesbury was not the only author who attributed a weakness to the people of the East and their long-lasting empires, which he linked to climatic conditions.¹¹³ Such models, however, were less appealing and less appropriate for a broader public. Diagrammatic symbols such as T-O maps and wind roses were simple but also meaningful and effective. Within seconds, entire worlds could be constructed that were inaccessible to the naked eye. In the Middle Ages, the earth's parts and the wind directions became basic categories, which were adopted as conventions by which to structure the world. The borders of the continents were just as invisible as the winds, but the words of their descriptions and the lines of their depictions made them visible and gave shape to their elusive presence.

113 William of Malmesbury, *Gesta regum anglorum*, 4.360, ed. Roger A. B. Mynors and Rodney M. Thomson, vol. 1 (Oxford: Clarendon Press, 1998), 632–34: As many travelers, he was absolutely convinced that the “Persian” (i.e., Seljuk) empire was less the result of its strong rulers than of the weak personality and servile habit of their climatically determined subjects. Cf. Mauntel, “The ‘Empire of Persia,’” 370–71, 380.

Chapter 3

Amazons in Medieval World Maps

The Ebstorf Map

Two armed queens stand erect beside a building with crenellated walls and a tower, in the vast expanses of Asia (Fig. 3.1). The scene appears on the Ebstorf map, arguably the most famous encyclopedic world map of the Middle Ages, and – at 358 × 356 cm – certainly the largest. Created around 1300, the original was destroyed by fire in 1943. In the replica, the two women, dressed in courtly robes, look attractive and well able to defend themselves. Their arms and armor – helmets, shield, and sword or spear – indicate an unconcealed willingness to fight. Their long tresses and the ample folds of their skirts emphasize feminine features. The accompanying text explains: “Here is the region of the Amazons. These are women who fight like men. They once appointed two beautiful, experienced, and cultivated queens. One was called Marpesia, the other Lampedo. They kill male offspring, but carefully nurture female offspring and train them in warfare. They cauterize their right breast so they can use a bow without injury.”¹

The description of this nation of women, including the rulers, Marpesia and Lampedo, is vivid. These warriors, fighting like men, are reported to be experienced and beautiful, a combination that must have confused medieval Europeans – just as it would have baffled any enemy. The text depicts them as cultivated and elegant, but also ruthless, since they are in the habit of killing their newborn sons and sacrificing their right breasts so they can draw their bows more easily. According to the description, they raise their daughters with care and prepare them for future combat duties.

Evidently the European division of roles between the sexes was exactly reversed in the vast expanses of Asia: military chivalry fell to the women; newborn sons were murdered, and daughters favored in the succession. The two Amazons do not look unfeminine, although masculine attributes partially cover their women’s clothing. Their familiar, courtly demeanor offers an appealing contrast to their knee-length surcoats. If it were not for the militant equipment and the description of their cruel actions, these delicate beauties could be a reference to courtly ways of life.²

¹ *Die Ebstorfer Weltkarte: Kommentierte Neuausgabe in zwei Bänden*, ed. Hartmut Kugler, vol. 1, *Atlas* (Berlin: Akademie Verlag, 2007), no. 22/2. Translation by Dr. Nicola Barfoot of the text originally translated German.

² Claudia Brinker-von der Heyde, “Ez ist ein rehtez wiphere. Amazonen in mittelalterlicher Dichtung,” *Beiträge zur Geschichte der deutschen Sprache und Literatur* 119, no. 3 (1997): 406–9.



Fig. 3.1: Ebstorf map, around 1300. Public Domain.

Cartographically, the power of these female warriors extends over the whole region. Since Strabo, the Amazons had been thought to have their base in the town of Themiscyra, a well-fortified location on the river Thermodon, or in the Eurasian Caucasus, which is defended by a double moat on the map.³ Not far from here, the leaves of a giant tree are judged by whether they are as large as an Amazon's shield. The comparison makes these fearless women and their weapons a benchmark for assessing the unknown.

³ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 23/17.

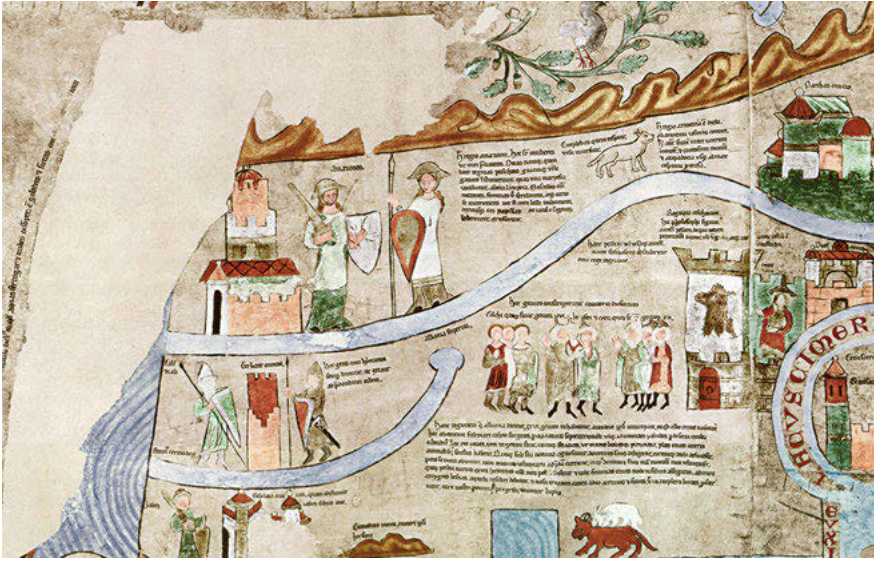


Fig. 3.1 (detail)

Location of the Amazons in Medieval World Maps

The Ebstorf map is a development of the east-oriented T-O maps, in which a circular ocean surrounds Asia, Europe, and Africa. The three continents, arranged in a 2:1:1 ratio, are separated from one another by bodies of water in the shape of a T, with the Mediterranean as the shaft and the Don and Nile as the crossbar (Fig. 3.2). The three sons of Noah are assigned to the continents: the first-born, Shem, to the largest continent, Asia; the cursed Ham, to Africa; and the youngest, Japheth, to Europe. This interpretative model reflects the primacy of Asia in terms of salvation history: Paradise was assumed to be in the east of Asia, along with the sources of the four rivers of Paradise, the Ganges, Euphrates, Tigris, and Nile. The Christian orientation of the image of the world combines an encyclopedic array of ancient and biblical knowledge with contemporary insights.

The T-O concept was modified as needed, and appeared in all formats from small T-O diagrams to large wall maps. The oval, rectangular, or round Beatus maps of the tenth to thirteenth centuries expanded the east-oriented ecumene by adding a fourth continent in the southern hemisphere. Hemispheric world maps, as found in the Wolfenbüttel manuscript of the *Liber floridus* by Lambert of Saint-Omer (Fig. 3.3), added the other side of the earth. The aim was not to give a true-to-



Fig. 3.2: Schematic T-O map; Munich, Bayerische Staatsbibliothek, 2 Inc. c.a. 129. Creative Commons 4.0.

scale representation of the world or an aid to orientation based on real topography, but to illustrate the divine order in its immeasurable abundance.

Such maps not only visualize the world in spatial terms, but also show the history contained in it. This made it possible to position the mythical Amazons in a well-structured world order without permanently fixing their location. The basis for this was knowledge from antiquity, handed down since Herodotus, about a community in which the cultural and social gender order was reversed.⁴ Roman historians such as Pomponius Mela conceived of the Amazons as a separate nation. This notion reached Christian Europe by way of Isidore of Seville, who lived from around 560 to 636.⁵ Later, reports on east Asia added observations on matriarchy, polygamy, prostitution, and motherhood.

From the eighth century or earlier, cartographers included the land of the fearless female fighters in their designs. An early example is the “Vatican” Isidore map, showing the region of the Amazons to the west of the Caspian Sea and northeast of the Black Sea.⁶ These well-armed women are reported to live in Amazonia in northern Asia, near the Caspian Gates. The Beatus map of Saint-Sever (around 1065–1072) also locates the nation of women by the Caspian Sea (Fig. 3.4). Similar illustrations are found in the twelfth-century Lund map,⁷ the somewhat later Heidelberg map,⁸ and the “Sawley” map, created around 1200.⁹ Even the biblically oriented maps in the Hieronymus manuscripts do not omit the female warriors. Until the second half of the thirteenth century, maps placed the Amazons fairly consistently to the northeast of Europe, in Colchis (now Georgia), by the Black Sea or in the Caucasus – this is also confirmed by lettering in the Psalter map in London (after 1262). Here these battle-hardened women rule a frontier zone, where they must face dangerous conflicts with foreign cultures if the occidental order is not to fall apart.

4 Herodotus, *Histories*, 4.111–16.

5 Isidore of Seville, *Etymologiae*, 9.2.62–65.

6 Vatican City, Bibliotheca Apostolica Vaticana, Vat. lat. 6018, fols. 63v–64r; Leonid S. Chekin, *Northern Eurasia in Medieval Cartography: Inventory, Text, Translation, and Commentary* (Terrarum Orbis 4) (Turnhout: Brepols, 2006), 128, no. X.1.

7 Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Theol. lat., f. 149, fol. 27r; Chekin, *Northern Eurasia in Medieval Cartography*, 52, no. II.8.

8 Heidelberg, Universitätsbibliothek, Salem IX, 39, fol. 1v; Chekin, *Northern Eurasia in Medieval Cartography*, 119, no. VIII.9.1.

9 Cambridge, Corpus Christi College, Ms. 66.



Fig. 3.3: Hemispheric world map, Lambert of Saint-Omer, *Liber floridus*, ca. 1112–1121; Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 1 Gud. Lat., fols. 69v–70r. © HAB Wolfenbüttel <http://diglib.hab.de/mss/1-gud-lat/start.htm>; Creative Commons 3.0.

Amazons, Goths, and Nations of the End Times

In cartographic terms, the Amazons personify the edge of Christian-European culture. Their inaccessible land touches the unconquerable Other. Aloof and free of any moralizing impetus, these fearless women inhabit the border zones of knowledge. Here they coalesce with other nations, be it Germanic tribes or Scythians. The spatial proximity to terrifying mythical peoples shows how fears and fantasies merged into one another. It is entirely possible that Gothic women, for example, fought alongside men and proved themselves on the battlefield. Jordanes, a scholar of late antiquity, drew an impressive portrait of female fighters of Gothic descent with Lampedo and Marpesia as their commanders-in-chief.¹⁰

¹⁰ Jordanes, *Romana et Getica*, V, 44 u. VII–VIII, 49–57.



Fig. 3.4: Beatus map from Saint-Sever, around 1065–1072; Paris, Bibliothèque nationale de France, Lat. 8878, fols. 45bis^v–45ter^r. Creative Commons 1.0.

coming of the Antichrist and lay waste to the earth.¹² The narrow waterway of the Don separates these ferocious tribes from vulnerable Europe.

¹² On the *Inclusi* behind the Caspian Gates, Naomi Reed Kline, *Maps of Medieval Thought: The Hereford Paradigm* (Woodbridge: Boydell & Brewer, 2001), 184–87; Andrew C. Gow, “Kartenrand,

The encyclopedic maps of the second phase are more nuanced, the integrated images more representational. In the Ebstorf map, the Amazons appear in several places between the early Goths on Scandia and the Ostrogoths in Dacia. A long band of text explains the geographic position: “The Caucasus rises from the Chinese Sea in the east and extends northwards, in an arc, almost as far as Europe. The Amazons, Massagetae, Colchians, and Sards live here.”¹³ The repeated positioning of the Amazons between the Scythians and other peoples of the steppes such as the Sarmatians gives the impression that this nation of female warriors split off from the rest of the Germanic tribes during their long migration from the frozen steppes – and then developed their own mode of existence in the Caucasus. But only the mountain range separates them from the cruel nations who will one day form the armies of the Antichrist (Fig. 3.5).¹⁴



Fig. 3.5: Ebstorf map with Scandia and Gog and Magog as cannibals, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, nos. 8–9, 15–16.

Gesellschaftsrand, Geschichtsrand: Die legendären *iudei clausi/inclusi* auf mittelalterlichen und frühneuzeitlichen Weltkarten,” in *Fördern und Bewahren. Studien zur europäischen Kulturgeschichte der Frühen Neuzeit*, ed. Helwig Schmidt-Glinzer (Wiesbaden: Harrossowitz, 1996), 137–55.

¹³ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 3/7. Translation by Dr. Nicola Barfoot of the text originally translated into German.

¹⁴ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 8/7.



Fig. 3.6: Psalter map, with semicircular Caucasus and closed Caspian Gates, after 1262; London, British Library, Add. Ms. 28681, fol. 9r. Creative Commons 1.0.



Fig. 3.6 (detail)

This notion of a threatening presence in the northeast lends a certain drama to almost every world map. On the Hereford map, the descendants of Gog and Magog sit in seclusion on the island of *Terracontia* in the encircling ocean, barbarically devouring the flesh of young men. Even on the small Psalter map in London, the semicircular mountain range of the Caucasus and Taurus is clearly recognizable. The gates erected by Alexander are still closed, and the prison is guarded by the Amazons (Fig. 3.6). So the land of the Amazons was the furthest point separating the self from the Other, the world of the Germanic tribes and Scythians from the sphere of influence of cannibalistic end-time nations.



Fig. 3.7: Hereford map, detail showing the female rulers in India, after 1290; London, Royal Geographical Society, Hereford map. Creative Commons 1.0.

Between Center and Periphery

Cartographically, the Amazons claimed their place at the point of intersection between Christ and Antichrist, between protective ruler of the world and destructive armies. In the world maps of Ebstorf and Hereford, the virtually invincible women are in contact with both the centrally located Jerusalem and the monsters on the periphery. Inside and outside, the maps have great visual expressiveness. In the south of the Psalter map we see creatures with four eyes or six fingers; beings who consume food through pipes or have no tongues; people without ears or noses; cannibals and men with the heads of dogs. The Ebstorf map shows these misshapen creatures in two rows.¹⁵ The monsters on the Hereford map appear less prominent at first glance. On closer inspection, though, they take up a substantial part of the margins of the earth.¹⁶ In the complex system of narrative and classification, both Amazons and monsters are clearly part of an overall program, every part of which is related to salvation history.

In such contexts, the counterworlds of European ideals could readily combine with Christian ideas of morality. The Ebstorf map sketches the tribe of Pangea, a community ruled by women in the gold and pearl mountains, south of Paradise.¹⁷ The Hereford map also positions the female rulers of India at the top, in the east (Fig. 3.7). In early Christian literature, the metaphor of “becoming a man” was accompanied by a moral and spiritual progression towards perfection. While the feminization of a man unmistakably signified a decline, a woman who became masculine could, according to Christian ideas, develop into an exemplary man. The spatial proximity of the reigning women to Paradise implicitly opens up this path to salvation.

Foreign Women, Foreign Customs

The perception of foreign female warriors focused not only on inaccessible worlds, but also on barely comprehensible customs. The Amazons depicted on maps generally display behaviors with masculine connotations, expressed in physical characteristics. The maps in the *Polychronicon*, a world history by Ranulf Higden (d. 1363), note their vigorous style of fighting and the missing right

¹⁵ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 21/27/28/34/35/42/49.

¹⁶ *The Hereford Map: A Transcription and Translation of the Legends with Commentary*, ed. Scott D. Westrem (Turnhout: Brepols, 2001), no. 961–73.

¹⁷ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 5/11.

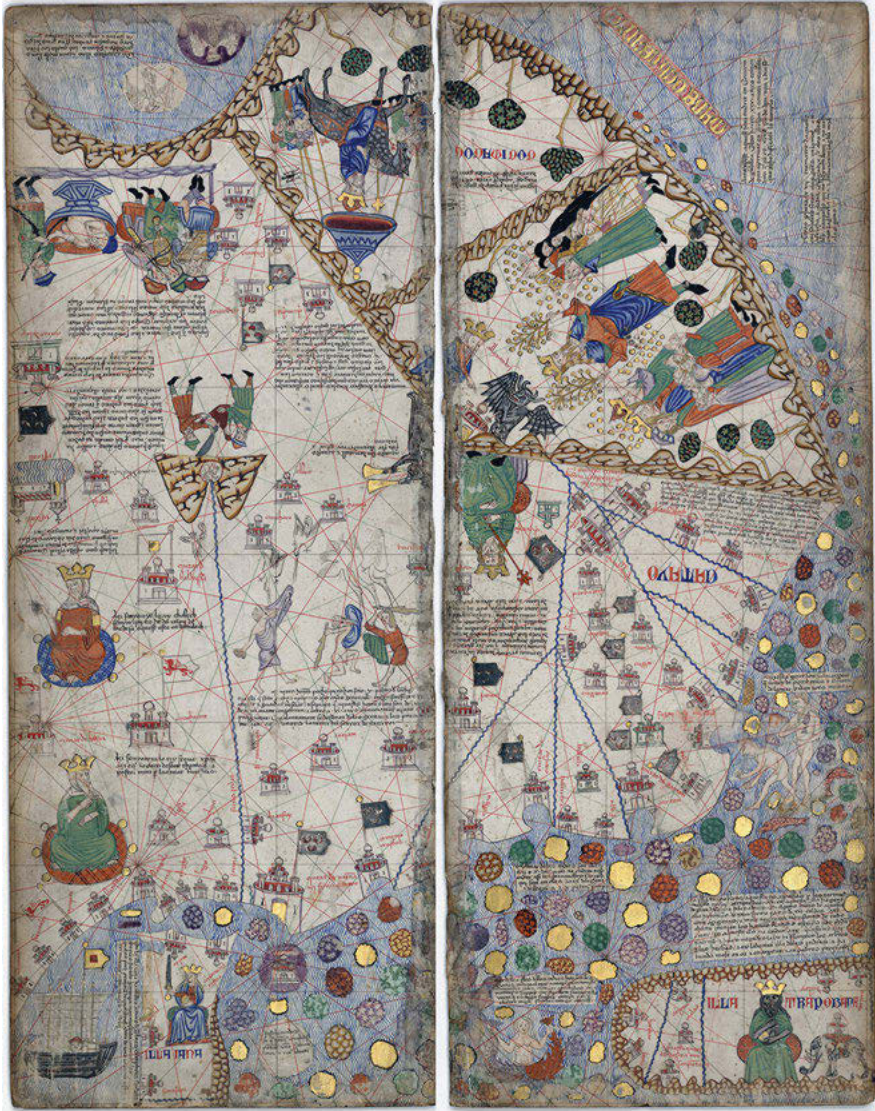


Fig. 3.8: Catalan Atlas, around 1375; Paris, Bibliothèque nationale de France, Esp. 30. Public Domain.

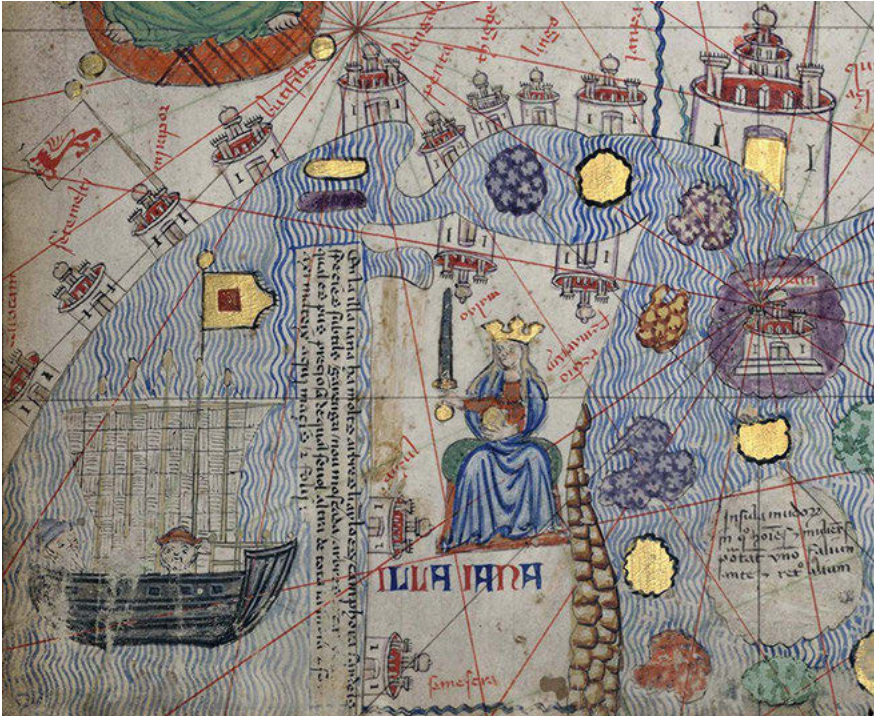


Fig. 3.8 (detail)

breast.¹⁸ Their neighbors were the hermaphrodites, creatures combining both sexes, who – according to Pliny and Isidore of Seville – were born without a right breast.

Late medieval world maps recount the old stories, but with greater variety. The Catalan Atlas (around 1375) presents the region of women as an isolated island realm on Ceylon, named *Illa Jana* (Fig. 3.8). Here a long-haired ruler with an oversized sword in her right hand recalls an Amazon queen. She sits majestically on her throne, a golden crown on her head, an imperial orb in her left hand, wearing a richly draped robe in splendid blue and red.¹⁹ The Borgia map, produced around 1430 using the niello technique, ranks the Amazons in the northeast among the

¹⁸ *Mappaemundi*, ed. Miller, 3:101: “Amazones sunt femine sine mamillis dextris, per se ipsas [per sagittas?] viriliter militantes.”

¹⁹ Abraham Cresques, *Der Katalanische Weltatlas vom Jahre 1375: Mit einer Einführung und Übersetzungen*, ed. Hans-Christian Freiesleben (Quellen und Forschungen zur Geschichte der Geographie und der Reisen 11) (Stuttgart: Brockhaus, 1977), 21.



Fig. 3.9: World map by Andreas Walsperger, detail showing the Amazons, 1448; Vatican City, Biblioteca Apostolica Vaticana, Pal. lat. 1362 B. Creative Commons 1.0. Facsimile: *Weltkarte des Andreas Walsperger*, Pal. lat. 1362 B. Explanation by Edmund Pognon, Zurich 1987.



Fig. 3.9 (detail)



Fig. 3.10: World map by Fra Mauro, detail showing the Amazons, 1459; Venice, Biblioteca Nazionale Marciana. Creative Commons 1.0.

famous women, and tells of the brave Penthesilea, who was slain by the Greek Achilles outside Troy.²⁰ Andreas Walsperger, a Benedictine monk from Salzburg, created a south-oriented world map (1448) in the tradition of the Klosterneuburg school. He places the valiant Amazons – with a short text but no illustration (Fig. 3.9) – midway between Jerusalem and Paradise. Even the critical Camaldolese monk Fra Mauro (around 1459) conscientiously includes the province of the Amazons (Fig. 3.10).

²⁰ *Mappaemundi*, ed. Miller, 3:149: “Terra quondam illustrium mulierum and Penthesilea ad Troiam multa bella et Grecos debellavit.”



Fig. 3.10 (detail)

By the fifteenth century the Ptolemaic worldview had been discovered and the experiences of travelers to Asia were well-known. Nonetheless, the mythical female warriors remained part of the creation. Furthermore, the Amazon myth merged with stories of women living in segregation on desert islands in the Indian Ocean. Andreas Walsperger, for example, shows the bearded women whose existence was attested by classical and medieval authors, including the archbishop of Hamburg, Adam von Bremen.²¹ And Ranulf Higden tells us about the women living alone on the legendary Gorgades. The only unexplained aspect was reproduction, and this explanation was supplied by Fra Mauro: his map includes mention of a necessary three-month period of concubinage every year.²²

²¹ *Mappaemundi*, ed. Miller, 3:147: “Mulieres hic sunt barbatae.”

²² *Il Mappamondo di Fra Mauro: Una storia*, ed. Piero Falchetta (Rimini: Imago 2013), pl. III, 1, 24: “Queste do’ isole sono habitade p(er) christiani. In una de le qual coè in nebila habita le done e in l’altra dita mangla habita li lor homeni, i qual solamente tre mesi de l’ano stano con le done”; *ibid.*, pl. IV, 6, 24: “Circa hi ani del Signor 1420 una naue ouer çoncho de india



Fig. 3.11: Theodor de Bry, 1599; Arentzen, *Imago mundi cartographica*, fig. 97. Creative Commons 1.0.

Tales such as this reflect a world of matriarchal power and female independence. Another example is the Garamantes in Libya, depicted on the Ebstorf map as lying near the inhabitants of the edge of the earth and the wild animals of Africa. Inspired by Solinus, the map depicts this nation as a matriarchy, in which children revere only their mothers.²³ And the Borgia map shows (in southern Africa, near *Abimichabal*, the king of the dog-headed men) wild women giving birth to their offspring without husbands.²⁴ Such an abstruse world violated all civilized norms, and implied a value judgment: outside the Christian world, barbaric customs prevailed.

Migration to the New World

Precisely because the Amazons marked the outer limit of possible experience, they were not a static model. Over the centuries, they migrated across the

discorse per una trauersa per el mar de india a la uia de le isole de hi homeni e de le done de fuora dal cauo de diab e tra le isole uerde e le oscuritade a la uia de ponente e de garbin.”

²³ *Mappaemundi*, ed. Miller, 5:55: “Garamantes [...] Inde est, quod filii tantum matres recognoscunt, nam paterni nominis nulla est reverentia.”

²⁴ *Mappaemundi*, ed. Miller, 3:15: “Hic mulieres irsute ferocissime, sine maribus partum faciunt. Abimichabal cum populo suo habens faciem caninam.”

maps, from their original home by the Black Sea to a new home near the nations of the end times in the Caucasus, then to the steppes of Asia close to Paradise, and later to the Amazon in South America. For every step there were historical models: the courageous barbarian women of the Migration Period, the horse-riding Mongol women of the central Asian steppe, and the indigenous women fighting against European conquerors in South America.

The latter appeared on a map by Theodor de Bry, a Calvinist engraver from Frankfurt, in 1599. De Bry explains that the Amazon river is named after these women, who only live with men for one month per year to produce offspring. The sons are then transferred to the men, while the women keep the daughters (Fig. 3.11). This reinvention of old myths was a response to the combative women described by the Dominican friar Gaspar de Carvajal, a participant in the Spanish expedition to the Amazon in 1542. At the same time, cartographers transferred other figures from Asia to the New World, adapting them to different temporal planes, spaces, and requirements. For example, cormorant fishing was moved to Guyana, and the people without heads to the Orinoco.²⁵ Their presence on the maps was guaranteed by literary tradition and the contemporary horizon of experience.

Conclusion

In foreign lands, the European gender order seemed to fall apart. There the cartographers could depict the Amazons and their customs in text and image, while combining the perception of female ways of life with the geographic, cultural, and physical experience of foreign places. The traditions and motifs were supplied by ancient and early Christian authorities. The Amazons symbolized contrary worlds: they were both a fascinating ideal and a horrifying curiosity. Admirable qualities such as courage, independence, intelligence, and beauty were contrasted with a lack of civilization, animalistic instincts, and barbaric customs. This was a view of the opposite sex liberated from all conventions. It was only outside Western civilization that women could take on masculine tasks and behaviors without endangering the European gender order.

²⁵ Folker Reichert, "Columbus und Marco Polo – Asien in Amerika. Zur Literaturgeschichte der Entdeckungen," *Zeitschrift für Historische Forschung* 15 (1988): 1–63 at 57–63.

Chapter 4

From the Journey to the Map and Back: Creative Processes and Cultural Practices

In the novel *La carte et le territoire* (*The Map and the Territory*), Michel Houellebecq invents an exhibition for his protagonist, the artist Jed Martin. The exhibition's title, "The Map is More Interesting than the Territory,"¹ draws a connection between the categories of map and space, while raising questions about the relation between image and reproduction, reality and created world. In the author's view, reality is less interesting than the product of creative design, in this case the Michelin street map, photographed and digitally processed by the artist. The directness of the technically complex but unrefined satellite photo almost bores the viewer; only the map reflects what is actually worthy of attention. As Houellebecq sees it, the drawn network of symbols and meanings is superior to the rival medium of the photo because it brings the territory to life. It is not realism that gives a map visual immediacy, but the relationship between the creator's choice of content and the viewer's interpretation.

This insight leads to the question of creative processes in cartography, and their potential. Central to this is the relationship between the information supplied (be it by travelers or other informants) and its cartographic representations, or, in more precise terms, between straightforward copying and creative interpretation. Producing a map does not mean simply making an exact replica of a preexisting reality; instead it means deploying a cultural technique and making space for creativity.² Medieval mapmakers used lines and symbols to

1 Michel Houellebecq, *The Map and the Territory*, trans. Gavin Bowd (London: Heinemann, 2011), 48 (French original Paris: Flammarion, 2010).

2 Cf. *The History of Cartography*, ed. John Brian Harley and David Woodward, 6 vols. (Chicago: University of Chicago Press, 1987–2015); John Brian Harley, *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton (Baltimore: Johns Hopkins University Press, 2001); Ingrid Baumgärtner, "Weltbild und Kartographie," in *Enzyklopädie des Mittelalters*, ed. Gert Melville and Martial Staub, 2 vols. (Darmstadt: WBG, 2008), 1:390–94 and 2:443; Ingrid Baumgärtner and Stefan Schröder, "Weltbild, Kartographie und geographische Kenntnisse," in *WBG-Weltgeschichte: Eine globale Geschichte von den Anfängen bis ins 21. Jahrhundert*, ed. Johannes Fried and Ernst-Dieter Hehl, vol. 3, *Weltdeutungen und Weltreligionen 600 bis 1500* (Darmstadt: WBG, 2010), 57–83; Ute Schneider, *Die Macht der Karten: Eine Geschichte der Kartographie vom Mittelalter bis heute*, 4th ed. (Darmstadt: WBG Theiss, 2018); Vadim Oswald, *Weltkarten – Weltbilder: Zehn Schlüsseldokumente der Globalgeschichte* (Stuttgart: Reclam, 2015); Ingrid Baumgärtner, "Die Welt in Karten: Umbrüche und Kontinuitäten im Mittelalter," in *Mediävistik und Schule im Dialog*, ed. Uta Goerlitz and Meike Hensel-Grobe = *Das Mittelalter*.

conceptualize a space of which they knew only segments and could only ever see a fraction.³ They filled in the rest from their imagination, interpreting data and findings, adapting the given forms of representation to individual, societal, cultural, or scientific requirements, and (re)constructing spatial structures. In a creative process, they transformed spatial descriptions into cartographic images.

Maps are and always have been dynamic. On the one hand, they are the objects of creative activity: they are made, adapted, modified, and eventually distributed and viewed in various ways. On the other hand, they themselves play a creative role: they produce spatial conceptions, thereby creating spaces and ultimately “reality.” In the period we are considering here, a complex path led from the journey to the map, from experience to the creation of space, from seeing and describing to mapping. Travelers and cartographers wanted to give visible form to both the familiar and the new – in words and images; in sketches and finished artwork; on parchment, paper, wood, or stone. They relied on what they knew, experienced, and saw. They wanted to do justice to their subject, but had to accommodate their audience’s horizon of expectation, which often ran counter to their aims. They imitated the traditional, but experimented with original ideas. This resulted in a variety of types and forms that far transcended all formal categorizations, from simple T-O diagrams to world maps, regional maps, and nautical charts.

The basic tools of cartographic transformation were various cultural techniques such as copying, imitation, quotation, decontextualization, recontextualization, and the creative invention of new material. All these methods point to a two-way process: on the one hand from the journey in space to the map, and on the other hand from the map back to the space traveled. The following remarks will therefore focus on the creative potential of mapping in the processing of travel, experience, and description. In line with this emphasis, the article concentrates on examples in which cartographic skill is interlinked with knowledge derived from travel, and in which reinterpretations and the attribution of new meanings is central. Although the end point of this investigation is the sixteenth century, it is certainly not my intention to suggest a clear pattern of development for the late Middle Ages. Instead my aim is to perceive the vast spectrum

Perspektiven mediävistischer Forschung 22, no. 1 (2017), 55–74. See also essay no. 1 in this volume: “The World in Maps: Change and Continuity in the Middle Ages.”

³ Cf. Axel Gotthard, *In der Ferne: Die Wahrnehmung des Raumes in der Vormoderne* (Frankfurt am Main: Campus, 2007), 131–32. Gotthard uses the term *Inselraumstruktur* (insular spatial structure) to describe the small scale of the premodern perception of space. He talks of a “patchwork of qualitatively specific spatial islands,” which were “each equipped with their own personnel and not equally accessible for everyone” (translation by Dr. Nicola Barfoot).

of possibilities and put the resulting tensions to productive use. The first section explores the images of the world in the minds of travelers, as the result of a constant process of copying and recontextualization. The second part considers the cartographic realization of experience in imitation and imaginative reconstruction. The third looks at expectations brought to cartography in the context of political discourses of power. And the fourth section is dedicated to the creative restructuring that took place around 1500, as mapmakers incorporated geographical areas previously unknown in Europe.

Images of the World in the Minds of Travelers – Copying and Recontextualization

If medieval travelers wanted to tell the people back home where they had gone, and to explain how this related to the shape of the earth, then the obvious course was to use established models. Felix Fabri (1437/38–1502) would have been quite aware of this. A Dominican friar from Ulm, Fabri undertook pilgrimages to the Holy Land in 1480 and 1483, then recorded his experiences in several accounts. In his *Evagatorium*, conceived for a learned audience, he defines the earth's dimensions in terms of the three large seas forming the world: "The Ocean, or greatest Ocean sea," he states, "is that which encloses the round world, running round about it like a ring,"⁴ while the Mediterranean and the

4 Félix Fabri, *Les errances de frère Félix, pèlerin en Terre sainte, en Arabie et en Égypte. Édition critique*, ed. Jean Meyers and Michel Tarayre, vol. 1 of 6 (Textes littéraires du Moyen Age 25) (Paris: Garnier, 2013), 354–56: "Mare in genere est triplex, scilicet mare magnum, mare maius et mare maximum. Mare magnum est mare Mediterraneum, quod dicitur mare nostrum; mare maius est mare Ponticum; mare maximum est oceanus, quod ambit mundum. [. . .] Oceanus uel oceanum mare maximum, quod exterius per modum circuli ambit terrarum eumque amplectitur. [. . .] Oceanus ille manat ex orbe, et in ipso est radix eius et principium; finis quoque eius est apud finem illius." English translation based on: Felix Fabri, *The Book of the Wanderings in the Holy Land*, ed. Aubrey Stewart, vol. 1 of 4 (London: 1892), 111–12. Cf. *Frater Felices Fabri Evagatorium in Terrae Sanctae, Arabiae et Egypti peregrinationem*, ed. Konrad Dietrich Haßler, vol. 1 of 3 (Bibliothek des Literarischen Vereins in Stuttgart 2) (Stuttgart: Stuttgartardiae, 1843), 107; Stefan Schröder, *Zwischen Christentum und Islam: Kulturelle Grenzen in den spätmittelalterlichen Pilgerberichten des Felix Fabri* (Orbis medievalis. Vorstellungswelten des Mittelalters 11) (Berlin: De Gruyter, 2009), 53–76. For Felix Fabri see *Die Welt des Frater Felix Fabri*, ed. Folker Reichert and Alexander Rosenstock (Veröffentlichungen der Stadtbibliothek Ulm 25) (Weißenhorn: Konrad Anton, 2018); Folker Reichert, "Felix Fabri, Marco Polo und die japanischen Inseln," *Deutsches Archiv für Erforschung des Mittelalters* 75 (2019): 615–25; Susanna E. Fischer, *Erzählte Bewegung: Narrationsstrategien und Funktionsweisen lateinischer Pilgertexte (4.–15. Jahrhundert)* (Mittellateinische Studien und Texte 52) (Leiden: Brill, 2019).

Black (or Pontic) Sea are inscribed into this encircling ocean. Such remarks were based on the Greek invention of *Okeanos* and the subsequent discourses about the borders between the continents, to which the church fathers and other authors later added a layer of Christian symbolism.⁵

This encircling ocean also created a framework for Fabri to outline the route of a pilgrim to Jerusalem from continent to continent: “He begins his voyage in Europe; at Crete, Rhodes, and Cyprus he reaches Asia, and when he arrives at Alexandria in Egypt he will be in Africa; for the Nile divides Asia from Africa.”⁶ Fabri’s lines, written in Latin around 1484, adopt the abstract T-O schema of medieval world maps, thus tapping into the prior knowledge of his readers, in whose minds this tripartite division would have been long established. The model had gained greater currency thanks to Isidore of Seville. In the fourteenth book of his *Etymologiae*⁷ and in his popular work of natural

5 Cf. Ingrid Baumgärtner, “Europa in der Kartographie des Mittelalters: Repräsentationen – Grenzen – Paradigmen,” in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis. Vorstellungswelten des Mittelalters 10) (Berlin: De Gruyter, 2008), 9–28 at 11–17; Klaus Oschema, *Bilder von Europa im Mittelalter* (Mittelalter-Forschungen 43) (Ostfildern: Jan Thorbecke, 2013), 88–96; Christoph Mauntel, Klaus Oschema, Jean-Charles Ducène and Martin Hofmann, “Mapping Continents, Inhabited Quarters and the Four Seas: Divisions of the World and the Ordering of Spaces in Latin-Christian, Arabic-Islamic and Chinese Cartography in the Twelfth to Sixteenth Centuries. A Critical Survey and Analysis,” *Journal of Transcultural Medieval Studies* 5, no. 2 (2018): 295–367; Ingrid Baumgärtner, “Winds and Continents: Concepts for Structuring the World and Its Parts,” in *Maps and Travel in the Middle Ages and the Early Modern Period: Knowledge, Imagination, and Visual Culture*, ed. Ingrid Baumgärtner, Nirit Ben-Aryeh Debby and Katrin Kogman-Appel (Das Mittelalter. Beihefte 9) (Berlin: De Gruyter, 2019), 91–135 at 105–10 (see essay no. 2 in this volume).

6 Fabri, *Les errances*, ed. Meyers and Tarayre, 1:362: “In Europa enim nauigare incipit, et in Creta et Rodo et Cypro Asiam tangit, dum uero in Alexandria Aegypti peruenit, in Affrica erit. Nilus enim diuidit Asiam ab Affrica, in cuius Affricana parte est Alexandria.” English: Fabri, *Book of Wanderings*, ed. Stewart, 1:115. Cf. Fabri, *Evagatorium*, ed. Haßler, 1:110.

7 Cf. Isidore of Seville, *Etymologiarum sive Originum libri XX*, ed. Wallace M. Lindsay, vol. 2, *Libros XI–XX* (Oxford: Oxford University Press, 1911, reprint Oxford: Clarendon Press, 1987), 14.2.1–3: “Orbis a rotunditate circuli dictus, quia sicut rota est; unde brevis etiam rotella orbiculus appellatur. Undique enim Oceanus circumfluens eius in circulo ambit fines. Divisus est autem trifarie: e quibus una pars Asia, altera Europa, tertia Africa nuncupatur. 2 Quas tres partes orbis veteres non aequaliter dividerunt. Nam Asia a meridie per orientem usque ad septentrionem pervenit; Europa vero a septentrione usque ad occidentem; atque inde Africa ab occidente usque ad meridiem. 3 Unde evidenter orbem dimidium duae tenent, Europa et Africa, alium vero dimidium sola Asia; sed ideo istae duae partes factae sunt, quia inter utramque ab Oceano mare Magnum ingreditur, quod eas intersecat. Quapropter si in duas partes orientis et occidentis orbem dividat, Asia erit in una, in altera vero Europa et Africa.”



Fig. 4.1: T-O map, ninth century; Brussels, KBR (Royal Library of Belgium), Ms. 9311–19, fol. 89v. Copyright KBR.

history, *De natura rerum*,⁸ he devised an image of the earth that was reproduced in hundreds of copies throughout the Middle Ages and illustrated with

⁸ Cf. Isidore de Séville, *Traité de la nature*, ed. Jacques Fontaine (Bibliothèque de l'École des Hautes Études hispaniques, fasc. 28) (Bordeaux: Féret, 1960, reprint Paris: Institut d'études augustiniennes, 2002 [Collection des études augustiniennes. Série Moyen âge et Temps modernes 39]), cap. 48, 324–27. This edition with a French translation follows the manuscript in Munich, Bayerische Staatsbibliothek, Clm 14300 (eighth century) and shows, corresponding to the print editions of the fifteenth to eighteenth centuries, seven reconstructed diagrams, here without a T-O. See Isidore of Seville, *On the Nature of Things*, trans. Calvin B. Kendall and Faith Wallis (Liverpool: Liverpool University Press, 2016), 75–76 and 66–101 for the editions and the extant manuscripts. In each case the short description states which diagrams are included.

suitable sketches in T-O form.⁹ For all its conventionality, the tripartite division between Asia, Europe, and Africa offered a reliable foundation. It meant that movements in the maritime structure of the ecumene could be illustrated in a way that every reader or viewer could instantly understand. This model of a T composed of bodies of water inside the O formed by the Ocean thus seems to have acquired a fixed and authoritative form quite quickly, with countless descriptions and maps following this pattern.

The pragmatic transformation of the earth's spherical shape into a tripartite circle allowed varied, imaginative, and strategic interpretations:¹⁰ Some Isidore copyists, as in a ninth-century manuscript in Brussels (Fig. 4.1), focused on the basic division of the world.¹¹ Others, such as the draftsman of a twelfth-century manuscript in Aix-en-Provence (Fig. 4.2), added geographical names of regions and towns, coloring and symbols. This included the area at the mouth of the Don, depicted in the form of a triangle.¹² And still others, as in the St. Gallen manuscript (Fig. 4.3),¹³ assigned the sons of Noah to the different continents, as mentioned in the Bible. Another variation, found in the Rouen manuscript (Fig. 4.4), combined the T-O map of the continents with an additional V map showing the

9 Patrick Gautier Dalché, who has been working on a register of the schematic T-O maps from before 1200 for several years, remarked in 1994 that he had compiled a list of four hundred manuscripts containing such diagrams. See Patrick Gautier Dalché, “De la glose à la contemplation: Place et fonction de la carte dans les manuscrits du Haut Moyen Âge,” in *Testo e Immagine nell’Alto Medioevo* (Settimane di Studio del Centro Italiano di Studi sull’Alto Medioevo 41) (Spoleto: Presso la sede del Centro, 1994), 693–771 at 702; also in Gautier Dalché, *Géographie et culture: La représentation de l’espace du VIe au XIIIe siècle* (Variorum Collected Studies Series CS 592) (Aldershot: Ashgate, 1997), no. VIII. Four years later, Gautier Dalché’s list had grown to 625 maps in 465 manuscripts; cf. Patrick Gautier Dalché, “‘Mappae mundi’ antérieurs au XIIIe siècle dans les manuscrits latins de la Bibliothèque Nationale de France,” *Scriptorium* 52 (1998): 102–62 at 110. In the meantime the number of known T-O representations has risen still further. The promised catalogue is expected to appear soon.

10 Gautier Dalché, “De la glose,” 700–704; Evelyn Edson, “Maps in Context: Isidore, Orosius, and the Medieval Image of the World,” in *Cartography in Antiquity and the Middle Ages: Fresh Perspectives, New Methods*, ed. Richard J. A. Talbert and Richard W. Unger (Technology and Change in History 10) (Leiden: Brill, 2008), 219–36.

11 T-O map, ninth century, Brussels, KBR (Royal Library of Belgium), Ms. 9311–19, fol. 89v.

12 Cf. T-O map, mid-twelfth century, in Aix-en-Provence, Bibliothèque Méjanès, Ms. 25 (914), fol. 293r. Another similar T-O map, second half of ninth century, with three continents and inscribed textual legends, can be found in Vatican City, Biblioteca Apostolica Vaticana, Pal. lat. 834, fol. 90v.

13 Map with sons of Noah, second half of ninth century, St. Gallen, Stiftsbibliothek, Cod. Sang. 236, p. 89.

liber 777.
293

unde brevis etiam rotella orbiculus appel-
latur. Undique enim oceanus circumfluit
et in circulo. A brevis finis. Divisus est autem
orbis in quibus una pars Asia. altera eu-
ropa. tertia Africa nuncupatur. Quas
tres partes orbis. veteres non equaliter
diviserunt. Nam Asia a meridie per orien-
tem usque ad septentrionem pervenit. Euro-
pa a septentrione usque ad occidentem.
Africa a meridie usque ad occidentem.
Unde evidentem orbem
dimidui duas tenent. Europa et Africa
Asia a dimidui sola Asia. Sed ideo
iste duas partes factas habere sunt. quia
non utramque. ab oceano mare magnum
ingreditur. quod eas interfecit. Quapropter
si in duas partes orientis et occidentis
orbis dividat. Asia erit in una. in
altera vero Europa et Africa. **ORIENTIS.**

M de Asia. III.
Asia ex nomine cuiusdam malie-
ris est appellata. quae apud anti-
quos ipse tenent orientis.
Hec in tertia orbis parte disposita. ab
orientis ortu solis. a meridie oceano.
ab occiduo vero mari finitur. a septen-
trione meotici lacu. et tana fluviio
terminatur. Habet autem provincias
multas et regiones. quarum nomina
brevis et sitis expedita. sumpto
inicio a paradiso. Paradisus est locus
in orientis partibus constitutus.
cui vocabulum ex greco in latinum
verbum. Porro hebraice eden dicitur.
quod in nostra lingua deliciae interpre-
tantur. Quod utrumque iunctum. facit
ortum deliciae. Est enim omni gene-
re ligni et pomiferarum arborum
constitutus. habens etiam et lignum vitae;

Fig. 4.2: T-O map, mid-twelfth century; Aix-en-Provence, Bibliothèque Méjanès, Ms. 25 (914), fol. 293r.



Fig. 4.3: Map with sons of Noah, second half of ninth century; St. Gallen, Stiftsbibliothek, Cod. Sang. 236, p. 89. Creative Commons 4.0.

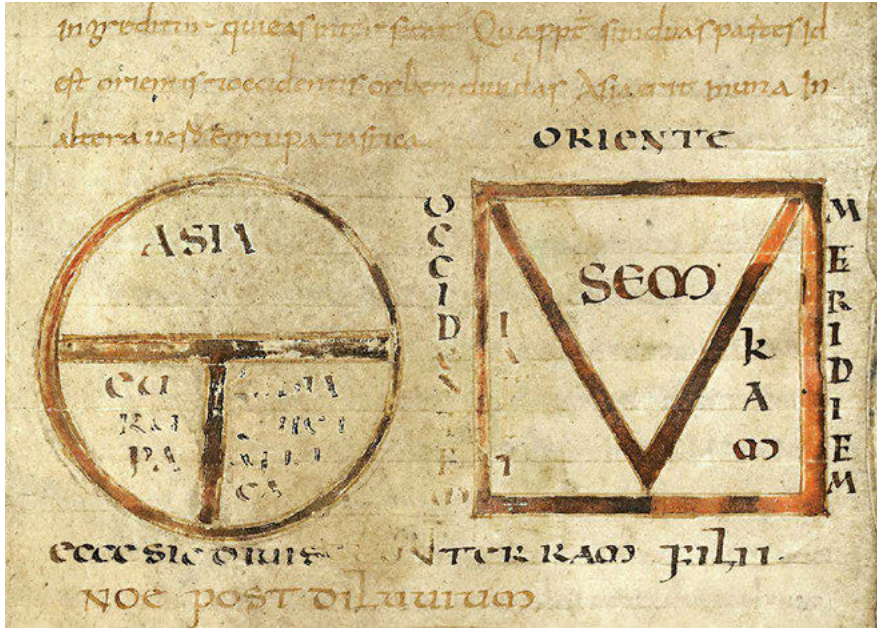


Fig. 4.4: T-O map of continents and V map with sons of Noah, early ninth century; Rouen, Bibliothèque Municipale, Ms. 524, fol. 74v.

sons of Noah.¹⁴ All these illustrations, which translated Isidore’s text into simple graphics, enabled readers to fix notions of spatial order in their memory, to use them for contemplative purposes, and to supplement them by a process of association. Hundreds of extant copies in countless variations¹⁵ demonstrate that such models of space were adapted to the given situation as they were copied, and were subject to constant reinterpretation – as is still the case today.

For example, the logo of the Mediävistenverband (the German Medievalists’ Society) is inspired by the initial T of a thirteenth-century Isidore manuscript in

¹⁴ T-O map of continents and V map with sons of Noah, early ninth century, Rouen, Bibliothèque Municipale, Ms. 524, fol. 74v; cf. Chet Van Duzer, “A Neglected Type of Medieval Mappa-mundi and Its Re-Imaging in the *Mare historiarum* (BnF Ms. Lat. 4915, fol. 26v),” *Viator* 43, no. 2 (2012): 277–301 at 294 with illustration.

¹⁵ Cf. *Mappaemondes A.D. 1200–1500: Catalogue préparé par la Commission des cartes anciennes de l’Union géographique internationale*, ed. Marcel Destombes (Amsterdam: N. Israel, 1964). In his preliminary catalogue focusing on the period after 1200, Destombes recorded a total of 283 world maps. For revisions of the catalogue see Gautier Dalché, “De la glose,” 702; Gautier Dalché, “Mappae mundi,” 102–62.



Fig. 4.5: Initial with T-O world map; Florence, Biblioteca Medicea Laurenziana, Conv. Sopp. 319, fol. 90v. Su concessione del Ministero della Cultura/Biblioteca Medicea Laurenziana, Firenze.

Florence (Fig. 4.5). Here the framed, tripartite disc of the world is held up by a personification of *Terra*. The head of this clothed figure constitutes the center of the world, its torso the Mediterranean. The earth's material physicality merges harmoniously into the traditional schema.¹⁶ Extensive reinterpretations have adapted the figure to new needs: the little man with the disc of the world

¹⁶ Florence, Biblioteca Medicea Laurenziana, Conv. Sopp. 319, fol. 90v; cf. Edson, "Maps in Context," 222–23; Baumgärtner, "Welt in Karten," 64–65.

now stands for the interdisciplinary, intercultural, and international focus of medieval studies, and for an organization which, with reference to Isidore's encyclopedic worldview, encompasses members from all continents.

A completely different recontextualization of the T-O schema can be seen in the Hereford map. As shown by Marcia Kupfer, its creators deliberately broke with the conventions of copying and imitation to produce a special effect for the pleasure of their learned audience.¹⁷ They inverted the inscriptions *AFFRICA* and *EUROPA* (executed in gold) in the bottom half of the east-oriented map (Fig. 4.6): *AFFRICA* appears diagonally across the European quarter of the map, *EUROPA* across the African quarter. This inversion of the T-O schema, which previous research has always interpreted as the error of a careless scribe, converges with God's gaze westwards, projecting a mirror image of the two western landmasses onto the tripartite order.¹⁸ This skewed T-O schema with its religious connotations had been developed in the twelfth century, before the two types – the complex *mappa mundi* and the geometrical abstraction – merged together in the Hereford map. The aim, according to Kupfer, was to create an artwork that would inspire viewers to meditate on the reciprocity of human and divine thought and action, and to wonder at God's creative power. The result was a new creation, a representation of both perspectives within a single figure: the conventional tripartite division and God's inverted view of the world.¹⁹

Felix Fabri, the traveler from Ulm, is unlikely to have been familiar with either the initial T of the Florence manuscript or the cunning mirror-image design of the Hereford map. He was, however, aware of the diverse possibilities of the *terra in orbis*, which he had to reconcile with other cartographic images. On his second visit to Venice he viewed the south-oriented wall map, roughly two by two meters in size, completed by Fra Mauro in August 1460. As noted in his travel account, Fabri admired the map's grandiose beauty.²⁰ It confirmed him in his view of the world: firstly that the encircling ocean defined the shape of

¹⁷ Cf. Marcia Kupfer, *Art and Optics in the Hereford Map: An English Mappa Mundi, c. 1300* (New Haven, CT: Yale University Press, 2016), 43–49.

¹⁸ Cf. Kupfer, *Art and Optics*, 135 for the T-O schema in various contexts; Wesley M. Stevens, "The Figure of the Earth in Isidore's 'De natura rerum,'" in Stevens, *Cycles of Time and Scientific Learning in Medieval Europe* (Variorum Collected Studies CS 482) (Aldershot: Variorum, 1995), no. III, 268–77 at 274–77 for the phenomenon of inverted images in texts by Isidore and in astronomy.

¹⁹ Cf. Kupfer, *Art and Optics*, 120.

²⁰ Felix Fabri reports having seen it on one of the last days of his second stay in Venice, when he visited the church of San Cristoforo (della Pace) of the wise friars on an island between Venice and Murano. See Fabri, *Les errances*, ed. Meyers and Tarayre, 1:350: "Est enim inter Venecias et Murianam insula, in qua est ecclesia noua et pulchra sancti Christophori

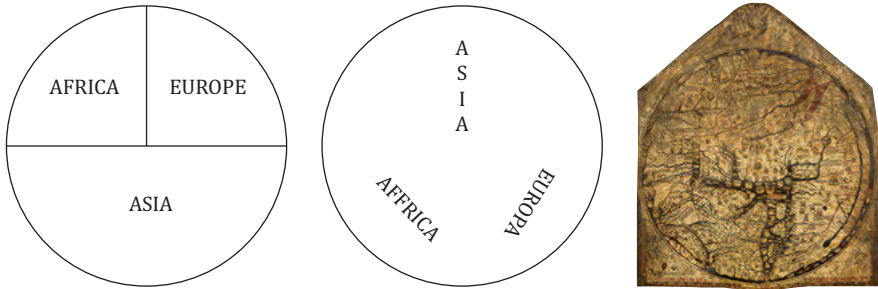


Fig. 4.6: Redrawing of the continents on the Hereford map with the inverted continents AFRICA and EUROPA in the lower half of the east-oriented map.

the known earth, and secondly that the Mediterranean and the Black Sea separated the three continents, which differed considerably in size.²¹

Fabri probably also understood that Fra Mauro's perception of the world differed from his own view in many respects, for example with regard to the boundaries between the three landmasses. Fra Mauro dissolved the boundaries by recapitulating the scholarly controversies, up to and including the *moderni*, and concluding that such imaginary lines were popular, but *non molto necessaria*, and that the discussions about them were *materia tediosa*.²² In contrast, Fabri's route descriptions and anecdotes tended to reinforce the idea of continental dividing lines. For example, he emphasized the religious and ethnic differences between Christians and non-Christians, Europeans and Africans. His explanation for the division of the earth was that, on either side of the narrow strait between the Muslim kingdom of Morocco and the Christian kingdom of

cum monasterio ordinis albi. In illo monasterio est depicta una mappa mundi ualde pulchra." Cf. Fabri, *Evagatorium*, ed. Haßler, 1:106.

²¹ This concept of the order of the world was at odds with the ancient and modern view that the land gave shape to the seas. Cf. Christoph Mauntel, "Vom Ozean umfasst: Gewässer als konstitutives Element mittelalterlicher Weltordnungen," in *Ozeane, Mythen, Interaktionen und Konflikte*, ed. Friedrich Edelmayr and Gerhard Pfeisinger (Münster: Aschendorff, 2017), 57–74.

²² Piero Falchetta, *Fra Mauro's World Map, with a Commentary and Translations of the Inscriptions* (Terrarum Orbis 5) (Turnhout: Brepols, 2006), 637. For the context see e.g. Felicitas Schmieider, "Venedig als Umschlagplatz von Weltwissen im Spätmittelalter, sichtbar gemacht auf zwei *Mappae Mundi*," in *Venezia nel contesto globale: Venedig im globalen Kontext*, ed. Romano Schmitz-Esser (Rome: Viella Libreria Editrice, 2018), 27–43.

Spain, there were washerwomen who were engaged in an intense conflict and unable to control their animosity.²³

This notion of the intrinsic value of the known continents was also reflected in the cartographic “reframing” of the reception of Ptolemy, in the course of which individual coloring served to distinguish countries and continents. The 1482 Ulm print of the Ptolemy world map (Fig. 4.7), which Fabri must have studied between his journeys, presents Africa in light yellow, Asia in paper-colored off-white, and Europe (with England) in light brown; this also allowed outlying areas to be clearly assigned to continents. A decade later, incidentally, the printers used a modified choice of colors for the contemporary editions of Schedel’s world map. The colorist of the Wolfenbüttel edition, for example, depicted Africa in yellow, Asia (including England) in ocher, and Europe in green – in reference to Africa’s arid, sandy deserts, Asia’s reddish rock formations, and Europe’s lush vegetation. Numerous maps followed similar patterns as late as the eighteenth century.²⁴ Up to this point, however, this color system was never really standardized and did not set a clear pattern for the classification of the fourth continent, America. It was only the modern period that invented a certain homogeneity in the retrospective application of color. For example, it was suggested that the yellow used for Asia was meant to remind viewers of the Chinese skin color; this then evoked national stereotypes such as that of the “yellow peril.”

In summary, constructions of space based on the continents constituted an underlying schema which was creatively varied and elaborated throughout the Middle Ages.²⁵ The influence of cartographic artifacts was reinforced by continual copying and recontextualization. In turn, the elaborations affected both the space and their creators. Even simple copies of the T-O schema, which had a firmly established place in the thinking of encyclopedists, travelers, and their audiences, did not remain unaltered, but were adapted in various ways to ever-changing needs. So memorable patterns such as the T and O offered a firm foundation, but one that could be creatively varied. Creativity turned spaces into dynamic constructs, their individual configuration in constant flux. Space was part of a process, made up of situational modifications, meaningful additions, significant shifts, or individualized coloring. And this processual quality

²³ Fabri, *Les errances*, ed. Meyers and Tarayre, 1:362: “Stant enim femine lotrices in utraque parte, pagane in Maroth, christiane in Hyspania, et corixantur, et ibi diuiditur Affrica ab Europa.” Cf. Fabri, *Evagatorium*, ed. Haßler, 1:110; for translation into English see Felix Fabri, *Book of the Wanderings*, ed. Stewart, 1:115.

²⁴ Schneider, *Macht der Karten*, 143–44 with illustrations.

²⁵ Cf. Mauntel et al., “Mapping Continents,” 295–367; Baumgärtner, “Winds,” 104–16.



Fig. 4.7: World map according to Ptolemy, Ulm 1482.

was perpetuated whenever a map was copied in a new context. This continuous adaptation suggests that the artifacts themselves can be seen as having a certain degree of agency, in line with Bruno Latour’s notion of “matters of concern.”²⁶ The power of maps and cartographic sketches to affect human thought is only a part of this agency.

The Realization of Experience – Imitation and Reconstruction

Compared to the process of copying and recontextualizing discussed above, the new cartographic concepts and ideas which travelers brought home with them called for even greater creative efforts. The numerous challenges confronting these returning travelers fostered their creativity, that is, the ability to “dynamically

²⁶ Cf. Bruno Latour, “Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern,” *Critical Enquiry* 30, no. 2 (2004): 225–48.

bring forth new things.”²⁷ They needed to find ways to capture the divergent other in relation to the standardized known quantity; the foreign in relation to the familiar. Such efforts involved a sensory and emotional component, as seen when we look at how individual travelers communicated their own impressions. Felix Fabri, despite his skill with words, was not the most gifted of travel writers when it came to adding drawings to his accounts of foreign lands. The autograph of his *Evagatorium*, in Ulm (Fig. 4.8), shows a clumsy hand-drawn sketch attempting to depict the smaller Mount Sinai and the larger Mount Catherine on the Sinai Peninsula, and to mark the location of Saint Catherine’s Monastery at the foot of these mountains.²⁸ The drawing is undoubtedly unique and can thus be considered creative. It would be an exaggeration to call this basic sketch in the margin of the text a map. But it provided evidence of Fabri’s presence at Mount Sinai, and lent the text a special degree of authenticity for those seeing and touching it.

Other travelers probably only described the Holy Land in words, leaving it to the copyists to translate the structural instructions into cartographic images. This was particularly successful in the new diagrammatic forms devised for Burchard of Mount Sion’s account of his journey to the Holy Land. Burchard describes his efforts to write comprehensibly, and to systematically guide the imagination of the readers. He reports that he thought he would “choose some central point and arrange the whole land round about it in due order.” For this he chose the coastal city of Acre. “Thence I have drawn four lines, corresponding to the four quarters of the world; and each quarter I have divided into three parts.” He then attributed one or more sites from Holy Scripture to each of the twelve winds, so that their position and arrangement would be easier to find.²⁹

27 Cf. Andreas Reckwitz, *Design im Kreativitätsdispositiv* (Studienhaft Problemorientiertes Design 6) (Hamburg: Adocs, 2018), 7–8, with a definition of creativity and notes on the concept of creativity in today’s society.

28 Felix Fabri, *Evagatorium in Terrae Sanctae* (autograph), Ulm, Stadtbibliothek, Hs. 19 555–2, fol. 51v; last quarter of fifteenth century; cf. Ingrid Baumgärtner, “Felix Fabris Räume,” in *Die Welt des Frater Felix Fabri*, ed. Folker Reichert and Alexander Rosenstock (Veröffentlichungen der Stadtbibliothek Ulm 25) (Weißenhorn: Konrad Anton, 2018), 173–200 at 198.

29 Burchard of Mount Sion, OP, *Descriptio terrae sanctae*, ed. and trans. John R. Bartlett (Oxford: Oxford University Press, 2019), 6 (English translation on 7): “Aduertens autem, quomodo possem hec utiliter describere, ita ut possent a legentibus imaginatione facili comprehendere, cogitavi centrum aliquod in ea ponere et circa illud totam terram modo debito ordinare. Et ad hoc elegi ciuitatem acconensem, tanquam plus aliis notam, que tamen non est in medio, sed in occidentali eius fine supra mare sita. Et ab ipsa protraxi quattuor lineas, quattuor mundi partibus respondentes, et quamlibet quartam diuisi in tria, ut responderent duodecim diuisiones iste duodecim ventis celi, et in singulis diuisionibus posui ciuitates et loca in scripturis magis nota, ut singulorum locorum situs et dispositio posset de facili reperiri, ad quam partem mundi esset collocata.” Cf. Burchard de Monte Sion, *Descriptio terrae sanctae*, in *Peregrinatores medii aevi quatuor*, ed. Johann

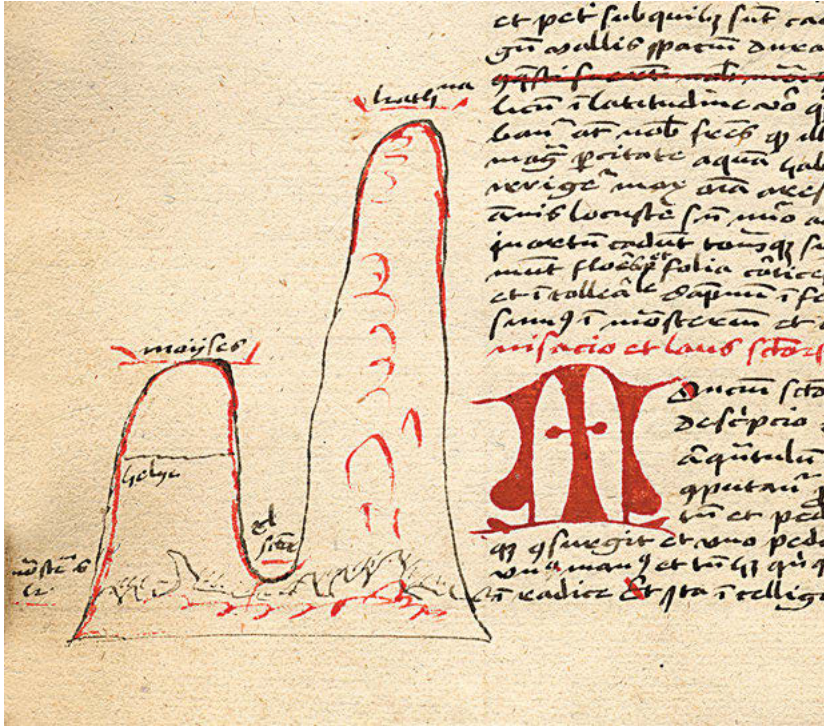


Fig. 4.8: Felix Fabri, *Evagatorium in Terrae Sanctae* (autograph), last quarter of fifteenth century; Ulm, Stadtbibliothek, Hs 19 555–2, fol. 51v.

This mental mapping, which recalled traditional systems of classification such as the division by continents or wind directions, structured a specific territory. It was later followed by further refinements, new visual elements in which the copyists realized their creative potential.³⁰ This translation from the textual

C. M. Laurent (Leipzig: J. C. Hinrichs Bibliopola, 1873), 11–94 at 21. English translations previously in *Pilgrimage to Jerusalem and the Holy Land, 1187–1291*, ed. Denys Pringle (Crusade Texts in Translation 23) (Farnham: Ashgate, 2012), 241–320 at 242–43. This translation in *Burchard of Mt. Zion, Description of the Holy Land*, trans. Aubrey Stewart (Library of the Palestine Pilgrims' Text Society 12) (London: 1896, reprint New York: AMS Press, 1971), 4–5.

³⁰ London, British Library, Add. Ms. 18929, fols. 1r–50v (ca. 1380–1420, long version), fol. 51r with wind diagram; Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Ms. Lat. Oct. 293, fol. before Ir (fourteenth–fifteenth century, long version); Munich, Bayerische Staatsbibliothek, Clm 569, fols. 184r–210v (fifteenth century, short version), fol. 186v with wind diagram; Hamburg, Staats- und Universitätsbibliothek, Cod. geogr. 59, pp. 10–69 (sixteenth century, long version), p. 13 with wind diagram. Cf. Baumgärtner, “Winds,” 93–104, with further literature.

to the visual is particularly successful in the Munich codex (Fig. 4.9).³¹ The coastal town of Acre, a triangle with defensive towers and city gates, dominates the whole construction. It is the center point for twelve segments named after the winds, fanning out over the land and sea. Seven double lines covered in lettering extend over the land, five without lettering over the water. The coastline in this north-oriented diagram is clearly outlined. The lettering hints that the figure can be rotated; this is part of a tactility which gives the image a certain autonomy. The dichotomous overlaying of land segments, winds, and continents leads to a topological reinterpretation and to a gain in meaning which is symbolized in the diagram. This additional meaning is completely lost in other maps, such as the realistic nautical charts of the Holy Land by Pietro Vesconte and his successors.

The Holy Land seems to have played a significant role in this kind of translation from the travel report to the map. The crucial factors here were that the commemoration of the Passion took place in topographic spaces, and that the situation in the foreign country encouraged draftsmen to work creatively when imitating, comparing, and recontextualizing. After all, it was a central function of the texts to allow the people back home to imaginatively reconstruct the Passion and the pilgrimage. To facilitate this, Hans Tucher the Elder not only wrote a travel account of his own, which he published in various editions between 1482 and 1486.³² He also sent a letter to his brother Endres, at home in Nuremberg, on August 6, 1479, along with a cartographic sketch of the Way of the Cross.³³ The purpose of this letter and map was to enable his fellow citizens to visualize the urban and sacred space of Jerusalem, so that they could participate in his experiences.

31 Munich, Bayerische Staatsbibliothek, Clm 569, fol. 186v.

32 Randall Eugene Herz, *Die "Reise ins gelobte Land" Hans Tuchers des Älteren (1479–1480): Untersuchungen zur Überlieferung und kritische Edition eines spätmittelalterlichen Reiseberichts* (Wissensliteratur im Mittelalter 38) (Wiesbaden: Reichert, 2002), 4–6; Randall Eugene Herz, *Studien zur Drucküberlieferung der "Reise ins gelobte Land" Hans Tuchers des Älteren: Bestandsaufnahme und historische Auswertung der Inkunabeln unter Berücksichtigung der späteren Drucküberlieferung* (Nuremberg: Selbstverlag des Stadtarchivs Nürnberg, 2005); cf. Erhard Pascher, *Das Reisebuch des Hans Tucher* (Armarium 3) (Klagenfurt: Pascher, 1978). For the most recent work on Hans Tucher, Felix Fabri, and others see Susan B. Edgington, "A Rough Guide to the Holy Land: Pilgrims' Use of the Mount Zion Library in the Fifteenth Century," in *Communicating the Middle Ages: Essays in Honour of Sophia Menache*, ed. Iris Shagrir, Benjamin Z. Kedar and Michel Balard (Crusades – Subsidia 11) (London: Routledge, 2018), 157–68.

33 Hans Tucher, letter of August 6, 1479, in Randall Eugene Herz, "Briefe Hans Tuchers d. Ä. aus dem Heiligen Land und andere Aufzeichnungen," *Mitteilungen des Vereins für Geschichte der Stadt Nürnberg* 84 (1997): 61–92 at 63–72.

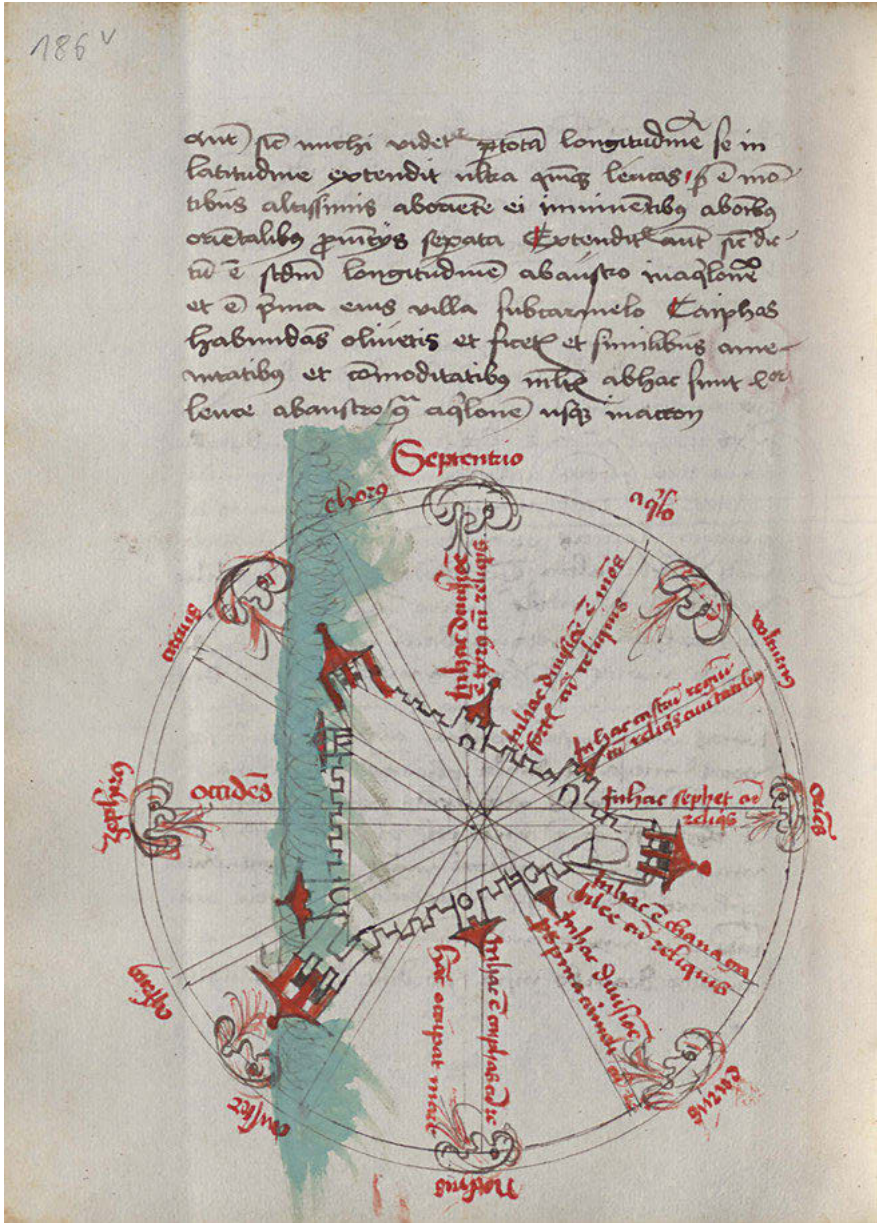


Fig. 4.9: Wind diagram, fifteenth century; Munich, Bayerische Staatsbibliothek, Clm 569, fol. 186v. Creative Commons 4.0.

Endres copied his brother's map and bound it into his personal printed copy, along with the letter. The map, now in Paris (Fig. 4.10),³⁴ presents a complex spatial vision. At first glance, it shows the Way of the Cross, from Pilate's palace to Golgotha, within the structure of the cardinal directions: from sunrise to sunset, and from east to west. As Christian Kiening has established, however,³⁵ what initially seems linear becomes multilayered and circular on closer inspection. It is only when the page is rotated that the different inscriptions can be deciphered and interpreted, one after the other. If we begin with the word *auffgang* (sunrise) and the house of Pilate in the east, and then follow the path westward – downward according to the medieval concept of direction – the texts on the left-hand side are upside-down. If we turn the page by ninety degrees, the texts in the south can be recognized more easily. The direction of the lettering in each text is conceived in such a way that we only obtain the subsequent information if we keep turning the page to look at it from another direction. Eventually we realize that the details about the places, and the distances and events at the different stations, which are marked by small arcs on the central line, are all listed separately, and that the opposite sides complement each other. But they can only be connected to each other if we constantly turn the page in all four directions. The text explicitly mentions the need for this procedure.³⁶ Thus our act of perception dynamizes the object; our tactile exploration of the material object stimulates the imagination. For it is only in the mind that the diagrammatic and textual presentations of events and the multiple interconnections can be combined into a deeper overall experience of the Passion.

The map, which gives a completely new structure to traditional knowledge, goes far beyond the linear character of the Way of the Cross. The pilgrim could begin his circuit at any of the numerous stations and follow the local topography, instead of working his way through Christ's Passion chronologically. This highly original map and its performative strategy make the interrelationships

34 [Hans Tucher] Karte des Weges der Kreuztragung Christi (map of the route on which Christ carried the cross), Paris, Bibliothèque nationale de France, Rés O² f. 13 AD 1, fol. 6r.

35 Christian Kiening, *Fülle und Mangel: Medialität im Mittelalter* (Zurich: Chronos, 2016), 304–10; Christian Kiening, “Mediating the Passion in Time and Space,” in *Temporality and Mediality in Late Medieval and Early Modern Culture*, ed. Christian Kiening and Martina Stercken (Cursor Mundi 32) (Turnhout: Brepols, 2018), 115–46. Cf. also Fischer, *Erzählte Bewegung*, 236–64 for the reliving of emotional experience in the work of Burchard of Mount Sion.

36 Herz, “Briefe,” 77, lines 17–18: “So man das puch legt in die vier ort, so sicht man eigenlichen, wie [...]”



Fig. 4.10: Endres Tucher, based on original by Hans Tucher, map of the route on which Christ carried the cross, 1479; Paris, Bibliothèque nationale de France, Rés O² f. 13 AD 1, fol. 6r.

between sites and events tangible. The map also made it possible to transfer the holy sites into the social and intellectual context of Nuremberg:³⁷ Hans Tucher's letter and his brother's preface translocated the distant events into their hometown. According to the map, for example, Hans Tucher counted around 1,050 steps from Pilate's house to the place of the crucifixion. His brother Endres immediately transposed this number to the stations of the Way of the Cross in Nuremberg, which led from the Neues Tor (New Gate) to the Johannesfriedhof (Saint John's Cemetery) outside the city walls.³⁸ Both representations differed considerably from the typical sequence of stations prescribed by the small pilgrim guidebooks which were widely available at the time.

Hans Tucher's letter from Jerusalem also alludes in almost every sentence to the familiar setting of his hometown, in which Saint Sebald's church was the main religious reference point of the political elite:

Davon wil ich ein wiennig schreiben ein gleichnuß von Sant Sebolcz kirchen, wiewol der thempel nicht als langk ist, so ist er doch weitter etc. [. . .] Item das thor get in den thempel, als wer es die thur zu Sant Sebolcz kirchen, die do untter unser lieben Frawen thur in die kirchen get. [. . .] Item dornach gingen wir mit der prozessen von derselben stat vor der kapellen gerichcz hinauff, als pei dem sagerer zu Sant Sebolt. Do ist der kerker gewest, [. . .] Item dornoch gingen wir mit der prozessen als zu Sant Sebolt hinauff zu dem sacrament. Do stet ein altar in einem swipogen. [. . .] Item dornoch ginge wir mit der prozessen hinumb als zu Sant Sebolt pei Sant Petterß Altar [. . .] Item dornoch ginge wir aber herab als zu Sant Sebolt pei unsser lieben Frawen thur.³⁹

For several pages, Tucher draws parallels between the Church of the Holy Sepulcher and the church of Saint Sebald, which was close to the Nuremberg town hall and had the status of *Ratskirche* (church of the town council). Tucher was aware that Saint Sebald's would be his final resting place. This explains the comparisons between the two churches' proportions and forms, measurements

37 Kiening, *Fülle*, 310. Cf. Gabriela B. Christmann, "Das theoretische Konzept der kommunikativen Raum(re)konstruktion," in *Zur kommunikativen Konstruktion von Räumen: Theoretische Konzepte und empirische Analysen*, ed. Gabriela B. Christmann (Theorie und Praxis der Diskursforschung) (Wiesbaden: Springer, 2016), 89–117. Christmann emphasizes the communicative aspect of constructions of space.

38 Herz, "Briefe," 77, lines 11–14: "So weit is hie zu Nurembergk von dem newen thor piß an den goczaker pei sant Johans. Das hot man abgeschritten und do auff dem goczaker eigenlichen geschriben vor etlichen jaren, und ee mein pruder, der Hans Tucher senior, uber mere fure." English: "This is how far it is here in Nuremberg from the New Gate to St. John's Cemetery. This was paced out and explicitly recorded in writing at the cemetery, before my brother, Hans Tucher Senior, undertook his journey to the Holy Land." Cf. Kiening, *Fülle*, 310.

39 Herz, "Briefe," 66, 68, 69.

and processional routes.⁴⁰ Saint Sebald's, which Tucher considered to be the larger church, allowed him and his fellow citizens to create an imaginary commemorative space around their local shrine, where they could collectively relive the events of the Passion and combine individual hopes of salvation with political strivings for power.

In this sense, the creative mapping was part of an overall strategy. Neither the diagram in the Burchard manuscript nor Tucher's map were direct visualizations of what their makers had experienced; instead their power lay in the haptic experience of rotating and turning, reading and imitating. Their multi-layered structures offered the audience a chance to surrender to a deeper religious perception and an intense reliving of the unique journey through the Holy Land or the Holy City. The imitation and reconstruction of cartographic information culminated in an emotional experience. Specific cultural techniques of representation thus deepened the religious dimension, inspiring sensory responses and an emotional spirituality which approximated the sensory experience of pilgrimage. Just as pilgrims were interested in owning portable, movable objects, and taking them on their travels, the scribes, copyists, and cartographers developed creative instruments to inject emotion and movement into the landscapes.

Expectations of Mapping – Discourse and Reality

The artifacts considered in the previous two sections – maps charting knowledge of the world and sacred spaces of commemoration – were not alone; there were other types of cartography, perhaps corresponding more closely to our current conceptions of maps. This brings us to the third question, about the process of textualizing cartographic information in the context of the expectations brought to mapping.

To explore this we will look toward Venice, at a time when the leading politicians feared for the city's possessions. At the beginning of 1460, the Ottomans had already taken Athens and Mistra and were continuing to advance. The Council of Ten – an established component of the government since 1355, comprising not just the ten councilors but also the doge and six advisors – was

⁴⁰ For the methodology see Arnold Esch, "Gemeinsames Erlebnis – individueller Bericht: Vier Parallelberichte aus einer Reisegruppe von Jerusalempilgern 1480," *Zeitschrift für historische Forschung* 11 (1984): 385–416; reprint with alterations in Arnold Esch, *Zeitalter und Menschenalter: Der Historiker und die Erfahrung vergangener Gegenwart* (Munich: Beck, 1994), 189–216 at 236–37.

forced to consider how the highly diverse parts of Venice's sovereign territory could be effectively defended.⁴¹ The lands Venice claimed to rule were spread over such a large area that the members of the council were overwhelmed by the task of devising defensive strategies for the towns and fortresses in all their fragmented territories. Above all, there was no one able to provide detailed information on the exact size, boundaries, and surroundings of the individual possessions.

On February 27, 1460, the Council resolved by a two-thirds majority (eleven for and two against, with four abstentions)⁴² to instruct the Venetian *rettori*, the regional administrators appointed locally in the different territories, to produce precise maps and descriptions of every individual location.⁴³ The aim was to avoid having to rely, in critical situations, on information supplied by unknown parties with diverging interests. Thus the Dieci decreed that the state chancery and their own premises would, in future, hold realistic representations of all Venetian towns, countries, fortifications, provinces, and localities. The idea was to ensure that every decision-maker would be able to base their views on a truthful image, *vera pictura*, not just on vague opinions.

In this spirit, every town and region under Venetian authority was ordered to put together a competent advisory committee of selected citizens, practitioners, and learned men from the local region. They were to gather information about the district, its landscapes, and sites, according to the compass points; to record river courses and plains; and to determine the exact distance to places

41 Emanuela Casti, "State, Cartography, and Territory in Renaissance Veneto and Lombardy," in *History of Cartography*, ed. Woodward, 3,1:874–908, here 878 with footnote 11; Casti assumed that the decree was applied on the Terraferma. In contrast, Pierre MacKay, "The Dieci Call for Maps in 1460," version of August 11, 2013, <https://digital.lib.washington.edu/researchworks/handle/1773/23893> (last accessed September 14, 2020), stresses that the decree was to be applied to all Venice's possessions.

42 Venice, Archivio di Stato, Consiglio di Dieci, Deliberazioni miste, Registro XV (1454–1459), fol. 197r of February 27, 1459 (=1460): "De parte – 11, De non – 2, Nonfinitus – 4."

43 Venice, Archivio di Stato, Consiglio di Dieci, Deliberazioni miste, Registro XV (1454–1459), fol. 197r of February 27, 1459 (=1460): "Cum de civitatibus, castellis et provinciis, que nostro dominio per die gratia subiecte sunt, nemo est de regentibus, qui, quando de illis locis consulitur, sciat dare particularem informationem de situ eorum, de latitudine et longitudine e[orum], de confiniis et que dominia vicina sunt et qui passus, et si informatio petitur ab aliquibus aliquando et semper dissident, quia aut ita putant aut ita vellent. Unde pro omni bono respectu providendum est habere in cancellaria nostra aut camera consilii nostri decem in vera pictura formam et exemplum omnium civitatum, terrarum, castellorum, provinciarum et locorum nostrorum, ut quicumque volens consulere et providere supra predictis habeat veram et particularem noticiam ad iudicium et non ad opinionem alicuius."

both near and far.⁴⁴ Scholars and politicians were to carefully check the quality of the results, and then, once their work was finished, they were to make this picture (*illam picturam*) available to the rulers in Venice.

The language of the document is particularly revealing. Since such council documents were officially required to be kept secret, their argument is very direct. The Dieci are dismayed to have no reliable information on which to base decisions about the difficult matters pending, and their agitation repeatedly breaks through their polite restraint. They complain that they are obliged to ask random people (*aliquibus*) about Venice's remote possessions, and that these people are only able to express vague opinions or wishes ("aut ita putant aut ita vellent"). They insist on written evidence ("veram et particularem noticiam ad iudicium") instead of random opinions ("et non ad opinionem alicuius"). They demand the specialist knowledge of locals and people with experience, instead of being at the mercy of knowledge acquired by chance. They decree that detailed, true-to-scale maps ("designatio ordinate depicta") are to be produced and checked by local experts ("a doctis et praticis") to ensure they have been drawn faultlessly. The Dieci wanted to finally have reliable data, so they could decide on suitable measures.

The idea of configuring the world cartographically, down to the last detail, and connecting politics with social reality via a *vera pictura*, sprang mainly from the incipient and vehemently argued conviction that competent administration of territories required well-founded information about local conditions. With this in mind, the Dieci derived their authority from a combination of three levels of power. All three, though institutionally separated from one another, were connected through mapping: the geographical and technical knowledge of experts; the decision-making of the legislative power in the Council; and the implementation of the directives about recording Venice's sovereign territories in the executive.⁴⁵

Just as noteworthy as this directive is a later indication that this kind of mapping was probably actually put into practice, at least in the eastern Mediterranean at the endangered borders with Ottoman territory. Twenty months

44 Venice, Archivio di Stato, Consiglio di Dieci, Deliberazioni miste, Registro XV (1454–1459), fol. 197r of February 27, 1459 (=1460). "Vadit pars quod auctoritate huius consilii scribatur et mandetur omnibus rectoribus civitatum, terrarum et castellorum nostrorum quod habito bono et vero consilio a civibus terre et ab aliis praticis et intelligentibus civitatis aut loci sui designari faciant terram locum et districtum suum per signa ventorum et orientis et ponentis castella, flumina, planiciem et distantiam de loco ad locum et loca vicina nobis et distantiam eorum et illarum designationem ordinate depictam faciant diligenter a doctis et praticis examinari si bene et recte depicta est. Et hoc facto illam picturam mittere debeant nostro dominio."

45 Casti, "State, Cartography, and Territory," 878.

after the first decree, the Dieci decided confidently and nearly unanimously (14, 0, 3) on the program that would be deployed to defend the Venetian dominion in Euboea (Negroponte).⁴⁶ They were able to make reasonable recommendations with extreme precision. The only possible explanation is that they possessed an excellent cartographic representation of the island's capital and its environs, though we do not know whether this map was produced in response to the 1460 decree or had already existed long before.

The Dieci were probably not the only rulers to see description and mapping on the ground as a reliable way to verify their own geographic ideas, exploit territorial resources, and use superior knowledge to maintain power. But for the Council of Ten, this was the only way that their possessions could be made tangible, visible, and thus governable. For the Dieci, maps replaced and created local reality. In this respect, then, the creative power of mapping had far-reaching political, military, and economic effects.

Recording and Creating New Worlds

This approach may have worked for the largely familiar and systematically controlled Mediterranean, but was it also transferable to the seas and territories of the New World? To answer this, the final section will consider a few examples that can be seen as milestones in the development of what is thought of as modern cartography. The question is: did the maps that strike us as “modern” today involve creativity? The following foray into the New World will therefore reflect on the creative power and innovative potential of the cartographic artifacts resulting from the recording of a hitherto unknown continent.

In 1494, just a few decades after the resolution of the Dieci and the completion of Fra Mauro's map, the Spanish and Portuguese decided to divide the world up between them in the Treaty of Tordesillas.⁴⁷ In fact, the negotiating parties did not understand the spatial dimensions much better than Felix Fabri,

⁴⁶ Venice, Archivio di Stato, Consiglio di Dieci, Deliberazioni miste, Registro XVI (from 1460 onwards) from October 1461. Cf. MacKay, “Dieci Call for Maps.”

⁴⁷ Ute Schneider, “Tordesillas 1494 – Der Beginn der globalen Weltsicht,” *Saeculum: Jahrbuch für Universalgeschichte* 54 (2003): 39–62; Ingrid Baumgärtner, “Neue Karten für die Neue Welt? Kartographische Praktiken der Exploration,” in *Maritime Entdeckung und Expansion: Kontinuitäten, Parallelen und Brüche von der Antike bis in die Neuzeit*, ed. Raimund Schulz (Historische Zeitschrift. Beihefte Neue Folge 77) (Berlin, Boston: De Gruyter Oldenbourg, 2019), 243–68 at 254–57. See also essay no. 8 in this volume: “New Maps for New Worlds? Cartographic Practices of Exploration.”



Fig. 4.11: Juan de la Cosa, portolan chart, around 1510; Madrid, Museo naval, inventory no. 257.

Fra Mauro, and the Venetian councilors. Nonetheless, they established a line of demarcation that was meant to run through the middle of the Atlantic, from north to south, 370 Spanish miles (around 1,800 km) west of the Cape Verde archipelago. The Portuguese claimed everything to the east of the line; the Spanish kings everything to the west of it. The effects of this division are still felt today, even though the participants were not fully aware of what they were doing and certainly did not possess the technical resources to measure such distances in the open sea. Within ten months they aimed to send out a joint fleet, in which each side would be equally represented, to establish a fixed demarcation in situ, from the Arctic to the Antarctic. Today their ambitious plan seems absurd: the problem of determining longitude was too technically complex and would not be solved for another 250 years.

Since it was not possible to draw a border through a virtually unknown area, and since the expert commission tasked with the demarcation in situ never embarked on its expedition, topographic representation on maps and globes became increasingly important. On the Spanish side, it is believed that Juan de la Cosa (d. 1510), a pilot and fellow voyager of Columbus, made the first attempt around 1500 to concretely establish the theoretically agreed upon line (Fig. 4.11).⁴⁸ All that has been preserved of this, however, is a copy produced in the form of a portolan chart, probably before 1510. Because it was only discovered in 1832 in an antiquarian bookshop in Paris, its authenticity has been repeatedly challenged. It is, however, the only evidence in support of the popular assertion that Columbus and his associates not only used but also produced maps. In any case, the cartographer, who was of Spanish origin or linked with Spain, depicted the world in such a way that the new continent in the west belonged almost exclusively to the Spanish king, and was subject to the protection of Christopher, patron saint of seafarers. The representation of Saint Christopher in the center of America at the point of transition from the northern to the southern continent was also a reference to the discoverer of the Americas, Christopher Columbus, and the royal power behind him. There could hardly

48 Juan de la Cosa, portolan chart, around 1510, Madrid, Museo naval, no. 257; reproduced e.g. in Schneider, *Macht der Karten*, 94–95; *L'âge d'or des cartes marines: Quand l'Europe découvrait le monde*, ed. Catherine Hofmann, Hélène Richard and Emmanuelle Vagnon (Paris: Seuil, 2012), 114–15; Pauline Moffitt Watts, “The European Religious Worldview and Its Influence on Mapping,” in *History of Cartography*, ed. Woodward, 3,1:382–400, esp. 386–87 and Fig. 30.9. Cf. Felipe Fernández-Armesto, “Maps and Exploration in the Sixteenth and Early Seventeenth Centuries,” in *History of Cartography*, ed. Woodward, 3,1:738–59 at 748–49; Jeffrey Jaynes, *Christianity beyond Christendom: The Global Christian Experience on Medieval Mappaemundi and Early Modern World Maps* (Wolfenbütteler Forschungen 149) (Wiesbaden: Harrassowitz, 2018), 269–72, esp. 269.



Fig. 4.12: Cantino planisphere, 1502; Modena, Biblioteca Estense Universitaria, C.G.A.2. Su concessione del Ministero della Cultura/Gallerie Estensi, Biblioteca Estense Universitaria.

have been a better way to display Spanish dominance. In contrast, Portugal was only accorded tiny corners on the very edge of the continent.

A Portuguese interpretation can be seen in the so-called Cantino planisphere (Fig. 4.12), produced in 1502, which gave an impressively exact rendition of the African coast.⁴⁹ Though this is also a copy, there is much earlier documentation of its existence as stolen property smuggled to Italy. The unknown draftsman depicts the New World, and shows the Pacific as far as the Indian Ocean. Brazil, where the Portuguese seaman Pedro Álvares Cabral had made landfall in the east two years earlier, is portrayed as a sort of island, splendidly arrayed with exotic trees, colorful parrots, and a long textual entry. It is allocated to the Portuguese sphere, a move which would have far-reaching effects. The line of demarcation shifted substantially to the west, expanding Portugal's territory several times over.

In short, partisans of both sides had produced cartographic versions of the agreements on the sovereign territories claimed by each party, and had reached very different interpretations. A joint commission of experts was tasked with finding a remedy. Its members began to study the ancient sources carefully and to compare their statements. However, they were unable to satisfy both parties with a single image. This was because both countries invoked different traditions, diverging calculations of the earth's circumference, and differing forms of projection. They even had different views on the location of certain places, such as the Cape Verde Islands.

What interests us here, however, is the methods used in the effort to achieve cartographic reality. Once again the actors were practitioners, scholars, and politicians, but the rivalry over the surveying of space intensified the need for new, intersubjective methods. Here opposing ideas about "correct" geographical knowledge clashed under the dictates of political interests: empirical practice versus learned science, seafarers versus cosmographers, oral versus written records, particular knowledge versus the desire for generalizability. As the rival powers struggled to achieve their common political goal while preserving their own advantage, they had to decide what relevance was to be accorded to maritime practice in relation to the topographic representation of the world.

Independent of the border dispute, the early maps of de la Cosa and Cantino were designed in such a way that they cleverly avoided the crucial issue of whether the newly discovered islands and territories were part of Asia. It was only the circumnavigation of the world by Magellan and his seamen (1519–1522)

⁴⁹ Cantino Planisphere, 1502, Modena, Biblioteca Estense Universitaria, C.G.A.2; reproduced e.g. in Schneider, *Macht der Karten*, 98–99; Schneider, "Tordesillas 1494," 56–59; *L'âge d'or*, ed. Hofmann et al., 132–33. Cf. Baumgärtner, "Neue Karten," 255, with further literature.

that led to a completely new definition of this space.⁵⁰ Although the earth's spherical shape had been known since Greek times, this was the first time it had actually been experienced. Moreover, the discovery of the western passage was evidence of a connection between the two hemispheres. The political implications of these discoveries were huge:⁵¹ they inspired the Spanish and Portuguese to extend their conflict over the division of the world beyond the Atlantic to the Philippines and the Moluccas, known as the Spice Islands. The dispute over trading rights to the Moluccas led to fierce debate about how to draw a border between the two halves of the earth – which had now been empirically confirmed to be a globe.

For thirty-five years, up to 1529, the joint representation of the border was limited to textual description. In the end the problem was solved pragmatically: Emperor Charles V, ever in need of finances, pledged his alleged trading rights to Portugal, for a substantial price, in the Treaty of Saragossa (1529).⁵² Given that Portugal was probably the rightful owner, this was a brilliant coup. And it meant that the two sides could finally agree on a visual representation of the border – albeit for political rather than cartographic reasons. Henceforth, Spain asserted its claim to hegemony by arranging for the demarcation line to be drawn onto a Spanish-authorized nautical chart, subsequently duplicated and approved by both sides. The result was a model map for the future, a common practice of reality, and a “binding reference system,”⁵³ though not a consensual or realistic representation of geographic knowledge.

The mental maps of the mariners were schematic; their routes across the oceans followed the winds. The coastlines were important, the exact distances less so. This is why voyagers to America hesitated to map such experiences. The only map attributed to Columbus has long since been exposed as a fake. And it has yet to be established whether his brother Bartolomeo, who took part in two of Columbus's expeditions, was involved in the three maps sketched by

50 *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica*, 2 vols. (Rome: Istituto poligrafico e zecca dello Stato, 1992); Davide Scruzzi, *Eine Stadt denkt sich die Welt: Wahrnehmung geographischer Räume und Globalisierung in Venedig von 1490 bis um 1600* (Berlin: Akademie Verlag, 2010), 116–17.

51 See Arndt Brendecke, *Imperium und Empirie: Funktionen des Wissens in der spanischen Kolonialherrschaft* (Cologne: Böhlau, 2009), 110–19 for the politicization of space; Jörg Dünne, “Der verschwundene Tag: Weltreisen und die Datumsgrenze seit der Frühen Neuzeit,” in *Grenzerfahrungen*, ed. Achim Landwehr (Studia Humaniora 48) (Düsseldorf: Düsseldorf University Press, 2015), 75–97.

52 See Wolfgang Reinhard, *Die Unterwerfung der Welt: Globalgeschichte der europäischen Expansion 1415–2015* (Munich: C. H. Beck, 2016), 139 for the Treaty of Saragossa.

53 Schneider, “Tordesillas 1494,” 61.

Alessandro Zorzi.⁵⁴ Here Asia and Europe lie opposite each other, and only a few degrees of longitude separate the Canary Islands and Azores from the Antilles, which Columbus had explored on his first two voyages. The land lying opposite these islands, between Asia and Europe, is referred to as the *mondo novo*, and its extended coastline leads westward, transitioning into the Asian continent. The sketch proves how difficult it was for travelers to map the new discoveries. In any case there were only a small number of contemporary maps that reflected this explorer's perspective.

Such knowledge had its most widespread impact via the work of professional mapmakers. Their response to unknown spaces was generally to follow established parameters rather than unleashing their creativity. It was with this kind of standardized nautical charts that the Venetian cartographer Battista Agnese conquered the leading courts of Europe.⁵⁵ In the period from 1534/35 to 1564, his workshop produced more than seventy hand-painted portolan atlases and numerous individual maps. These show the changing forms of illustration and the changing nature of the knowledge people wanted maps to provide. They also show how empirical experiences and surveying technology expanded the astronomical and cosmographic approaches. For the New World, Agnese followed the sketches of Diogo Ribeiro (d. 1533), a collaborator of Hernando Colón at the Casa de la Contratación in Seville,⁵⁶ whose work producing maps

54 Folker Reichert, "Columbus und Marco Polo – Asien in Amerika: Zur Literaturgeschichte der Entdeckungen," *Zeitschrift für Historische Forschung* 15 (1988): 1–63 at 39 and 50; Folker Reichert, "Die Erfindung Amerikas durch die Kartographie," *Archiv für Kulturgeschichte* 78 (1996): 115–43 at 122; also in Folker Reichert, *Asien und Europa im Mittelalter: Studien zur Geschichte des Reisens* (Göttingen: Vandenhoeck & Ruprecht, 2014), 447–76 at 452–52; Fernández-Armesto, "Maps and Exploration," 748.

55 Cf. e.g. Angelo Cattaneo, "L'Atlante nautico di Battista Agnese: Descrizione codicologica e analisi storico-cartografica," in *Battista Agnese. Atlante nautico. Codice conservato presso la Biblioteca Nazionale Centrale di Firenze con la segnatura Banco Rari 32. Saggi e commenti* (Rome: Treccani, 2008), 139–61; Ingrid Baumgärtner, "Battista Agnese e l'atlante di Kassel: La cartografia del mondo nel Cinquecento," in *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Venetiana 17) (Rome: Viella Libreria Editrice, 2016), 245–70; *Der Portulan-Atlas des Battista Agnese: Das Kasseler Prachtexemplar von 1542*, ed. Ingrid Baumgärtner (Darmstadt: WBG, 2017); Ingrid Baumgärtner, *Atlas Heinrichs VIII. Battista Agnese. Barb. Lat. 4357. Kommentarband zur Faksimile-Edition der Handschrift aus der Biblioteca Apostolica Vaticana* (Vatican City: Biblioteca Apostolica Vaticana, 2020), with further literature; see also essay no. 9 of this volume: "Battista Agnese's Portolan Atlases."

56 See Brendecke, *Imperium und Empirie*, 119–22 for the Casa de la Contratación. For the development of contemporary Italian cartography see Marica Milanese, "La cartografia italiana nel Medio Evo e nel Rinascimento," in *La cartografia italiana: Circle de conferencies sobre*

for Charles V and Magellan had caused a sensation. Such cartographers created new worlds out of nothing, as it were. They mapped the Pacific Ocean from the Moluccas to America (Fig. 4.13), recording the major new discoveries. In 1539, for example, the navigator Francisco de Ulloa sailed northwards along the west coast of Mexico on the orders of Hernán Cortés. His subsequent discovery of the

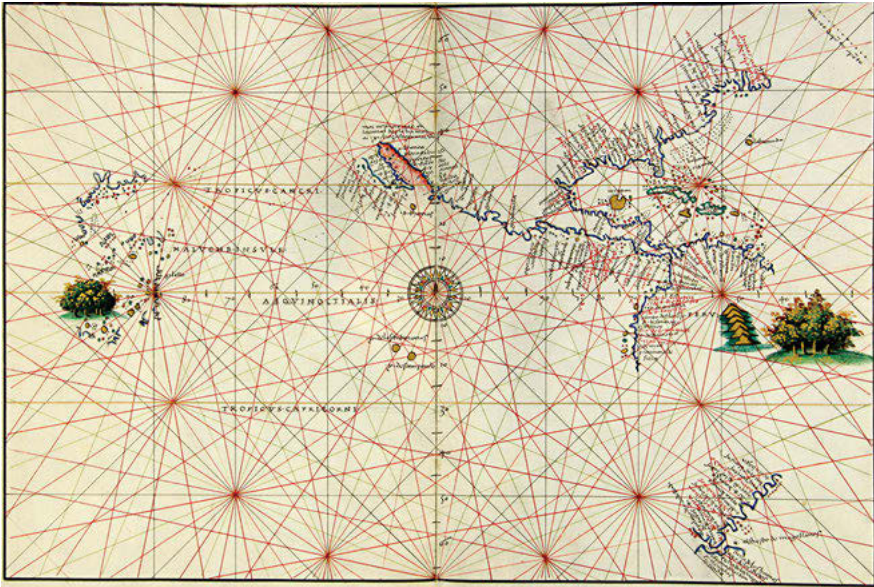


Fig. 4.13: Pacific Ocean from the Moluccas to America with the Baja California Peninsula and the new discoveries on the east coast of North America, Battista Agnese, portolan atlas of 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 6v–7r. Creative Commons 4.0.

historia de la cartografía: Tercer curs (Barcelona: Generalitat de Catalunya, 1993), 15–80. For Diogo Ribeiro see Armando Zuzarte Cortesão, “Diogo Ribeiro,” in *Cartografia e Cartografos portugueses dos seculos XV e XVI* (Lisbon: Seara Nova, 1935), 130–67; Louis-André Vignerat, “The Cartographer Diogo Ribeiro,” *Imago Mundi* 16 (1962): 76–83; Surekha Davies, “The Navigational Iconography of Diogo Ribeiro’s 1529 Vatican Planisphere,” *Imago Mundi* 55 (2003): 103–12; Jerry Brotton, *A History of the World in Twelve Maps* (London: Allen Lane, 2012), 186–217 at 212–14; Ingrid Baumgärtner, “Dynamiken in der Kartographie um 1500,” in *Reichweiten: Dynamiken und Grenzen kultureller Transferprozesse in Europa, 1400–1520*, ed. Bernd Hamm, Frank Rexroth and Christine Wulf, vol. 2, *Grenzüberschreitung und Partikularisierung* (Abhandlungen der Akademie der Wissenschaften zu Göttingen. Neue Folge 49, no. 2) (Berlin: De Gruyter Akademie Forschung, 2021), 195–233.

Baja California Peninsula was quickly integrated into Battista Agnese's maps. At the same time, Agnese gave more precise form to the east coast of North America, where Estevan Gómez had searched for the northern passage to the Orient in 1524.⁵⁷ Thus the mapmakers show a continuous process of adaptation to the available knowledge.

The prompt reception and processing of such information shows how attentively market-oriented mapmakers followed the current state of knowledge, and how unmistakably they submitted to the new paradigms. The fragmentation of the coastlines, however, shows the limits of empirical knowledge. In Battista Agnese's maps, the fragmentation of North America continues on the east coast. Estevan Gómez had only sailed as far north as Cape Race (44 degrees north), before concluding that there was no end to the land, and resolving to turn back. In reality his turning point was much further south than the point indicated by Ribeiro and later Agnese on their maps of the coastline.

When it comes to the New World, then, we can observe a process in which new cartographic material was created, accepted, and then copied. Such copies gave people a sense of security in a time of geographical upheaval, and helped them to cope with contingency. For many years, researchers only perceived them as creative because they recorded new spaces and documented political claims. The appropriate medium was the genre of the nautical chart, which created reality without really reproducing it. Importantly, the maps accompanying the Treaty of Saragossa established a reference system in which all future territories had to be integrated. Here "modern" did not mean progressive or creative, but rather standardized, intersubjective, and conforming to norms.

Conclusion

The creative potential of mapping in the processing of travel, experience, and description was closely linked with cultural techniques such as copying, imitation, quotation, decontextualization, recontextualization, and the creation of new contexts. These remarks have focused on the transformations from the journey to the map, and from the map back to the space traveled. My aim was to cast light on the vast spectrum of possibilities and to understand the creative processes, using examples in which knowledge derived from travel was interlinked with cartographic skills. I have touched on four thematic areas: firstly, the traditional

⁵⁷ Pierluigi Portinaro and Franco Knirsch, *The Cartography of North America, 1500–1800* (New York: Facts on File, 1987).

figures and images of the world in the minds of travelers as the result of recontextualization when copying and quoting; secondly, the paths of cartographic realization in transformative imitation and imaginative reconstruction; thirdly, the specific expectations brought to mapping in the process of textualizing political claims to power; and fourthly, the dynamics of creating new contexts for different spaces of knowledge in the recording of new worlds around 1500.

The findings can be summed up as follows: maps constituted a hybrid genre, whose components were copied, imitated, creatively modified, and recontextualized. It was deviations, discrepancies, and alterities that inspired travelers and cartographers to seek new visual methods and devise creative inventions. Which elements were imitation, which were creative invention? The processes of creativity can only be reconstructed from the reports, sketches, and maps; the cartographers did not have a term for creativity itself. Nonetheless, mapping was an enormously creative process, in which copying and new contextualizations led to changes in semantics and individual solutions. Maps emerged in which the persistence of the existing parameters and the creative power to innovate gave rise to new interpretations and creative developments. The ability to create new elements grew with the opportunities to situate the new experiences in a reference system, whereas creativity was actually inhibited when completely new experiences called into question established knowledge. The mapping of the New World offers a particularly clear example of how one-dimensionally the paradigms of creativity were applied in such cases.

Remember the vividness of the Michelin street map: both travelers and cartographers created more or less dense (re)constructions of territorial orders, which not only replicated existing configurations of space, but generated relationally defined spaces and thus created “(spatially defined) reality.”⁵⁸ One is almost tempted to see the creativity of travelers and cartographers as an imitation of the divine creation – as exemplified by Hartmann Schedel’s wonderful depiction of the creation of the world by the hand of God, in his world chronicle of 1493 (Fig. 4.14).⁵⁹ Certainly, the hand of the geographer or cartographer could not attain an equal status, but it symbolizes the creative act of mapping from an action-oriented perspective. Perhaps one could say that God created the world, but that cartographers created and modified space.

⁵⁸ Tanja Michalsky, “Karten schaffen Räume: Kartographie als Medium der Wissens- und Informationsorganisation,” in *Gerhard Mercator: Wissenschaft und Wissenstransfer*, ed. Ute Schneider and Stefan Brakensiek (Darmstadt: WBG, 2015), 15–38 at 38.

⁵⁹ Hartmann Schedel, *Weltchronik*, 1493, fols. Iiv–IVv. I would like to thank Dr. Anne Bloemacher, art historian at the University of Münster, for the stimulating conversations and for drawing my attention to the hand of God.

**Part II: Symbolic, Narrative, and Spiritual
Functions of Cartography: Europe and the
Holy Land**

Chapter 5

Graphic Form and Significance: Europe in the World Maps of Beatus of Liébana and Ranulf Higden

Recording the spatio-geographic and cultural dimensions of Europe was already a challenging task in the Middle Ages, entailing a number of methodological and content-related difficulties. Controversial issues included the drawing of borders (especially the border with Asia), the selection criteria for cartographic visualization, and the conversion of geographic and historical knowledge into a new language made up of pictographic signs, areas of color, and symbols. In the east, Europe's borders were somewhat fluid. In the north, west, and south, however, various seas – the Baltic, the North Sea, the Atlantic, and the Mediterranean – encircled the continent, forming natural external borders, and the only matter for debate was the shape. So, despite the existence of a conventional basic repertoire and specific templates for reproduction, there was always room for the individual cartographer's knowledge and aims, imagination and skills to influence the map's content and design.¹

The methodology underlying the following remarks involves viewing world maps as a politically, religiously, and socially constructed form of knowledge and therefore interpreting them as complex, graphic, visual texts, each with its own specific codes. If we take into consideration the perspectives developed by

¹ See e.g. Margriet Hoogvliet, “*Mappae Mundi* and the Medieval Hermeneutics of Cartographical Space,” in *Regions and Landscapes: Reality and Imagination in Late Medieval and Early Modern Europe*, ed. Peter Ainsworth and Tom Scott (Oxford: Peter Lang, 2000), 25–46; Ingrid Baumgärtner, “Die Welt im kartographischen Blick: Zur Veränderbarkeit mittelalterlicher Weltkarten am Beispiel der Beatustradition vom 10. bis 13. Jahrhundert,” in *Der weite Blick des Historikers: Einsichten in Kultur-, Landes- und Stadtgeschichte. Peter Johaneck zum 65. Geburtstag*, ed. Wilfried Ehbrecht, Angelika Lampen, Franz-Joseph Post and Mechthild Siekmann (Cologne: Böhlau, 2002), 527–49; Ingrid Baumgärtner, “Visualisierte Weltenräume: Tradition und Innovation in den Weltkarten der Beatustradition des 10. bis 13. Jahrhunderts,” in *Tradition, Innovation, Invention: Fortschrittsverweigerung und Fortschrittsbewußtsein im Mittelalter*, ed. Hans-Joachim Schmidt (Scrinium Friburgenser 18) (Berlin: De Gruyter, 2005), 231–76; *Text – Bild – Karte: Kartographien der Vormoderne*, ed. Jürg Glauser and Christian Kiening (Rombach Wissenschaften. Reihe Litterae 105) (Freiburg im Breisgau: Rombach, 2007). The latter volume contains a number of important essays.

John Brian Harley,² we can analyze world maps as cartographic products made up of texts and images. The knowledge they contain is determined by iconological concepts, their worldviews depend on hierarchies and attributions, and their visual rhetoric is based on cultural practices. Maps may therefore be regarded as models of cultural processes, in which various kinds of translation, superimposition, and contradiction are combined and displayed on different temporal and spatial planes. This makes maps not only a medium for the depiction of topography, as traditionally assumed, but also a means of recording and controlling the space in which social action takes place. The individual media texture also allows a specific perception of the world. Like literary texts, maps are “read,” but since there is no prescribed linear direction of reading, the immanent order is revealed by way of hierarchies and attributions. As in pictures, the information is arranged two-dimensionally. Maps are a sign system with an enormous power to represent the world, and the signs, defined via generic features, can assume a representative character.

The question that will be examined here is whether and how the image of Europe was able to change from one copy of a map to the next, and what parameters and criteria determined the cartographic representation of the continent. A comparison of maps preserved in multiple copies will perhaps allow us to detect, for example, what significance the shape of the map had, and what visual and textual strategies were deployed to modify the information conveyed. When visualizing Europe’s borders, what place did the draftsmen assign it within medieval models of the world and images of history? What practices of representation served to individualize the mappable content? What mechanisms of selection were specifically used in the cartographic depiction of this continent? Copies reproduced multiple times are likely to offer a particularly vivid illustration of how form, layout, and content vary, although the maps have a fixed place in an unchanging text. They can also show how visual models were altered to insert new information and thus potentially pursue new goals.

There are two particularly well-known examples of such medieval world maps, which were frequently copied and have been preserved in numerous versions. They come from different periods and geographic areas of pre-industrial Europe. The first group consists of the sixteen surviving world maps illustrating the *Commentary on the Apocalypse* by Beatus of Liébana (d. 798 or later), all

² John B. Harley, “Maps, Knowledge, and Power,” in *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, ed. Denis Cosgrove and Stephen Daniels (Cambridge: Cambridge University Press, 1988), 277–312, esp. 278f. and 304f.

created in Spain or southern France in the High Middle Ages.³ The second is the approximately twenty extant world maps, produced in late medieval England, which were placed at the beginning of the *Polychronicon*, a much-copied world history by the Benedictine monk Ranulf Higden (d. 1363).⁴ In order to trace the changes in content and form within the two series, the following remarks will concentrate on a few key questions, such as the position and delimitation of the continent within the world, the selection of content included, and the graphic presentation. The first part of this essay will apply these questions to the various map types within the Beatus tradition, the second will apply them to the different cartographic visualizations of the Ranulf Higden series. The third part will offer a comparison of the changing versions, and draw some preliminary conclusions. The aim is to analyze the strategies and motives behind the choices associated with the cartographic image, and to examine the effects they may have had.

3 Cf. Brigitte Englisch, *Ordo orbis terrae: Die Weltsicht in den Mappae mundi des frühen und hohen Mittelalters* (Orbis mediaevalis. Vorstellungswelten des Mittelalters 3) (Berlin: Akademie Verlag, 2002), 171–389; Baumgärtner, “Welt im kartographischen Blick”; Baumgärtner, “Visualisierte Weltenräume”; Sandra Sáenz-López Pérez, “Imagen y Conocimiento de Mundo en la Edad Media a través de la Cartografía Hispana” (PhD thesis, Departamento de Historia del Arte I, Facultad de Geografía e Historia, Universidad Complutense de Madrid, 2007), offers an analysis of the Beatus maps in comparison to Majorcan nautical charts from the fourteenth to the fifteenth century.

4 For an initial overview see the inventory by Raleigh A. Skelton, “Ranulf Higden,” in Marcel Destombes, *Mappemondes A. D. 1200–1500: Catalogue préparé par la Commission des Cartes Anciennes de l’Union Géographique Internationale* (Monumenta cartographica vetustioris aevi 1) (Amsterdam: N. Israel, 1964), 149–60, no. 47.1–21; Cf. Jörg-Geerd Arentzen, *Imago mundi cartographica: Studien zur Bildlichkeit mittelalterlicher Welt- und Ökumenekarten unter besonderer Berücksichtigung des Zusammenwirkens von Text und Bild* (Münstersche Mittelalterschriften 53) (Munich: Wilhelm Fink, 1984), 57–59; David Woodward, “Medieval *Mappae-mundi*,” in *The History of Cartography*, ed. John B. Harley and David Woodward, vol. 1, *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: University of Chicago Press, 1987), 286–370 at 312f., 348, 352f., and passim; Anna-Dorothee von den Brincken, *Fines Terrae: Die Enden der Erde und der vierte Kontinent auf mittelalterlichen Weltkarten* (Monumenta Germaniae Historica. Schriften 36) (Hannover: Hahn, 1992), 112f.; Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed Their World* (The British Library Studies in Map History 1) (London: The British Library Publishing Division, 1997, reprint 1999), 126–31.

The Beatus Maps

The world map associated with Beatus of Liébana has been preserved in sixteen different copies, produced on the Iberian Peninsula or in southern France. These include fifteen manuscripts from the tenth to thirteenth centuries, and a Romanesque wall painting. The maps are usually integrated into the prologue of the second book of the richly illustrated, twelve-volume *Commentary on the Apocalypse*, written by the monk Beatus of Liébana in the monastery of St. Martin in Asturias. He probably finished the first version around 776, and a revised version by 786. Of the twenty-six known illustrated codices of the *Commentary on the Apocalypse*, fourteen contain a map of the world.⁵ The only separately preserved world map on parchment was not discovered until the 1970s, in a manuscript in the Biblioteca Ambrosiana in Milan.⁶ The Beatus map family also includes the fragmentary Romanesque wall paintings in the rural chapel of San Pedro de Rocas in the southern Galician province of Orense. Here the concept of a map showing the heads of the apostles was transferred to a publicly accessible church interior.⁷ The purpose of the *mappa mundi* was probably to visualize the areas where the twelve apostles carried out their missionary work. The only reference to this in the text is the mention of how the apostles were sent out to different regions of the ecumene.

While the Beatus maps vary considerably in their details, they do have some similarities (Fig. 5.1). In general, they take up a double page of a codex in the *Commentary*; with one exception, they are oriented to the east in a rudimentary T-O schema; and in addition to the tripartite world surrounded by the

⁵ See the list in John Williams, "Isidore, Orosius and the Beatus Map," *Imago Mundi* 49 (1997): 7–32 at 10. Of these, fourteen maps are mentioned in John Williams, *The Illustrated Beatus: A Corpus of the Illustrations of the Commentary on the Apocalypse*, vol. 1 of 5 (London: Harvey Miller, 1994–2003), *Introduction*, 181. For the legends and content of individual maps see *Mappaemundi: Die ältesten Weltkarten*, ed. and explained by Konrad Miller, 6 vols. (Stuttgart: Roth, 1895–1898). For important information see Arentzen, *Imago mundi cartographica*, 55–57; von den Brincken, *Fines Terrae*, 56–58; Edson, *Mapping Time and Space*, 149–59; Englisch, *Ordo Orbis Terrae*, 171–389; Baumgärtner, "Die Welt im kartographischen Blick"; Baumgärtner, "Visualisierte Weltenräume"; Sáenz-López Pérez, "Imagen y Conocimiento," 25–57.

⁶ Milan, Biblioteca Ambrosiana, F 105 sup., fols. 71v–72r; not in Williams, *The Illustrated Beatus*. Cf. Luis Vázquez de Parga, "Un mapa desconocido de la serie de los 'Beatos,'" in *Actas del Simposio para el estudio de los códices del 'Comentario al Apocalipsis' de Beato de Liébana*, vol. 1 (Madrid: Joyas Bibliográficas, 1978), 273–78 (with incorrect call number).

⁷ Cf. Serafín Moralejo, "El mapa de la diáspora apostólica en San Pedro de Rocas: Notas para su interpretación y filiación en la tradición cartográfica de los 'Beatos,'" *Compostellanum* 31 (1986): 315–40, with illustrations.

encircling ocean, with Paradise in the east, they depict a fourth continent. Thus, the overall layout of the Beatus maps adopted two ideas that Isidore of Seville had set out in his *Etymologiae*: the Christian-influenced eastward orientation of the world and the fourth continent. Diverging from the tripartite ecumene divided between the sons of Noah, Isidore had added this fourth continent to the south of the hot equatorial sea, populating it with fantastic antipodes.⁸ Both choices – the east orientation and the additional continent – assigned Europe a particular position in the world. Firstly, orienting the maps towards Paradise in the east emphasized the vastness of Asia in western Christian thinking, diminishing Europe’s supremacy in the divine world order. Secondly, the existence of the

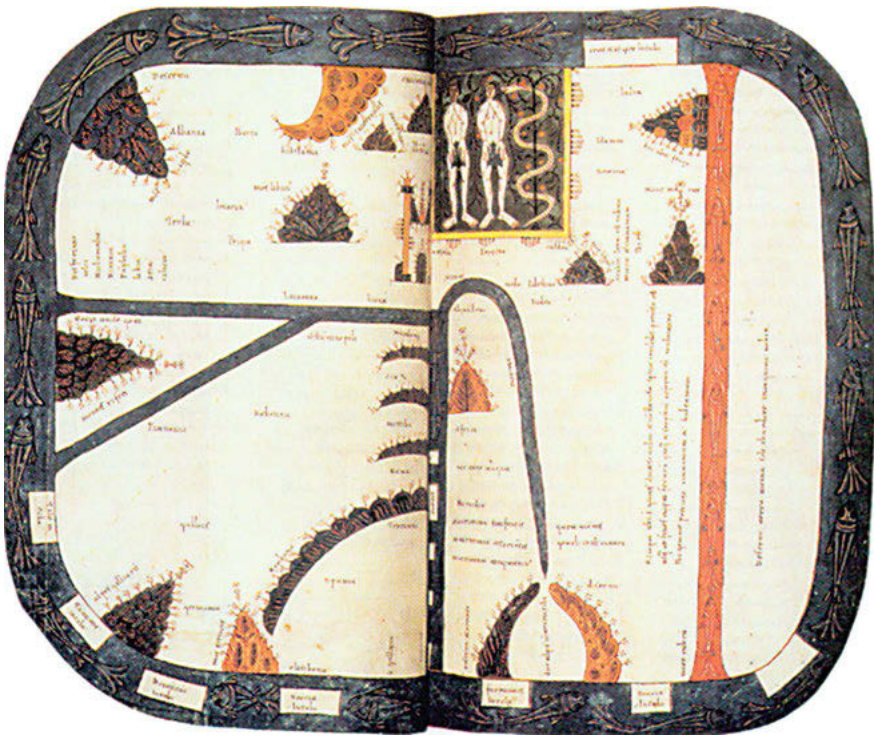


Fig. 5.1: Silos Beatus map, no later than 1109; London, British Library, Add. Ms. 11695, fols. 39v–40r. © The British Library Board.

⁸ Isidore of Seville, *Etymologiarum sive originum libri XX*, ed. Wallace Martin Lindsay, vol. 2, *Libros XI–XX* (Oxford: Clarendon Press, 1911, reprint 1948), 14.5.17: “orbis quarta pars trans Oceanum interior in meridie.”

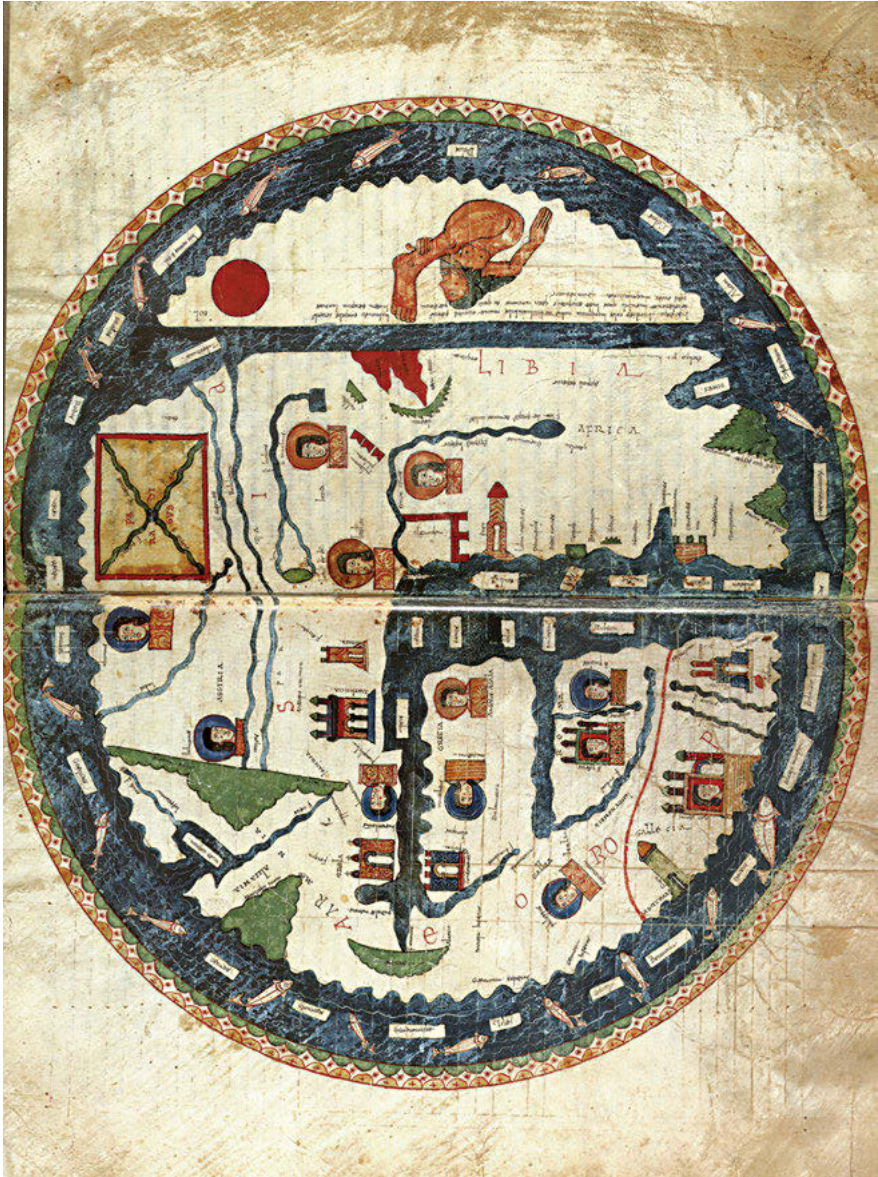


Fig. 5.2: Osma Beatus map, 1086; Burgo de Osma, Archivo de la Catedral, Ms. 1, fols. 34v–35r.

orbis quarta pars further reduced the importance of Europe in the world, since the presence of this anti-ecumene as an inaccessible counter-world called into question the unity and dominance of the human race descended from Adam and Noah.⁹

The world maps accompanying Isidore's encyclopedia in the rich manuscript and print tradition repeatedly depict this fourth continent, though it perhaps appears less often in the T-O sketches than in the "spherical maps" and the hemispherical world maps, which consistently follow the same design. Isidore's palimpsest map in St. Gallen shows that there were already efforts in the eighth century to combine the east-oriented ecumene with the layout of the north-oriented zonal maps, and to draw a *terra inhabitabilis* as a separate segment in the south.¹⁰ Similarly, the Beatus maps surviving from the mid-tenth century transcend the tripartite landmass, perhaps to suggest that the apostolic mission encompassed not only the ecumene, but the whole world. In most cases – with the exception of two extant copies, in which the continent remained blank and nondescript – an explanation from Isidore's work was inscribed on the additional fourth continent, attributing the unknown nature of this neighboring *deserta terra* to the heat of this region. In the longer versions, these inscriptions explain the continent's position on the other side of the ocean, and describe its inhabitants.¹¹ In three versions these antipodes are replaced with sciapods ("shadow-feet"), whom Isidore actually saw as the inhabitants of Ethiopia.¹² The Osma map, drawn around 1086 in the Cluniac monastery of Sahagún (Fig. 5.2), actually depicts one such "shadow-foot," who uses his single oversized foot to protect himself from the rays of the burning red sun.¹³ Since the sciapod is the largest and most striking figure in the whole map, this gives the fourth continent greater prominence (in comparison to other versions of the map), though Europe does defend its status in the ecumene with six apostles' heads. In view of this fact, it is worth considering whether the Beatus maps should actually be referred to as *mappae orbis* rather than *mappae mundi*, to distinguish the tripartite ecumene (*mundus*) from the quadripartite world (*orbis*).

⁹ On the fourth continent see e.g. Rudolf Simek, *Erde und Kosmos im Mittelalter: Das Weltbild vor Kolumbus* (Munich: C. H. Beck, 1992), 55–73; von den Brincken, *Fines Terrae*, 193–202.

¹⁰ St. Gallen, Stiftsbibliothek, Ms. Sangallensis 237, 1. See von den Brincken, *Fines Terrae*, 195–97 and Figs. 10–15, for this and other Isidorian maps.

¹¹ Quoted almost verbatim from Isidore of Seville, *Etymologiarum*, 2:14.5.17. For the fourth continent in the different Beatus maps see Sáenz-López Pérez, "Imagen y Conocimiento," 202–24.

¹² Isidore of Seville, *Etymologiarum*, 2:11.3.23.

¹³ Burgo de Osma, Archivo de la Catedral, Ms. 1, fols. 34v–35r. Facsimile: *Apocalipsis Beati Liebanensis Burgi Oxomensis*, ed. John Williams, 2 vols. (Valencia: García, 1992); cf. Baumgärtner, "Visualisierte Weltenräume," 249.



Fig. 5.3: Navarra Beatus, thirteenth century; Paris, Bibliothèque nationale de France, Nouv. acq. lat. 1366, fols. 24v–25r.

Only the Paris map (Fig. 5.3), probably created in Navarre towards the beginning of the thirteenth century, differs from the usual pattern of Beatus productions in every respect. It shows the sciapod outside the world, along with eight pairs of “wind blowers” and three *telamones*. Even stranger is the structure of the image, as shaped by the waterways. It resembles a four-leaf clover, implying four continents. These, however, do not coincide with the usual continents; instead Europe is spread over two of the four sections. On one side (at the bottom left) are southern and eastern Europe, including Arabia, Jerusalem, and southern Italy as a large island. On the other side (at the bottom right) is southwestern Europe, comprising Spain, southern France, and northern and central Italy. This is separated from the Holy Land by the Red Sea, and more or less merges with western Africa.¹⁴ There is no provision for an unknown continent; if this appears at all it is only in the decorative figures on the outside. We can still see, however, that Europe is integrated into an overall quadripartite global structure, in which Europe occupies the bottom two segments and Asia the top two (comprising an expansive Asia Minor, extending to Paradise, and the Holy Land extending to India and Africa). This very radical division of the world, combining an east-west axis along the Mediterranean with a north-south axis constituted by the Don and the Red Sea, corresponded to the notion of an Asian-European dichotomy. The historian Herodotus of Halicarnassus hinted at such a notion when he spoke of the continuous land areas of Europe, Africa, and Asia, and defended the dominance of Europe over Libya.¹⁵

These brief remarks on the textual and visual depiction of the fourth continent and the organization of the world suggest that when it comes to the outer form and layout of the Beatus maps, various basic types can be distinguished.

14 Paris, Bibliothèque nationale de France, Nouv. acq. lat. 1366, fols. 24v–25r. Facsimile: Eliza Ruiz García and Soledad De Silva y Verástegui, *Beato de Navarra* (Ms. Nouv. acq. lat. 1366 de la Bibliothèque Nationale de France), 2 vols. (Madrid: Millennium Liber, 2007). Cf. Englisch, *Ordo Orbis Terrae*, 384–86; Patricia Licini, “Formula Picturarum ‘Cibernetica,’” *Geostorie: Bollettino e notiziario del centro italiano per gli studi storico geografici* 8, no. 1–2 (2000): 25–55; Baumgärtner, “Die Welt im kartographischen Blick,” 545–48; Baumgärtner, “Visualisierte Weltenräume,” 250–54.

15 Herodotus, *Histories*, 4.42.1: “I cannot but be surprised at the method of mapping Libya, Asia, and Europe. The three continents do, in fact, differ very greatly in size. Europe is as long as the other two put together, and for breadth is not, in my opinion, even to be compared to them.” Quoted from Herodotus, *The Histories*, trans. Aubrey de Sélincourt, revised with introduction and notes by John Marincola (London: Penguin, 2003), 253. Cf. Klaus M. Girardet, “Kontinente und ihre Grenzen in der griechisch-römischen Antike,” in *Europas Grenzen*, ed. Sabine Pentz, Martina Pitz, Christine van Hoof and Ralf Krautkrämer (Limites 1) (St. Ingbert: Röhrig Universitätsverlag, 2006), 19–65 at 37–39.

These can be subdivided into particular traditions and, with the aid of a rough chronology, assigned to historically influenced groups. If we consider the outer form of the world (as a rectangle, oval, circle, or cloverleaf, embedded in an encircling ocean), the proportions used to capture space, and the presence of drawings, toponyms, and legends, we can identify three basic cartographic models. These models, already described in detail elsewhere, convey very different images of Europe and its borders.¹⁶

In the first type, which takes the form of an east-oriented rectangle, the four continents are left in the color of the parchment and are separated fairly clearly from one another. An example is the Morgan Beatus (also known as the Magius or Maius Beatus) in New York, which was produced before 962 (Fig. 5.4).¹⁷ The only thing that remains vague – in keeping with the descriptions of Herodotus¹⁸ – is the boundary between the vast expanses of Asia and the elongated form of Africa, which the distinct westward curve of the Nile reduces to the smallest continent. Europe, however, is given firm external boundaries with the encircling ocean, the Mediterranean, and the Tanais (Don). Two areas rich in history, the Riphean Mountains and the homeland of the Goths, lie on a sort of triangular island between the Tanais/Don and the Danube.¹⁹ These two unlabeled rivers connect the ocean and the Mediterranean, separating the square of Europe from the multilayered temporality of Asia, with its mythological places, ancient sites,

16 Cf. Williams, “Isidore, Orosius and the Beatus Map,” 10; Williams, *The Illustrated Beatus*, 1: 19–26; Baumgärtner, “Die Welt im kartographischen Blick”; Baumgärtner, “Visualisierte Weltenräume”; Leonid S. Chekin, *Northern Eurasia in Medieval Cartography: Inventory, Text, Translation, and Commentary* (Terrarum Orbis 4) (Turnhout: Brepols, 2006), 171–79; Sáenz-López Pérez, “Imagen y Conocimiento,” 25–57.

17 New York, The Morgan Library & Museum, Ms. M.644, fols. 33v–34r. Reproductions: *A Spanish Apocalypse: The Morgan Beatus Manuscript*, introduction and commentaries by John Williams, codicological analysis by Barbara A. Shailor (New York: George Braziller, 1991), fols. 33v–34r; *Beatus-Apokalypse der Pierpont Morgan Library: Ein Hauptwerk der spanischen Buchmalerei des 10. Jahrhunderts*, introduction and commentary by John Williams (Stuttgart: Belser, 1991); Beato de Liébana, *Apocalipsis de San Juan*, 3 vols. (Valencia: Scriptorium, 2000–2001). Cf. Englisch, *Ordo Orbis Terrae*, 259–72; Baumgärtner, “Die Welt im kartographischen Blick,” 531f.; Baumgärtner, “Visualisierte Weltenräume,” 236–39 and 263; Maja Kominko, “The Map of Cosmas, the Albi Map, and the Tradition of Ancient Geography,” *Mediterranean Historical Review* 20, no. 2 (2005): 163–86, esp. 174–78 for the late Roman origins.

18 Herodotus, *Histories*, 4.42.1–4 and 45.1–5, for the border demarcations at the Nile and Don or Phasis. Cf. Girardet, “Kontinente und ihre Grenzen,” 37–39.

19 See Edson, *Mapping Time and Space*, 151, who contracts the Don and the Black Sea into a single river; for a contrasting view see Englisch, *Ordo Orbis Terrae*, 265; Sáenz-López Pérez, “Imagen y Conocimiento,” 97–100. See Chekin, *Northern Eurasia*, 173 for the texts on north-eastern Europe, and 207–53 for onomastics.



Fig. 5.4: Morgan (also known as Magius/Maius) Beatus map, no later than 962; New York, The Morgan Library & Museum, Ms. M.644, fols. 33v–34r. Purchased by J. Pierpont Morgan (1867–1943) in 1919.

and Christian regions. In the southwest of Europe, separated by the silhouette of the Pyrenees, we see the Iberian Peninsula, with Galicia, Lisbon, and Tarragona. Offshore to the west is the island of Scotland, and to the east of the mountain range we see Narbonne, Rome, and Marseille. Southeastern Europe contains a few choronyms and other names of towns (including Ravenna and Constantinople), while the area further north is dominated by ancient provinces such as Germania, Italia, Gallia, and Pannonia.

A similar spatial arrangement with identical toponyms and legends can be found in four other copies from the tenth to the early twelfth century, also produced in the kingdom of León. These are the Valcavado copy from Valladolid, dated to around 970;²⁰ the preparatory drawing from La Seu d'Urgell, created in León in the last quarter of the tenth century;²¹ the Facundus Beatus in Madrid, named after its scribe, who was active around 1047;²² and the codex from the Santo Domingo de Silos monastery, completed in 1109, now in London (Fig. 5.1).²³ In all five maps, Europe and Asia are separated by more or less straight lines, formed by two rivers which meet and then flow together into the Black Sea/Mediterranean. Europe thus becomes a self-contained continent, surrounded by water, within which the dominant mountain barrier of the Pyrenees separates off the Iberian Peninsula. This image of Europe is based on traditional elements of Greco-Roman antiquity and early Christianity adopted from historiography. It reflects a late Roman world, and shows no attempt to reflect the current state of knowledge.

In the second type of Beatus maps, oval or circular in shape, Europe is separated from Asia solely by the transverse artery of the Tanais/Don. The Danube, on the other hand, has its source in four headstreams, not far from the Riphean Mountains. This version of Europe is more extensive and comprehensive, with an expanded nomenclature, greater detail, and shifts in emphasis. This group

20 Valladolid, Biblioteca de la Universidad, Ms. 433, fols. 36v–37r. Facsimile: Beato de Liébana, *Commentarium in Apocalypsim: Beato de Valcavado*, 2 vols. (Valladolid: Universidad de Valladolid, 1993).

21 Seu d'Urgell, Museu Diocesà, Num. Inv. 501, fols. VIv–VIIr.

22 Madrid, Biblioteca Nacional, Vitrina 14–2, fols. 63v–64r. Facsimile: Beato di Liebana, *Miniature del Beato de Fernando I y Sancha*, ed. Umberto Eco (Codice B. N. Madrid, Vit. 14–2) (Parma: F. M. Ricci, 1973); El Beato de Liébana, *Códice de Fernando I y doña Sancha*, 2 vols. (Barcelona: Moleiro, 1994).

23 London, British Library, Add. Ms. 11695, fols. 39v–40r. Facsimile: Beato de Liébana, *Codice de Santo Domingo de Silos*, 2 vols. (Barcelona: Moleiro, 2001–2003). For more on this group see English, *Ordo Orbis Terrae*, 193–223; Baumgärtner, “Die Welt im kartographischen Blick,” 531–34; Baumgärtner, “Visualisierte Weltenräume,” 237–39; Sáenz-López Pérez, “Imagen y Conocimiento,” 29–32.



Fig. 5.5: Turin Beatus map, first quarter of twelfth century; Turin, Biblioteca Nazionale Universitaria, Sgn. I.II.1, fols. 45v–46r. Su concessione del Ministero della Cultura/Biblioteca Nazionale Universitaria di Torino.

includes the Beatus codex of Gerona, written in 975 in the kingdom of León;²⁴ the Turin map, probably created in Ripoll in Catalonia in the first quarter of the twelfth century (Fig. 5.5);²⁵ the “Rylands Beatus” in Manchester, from the second half of the twelfth century (ca. 1175);²⁶ the Las Huelgas manuscript, only completed in 1220 (Fig. 5.6);²⁷ and the circular Arroyo map (Fig. 5.7),²⁸ which – contrary to previous attempts to date it to the years 1219 to 1235 – was probably not produced until around 1248, for the Cistercian abbey of San Andrés de Arroyo.

Regardless of their time and place of origin, the maps in this branch also display many similarities with regard to Europe.²⁹ Spain is considerably enlarged, and more closely connected to Europe due to a break in the dividing mountain range. Even in the Gerona manuscript there are new, contemporary references to the emergent kingdom of Asturias and to the grave of Saint James in Santiago de Compostela – a local attraction which developed into a supra-regional cult in the course of the tenth century. France is depicted in more detail, with Aquitania, Toulouse, a few mountain ranges, and regions in the northwestern corner. The Danube rises in the northern half of Europe, and becomes the main artery of a European river system flowing through ancient regions. These also define the coasts of the Mediterranean. In Italy we can see the towns of Rome, Ravenna, Salerno, Benevento, and Aquileia, as well as the region of Etruria. Further east we find Epirus, Constantinople, and Thessaloniki. Another characteristic feature of the second Beatus group is the unidentifiable river Eusis, which Isidore described

24 Gerona, Museu de la Catedral, Num. Inv. 7 (11), fols. 54v–55r. Facsimile: Saint Beatus, *Sancti Beati A Liebana in Apocalypsin Codex Gerundensis* (Olten: Urs Graf Verlag, 1962); Beato de Liébana, *Commentarium in Apocalypsim. Beati in Apocalypsin libri duodecim: Codex Gerundensis A. D. 975*, 2 vols. (Madrid: Edilán, 1975).

25 Turin, Biblioteca Nazionale Universitaria, Sgn. I.II.1, fols. 45v–46r. Facsimile: Beato de Liébana, *Beato de Turin*, 2 vols. (Torrejón de Ardoz: Testimonio, 2000–2001). Cf. Williams, *The Illustrated Beatus*, 3:7, who dates the map to the first quarter of the twelfth century in Catalonia, probably Ripoll.

26 Manchester, John Rylands University Library, Ms. Lat. 8, fols. 43v–44r. Facsimile: *Beatus a Liébana in Apocalypsin Commentarius: Manchester, the John Rylands University Library Latin MS 8*, ed. Peter Klein (Codices illuminati medii aevi 16) (Munich: Lengenfelder, 1990); Beato de Liébana, *Commentarium in Apocalypsin: Codice de Manchester*, 2 vols. (Valencia: Patrimonio, 2001–2002).

27 New York, The Morgan Library & Museum, Ms. M.429, fols. 31v–32r. Facsimile: *Beato de Liébana, Beato del Monasterio de Las Huelgas: Ms. M. 429* (Valencia: Scriptorium, 2004).

28 Paris, Bibliothèque nationale de France, Nouv. acq. lat. 2290, fols. 13v–14r. Facsimile: *Beato de Liébana: Códice del Monasterio Cisterciense de San Andrés de Arroyo*, 2 vols. (Barcelona: Moleiro, 1998).

29 For this group see Englisch, *Ordo Orbis Terrae*, 284–332; Baumgärtner, “Die Welt im kartographischen Blick,” 534–39; Baumgärtner, “Visualisierte Weltenräume,” 239–46; Sáenz-López Pérez, “Imagen y Conocimiento,” 32–37.



Fig. 5.6: Beatus map of Las Huelgas, 1220; New York, The Morgan Library & Museum, Ms. M.429, fols. 31v–32r. Purchased by J. Pierpont Morgan (1837–1913) in 1910.



Fig. 5.7: Beatus map of Arroyo, first half or middle of thirteenth century; Paris, Bibliothèque nationale de France, Nouv. acq. lat. 2290, fols. 13v–14r.

as flowing from the Caucasus into the Black Sea.³⁰ These maps retain the clear separation of Europe and Asia by the Don, a stately river linking the encircling Ocean and the Mediterranean. Its importance is underlined by the texts *Hic finis Asie* at the end of Asia, and *Hic caput Garope* at the beginning of Europe. The result is a Europe with linear boundaries, where ancient traditions are still in place but have undergone contemporary adaptations.

At the same time, this design concept allowed individual emphases, which were used intensively from the late eleventh to the thirteenth century. The draftsman of the Turin map (Fig. 5.5) slightly expanded the nomenclature of Europe in the northeast (*Riauraria, Tarcia ubi Goti*), and placed it in a circle surrounded by wind blowers. The inspiration for this probably came from the Benedictine monastery of Ripoll in Catalonia, where relevant sources of information converged in the late eleventh century. A computus manuscript of 1056, for example, contained a textbook on astronomical calendar calculation; texts on natural history by Isidore of Seville, the Venerable Bede, and Pliny the Elder; and a zonal map decorated with the personifications of the twelve winds, encouraging an emphasis on the round shape of the earth and on the idea of the universe of winds and elements.³¹ In contrast, the Rylands Beatus in Manchester is modified into a true oval, and its splendidly colored decoration is combined with strikingly bold lines. The grave of Saint James is ignored, and the representation of Europe is focused on southern France, Italy, and southeastern Europe, no longer on the Spanish region where the map originated. So there is an obvious discrepancy here between the place of origin and the regional emphasis. The unlabeled fourth continent is also considerably reduced.³² The Las Huelgas codex (Fig. 5.6), now in New York, enlarges northern Europe and gives wavy contours to the earth, the encircling ocean, the coastlines of the Mediterranean, and the line separating off the fourth continent. In contrast to the meandering rivers, the Don remains the only straight river line. This makes the border even more conspicuous, while giving the element of water a new relevance in the cartographic discourse on the systematic order of the earth.³³ All these maps retain a relatively fixed and only

³⁰ Isidore of Seville, *Etymologiarum*, 2:13.21.19, 159; cf. Sáenz-López Pérez, “Imagen y Conocimiento,” 110.

³¹ Cf. Englisch, *Ordo Orbis Terrae*, 316–24; Baumgärtner, “Die Welt im kartographischen Blick,” 536f.; Baumgärtner, “Visualisierte Weltenräume,” 240–42.

³² Cf. Englisch, *Ordo Orbis Terrae*, 302–10; Baumgärtner, “Die Welt im kartographischen Blick,” 535f.; Baumgärtner, “Visualisierte Weltenräume,” 242f.

³³ Cf. Englisch, *Ordo Orbis Terrae*, 310–16; Baumgärtner, “Die Welt im kartographischen Blick,” 534f.; Baumgärtner, “Visualisierte Weltenräume,” 243f.; Sáenz-López Pérez, “Imagen y Conocimiento,” see 94–116 for hydrography.

slightly modified construct of Europe. This is integrated into very different concepts of the world, depending on the time of production, the setting, and the cartographer's training. Some take a scientific angle, emphasizing the spherical shape of the earth. Others adopt a natural history slant, focusing on the elements of earth, wind, and water. Still others favor a geographic view, highlighting the individual regions.

The image of Europe is more developed in the circular Arroyo map, possibly produced after 1248 (Fig. 5.7), in which Europe stretches far into the east, pushing back northern Asia.³⁴ All the bodies of water are considerably reduced in size and importance. The Mediterranean, for example, resembles a river, flowing into the encircling ocean in the east and west. The ten islands inscribed into the ocean include Mediterranean locations such as Sicily, Sardinia, and the Balearic Islands. The reduction of the water bodies is combined with an expansion of the landmasses. Elaborate town symbols dominate the space, and the mythical river Eusis, rising at the edge of the ocean, splits Europe in two. The increased presence of symbols and signs, illustrations and texts produces an encyclopedic cosmos. In the European section, areas and towns in Spain long under Arab occupation but now reconquered by the Christians reflect the new self-confidence of the advanced Reconquista. These include Toledo, subjugated by the kingdom of Castile in 1085; strategically important Saragossa, conquered by Christian Aragon in 1118; and most importantly Seville, defeated in 1248 by Ferdinand III of Castile.³⁵ So while the image of Europe remains relatively stable in nomenclature and selected content, the second group of Beatus maps, produced between 975 and the mid-thirteenth century, do show changes in response to contemporary scientific and political influences.

In the third type of map,³⁶ the graphics are even more individualized and it really is possible to discern a change of consciousness in approaches to geographic space. There are three specific elaborations, each forming a particular image of Europe. The first depicts a continent of well-ordered regions, recorded with geographic precision in the magnificent Saint-Sever codex. The second presents Europe as one quarter of the diaspora, in the four New Testament-based world maps showing the heads of the apostles. These maps also contain texts and images detailing the inhabitants of the fourth continent. The third variation shows a continent divided into two by the Mediterranean, comprising

³⁴ Cf. Englisch, *Ordo Orbis Terrae*, 324–30; Baumgärtner, “Die Welt im kartographischen Blick,” 537–39; Baumgärtner, “Visualisierte Weltenräume,” 244–46.

³⁵ See Sáenz-López Pérez, “Imagen y Conocimiento,” 261, for dating based on the Christian conquest of Seville in November 1248.

³⁶ For a summary of this group see Sáenz-López Pérez, “Imagen y Conocimiento,” 38–42.

half the world, in the highly individual and barely comprehensible concept of the world in the thirteenth-century Navarre Beatus.

The ambitiously executed Saint-Sever Beatus, probably produced between 1065 and 1072 in the Saint-Sever monastery in southern France (Fig. 5.8), offers an astonishingly precise geographical depiction of its region of origin.³⁷ The layout is finely detailed, the decorative apparatus subtle and varied. The delicately drawn, jagged mountain ranges, meandering rivers, and individual vignettes of towns are distributed across the whole ecumene – though the map’s place of origin, Saint-Sever, stands out from the image. For the first time, the line dividing Europe and Asia is not straight and does not extend to the encircling ocean, but explicitly shows the landmasses merging in the north. Moreover, the cartographer’s own horizon of experience obviously influenced the depiction of the duchies of Gascony, Poitiers, and Aquitaine in the region of the monastery. These were all under the same ruler and are presented as a single unit, reflecting the territorial and ecclesiastic conditions of governance in southern France after 1058. Southern and central Europe are drawn with particularly subtle details, and Spain – separated off by a mountain range – is noticeably reduced in size. The construction provided a geographical and topographical survey of Europe, with some sections even reflecting claims to territorial dominance.

In four other interrelated *mappae mundi*, Europe is part of a world displaying the twelve heads of the apostles in the diaspora. Their purpose is to indicate where the preachers of the faith carried out their work, as described in the *Commentary on the Apocalypse*. This family of maps includes the two closely related Beatus maps of Osma and Oña, the fragments of the Lorvão Beatus in Lisbon,³⁸ and the Romanesque wall map in San Pedro de Rocas.³⁹ The borders of Europe are somewhat altered: the Mediterranean is given a hook-shaped bend at the entrance to the Black Sea, while Cyprus and Crete are shifted northwards. The

³⁷ Paris, Bibliothèque nationale de France, Lat. 8878, fols. 45bis^v–45ter^r. Facsimile: *Comentarios al Apocalipsis y al Libro de Daniel: Edición facsimil del código de la abadía de Saint-Sever*, 2 vols. (Madrid: Edilan, 1984). Cf. Englisch, *Ordo Orbis Terrae*, 360–84; Baumgärtner, “Die Welt im kartographischen Blick,” 540–42; Baumgärtner, “Visualisierte Weltenräume,” 246f.

³⁸ Lisbon, Arquivo Nacional da Torre do Tombo, Ms. CXIII/247, fol. 34bis^v. Facsimile: *Beato de Liébana, Código de San Mamede de Lorvao* (Valencia: Patrimonio, 2003); the preserved fragment shows only Africa and the fourth continent. Cf. Anne de Egry, *Um estudo de O Apocalipse do Lorvão e a sua relação com as ilustrações medievais do Apocalipse* (Lisbon: Fundação Calouste Gulbenkian, 1972), 9, 29–31, and 130, with Fig. XVII; Sáenz-López Pérez, “Imagen y Conocimiento,” 39 and Fig. 15.

³⁹ Cf. Moralejo, “El mapa de la diáspora apostólica,” 315–40; Sáenz-López Pérez, “Imagen y Conocimiento,” 39.



Fig. 5.8: Beatus map from Saint-Sever, between 1028 and 1072, probably after 1065; Paris, Bibliothèque nationale de France, Lat. 8878, fols. 45bis^v–45ter^r.

visualization of the missionary areas adds New Testament motifs to the basic elements from antiquity and mythology.

In the Osma map (Fig. 5.2), the standard design of Europe shows very specific architectural symbols and six apostles' heads, including Andrew in Achaia, Matthew in Macedonia, and Philip in Gaul. Rome is accentuated by the apostles Peter and Paul, and Santiago de Compostela by the head of Saint James, integrated into the church building. The only other European towns highlighted with buildings are Toledo/Olissbona and Constantinople. There is also a lighthouse protecting the coast of Asturias.⁴⁰ The inclusion of the city of Toledo, which cannot be justified by apostolic history, probably offers a clue to the map's place of origin. Toledo was reconquered for the kingdom of Castile in May 1085, a year before the completion of the codex. A year later the reformer Bernard, originally from Cluny, who had been the abbot of Sahagún since 1080, was elevated to the position of archbishop. It has been suggested that he may have commissioned the whole codex.⁴¹ The Oña map was created towards the end of the twelfth century in the Cluniac monastery of San Salvador de Oña in Castile, and is now located in Milan. It shows more subtle decorative elements, without deviating greatly from the layout of Europe described above.⁴² Most of the cities, including Constantinople, are double-bordered rectangles; only Rome and Jerusalem are rectangles with apostles' heads growing out of them. Once again, Santiago de Compostela as a center of pilgrimage is embellished by the head of Saint James. The only element pointing to the map's origins in the kingdom of Castile is the Ebro (*flumen Ibervs*); Castile's core areas were in the upper Ebro in the modern province of Burgos.⁴³ Thus the "apostle maps" produced in Cluniac monasteries offer an ideal-typical visualization of the diaspora, but also incorporate geographical and topographical information on their own region of origin. In terms of surface area, Europe only makes up one quarter of the world, but in terms of numbers – six apostles' heads – it constitutes half of New Testament Christianity.

Even within a single family of maps, then, the efforts to depict Europe's cultural, religious, and political past in cartographic form led to very different

40 Burgo de Osma, Archivo de la Catedral, Ms. 1, fols. 34v–35r. Facsimile: *Apocalipsis Beati Liebanensis*; cf. Englisch, *Ordo Orbis Terrae*, 344–58; Baumgärtner, "Die Welt im kartographischen Blick," 542–44; Baumgärtner, "Visualisierte Weltenräume," 248f.; Sáenz-López Pérez, "Imagen y Conocimiento," see 159–80 for the "apostle maps."

41 *Apocalipsis Beati Liebanensis*, 2:18; Englisch, *Ordo Orbis Terrae*, 355.

42 Milan, Biblioteca Ambrosiana, F 105 sup., fols. 71v–72r. Cf. Vázquez de Parga, "Un mapa desconocido," 273–78; Englisch, *Ordo Orbis Terrae*, 334–44; Baumgärtner, "Die Welt im kartographischen Blick," 544; Baumgärtner, "Visualisierte Weltenräume," 250.

43 See Sáenz-López Pérez, "Imagen y Conocimiento," 113 for the Spanish rivers.

results. The *Beatus* maps of the second and third groups in particular reflect a cultural area of enormous complexity. Even the extremely individual Navarre map in Paris (Fig. 5.3) – one of the last manuscripts, probably only produced towards the mid-thirteenth century (before 1261)⁴⁴ – shows a Mediterranean cultural area focused on the past and drawing from multiple historical eras. The toponymy follows late classical traditions, but New Testament references and other layers of history are also evoked. For example, the mythical reef *Carrido*, better known as *Charybdis*, in the Strait of Messina, recalls not only *Odysseus*, but also *Saint Paul*, who had to overcome this raging whirlpool on his journey to Rome. *Tolosa* in southwestern Europe recalls not only the spread of Arab power over the Pyrenees to *Septimania*, but also the crucial victory of the united Christian armies at *Las Navas de Tolosa* in June 1212.

The overall conclusion to be drawn from the *Beatus* maps is that all copies from the tenth to the thirteenth centuries placed Europe within a global creation, in a world defined by the Christian orientation towards Paradise in the east and the existence of a fourth continent in the south. Europe's shape followed relatively clear borders. The boundary between Europe and Asia, sharply defined in the first and second groups, was less clear in the third group, produced from a southern French perspective in the late eleventh century. This change may have been linked to the growing desire to travel to the Holy Land in the period preceding the First Crusade. While the draftsmen in the first group copied their models fairly rigorously, cartographic innovations play a greater role in the overall graphic appearance of the second and third branches. In their cartographies – depending on the type of map and the producer's intentions – Europe appears as part of a world defined by knowledge of natural history and geography, by political changes and religious aims. The map's location of origin was generally given its due place, while contexts of production and contemporary influences altered the traditions of visualization within the individual groups. These modifications were manifested in geographical details, in the graphic realization of traditional content, or in the external form of the map. The internal spatial arrangement was evidently more bound by authorities, as were the numerous entries based on late Roman and Isidorian models. Although their geographical layout often seems very similar at first glance, the maps could convey quite different images of Europe: in some it was part of a scientific natural history of the elements, in others part of the New

⁴⁴ Paris, Bibliothèque nationale de France, Nouv. acq. lat. 1366, fols. 24v–25r. Cf. Licini, “Formula Picturarum,” 25–55; Baumgärtner, “Die Welt im kartographischen Blick,” 545–48; Baumgärtner, “Visualisierte Weltenräume,” 250–54.

Testament diaspora, and in others part of a geographically defined demonstration of power.

The Ranulf Higden Maps

The English historiographer and Benedictine monk Ranulf Higden is documented to have lived in St. Werburgh in Chester from 1299, and probably died in 1363. His life's work was the *Polychronicon*, a seven-book encyclopedic history of the world in Latin, extending from the creation to the time of Edward III.⁴⁵ Using the great encyclopedias and historical works of writers such as Pliny, Solinus, Eusebius of Caesarea, Augustine, Paulus Orosius, Isidore of Seville, and the Venerable Bede, the author – who probably never went further than the royal court in London himself – sought to teach his readers while entertaining them with *exempla*, stories of miracles, and anecdotes. Another important source of information was the more recent writings of the late twelfth and thirteenth centuries by Gerald of Wales, Bartholomeus Anglicus, and Vincent of Beauvais. In the second half of the fourteenth century and over the course of the fifteenth century, Ranulf's work, frequently illuminated, became one of the most popular history books in England.⁴⁶ Multiple continuations

45 *'Polychronicon' Ranulphi Higden Monachi Cestrensis, together with the English Translation of John Trevisa and of an Unknown Writer of the Fifteenth Century*, ed. Churchill Babington and Joseph Rawson Lumby (Rolls Series. *Rerum Britannicarum medii aevi scriptores* 41), 9 vols. (London: Longman, Green, Longman, Roberts, and Green, 1865–1886, reprint Wiesbaden: Kraus, 1964). For Ranulf himself see a summary in Karl Schnith, "Higden, Ranulph OSB," in *Lexikon des Mittelalters*, vol. 5 (Munich: Artemis & Winkler, 1991), col. 6; for the addition of maps to the work see e.g. von den Brincken, *Fines Terrae*, 112f.; Edson, *Mapping Time and Space*, 126–30.

46 There are more than twenty codices in Oxford alone, many in London, three in Corpus Christi College in Cambridge, and several in the Cambridge University Library. See the list of extant manuscripts e.g. in John Taylor, "The Development of the Polychronicon Continuation," *The English Historical Review* 76 (1961): 20–36; John Taylor, *The "Universal Chronicle" of Ranulf Higden* (Oxford: Clarendon Press, 1966), 152–59; additional list of ten Latin and four English-language manuscripts in A. S. G. Edwards, "Notes on the Polychronicon," *Notes & Queries for Readers and Writers, Collectors and Librarians* 223 (1978): 2–3. For the work see e.g. Margaret Jennings, "Higden's Minor Writings and the Fourteenth-Century Church," *Proceedings of the Leeds Philosophical and Literary Society* 16 (1977): 149–58; Antonia Gransden, *Historical Writing in England*, vol. 2, c. 1307 to the Early Sixteenth Century (London: Routledge and Kegan Paul, 1982), 43–57 and passim; John Taylor, *English Historical Literature in the Fourteenth Century* (Oxford: Clarendon Press, 1987), 95–103 and passim.

were produced and numerous copies have been preserved.⁴⁷ The chronicle of events generally ends between 1340 and 1352, though there is an early version ending in 1326 and a later version running to at least 1340, whose continuations extend to 1357 or later. The first English translation by John Trevisa, produced in 1387, was printed as early as 1482.⁴⁸ Because of the author's lack of previous cartographic training, the map was probably not part of the original plan. It may not have been added until the later version created after 1340, which contains a sentence referring to the map.⁴⁹

The first book begins with the story of creation and covers the dimensions and the round shape of the world, the tripartite division of the ecumene, and the geography and topography of the continents and regions. Because of the great demand for geographical information in the late Middle Ages, this section was actually copied and revised separately under its own titles.⁵⁰ This opening section gave the primarily English readership an opportunity not only to learn about the world as a whole, but also to locate the place where they lived within the medieval understanding of the three continents and their size in proportion to each other. The cartographic visualization could – as the author may well have noticed during revision – help readers to get at least a rough idea of

47 See for example Kathleen L. Scott, *Later Gothic Manuscripts, 1390–1490*, 2 vols. (A Survey of Manuscripts Illuminated in the British Isles 6) (London: Harvey Miller, 1996), 1:71, note 24, and 2:306 and 314f.; Lynda Dennison, “Monastic or Secular? The Artist of the Ramsey Psalter, now at Holkham Hall, Norfolk,” in *Monasteries and Society in Medieval Britain: Proceedings of the 1994 Harlaxton Symposium*, ed. Benjamin Thompson (Stamford, Lincolnshire: Paul Watkins, 1999), 227–29, pls. 16, 19, and 20; Nicholas Rogers, “Two Fifteenth-Century *Polychronicons* in Cambridge Collections,” *Transactions of the Cambridge Bibliographical Society* 12, no. 2 (2001): 185–88; Lynda Dennison and Nicholas Rogers, “A Medieval Best-Seller: Some Examples of Decorated Copies of Higden’s *Polychronicon*,” in *The Church and Learning in Later Medieval Society: Essays in Honour of R. B. Dobson. Proceedings of the Harlaxton Symposium*, ed. Caroline M. Barron and Jenny Stratford (Donnington: Shaun Tyas, 2002), 80–99.

48 For the manuscript distribution of the vernacular version see A. S. G. Edwards, “The Influence and Audience of the *Polychronicon*: Some Observations,” *Proceedings of the Leeds Philosophical and Literary Society* 17, no. 6 (1980): 113–19; cf. also A. S. G. Edwards, “Geography and Illustration and Higden’s *Polychronicon*,” in *Art into Life: Collected Papers from the Kresge Art Museum Medieval Symposia*, ed. Carol Garrett Fisher and Kathleen L. Scott (East Lansing: Michigan State University Press, 1995), 95–113, here e.g. 97–100 for the different translations; for a summary see also Schnith, “Higden, Ranulph OSB,” col. 6.

49 ‘*Polychronicon*’ *Ranulphi Higden*, 1.26. Cf. Edwards, “Geography and Illustration,” 101f.; Peter Barber, “Die Evesham-Weltkarte von 1392: Eine mittelalterliche Weltkarte im College of Arms in London; Von der Universalität zum Anglozentrismus,” *Cartographica Helvetica* 9 (1994): 17–22 at 17; Barber, “The Evesham World Map: A Late Medieval English View of God and the World,” *Imago Mundi* 47 (1995): 13–33 at 15; Edson, *Mapping Time and Space*, 128.

50 Edwards, “Geography and Illustration,” 97, notes 9–12.

where the places explained in the text were. It could also give them a clearer idea of the synchronicity of the geographic structure of the *orbis*, presented in linear order in the chronicle. The *Polychronicon* describes the structure of the world, followed by the demographic and climatic conditions on earth as well as the two large bodies of water known at the time, the Mediterranean and the ocean. Lastly, beginning with Paradise in the east, it describes the individual regions and countries, continent by continent. Despite Ranulf's fondness for anecdotes, the antipodes were (following Augustine's lead) dismissed as grotesque beings, not accepted as part of God's creation. As a result, they were reduced to a few deformed figures at the margins of the world.⁵¹ Asia and Africa were dealt with succinctly in ten chapters.⁵² In contrast, forty of the sixty chapters of the first book were reserved for the representation of Europe, extending from Greece to the British Isles.⁵³ Of these chapters, twenty-two were dedicated to England. As a result, the overall structure of the divine order had a somewhat Eurocentric, but above all Anglocentric slant.

There are currently around 135 verifiable Latin *Polychronicon* manuscripts from the fourteenth and fifteenth centuries, of which around twenty contain a map of the world. In the extant copies this is usually placed before or after the index, table of contents, or prologue.⁵⁴ So this visualization of the subsequent description of the earth is not really integrated into the presentation and (as research has shown) does not even always exactly reflect the text.⁵⁵ Its prominent

51 'Polychronicon' Ranulphi Higden, 2.2, 2:202–6. See 204 for mention of the antipodes: "Quod vero Antipodas quidam fabulantur existere, id est, homines a contraria parte mundi adversa pedibus nostris calcare vestigia, nulla ratione credibile est."

52 'Polychronicon' Ranulphi Higden, 1.11–18, 1:78–154 for Asia; *ibid.*, 1.19–20, 1:154–68 for Africa.

53 'Polychronicon' Ranulphi Higden, 1.22–60, 1:168–430 and 2:1–174 for Europe; see Kathy Lavezzo, *Angels on the Edge of the World: Geography, Literature, and English Community, 1000–1534* (Ithaca, NY: Cornell University Press, 2006), 71–92 on the approach of Higden to create an own myth of an English identity from global geography.

54 Taylor, *The "Universal Chronicle,"* 152–59, mentions 118 manuscripts; cf. Edwards, "Notes," 2–3; Edwards, "Geography and Illustration," 96 and 107, who gives details of fourteen additional manuscripts. Von den Brincken, *Fines Terrae*, 112f., cites the figure of 118 manuscripts; Arentzen, *Imago mundi cartographica*, 57, assumes that there are 185 extant manuscripts. For the place of the world maps within the individual manuscripts, see the short descriptions below.

55 Cf. Petra Ueberholz, "Requiritur autem mapa duplex': Die Darstellung Afrikas in der angelsächsischen Geschichtsschreibung und Kartographie des Mittelalters," in *Aus Überrest und Tradition: Festschrift für Anna-Dorothee von den Brincken*, ed. Peter Engel (Lauf an der Pegnitz: Europaforum, 1999), 54–72. Ueberholz uses the example of Africa to analyze the relationship between the text of the *Polychronicon* and the entries in the large Higden map (London, British Library, Royal Ms. 14. C. IX, fols. 1v–2r), and is able to show that the chronicle and the world map

position, however, in combination with the overview of the work at the beginning, shows that the map of the world was intended to help contemporary readers to imagine the complex material visually and follow the explanations more easily. Nonetheless, it is likely that not all the maps planned in the mass production of Higden manuscripts were actually executed. Konrad Miller, for example, noted a double page left blank at the beginning of an Oxford codex, and another blank page in a London codex, and deduced that the relevant drawings were meant to be added later.⁵⁶ Similar observations can be made about many other manuscripts; indeed the artists tasked with drawing the maps evidently did not even finish all those they had started.⁵⁷

The outer form and design of the Higden maps make it possible to distinguish three basic types at a glance: the oval, the almond or mandorla, and the circle. The following sections will first classify and then analyze the examples of these types in terms of their formal connection.

We can take stock of the extant manuscripts using the lists compiled by Konrad Miller and Raleigh A. Skelton.⁵⁸ These were further systematized by David Woodward, who also created the first stemma and timeline for these maps.⁵⁹ The first group consists of eight oval maps, colored or at least intended

are only partially related to each other. On the other hand, the pictorial representation has some similarities with other English world maps, suggesting an independent cartographic tradition.

56 *Mappaemundi*, ed. Miller, 3:97, no. 5; Taylor, *The "Universal Chronicle,"* 98.

57 London, Lambeth Palace Library, Ms. 112, fol. 2v (273 × 193 mm; fourteenth century). Montague Rhodes James, *A Descriptive Catalogue of the Manuscripts in the Library of Lambeth Palace* (Cambridge: Cambridge University Press, 1932), 187f., gives a description of the manuscript and the map: "A very rough oval map of the world in pencil without any names fills most of 2 b."

58 *Mappaemundi*, ed. Miller, 3:94–109, contains the transcriptions, but mentions only eight codices and nine maps (95); Skelton, "Higden," 149–60, gives a chronological list of twenty-one maps. Skelton (152f.) attempted a classification based on four types: firstly oval and close to the original (large London map), secondly oval and circular (he included the circular map in Paris, Bibliothèque nationale de France, Ms. Lat. 4126, which is not part of the Higden corpus, but did not include the T-O diagram in Tokyo), thirdly the transition to the almond shape or *vesica piscis* (Edinburgh map), and fourthly almond-shaped or *vesica piscis*. Skelton did not include the oval map in Lambeth Palace in London, the circular Harley map in London, or the two no longer extant maps in Glasgow and Lincoln because of missing nomenclature or a lack of knowledge.

59 Woodward, "Medieval *Mappaemundi*," 313 and 364f., distinguishes the oval, circular, and almond-shaped maps, also assigning a special role to the truncated mandorla shape of the Edinburgh map. Edwards, "Geography and Illustration," 100, bases his classification of world maps on Michael C. Andrews, "The Study and Classification of Medieval Mappae Mundi," *Archaeologia or Miscellaneous Tracts Relating to Antiquity* 75 (1924–1925): 61–76. See also von den Brincken, *Fines Terrae*, 112f.; Taylor, *The "Universal Chronicle,"* 63–68; Edson, *Mapping Time and Space*, 126–31, for important information.

to be colored, which have been known to scholars for many years.⁶⁰ They correspond to the classic type of elaborately designed Higden maps of the fourteenth century, a tradition beginning soon after 1342, probably with the second redaction of the *Polychronicon* (that is, during the author's lifetime). Within this corpus there are two anomalies. In one of the oldest manuscripts, originally from Ramsey and now in London, two maps of the ecumene of unequal size and different content are combined. The first is a double-page sketch of the world filled with long narrative legends (Fig. 5.9), which occupies a singular position in the Higden tradition. The second, on the right-hand verso of the first, is a smaller, one-page map, whose modified texts emphasize the toponymy of cities and countries (Fig. 5.10). The other oddity is the slightly pointed Edinburgh map (Fig. 5.14), similar to the small oval maps in color and arrangement, which Skelton and Woodward see as a separate type marking the transition from the oval to the almond form.

The second group is based on the pointed almond shape, often referred to as *vesica piscis*.⁶¹ The oldest example of this widespread, subtly colored type appeared soon after 1360, so probably in a later redaction of the *Polychronicon*, and possibly during the author's lifetime. Since the publication of Skelton and Woodward's compilation, an additional copy has been found in the cathedral library of Chester, and we can currently assume that there are nine extant copies.

There have been several problematic attributions in the third group, the circular variations, of which only a small number have been preserved. Since the schematic T-O form was very widespread in the Middle Ages, the attributions to

60 London, British Library, Royal Ms. 14. C. IX, fols. 1v–2r (465 × 342 mm; after 1342; Benedictine abbey in Ramsey); London, British Library, Royal Ms. 14. C. IX, fol. 2v (285 × 210 mm; after 1342; Benedictine abbey in Ramsey); San Marino, CA, The Huntington Library, HM 132, fol. 4v (160 × 203 mm; after 1342; Benedictine abbey in St. Werburgh, Chester); Oxford, Bodleian Library, Tanner 170 (S.C. 9996), fol. 15v (326 × 212 mm; after 1347; priory of the Augustinian Canons Regular, Gloucester); Paris, Bibliothèque nationale de France, Ms. Lat. 4922, fol. 2r (277 × 200 mm; after 1367; Cathedral of Norwich); Edinburgh, National Library of Scotland, Advocats Ms. 33.4.12, fol. 13v (235 × 198 mm; fourteenth century); Oxford, Corpus Christi College, Ms. 89, fol. 13v (203 × 293 mm; fourteenth century; Benedictine abbey of St. Peter, Gloucester); London, Lambeth Palace Library, Ms. 112, fol. 2v (273 × 193 mm; fourteenth century).

61 Warminster, Longleat House, Library of the Marquess of Bath, Ms. 50, fol. 7v (344 × 220 mm; after 1360); Oxford, Magdalen College, Ms. 190, fol. 1v (295 × 180 mm; after 1376); London, British Library, Royal Ms. 14. C. XII, fol. 9v (355 × 210 mm; after 1377; Hospital of St. Thomas of Acre in Cheapside); London, British Library, Add. Ms. 10104, fol. 8v (363 × 227 mm; fourteenth century, after 1377); Cambridge, Corpus Christi College, Ms. 21, fol. 9v (367 × 238 mm; fourteenth century; Hospital of St. John the Evangelist in Cambridge); Winchester, Winchester College, Ms. 15, fol. 14r (336 × 203 mm; 1400); Oxford, Bodleian Library, Digby 196 (S.C. 1797), fol. 195v (291 × 210 mm; early fifteenth century); Vatican City, Biblioteca Apostolica Vaticana Reg. lat. 731 (410 × 285 mm; fifteenth century); Chester, Cathedral Ms. 2, fol. 6r (mid-fifteenth century).



Fig. 5.9: Oval world map based on Ranulf Higden, after 1342; London, British Library, Royal Ms. 14. C. IX, fols. 1v–2r. © The British Library Board.



Fig. 5.10: Oval world map based on Ranulf Higden, after 1342; London, British Library, Royal Ms. 14. C. IX, fol. 2v. © The British Library Board.

the Higden family have not always been justified. At present we have a total of three round ecumene maps in *Polychronicon* manuscripts, two one-page sketches which have an established place in the tradition, and a newly discovered simple marginal drawing, all of which were created after the author's death.⁶² It should be noted that the manuscripts in Glasgow⁶³ and Lincoln,⁶⁴ which have frequently been mentioned in the past, do not contain or no longer contain the expected round sketch of the world from the fifteenth century. Another point worth noting is that the round red-ink map of heaven and earth from the second half of the fourteenth century, found in a Parisian anthology, is only loosely linked with an excerpt from the *Polychronicon*.⁶⁵ Furthermore, we can see that this drawing does not match the usual Higden cosmos. The center is dominated by a kingdom of the Jews in Jerusalem; a number of names that diverge from the Higden maps are inscribed on the globe in black ink; and concentric red circles with numerous

62 Cambridge, University Library Cambridge, Add. Ms. 3077, fol. 11r (170 × 175 mm; 1367; scribe: Wittus de Domington); Tokyo, Takamiya Ms. 43, fol. 2r (marginal sketch; collection of Prof. Toshiyuki Takamiya); London, British Library, Harl. 3673, fol. 84r (diameter 140 mm; fifteenth century; dated 1466).

63 Glasgow, University Library, Ms. Hunter 72 (T. 3.10) does not contain a simple fifteenth-century T-O diagram, contrary to the information given in Destombes, *Mappemondes*, 160, no. 47.19, in Edwards, "Geography and Illustration," 110, note 39, and in Woodward, "Medieval *Mappaemundi*," 365. See the entry in the online manuscript catalogue at <http://special.lib.gla.ac.uk/manuscripts/search/detaild.cfm?DID=32508>. I would like to thank Niki Pollock, Chief Library Assistant, Special Collections Dept., for her helpful emails on May 29 and 30, 2006.

64 Lincoln, Cathedral Library, Ms. A 4.17 does not contain a circular fifteenth-century map, contrary to Destombes, *Mappemondes*, 160, no. 47.20 and Woodward, "Medieval *Mappaemundi*," 365. I would like to thank the librarian, Nicholas Bennett, for his helpful email on June 1, 2006.

65 See Paris, Bibliothèque nationale de France, Lat. 4126, fol. 1v for the map (diameter 170 mm; fourteenth century) and fols. 120v–133r for the *Polychronicon* excerpt. Map reproduction in Manuel Francisco de Barros y Sousa, Vicomte de Santarem, *Atlas composé de mappemondes, de portolans et de cartes hydrographiques et historiques depuis le VIe jusqu'au XVIIe siècle* (Paris: 1842, reprint 1849), pl. 19, no. 2 (facsimile with explanatory texts by Helen Wallis and A. H. Sijmons, Amsterdam: Rudolf Muller, 1985); Youssouf Kamal, *Monumenta cartographica Africa et Aegypti*, 5 vols. (Cairo: 1926–1951), with 16 fascicles, here 4: fasc. 1, f. 1381. For descriptions of the manuscript see François Avril and Patricia Danz Stirnemann, *Manuscripts enluminés d'origine insulaire VIIe–XXe siècle* (Paris: Bibliothèque nationale de France, 1987), 163f., no. 204 and pl. 87; John Block Friedmann, *Northern English Books, Owners and Makers in the Late Middle Ages* (Syracuse, NY: Syracuse University Press, 1995), 40–51. On p. 41 Friedmann suggests that the codex was produced in York around 1375. Cf. Destombes, *Mappemondes*, 159, no. 47.14; Michael Livingston, "More Vinland Maps and Texts: Discovering the New World in Higden's *Polychronicon*," *Journal of Medieval History* 30 (2004): 25–44; see 40–41 for a description of the map.

green planets have been added on the outside, hinting at astronomical knowledge. To compensate for these three losses to the corpus, a simple three-part sketch of the ecumene has been discovered in the private Takamiya collection in Tokyo.⁶⁶ The small T-O diagram, reduced to the naming of the three continents, appears as a marginal drawing in the *Polychronicon*. It can therefore be included in the corpus, even if its position in the margin and its unadorned simplicity mean that it performs a totally different function from all the one-page Higden maps.

An analysis must begin with these three strands of the tradition, classified according to their outer form.⁶⁷ Despite many overlaps in content and cross-connections, they differ in their representation of space, graphic apparatus, and selection of information. Since all these choices also had an impact on the representation of Europe, we will now describe the three categories in more detail and illustrate them with examples.

The Oval

All eight oval maps are from the fourteenth century (Figs. 5.9–5.14); the three earliest were produced soon after 1342. The author himself might have added this oldest model, with the most elaborate decoration, to the revised version of his work after 1340, especially as there are no extant world maps in earlier copies. Paradise, usually represented figuratively, breaks the circle of the ocean in the east, and positions the world within salvation history. Europe has a very visible border in the broad Mediterranean, filled with numerous islands, transitioning into the Black Sea and its gulf, the Sea of Asov, as it curves northward. This leaves only a narrow land connection to Asia, where the Maeotian marshes and the Don/Tanais form natural obstacles. Europe comprises a good quarter of the world, while Africa is compressed to a narrow strip by the wide Mediterranean. Asia fills the upper half of the map, dominated (as in many English maps) by a boldly colored Red Sea and a prominent Jerusalem. All three continents are fragmented by the boundary lines around the individual regions.

⁶⁶ Tokyo, Takamiya Ms. 43, fol. 2r (collection of Prof. Toshiyuki Takamiya); cf. Edwards, “Geography and Illustration,” 101 and 104, with Fig. 4; Kathleen L. Scott, “The Illustrations of the Takamiya Polychronicon,” in *The Medieval Book and a Modern Collector: Essays in Honour of Toshiyuki Takamiya*, ed. Takami Matsuda, Richard A. Linenthal and John Scahill (Woodbridge: D. S. Brewer, 2004), 161–78 at 161f. and 165.

⁶⁷ Scott, “The Illustrations of the Takamiya Polychronicon,” 162, note 7, refers to the illuminated *Polychronicon* codex of 1387 in Aberdeen, University Library, Ms. 21, fol. 9r. This, however, does not contain a map.

The double-page design produced in Ramsey Abbey (Fig. 5.9) differs from all the other ovals in its unique nomenclature.⁶⁸ Distinctive features are the long legends and the conspicuous symbols for nine cities in continental Europe (including Rome, Capua, Santiago de Compostela, and Paris) and fourteen cities on the British island, which has a red background. Visual emphasis is also given to the Pillars of Hercules and the wind blowers in the encircling ocean. The focus on Anglia is unique within this series of maps, which is otherwise more international in orientation. Another noteworthy feature of this large Higden map is that the Tanais and the Maeotian marshes are not the only obstacles between Europe and Asia. On the western side of the Don, the crossing is also impeded by the barbarians of Scythia and Prester John, the king of the northern Tatars. On the eastern side, the Asian border is protected by the insurmountable Riphean Mountains, but also by various terrifying peoples including the Amazons, who are said to remove their right breast to engage in a masculine style of fighting.

Europe is not only divided into provinces, but is also enriched with explanations. For example, the Saracens supposedly inhabit the eastern part of the six provinces of the Iberian Peninsula, the Christians the western part. Francia encompasses all the peoples between Anglia, Germania, the Alps, and the Mediterranean. Italy's provinces include Etruria, in which Rome, the city of Peter (that is, of the Popes), is to be found, and Apulia, with the port of Brindisi, starting point for the voyage to the Holy Land. The island of Sardinia is allegedly free of snakes, but produces a herb called *apium*, which – consumed as a drink – makes people laugh themselves to death. North of the Alps, Germania not only encompasses

68 London, British Library, Royal Ms. 14. C. IX, fols. 1v–2r (465 × 320 mm; after 1342). Description and illustration e.g. in Manuel Francisco de Barros y Sousa, Vicomte de Santarém, *Essai sur l'histoire de la cosmographie et de la cartographie pendant le Moyen Age et sur les progrès de la géographie après les grandes découvertes du XVe siècle*, 3 vols. (Paris: Maulde et Renou, 1849–1852), esp. 1:143–47, and 3:1–94, 134–39, here 3:1–60 and atlas; Joachim Lelewel, *Géographie du moyen-âge*, vol. 5, *Epilogue* (Brussels: V. et J. Pilliet, 1857, reprint Amsterdam: Meridian, 1966), 145–61; *Mappaemundi*, ed. Miller, 3:95f., and 2:pl. 15; Woodward, “Medieval *Mappaemundi*,” 352, Fig. 18.67; Paul D. A. Harvey, *Medieval Maps* (London: British Library, 1991), 34, pl. 26; Ueberholz, “Requiritur autem mapa duplex,” 54–72; Edson, *Mapping Time and Space*, 128f.; Alessandro Scafi, *Mapping Paradise: A History of Heaven on Earth* (London: British Library Publishing Division, 2006), 134–36, Fig. 6.3a. See also Destombes, *Mappemondes*, 153f., no. 47.1; Taylor, *The “Universal Chronicle,”* 64–67, with a description; Ivan Hallberg, *L'Extrême-Orient dans la littérature et la cartographie de l'Occident des XIIIe, XIVe et XVe siècle: Etudes sur l'histoire de la géographie* (Göteborg: Wald. Zachrissons Boktryckeri A.-B., 1906), with a comparative analysis of the nomenclature in Asia; Ulrich Fischer, “InnenWELTEN – zur Konstruktion von Raum in ausgewählten mittelalterlichen Weltkarten,” in *Innenwelten vom Mittelalter zur Moderne: Interiorität in Literatur, Bild und Psychologiegeschichte*, ed. Claudia Olk and Anne-Julia Zwielerlein (Trier: Wissenschaftlicher Verlag Trier, 2002), 21–38 at 33.

Alemannia, but also brings forth such a large population that there is insufficient food to feed it. The idea is expressed in a play on words between *Germania* and *germinat*.⁶⁹

These and other sentences are not based solely on the *Polychronicon*. Often they also derive from older models, including Isidore's *Etymologies*, Paul the Deacon's *Historia Langobardorum*,⁷⁰ and Petrus Comestor's *Historia scholastica*. We cannot assume that the map directly reproduces the text of Higden's chronicle. The cartographic selection is determined by the authority of early medieval writings, so there are many similarities with the large world maps of Hereford⁷¹ and Ebstorf,⁷² and with the Psalter map in London.⁷³ In short, this large map deliberately provides selected encyclopedic information about the characteristics and distribution of the peoples, in order to explain and illustrate the division of Europe in historical and etymological terms.

The smaller ovals, in contrast, concentrate on recording the territorial division of the world. They show the borders between countries, usually drawn in red ink, and short toponyms in black ink, without explanations. Europe thus becomes a crowded field of finely demarcated regions. This segmentation is already apparent in the smaller Ramsey map (Fig. 5.10).⁷⁴ The land sections are

⁶⁹ Texts in *Mappaemundi*, ed. Miller, 3:99–101 and 105; cf. Edson, *Mapping Time and Space*, 128f.

⁷⁰ Paulus Diaconus, *Historia Langobardorum*, ed. Georg Waitz (MGH SS rerum Langobardicarum et Italicarum) (Hanover: Impensis Bibliopolii Hahniani, 1878, reprint 1988), 12–187. See 1.15 for mention of the Amazons, whom he calls into question without denying their existence altogether.

⁷¹ Cf. Scott D. Westrem, *The Hereford Map: A Transcription and Translation of the Legends with Commentary* (Terrarum Orbis I) (Turnhout: Brepols, 2001).

⁷² Cf. *Die Ebstorfer Weltkarte: Kommentierte Neuauflage in zwei Bänden*, ed. Hartmut Kugler, 2 vols. (Berlin: Akademie Verlag, 2007).

⁷³ Cf. *Mappaemundi*, ed. Miller, 3:37–43.

⁷⁴ London, British Library, Royal Ms. 14. C. IX, fol. 2v (285 × 210 mm; after 1342). The two maps at the beginning are followed by an alphabetical index (fols. 3–8) and the *Polychronicon* (from fol. 9 onwards). Reproduction: Santarem, *Atlas*, pl. VII, 2 and pl. XV; Edme Francois Jomard, *Les monuments de la géographie, ou recueil d'anciennes cartes européennes et orientales, publiées en fac-simile de la grandeur des originaux* (Paris: Duprat, 1842–1862), pl. XIII, Fig. 5; Joachim Lelewel, *Atlas* (Brussels: V. et J. Pilliet, 1849), pl. 25, no. 70; Lelewel, *Géographie du moyen-âge*, 2: 14–15; Santarem, *Essai sur l'histoire*, 3:60–81; *Mappaemundi*, ed. Miller, 2:pl. 14, and 3:96; Konrad Kretschmer, *Die historischen Karten zur Entdeckung Amerikas* (first published 1892, revised reprint Frankfurt am Main: Umschau, 1991), Fig. III 4 with reconstruction; Kamal, *Monumenta cartographica*, 4:fasc. 2 (Cairo: 1937), f. 1265–1266; Leo Bagrow, *Die Geschichte der Kartographie* (Berlin: Safari-Verlag, 1951), pl. 20; Bagrow, *History of Cartography*, revised and enlarged by Raleigh A. Skelton (London: C.A. Watts & Co., 1964, reprint Chicago: Precedent, 1985), 71f., pl. XXI; Bagrow and Skelton, *Meister der Kartographie*, 4th revised and expanded ed. (Berlin: Safari-Verlag, 1973), pl. XXI; Destombes, *Mappemondes*, 154, no. 47.2 and Fig. XIV; Edson, *Mapping Time and Space*, 127–30. Cf. Taylor, *The "Universal Chronicle"*, 66f.

uniformly drawn in black and darkened vermilion on a light background, while all the waterways are painted in a dominant green. The territories in Europe are very densely packed. The Mediterranean countries predominate, along with the different subdivisions of Germania. Along the Mediterranean coast, the broader term Hispania is followed by the kingdoms of Navarre and Aragon, which underwent expansion in the Middle Ages. Unusually, the principality of Catalonia is also included. Anglia is only one of several tiny islands in the encircling ocean. The only exceptions to this pattern are two graphically highlighted cities, Paris and Rome, and two rivers, the Danube and the Rhine. These are geographical references that are described with particular intensity in the *Polychronicon*. It seems as though the cartographer wanted to use the unadorned design to convey a supposedly objective and carefully updated image of Europe, probably based on early medieval T-O maps showing lists of peoples.

All six other oval maps more or less conform to this type. As suggested by the image of Paradise with Adam and Eve flanking the Tree of Knowledge, Europe is part of God's creation, while Anglia is one of many small islands in the encircling ocean. In line with the text, none of the forms envisages a fourth continent inhabited by antipodes. In the far south, however, eastern and western Ethiopia almost form a separate landmass, isolated by the Nile.

Only one of these world maps (Fig. 5.11) leads the viewer to the immediate vicinity of the author. This manuscript, now in San Marino, was created after 1340 in the Benedictine monastery of St. Werburgh in Chester.⁷⁵ Research has concluded that this is an autograph, probably reflecting the author's personal revisions of the first version of 1327. Updates were then added to this "final version" until 1352. This map must have been created and inserted during the work on the manuscript between 1340 and around 1350, and could therefore have been commissioned by Ranulf Higden himself. The coloring and design match the small Ramsey oval, with some variations: the green has become blue, the red is brighter, and Paris and Catalonia are missing. Thus the presence of Paris in subsequent maps could be an indication that they are descended from the Ramsey version, not from the version in the autograph. This applies, for example, to the not-yet illuminated pencil sketch in Lambeth Palace in London (Fig. 5.12).⁷⁶ It

⁷⁵ San Marino, CA, The Huntington Library, HM 132, fol. 4v (160 × 203 mm; after 1340/42). Reproduction in Destombes, *Mappemondes*, 154f., no. 47.3 and Fig. XVa; Woodward, "Medieval *Mappaemundi*," 312 and pl. 15. Various scholars have deemed this to be an autograph – e.g. V. H. Galbraith, "An Autograph MS of Ranulph Higden's *Polychronicon*," *The Huntington Library Quarterly* 23 (1959): 1–18; Edwards, "Geography and Illustration," 96; Taylor, *The "Universal Chronicle*," 100; Edson, *Mapping Time and Space*, 128.

⁷⁶ London, Lambeth Palace Library, Ms. 112, fol. 2v; Destombes, *Mappemondes*, 159, no. 47.15.



Fig. 5.11: Oval world map based on Ranulf Higden, after 1342; San Marino, CA, The Huntington Library, HM 132, fol. 4v.

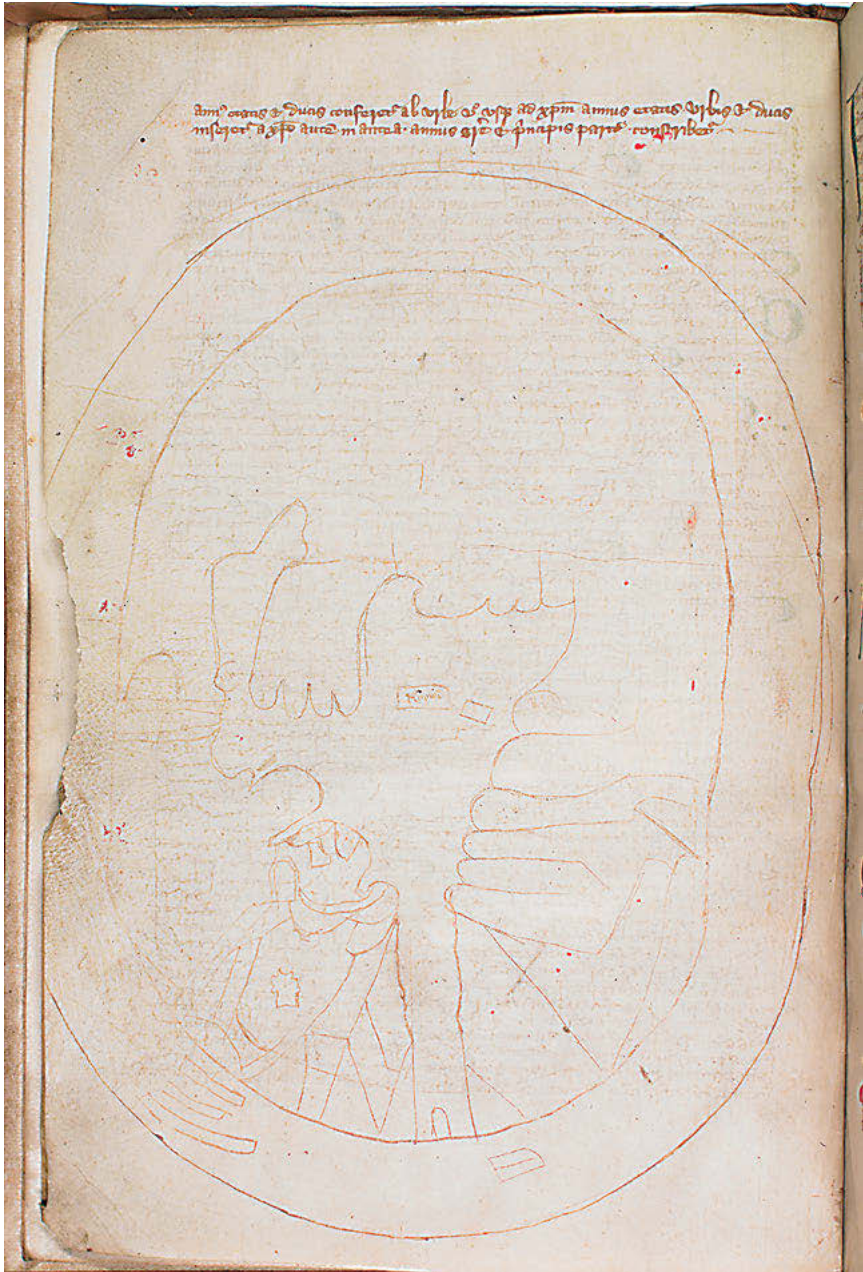


Fig. 5.12: Oval world map based on Ranulf Higden, fourteenth century; London, Lambeth Palace Library, Ms. 112, fol. 2v.

only shows the most important outlines, without any lettering, but nonetheless contains embryonic vignettes of Rome and Paris.

A slightly more elaborate version of this drawing is found in the world map produced after 1347 for the Augustine priory in Gloucester, and now located in the Bodleian Library in Oxford (Fig. 5.13).⁷⁷ The seas cover a larger area and are colored in a bold blue, giving Europe distinct borders on all sides – since even the Maeotian marshes are colored in. This is only relativized by the inclusion (as usual) of numerous offshore islands, eleven of them in the North Sea and roughly the same number in the Mediterranean. This hints at an expansion of Europe. The triad of rivers arising in the Alps, the Rhône, Rhine, and Danube, appears to provide a diagonal counterweight to the Red Sea. Three individual city emblems refer to the Church of the Holy Sepulcher in Jerusalem, the Roman pantheon in Italia, and a larger complex of buildings in Francia, possibly Saint-Denis, Reims, and Paris. Apart from Olympus, which is highlighted in nearly all the Higden maps, the distribution of the regions in Europe follows the traditional pattern.

Two other sketches show a very similar structure. The first is an oval with an extensive nomenclature, probably produced in the Cathedral of Norwich after 1367, and now in Paris.⁷⁸ The second has its origins in the important Benedictine abbey of St. Peter in Gloucester, and is now at Corpus Christi College in Oxford.⁷⁹ The second is considered a copy of the first, despite its discolored brown waterways (at least as it appears today). Here, however, Anglia has been redrawn and, as in the large Ramsey map, accentuated as a large, almond-

⁷⁷ Oxford, Bodleian Library, Tanner 170 (S.C. 9996), fol. 15v (326 × 212 mm; fourteenth century). Cf. Destombes, *Mappemondes*, 155, no. 47.4; Evelyn Edson, Emilie Savage-Smith and Anna-Dorothee von den Brincken, *Der mittelalterliche Kosmos: Karten der christlichen und islamischen Welt*, trans. Thomas Ganschow (Darmstadt: Primus Verlag, 2005), 70–73 with Figs. 51–52.

⁷⁸ Paris, Bibliothèque nationale de France, Ms. Lat. 4922, fol. 2r (277 × 200 mm; after 1367). Reproduction: *Mappaemundi*, ed. Miller, 3:96, Fig. 34; Kamal, *Monumenta cartographica*, 4: fasc. 2, f. 1268; Avril and Danz Stirnemann, *Manuscripts Enluminés*, pl. 89 and pp. 165f., no. 207, with a description of the manuscript; cf. Destombes, *Mappemondes*, 156, no. 47.7; Neil R. Ker, “Medieval Manuscripts from Norwich Cathedral Priory,” *Transactions of the Cambridge Bibliographical Society* 1 (1949): 1–28, esp. 19; Dennison, “Monastic or Secular,” 228f. and passim; Dennison and Rogers, “A Medieval Best-Seller,” 89.

⁷⁹ Oxford, Corpus Christi College, Ms. 89, fol. 13v (203 × 293 mm; fourteenth century). Reproduction: *Mappaemundi*, ed. Miller, 3:97–98, Fig. 36; Kamal, *Monumenta cartographica*, 4: fasc. 2, f. 1267; Jonathan James Graham Alexander and Elżbieta Temple, *Illuminated Manuscripts in Oxford College Libraries, the University Archives and the Taylor Institution* (Oxford: Oxford University Press, 1985), no. 337, pl. 23. Cf. Destombes, *Mappemondes*, 158, no. 47.13. The colored map is bound into the manuscript immediately before the beginning of the *Historia polycronica* on fol. 14r (fols. 1–4 are blank, fol. 6 contains the table of contents, then comes a quarter page with the five Ages of Man, and fols. 12–13r are blank).



Fig. 5.13: Oval world map based on Ranulf Higden, after 1347; Oxford, Bodleian Library, Tanner 170 (S.C. 9996), fol. 15v. Creative Commons 4.0.

shaped island. So within the historiographic environment of the *Polychronicon*, the cartographers were able to adapt the size and position of items to fit the spatial requirements. They could also omit one or two elements and add the occasional new one. Yet they seldom dared to highlight their home region, Anglia, in a way that would give it a special status within Europe. We can therefore assume that this emphasis was intended as a political statement.

Europe is presented in greater detail and Anglia expanded to include fifty place-names on the Evesham map, produced on a 55 × 99 cm parchment around 1390 to 1392. Although this decorative large-format map has been preserved without a *Polychronicon*, Peter Barber has classified it as part of the Higden tradition.⁸⁰ We know that the first part of a *Polychronicon* continuation, chronicling the life and reign of Richard II, was created in the wealthy Benedictine abbey of Evesham between 1390 and 1392.⁸¹ The world map, probably produced in this context, is a declaration of the power of the English crown, and its expansion to the European continent. The map incorporates many new places related to English trade and continental policy. These include Calais, which had only been in English possession since 1347, and most notably the county of Artois, where Robert of Artois had represented English interests since he was banished from France in 1332. In view of the English claims to the French throne, however, other locations must also be seen as symbolizing political ambitions: Saint-Denis, the burial site of the French kings, and Reims, their place of coronation. A later revision by another hand (probably before 1418) not only accentuated the battlements of Jerusalem, but also added strategically important sites of the English cloth and wool trade on the continent. These included Rouen in Normandy, conquered by the English in 1419, the greatly expanded port of Bordeaux, capital of English Aquitaine, and the allied town of Bruges in the economically important region of Flanders. The strength of these economic interests is underlined by the addition of further points crucial for trade such as Cologne and the Gotthard Pass, which had increasingly become the main route south since 1220.⁸²

Thus the new cartographic ideas seem to have been shaped by the desire to demonstrate power during the Hundred Years' War and by the ensuing surge of

80 Barber, "Die Evesham-Weltkarte," 17–22; Barber, "The Evesham World Map," 20, with a schematic representation. Cf. Scafi, *Mapping Paradise*, 136f. with a reconstruction in Fig. 6. 5a–b.

81 *Historia Vitae et Regni Ricardi Secundi*, ed. George B. Stow Jr. (Philadelphia: University of Pennsylvania Press, 1977).

82 Barber, "Die Evesham-Weltkarte," 19f.; Barber, "The Evesham World Map," 24; Harley, "Maps, Knowledge, and Power," 280–83; Fischer, "InnenWELTEN," 34.



Fig. 5.14: Oval world map based on Ranulf Higden, fourteenth century; Edinburgh, National Library of Scotland, Advokats Ms. 33.4.12, fol. 13v.

English patriotism, which completely reversed Higden's aspirations to universality. The transfer of the design to a large wall map was an opportunity to ostentatiously document this change, already apparent in the large Ramsey map. To achieve this, the number of toponyms (roughly one hundred in the small Ramsey map) was drastically increased, with a deliberate focus on England and France.

A key position in the transition from the oval to the mandorla has often been attributed to the somewhat smaller copy in Edinburgh (Fig. 5.14), which is supposedly flattened at the top and pointed at the bottom.⁸³ But since the representation of Paradise at the eastern end has simply not been executed, this claim by Skelton and Woodward about the upper area is not really convincing. In fact the oval comes to a fairly sharp point at both ends if we extend the lines of the world over the undrawn representation of Paradise in the east. Asia is substantially reduced in size, Europe expanded and less densely divided, so this is certainly not a more detailed representation. Apart from the absence of Paris (for which, however, sufficient space has been left blank), the only noteworthy feature is the not-unusual dominance of the two mountain ranges surrounded by water, the Alps and Olympus.

A precise analysis of the Higden ovals therefore allows us to detect different emphases in the depiction of Europe: the encyclopedically oriented large Ramsey map can be seen as an attempt to explain the characteristics of the peoples distributed over Europe and the world in historical and etymological terms. The smaller ovals present the world using nothing but black toponyms and red territorial borders, transforming Europe into a dense patchwork of regions. In contrast, a small number of maps offer evidence of a rising tide of English patriotism, reflecting the country's aspirations to political and economic power during the Hundred Years' War.

The Mandorla

The nine almond-shaped ecumene diagrams date from the period up to the mid-fifteenth century (Figs. 5.15–5.19). The oldest was produced soon after 1360, and may have come from a later redaction of the *Polychronicon*. The deliberately simple decorative apparatus of these maps draws attention to the mandorla, while the division of the world into continents and regions loses importance. The shape

⁸³ Edinburgh, National Library of Scotland, Adv. Ms. 33.4.12, fol. 13v (235 × 198 mm; fourteenth century). Reproduction: Jomard, *Monuments*, pl. XIII, Fig. 6; *Mappaemundi*, ed. Miller, 3:97, Fig. 35. Cf. Destombes, *Mappemondes*, 157, no. 47.11; Woodward, "Medieval *Mappaemundi*," 313 and 365.

could be a reference to the mandorla as an (ancient) Christian symbol of light,⁸⁴ perhaps as a reminder of God's protection of the world. This would not be incompatible with an interpretation in terms of salvation history: the world as Noah's Ark,⁸⁵ in which all peoples and species are peacefully gathered. Indeed, Hugh of Saint Victor had already emphasized the symbolic nature of the order of the world, as nourished by the divine light. Inside the double mandorla, symbolizing the all-encompassing encircling ocean (which has color added to it in some copies), the only thing that counts is the toponyms, with their carefully drawn initials. Apart from the line separating Paradise from the rest of the world, and the elegant contours of the Red Sea, border lines are virtually non-existent; the only hint of their presence is the transverse position of certain place-names.

In short, all the graphic elements refer to biblical salvation history. So although the precise double lines would have required the use of compasses, it seems unlikely that an English cartographer around 1360 would have remembered the projection method of Eratosthenes of Cyrene, adopted by Strabo, and that he would have perfected the geo-cartographical perimeter of the ellipse, a common endeavor in classical antiquity.⁸⁶ It is more plausible to link these maps with the lists of peoples found in early medieval T-O diagrams, though these simple lists of names were always arranged in linear order, in the direction of reading, within a circle.

The new technique of simply scattering toponyms in all directions within the almond-shaped ecumene conveys a similarly abstract image of the world. The graphic concept is unusual, but we do not know who made this far-reaching decision. Perhaps it was the author himself, though we have no evidence directly linking him to this strand of the tradition. Perhaps it was an editor of the work or of its continuation. It may even have been an innovative draftsman and scribe, who decided to dispense with all adornment in the quest for greater clarity. In any case this model had the advantage that there was no need to engage an illuminator. However, the reader would certainly have required prior knowledge of geography, and at the very least familiarity with the T-O model, to understand the drawing, identify the continents, and grasp the dimensions of Europe. For a reader with these prerequisites, the map is an invitation to rationally examine the description of the world.

84 Edwards, "Geography and Illustration," 101 and 111, notes 45–46.

85 Cf. Woodward, "Medieval *Mappaemundi*," 313 and 335.

86 Cf. Osvaldo Baldacci, "L'ecumene a mandorla," *Geografia: Rivista quadrimestrale di ricerca scientifica* 6 (1983): 132–38. The almond shape also appears in the Genoese world map of 1457; cf. Edward Luther Stevenson, *Genoese World Map 1457: Facsimile and Critical Text* (Publications of the Hispanic Society of America 83) (New York: DeVinne Press, 1912).

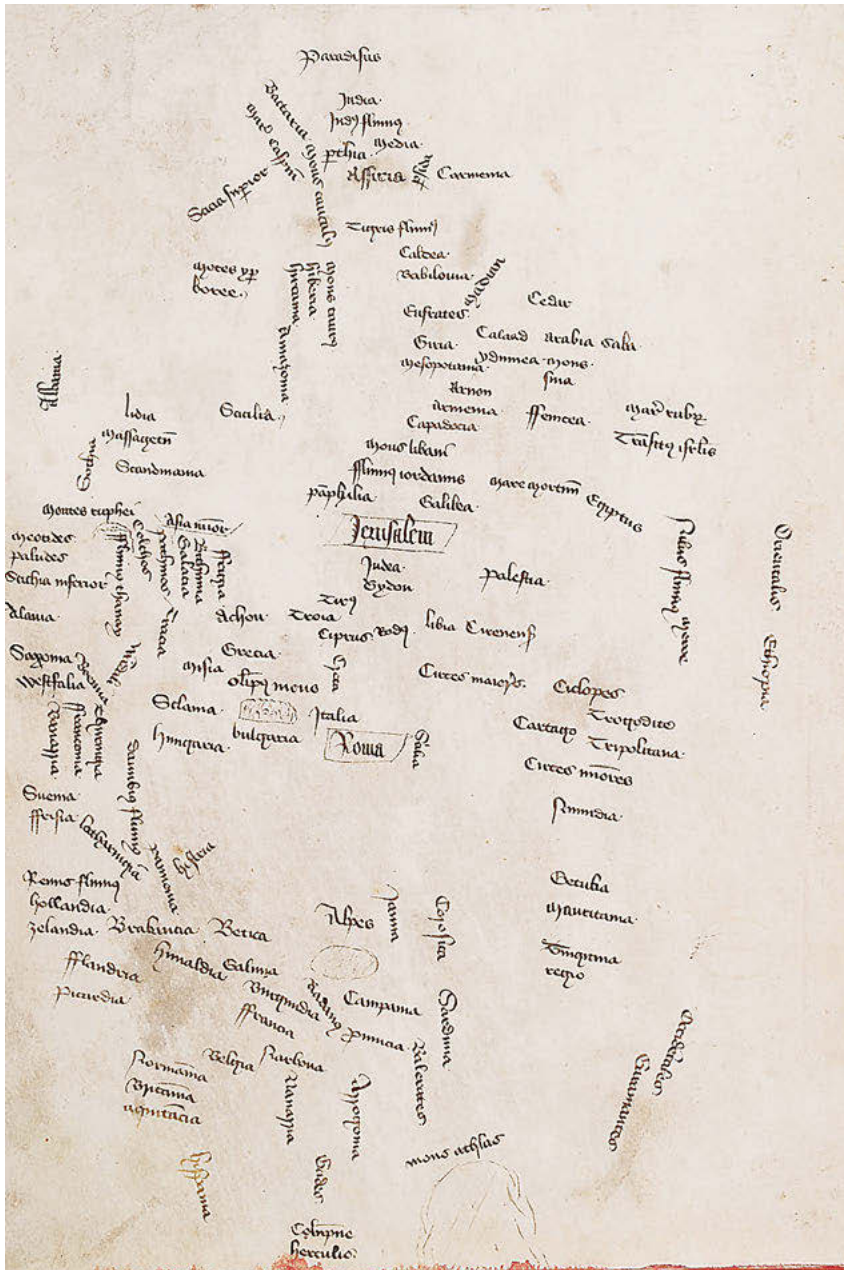


Fig. 5.16: Almond-shaped world map based on Ranulf Higden, after 1376; Oxford, Magdalen College, Ms. 190, fol. 1v. By permission of the President and Fellows of Magdalen College, Oxford.

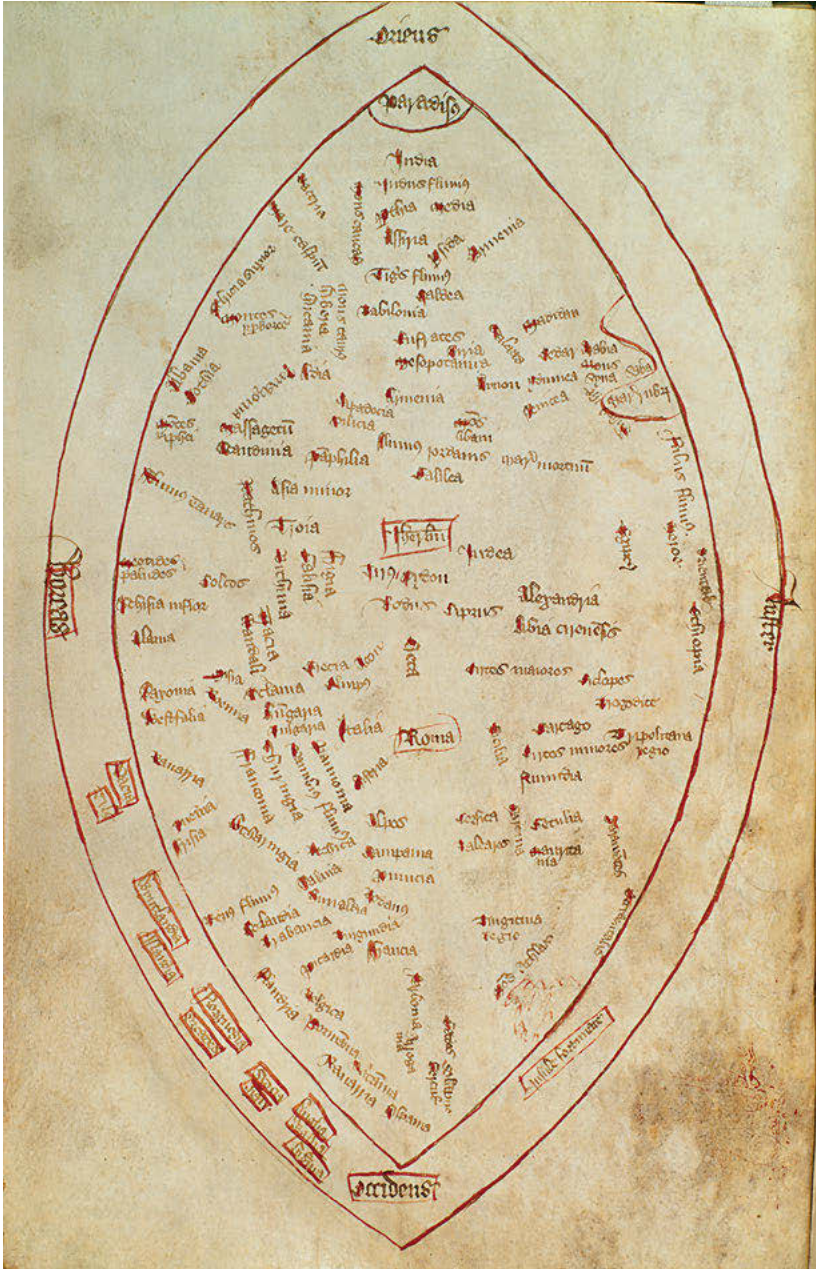


Fig. 5.17: Almond-shaped world map based on Ranulf Higden, after 1377; London, British Library, Royal Ms. 14. C. XII, fol. 9v. © The British Library Board.

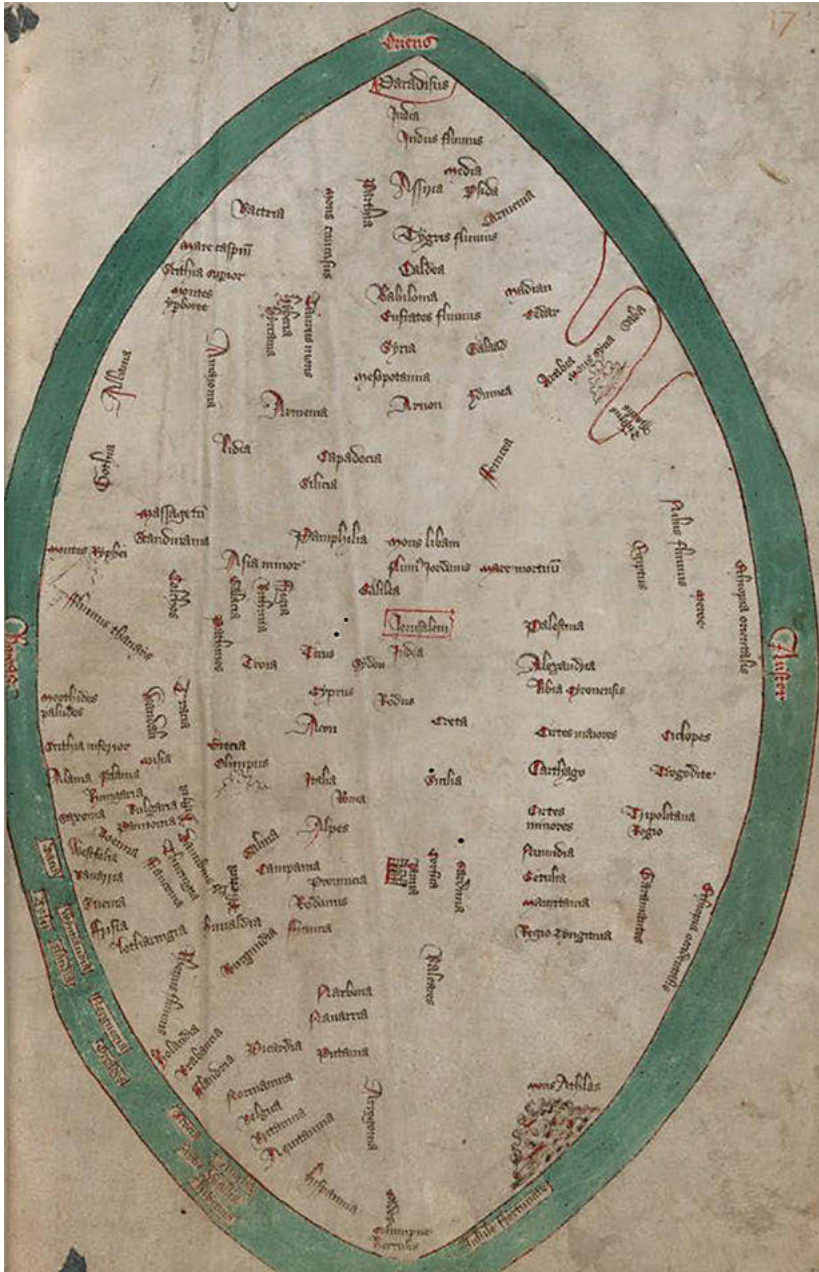


Fig. 5.18: Almond-shaped world map based on Ranulf Higden, fourteenth century; Cambridge, Corpus Christi College, Ms. 21, fol. 9v. Creative Commons 4.0.

The manuscript in Warminster (Fig. 5.15),⁸⁷ created after 1360, could be the prototype for all the subsequent mandorla-shaped representations of the ecumene in the *Polychronicon*. This design is followed by the unfinished schema of names in Magdalen College in Oxford (Fig. 5.16),⁸⁸ produced after 1376, in which the red lines are missing altogether, and by all the later maps from between 1377 and 1400. These include the black and red copy produced in the Hospital of St. Thomas of Acre in Cheapside (Fig. 5.17), with 150 mainly classical and biblical toponyms, now located in London;⁸⁹ the slightly larger diagram created at around the same time, with a deep green encircling ocean, also in London;⁹⁰ the manuscript from the Hospital of St. John the Evangelist in Corpus Christi College in Cambridge, still preserved in Cambridge (Fig. 5.18);⁹¹ and the copy in Winchester (Fig. 5.19).⁹² All these world maps show a world filled with toponyms, allowing only occasional deviations. The Don and the Maeotian

87 Warminster, Longleat House, Library of the Marquess of Bath, Ms. 50, fol. 7v (344 × 220 mm; after 1360); cf. Destombes, *Mappemondes*, 155, no. 47.5.

88 Oxford, Magdalen College, Ms. 190, fol. 1v (295 × 180 mm; after 1376); cf. Destombes, *Mappemondes*, 156, no. 47.8.

89 London, British Library, Royal Ms. 14. C. XII, fol. 9v (355 × 210 mm; after 1377). Reproduction: Santarem, *Atlas*, pl. XVI, no. 2; Jomard, *Monuments*, pl. XIII, Fig. 5; *Mappaemundi*, ed. Miller, 2: Fig. 16 and 3:97, with information about the structure of the manuscript (fols. 1–8 index, fol. 9r blank, fol. 10 beginning of the *Historia polycronica*); Kamal, *Monumenta cartographica*, 4: fasc. 2, f. 1269; Baldacci, “L’ecumene a mandorla,” 133; Woodward, “Medieval *Mappaemundi*,” 313 and 353, Figs. 18.22 and 18.69; Scafi, *Mapping Paradise*, 136. Cf. Destombes, *Mappemondes*, 156f., no. 47.9; Taylor, *The “Universal Chronicle,”* 66f.; Livingston, “More Vinland Maps,” 41.

90 London, British Library, Add. Ms. 10104, fol. 8v (363 × 227 mm; after 1377). Cf. Destombes, *Mappemondes*, 157, no. 47.10; Woodward, “Medieval *Mappaemundi*,” 325, note 197.

91 Cambridge, Corpus Christi College, Ms. 21, fol. 9v (367 × 238 mm; fourteenth century). Reproduction: *Mappaemundi*, ed. Miller, 2: pl. 16 and 3:97. From Archbishop Parker’s collection, according to Miller. Copy in London, British Library, Reg. 14 C. XII, fol. 9v with only slight divergence. Order: index, map, *Historia* to 1342, continuation by another hand up to 1377. Cf. Montague Rhodes James, *A Descriptive Catalogue of the Manuscripts in the Library of Corpus Christi College, Cambridge*, vol. 1 (Cambridge: Cambridge University Press, 1912), 41f.; Destombes, *Mappemondes*, 158, no. 47.12; Taylor, *The “Universal Chronicle,”* 66f.

92 Winchester, Winchester College, Ms. 15, fol. 14r (336 × 203 mm; 1400); I would like to thank Geoffrey Day for sending me the digital copy and describing the coloring by email on June 6, 2006. Miller (in *Mappaemundi*, 3:99) was unable to find the map at the time. For mention of the manuscript as a gift from George Greswold, Fellow of All Souls, around 1550, see Sears Reynolds Jayne, *Library Catalogues of the English Renaissance* (Berkeley: California University Press, 1956), 103; Edwards, “The Influence and Audience,” 116. Explanation and illustration in Walter Oakeshott, “Some Classical and Medieval Ideas in Renaissance Cosmography,” in Fritz Saxl, *1890–1948: A Volume of Memorial Essays from His Friends in England*, ed. Donald J. Gordon (London: Nelson, 1957), 245–60, esp. 247–49 and pl. 12; Destombes, *Mappemondes*, 159, no. 47.16; Taylor, *The “Universal Chronicle,”* 66.

marshes form the barrier between Europe and Asia, and the islands in the encircling ocean are reduced to eleven European islands, including Anglia, the Canary Islands, and the Roman Fortunate Isles or Isles of the Blessed (*Insule Fortunatae*). Three rivers – the Rhône, Rhine, and Danube – divide up the European continent, with Holland, Brabant, and Flanders among the place-names appearing to the west of the Rhine. Using the same toponyms as the oval maps, the cartographies of Warminster (Fig. 5.15), London (Fig. 5.17), Cambridge (Fig. 5.18), and Winchester (Fig. 5.19) present a densely packed Europe, which – thanks to the islands surrounding it on all sides – takes up more than a quarter of the world.

The same concepts are followed in various fifteenth-century copies: those in the Bodleian Library in Oxford,⁹³ the Biblioteca Apostolica Vaticana,⁹⁴ and Chester Cathedral.⁹⁵ Simple lettering in brown or black ink is integrated into the almond-shaped outer band, which is sometimes green (as in the Cambridge, Winchester, and London BL Add. maps), but often has no added color (as in the diagrams in Warminster, London BL Royal, and the Vatican). Sometimes even the bordering lines of the mandorla are missing (as in Magdalen College in Oxford). Red lines not only outline Paradise, the coasts of the Red Sea, and the Atlas Mountains in Africa (which support the sky); they also form rectangles around the pilgrimage sites of Jerusalem and Rome, which lie on the central line. This harmonizes with the usually red ink marking the initial letters of all the cities and regions. The focus on salvation history is manifested not only in the special emphasis on Paradise, Jerusalem, and Rome, the three points of the events of salvation and pilgrimage, but also in the accumulation of biblical toponyms in the Holy Land.⁹⁶ The basic repertoire for Europe, however, consists of the traditional provinces and regions. Recognizing and interpreting these place-names seems to require an almost rational approach to the world under God's protection.

93 Oxford, Bodleian Library, Digby 196 (S.C. 1797), fol. 195v (291 × 210 mm; early fifteenth century); cf. Destombes, *Mappemondes*, 159, no. 47.17.

94 Vatican City, Biblioteca Apostolica Vaticana Reg. lat. 731 (410 × 285 mm; fifteenth century). Illustration in Baldacci, "L'ecumene a mandorla," 135. Cf. Destombes, *Mappemondes*, 159f., no. 47.18.

95 Chester, Cathedral Ms. 2, fol. 6r (mid-fifteenth century). Cf. Neil R. Ker, *Medieval Manuscripts in British Libraries*, vol. 2 (Oxford: Clarendon Press, 1977), 388–89. See description on 388: on fol. 6r "a vesica-shaped map of the world with Jerusalem in the middle. fol. 6v blank." See Edwards, "Geography and Illustration," 111, note 46 for the outer form. For mention of Henry Savile of Banke as the previous owner of the manuscript see Andrew G. Watson, *The Manuscripts of Henry Savile of Banke* (London: Bibliographical Society, 1969), no. 37, see also nos. 61, 226, 234, and 287; Edwards, "The Influence and Audience," 116.

96 Some information can be found in Taylor, *The "Universal Chronicle,"* 64; Livingston, "More Vinland Maps," 38.

The Circle

The very individual circular structures (Fig. 5.20) do not form a unified group, even if the dominance of curved lines makes them most similar to the ovals. These are rudimentary line drawings (some more successful than others), and as such they are far removed from the artistic concept of the author. This makes attributions difficult. The only one to show the borderlines within the earth's circle which are typical of the Higden ovals is the Cambridge map, bound into a 1367 *Polychronicon* manuscript copied by Wittus de Domington, who names himself at the end of the codex.⁹⁷ The four crudely drawn wind blowers outside the world could also be imitated from the large London map. In these individual circular or spherical maps, Paradise is considerably reduced or even completely absent. This suggests that they may be trying to adapt to an image of the world based on natural history.

The three circular maps from between 1367 and 1466 are very interesting despite their simplicity. The paucity of place-names and the roughly drawn outlines make the graphic individualizations even more prominent. For example, the borders of Europe are marked in different ways. The oldest map, a monochrome black world map from 1367, now in the University Library in Cambridge, has been found to have a close connection with the oval map in Paris,⁹⁸ though Europe is more compressed. There is also a map dated to 1466 in the British Library in London (Fig. 5.20).⁹⁹ Here the draftsman has only partially succeeded in imitating the typical Higden image, even if the curved band of the Mediterranean and the Black Sea, combined with the Nile and the Red Sea, form a clearly discernible T-shaped border. But a broad land route appears from Europe to Asia, and rectangles emphasize the cities, including Constantinople, Rome, and Paris. Europe consists of only two regions, Alemannia and Hispania, with a semicircle for Anglia. The cities predominate in all the continents, while the division into provinces has disappeared, as has Paradise. So the image has been reduced to the essentials, but at the same time new elements (such as

⁹⁷ Cambridge, University Library Cambridge, Add. Ms. 3077, fol. 11r (170 × 175 mm, land area 142 × 151 mm; 1367). Reproduction: *Mappaemundi*, ed. Miller, 3:98–99, Fig. 37. The map is inserted into the manuscript after the index (fols. 1–7), a blank page (fol. 8), and the prologue (fols. 9–10). Cf. Destombes, *Mappemondes*, 155f., no. 47.6; Barber, “The Evesham World Map,” 19f.

⁹⁸ Cambridge, University Library Cambridge, Add. Ms. 3077, fol. 11r; Miller, 3:98–99, considers the circular map to be a copy of the Paris oval, which is scarcely possible given the dating.

⁹⁹ London, British Library, Harl. 3673, fol. 84r (diameter 140 mm; 1466). Reproduction: Kamal, *Monumenta cartographica*, 4:fasc. 3 (Cairo: 1938), f. 1382; Woodward, “Medieval *Mappaemundi*,” 348 and 352, Fig. 18.68; Destombes, *Mappemondes*, 160, no. 47.21; Livingston, “More Vinland Maps,” 41.



Fig. 5.20: Circular world map based on Ranulf Higden, dated 1466; London, British Library, Harl. 3673, fol. 84r. © The British Library Board.

Constantinople) and different emphases have led to the emergence of a new, laicized world with almost no references to salvation.

In the *Polychronicon* manuscript in the private Takamiya collection in Tokyo we see that Europe and Africa are separated from one another by a vertical bar, and separated from Asia by a curved horizontal band. The marginal T-O diagram, relatively uninformative on its own, only acquires a “higher” function in the context of the history of creation and of the world. This context is formed by numerous illuminations spread throughout the codex, including the medallions with the heads of Noah and his sons Shem, Japheth, and Ham.¹⁰⁰

Thus the circular diagrams show even less evidence than the oval and almond-shaped maps of a uniform concept for understanding the world and representing Europe. Even if the traditional T-O east orientation is preserved, typical Higden elements are lost, such as the direct focus on Paradise, the division into regions, and ultimately even the links with salvation history.

In summary, each of the three forms was associated with typical features, which also influenced the image of Europe. The oval and the mandorla were certainly consciously chosen and developed, possibly even by Higden himself, or at least soon after his time. This is reflected in the encyclopedic worldview of the large London oval, the division of the world into provinces in the small ovals, the apparently rational listing of names in the almond form, and the various reductions of the circular form. The cartographers and scribes used topographical knowledge about the regional divisions of the Mediterranean area, as well as about the northern provinces of Europe, including England, while retaining Jerusalem as the graphically highlighted center. The influence of contemporary historical events is most recognizable in the larger versions. One obvious example is the politically motivated accentuation of Anglia on the oval in Corpus Christi College. Another is the innovations in the large Ramsey oval, for example the bright red used to highlight not just Anglia but the Apulian port of Brindisi, the starting point for pilgrimages to Jerusalem. Such accents were evidently reinforced when the maps were enlarged and/or taken out of their historiographic context, as seen in the patriotically driven expansion of England’s power to the continent in the Evesham map. As a rule, it was not the accompanying text that was responsible for such modifications, but the illustrator, eager to make use of his experiences of contemporary history and his cartographic knowledge.

100 Tokyo, Takamiya Ms. 43: fol. 2r has a simple T-O map, fol. 32r shows Noah and his three sons; cf. Scott, “The Illustrations of the Takamiya Polychronicon,” 166, pl. 15–2; Edwards, “Geography and Illustration,” 103–6 and Fig. 4.

Changing Images of the World and Europe in the Tradition

Concepts of space are known to shape the order of our thoughts, while the possible scope for this order seems to depend on the “general context of a culture.”¹⁰¹ In relation to this, Dagmar Reichert has argued that we need to reveal not only our own standpoint, but also our own “logical space.”¹⁰² Medieval world maps as a medium are particularly useful for revealing such invisible spatial concepts on various levels. But this is only possible if viewers are willing to define the different standpoints and to identify divergences and commonalities between their own spatial logic and medieval concepts of space. As we take a final look at these two series of world maps from different centuries, then, our main aim is not to revisit the changes in the image of Europe, but to help to sharpen the viewer’s awareness.

In the numerous copies of the world maps from Beatus of Liébana’s *Commentary on the Apocalypse* and Ranulf Higden’s *Polychronicon*, Europe is part of a unified conception of the world within each series. The variations over time followed a number of criteria. The selection of the elements and the conversion of geographical and historical knowledge into a new language of pictographic symbols show that numerous elements could be changed. Investigating the reasons for these changes requires a case-by-case approach. It is true that both maps have a relatively clear function in the text: the first illustrates the sending out of the apostles across Beatus’s apocalyptic world; the second shows where the events in Higden’s comprehensive world history took place. And yet the connection between cartographic image and text seems quite indirect in both cases. The illuminators commissioned to produce the maps took their cue from other visual models, and implemented the formulas in very different ways.

A comparison between the two series shows, first of all, that a longer period of transmission resulted in greater variability in the cartographic image. The sixteen Beatus maps are spread over the period from the mid-tenth to the mid-thirteenth century, while the twenty Higden maps are much closer together, covering the period from 1342 to 1466, with a clear emphasis on the second half of the fourteenth century. The draftsmen of the Beatus maps were therefore able (and indeed compelled) to engage more intensely with the cultural context than the various copyists of the *Polychronicon* maps. The latter, working in

101 Dagmar Reichert, “Räumliches Denken als Ordnen der Dinge,” in *Räumliches Denken*, ed. Dagmar Reichert (Zürcher Hochschulforum 25) (Zurich: Hochschulverlag AG an der ETH Zürich, 1996), 15–45, esp. 22.

102 Reichert, “Räumliches Denken,” 28.

English monasteries and institutions over just a few decades, were embedded in relatively similar social, political, and scientific contexts of meaning. In each situation, the preconditions and requirements for the modernization of cartographic images and content were different. The Beatus cartographers, for example, reacted mainly to the Reconquista in Spain and the growth of knowledge in the monastery libraries. If the *Polychronicon* copyists reacted to anything it was to England's aspirations to dominance in the Hundred Years' War.

In both cases, the basis for the spatial representation is the east-oriented Christian T-O schema. Paradise is clearly the focal point, and Europe takes up a quarter of the world. In terms of layout, both series represent a universal, traditional, and backward-looking image of the world, which is based on the regions and provinces of antiquity, but does permit later additions and rearrangements. Ultimately, the cartographers of each century were inclined to prioritize their own environment. In the case of the Beatus maps they tended to enlarge and politicize the Iberian Peninsula and potentially southern France. In the world of Higden, on the other hand, there were isolated attempts at a more elaborate depiction of England and France. Copyists were best able to insert contemporary information and react to stimuli in their own European region of origin. Notable examples are the Beatus map of Saint-Sever, with an exact portrait of the region surrounding the monastery, and the large Ramsey oval in Higden's *Polychronicon*, with the graphic highlighting of England. The maps accompanying the much-copied works could also take on an independent existence. Examples of this development are the Romanesque wall painting in the Beatus tradition and the large Evesham parchment in the Higden tradition.

Studying the image of Europe has enabled us to learn more about the work methods of the cartographers. The first finding is that the selection of map contents within each individual series followed a conventional repertoire of quasi-archaic toponyms of Roman origin. Contrary to all practical experience, these also shaped the internal division of Europe. Secondly, in a small number of cases the draftsmen and/or those commissioning the maps were interested in an individualized Europe. As a result, additional knowledge and contemporary points of reference were included. Thirdly, the visualizations were subject to a certain variability, and basic choices such as form and coloring were often associated with further-reaching changes. The graphic realization of the content not only followed the models, but also depended on the skills of the cartographer, as the later Higden maps show very vividly. Fourthly, there was a definite connection between form and content. The rectangle, oval, circle, and mandorla each represented a particular image of the world, the choice of which also affected the content selected. The rectangle, for example, emphasized the connection to the late Roman tradition. The oval, whether vertical or horizontal,

allowed an unambiguous focus on Paradise, in the tradition of salvation history. The absolutely logical and clearly centered circle derived power from its endlessness and its fixed, closed borders. This form could readily be linked with a scientific approach to the spherical form of the earth.

The analysis has demonstrated that socially motivated creativity and controlled originality were crucial factors in the cartographic interpretation of the world. Clearly the innovations cannot be attributed to geographical discoveries, but to the worldview of the draftsmen. The *Beatus* maps show, even more plainly than the *Polychronicon* maps, the multilayered possibilities of mapping within a single tradition: the maps represent, among other things, a world of late classical provinces and geographic knowledge; a universe of natural history and the elements; an earth of political and ecclesiastic dominions, and of the strategic sites of the Reconquista; a New Testament apostolic diaspora and a bipartite Greek world according to Herodotus; a biblical creation focused on salvation history and a political statement in response to the Hundred Years' War. In all these conceptions of the world, which were offered not as alternatives but simultaneously, Europe had its appropriate place. Depending on the map, viewers might see a continent made up of late classical provinces, or a geographically accurate southern France. They might see a Europe governed by different rulers, the sphere of action of certain apostles, or an ethnological portrait of Europe and its peoples. Or they might simply see one quarter of the world in the T-O schema, bordered by the Maeotian marshes in the east and the seas to the north and south. Both within and outside Europe, signs, colors, and symbols helped to show border demarcations, define content, and visualize complexity.

At no point were medieval maps authoritative reproductions of a clearly defined physical space. Instead they were variable vehicles of meaning, in a constant process of renewal, which illustrate a continually changing awareness of (European) space. World maps were subject to the influence of political, cultural, and social values, which determined both cartographic representation in the Middle Ages and its multifaceted interpretations up to and including our time. At the very least, this analysis of the image of Europe will have made two things clear: firstly, that the search for a definition of Europe is of more interest to modern than medieval sensibilities; and secondly, that future research should pay more attention to the cultural conditions of cartographic choices (such as form, spatial distribution, and decorative apparatus), as well as to their reception.

Chapter 6

Mapping Narratives: Jerusalem in Medieval Mapped Spaces

Created around 1300, its original destroyed by fire in a bomb attack on Hanover in 1943, the Ebstorf map is regarded as the epitome of a medieval *mappa mundi* because of its size: 3.58 × 3.56 meters, with around 2,345 pictorial and textual elements.¹ Like a number of other maps of the ecumene created after the mid-thirteenth century, it is centered on Jerusalem.² The city constitutes the mid-point of the world, encompassed by an image of Christ. Scholars have debated whether the earth, representing all earthly things, serves as the body of Christ, or whether the head of Christ, at a distance from the world and not part of it, is intended to inspire the viewer to contemplation and remembrance. The second interpretation, reinforced by Hartmut Kugler, sees Christ's limbs and head (depicted as a *vera icon*) as fragmented corporeal signs. These form a macrocosm at the outer edge of the map's circle, into which the microcosmic center of the

1 Cf. Kerstin Hengevoss-Dürkop, "Jerusalem – Das Zentrum der Ebstorf-Karte," in *Ein Weltbild vor Columbus: Die Ebstorfer Weltkarte: Interdisziplinäres Colloquium 1988*, ed. Hartmut Kugler in collaboration with Eckhard Michael (Weinheim: Acta Humaniora, 1991), 205–22; Hartmut Kugler, "Hochmittelalterliche Weltkarten als Geschichtsbilder," in *Hochmittelalterliches Geschichtsbewußtsein im Spiegel nichthistoriographischer Quellen*, ed. Hans-Werner Goetz (Berlin: Akademie Verlag, 1998), 179–98, esp. 187–94; Jürgen Wilke, *Die Ebstorfer Weltkarte*, 2 vols. (Veröffentlichungen des Instituts für Historische Landesforschung der Universität Göttingen 39) (Bielefeld: Verlag für Regionalgeschichte, 2001); Armin Wolf, "Albert oder Gervasius? Spät oder früh? Kritische Bemerkungen zu dem Buch von Jürgen Wilke über die Ebstorfer Weltkarte," *Niedersächsisches Jahrbuch für Landesgeschichte* 76 (2004): 285–318; *Kloster und Bildung im Mittelalter*, ed. Nathalie Kruppa and Jürgen Wilke (Veröffentlichungen des Max-Planck-Instituts für Geschichte 218; Studien zur Germania Sacra 28) (Göttingen: Vandenhoeck & Ruprecht, 2006), with various articles on dating and interpretation; *Die Ebstorfer Weltkarte*, 2 vols., 1: *Atlas*, 2: *Untersuchungen und Kommentar*, new edition with commentary, ed. Hartmut Kugler with the participation of Sonja Glauch and Antje Willing, digital image processing Thomas Zapf (Berlin: Akademie Verlag, 2007).

2 Ingrid Baumgärtner, "Die Wahrnehmung Jerusalems auf mittelalterlichen Weltkarten," in *Jerusalem im Hoch- und Spätmittelalter: Konflikte und Konfliktbewältigung – Vorstellungen und Vergegenwärtigungen*, ed. Dieter Bauer, Klaus Herbers and Nikolas Jaspert (Campus Historische Studien 29) (Frankfurt am Main: Campus Verlag, 2001), 271–334; Anna-Dorothee von den Brincken, "Jerusalem on Medieval Mappaemundi: A Site Both Historical and Eschatological," in *The Hereford World Map: Medieval World Maps and Their Context*, ed. Paul D. A. Harvey (London: British Library, 2006), 355–79.

map with the resurrected Christ is inscribed.³ Here the square city walls, the inward-pointing battlements, four towers, and twelve gates present and surround what is simultaneously the Jerusalem of the Apocalypse and the largest urban space on the whole map (Fig. 6.1).

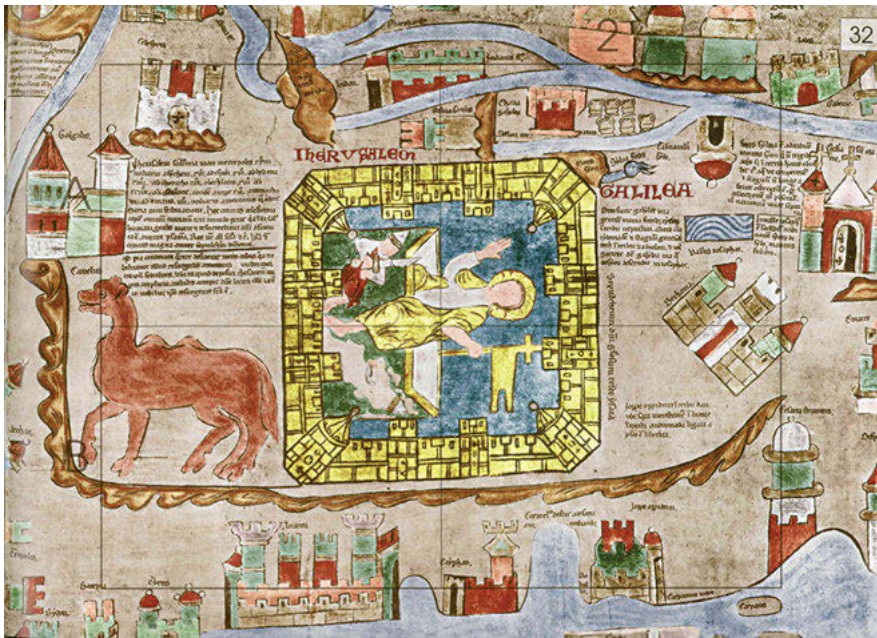


Fig. 6.1: Ebstorf map, detail showing Jerusalem, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, no. 32.

The image adopts the description of the New Jerusalem found in the Book of Revelation: that of a powerful city surrounded by high walls, with a square layout.⁴ The prominent gold color of the fortifications – at least in the four reconstructions

³ Cf. Hartmut Kugler, “Die Seele im Konzept von Mikrokosmos und Makrokosmos: Zum Christuskopf auf der Ebstorfer Weltkarte,” in *‘anima’ und ‘sêle’: Darstellungen und Systematisierungen von Seele im Mittelalter*, ed. Katharina Philipowski and Anne Prior (Philologische Studien und Quellen 197) (Berlin: Erich Schmidt Verlag, 2006), 59–79; *Die Ebstorfer Weltkarte*, ed. Kugler, 2:19–21.

⁴ Book of Revelations 21:12 and 21:16. For the architectural implementation of such concepts of the ideal city see Martina Stercken, “Gebaute Ordnung: Stadtvorstellungen und Planung im Mittelalter,” in *Städteplanung – Planungsstädte*, ed. Bruno Fritsche, Hans-Jörg Gilomen and Martina Stercken (Zurich: Chronos, 2006), 15–37, here 20.

by Rudolf Wienecke – matches the depiction of Christ rising from his tomb inside the city. This distinctive conception of Jerusalem, which links the “navel of the world” myth with the Holy Sepulcher, exerts a magnetic fascination, intensified by the disconcerting northward rotation of the scene. The legend to the left of the city wall speaks of the whole world’s longing for the holiest metropolis of Judea and for the risen Christ, who emerges as the victor over death with a halo and a banner crowned with the cross.⁵

This representation referring to something beyond itself is a vital integrative element in the map of the ecumene, as pointed out by Jörg-Geerd Arentzen. He compares it with other pictorial but non-cartographic mnemonic schemas, elaborating an immanent classification system.⁶ The representation links real and spiritual, earthly and heavenly Jerusalem, salvation history and the ideology of the Crusades, and ultimately even the city with the whole of creation. As a result, the navel comes to dominate the cartographic structure. Within the map, the viewer can discern symbolic and conceptual connections, which construct a narrative space related to the center. Here the whole map design is defined by the worldwide longing for the holy place, repeatedly underscored by both pictorial and textual elements.

Research has so far deciphered various complexes of symbols related to the center of the world, often with far-reaching connotations. For example, a diagonal relationship corresponding to the map’s geometry accentuates the topic of grave worship: the unique image of the resurrection in the central square representing Jerusalem lies in the middle of an imaginary line connecting the pilgrimage of the Nubians to the Holy Sepulcher, shown in the southeast, and the three square martyrs’ graves at the Benedictine convent of Ebstorf (which may have been drawn in later).⁷ This has been interpreted as an indication that the map could have been produced by various members of the convent (such as Provost Albert, the prioress, and the sister from the convent school, which was documented around 1307), in collaboration with aristocratic patrons and the neighboring religious communities in the Lüneburg area. This has also been

5 Cf. Hengevoss-Dürkop, “Jerusalem,” 205–18; Christine Ungruh, “Paradies und ‘vera icon’: Kriterien für die Bildkomposition der Ebstorfer Weltkarte,” in *Kloster und Bildung im Mittelalter*, ed. Nathalie Kruppa and Jürgen Wilke (Veröffentlichungen des Max-Planck-Instituts für Geschichte 218; Studien zur Germania Sacra 28) (Göttingen: Vandenhoeck & Ruprecht, 2006), 301–29, here 301ff.; *Die Ebstorfer Weltkarte*, ed. Kugler, 2:41 for the colors, and no. 32/2.

6 Cf. Jörg-Geerd Arentzen, *Imago mundi cartographica* (Munich: Wilhelm Fink, 1984), 222 with Fig. 99.

7 Cf. Hartmut Kugler, “Die Gräber der Ebstorfer Weltkarte,” in “*In Treue und Hingabe*”: 800 Jahre Kloster Ebstorf (Schriften zur Uelzener Heimatkunde 13) (Ebstorf: Das Kloster, 1997), 53–65; *Die Ebstorfer Weltkarte*, ed. Kugler, 2:64ff., 1:nos. 13/2, 50/14.

used to date the map to around 1300, or more precisely between 1288 and 1314 – that is, during the reign of Duke Otto the Strict (Otto II of Brunswick and Lüneburg, who ruled from 1287 to 1330).⁸

Yet there are also numerous other symbols creating multilayered connections between Jerusalem and the world. These include the small crosses in Thebes, Jerusalem, Constantinople, Cologne, Aachen, and Lüneburg (each of which has at least one cross), which have been interpreted as symbols of power, and have a counterpart in the alpha and omega in the red square around the head of Christ.⁹ They probably all refer to seats of power and residences of rulers, be it ancient Upper Egypt, Christendom, the Byzantine Empire, the German kingdom, or the dukedom of Lüneburg. Also noteworthy are the depictions of the magnificent graves of the Parthian King Darius, and the Apostle of India, Thomas. These lie halfway between Jerusalem and the head of Christ, and once again evoke and enact the dominant motif of grave worship.¹⁰ Furthermore, golden flags link the dominion of Christ with the ducal city of Lüneburg, ruled over by Otto the Strict, duke of Brunswick and Lüneburg, probably one of the map's patrons.¹¹

Numerous other associations and lines of thought could be cited here. But for the time being we will simply highlight the interplay between center and periphery, between resurrected and world-encompassing Christ, between the victor resplendent in gold and the sublime devotional image, whose radiance defines both the known and the unknown world as part of the divine plan of salvation. This concept, inspired by salvation history and the *vera icon*, even displaced the representation of Paradise that usually dominated the east in world maps.¹² The multilevel design is brought together by three squares: four walls form a square (albeit with slightly angled corners) around the scene of the resurrection; the head of Christ, surrounded by a circular blue nimbus, appears in a red square bordered by a line of mountains; and the entire *orbis* is set in a nearly square parchment.¹³

Recognizing such connections allows viewers to activate their own attempts at interpretation, based on different thematic, temporal, and spatial levels of

⁸ Cf. Wilke, “Die Ebstorfer Weltkarte,” passim; *Die Ebstorfer Weltkarte*, ed. Kugler, 2:67ff.

⁹ Cf. *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 27/6, 33/3, 38/27, 51/13, 51/16, 50/7.

¹⁰ Cf. Kugler, “Gräber der Ebstorfer Weltkarte,” 58–61; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 18/2, 11/16.

¹¹ Cf. *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 50/7.

¹² Cf. Ungruh, “Paradies und ‘vera icon,’” 301–29, here 327; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 3/4, 4.

¹³ Cf. *Die Ebstorfer Weltkarte*, ed. Kugler, 2:23ff.

understanding. And it enables them to comprehend individual elements of the cartographic structure in a visual exegesis. Textual and visual signs serve as *aides-memoire*¹⁴ for creating and shaping cultural spaces of narrative and remembrance. They form the basis for a complex web of similarities, which helps to impose order on spatial and temporal juxtapositions, to relate the different parts to each other, and to link the textual and visual symbols of different temporal planes.¹⁵ Such similarities correspond to the figures of “similitude” which Michel Foucault identified for modernity:¹⁶ firstly an external, spatial, possibly hidden kinship between things (*convenientia*); secondly the reflection which overcomes distances and makes the symbols answer one other (*aemulatio*); thirdly the polyvalent analogy (*analogia*), a subtle affinity between things not visible on the surface; and fourthly sympathy, a figure transcending time and space and extending to full assimilation, which requires the counterfigure of antipathy to reestablish the boundaries necessary for a communicative relationship between the signs.

In the medieval world maps it is the principle of similarity rather than the individual symbols that serves to create narrative spaces. The following essay will outline the constitution, relevance, and transformation of these spaces. How can textual and visual symbols form the basis for a spatial narrative or a narrative space? What methods were used to establish Jerusalem as a cartographic space of narrative and remembrance? What cultural techniques generate the consistency of the narrative space as perceived by the observer? What verbal and visual creations, what stores of knowledge, contributed to the discourses? The essay will attempt to answer these questions with a brief outline of three different complexes. The first section will recall a few basic principles of medieval world maps, to illustrate the concept of cartographic centrality and its effect. The second will examine the relevance of geometric symbols (such as

14 For text and image as media of memory and for the competition between them see e.g. Aleida Assmann, *Erinnerungsräume: Formen und Wandlungen des kulturellen Gedächtnisses* (Munich: C. H. Beck, 1999), esp. 181–240. For the cartographic narrative space see Ingrid Baumgärtner, “Die Welt als Erzählraum im späten Mittelalter,” in *Raumkonzepte: Disziplinäre Zugänge*, ed. Ingrid Baumgärtner, Paul-Gerhard Klumbies and Franziska Sick (Göttingen: V&R Unipress, 2009), 145–77.

15 Marina Münkler, “*Monstra und mappae mundi*: die monströsen Völker des Erdrands auf mittelalterlichen Weltkarten,” in *Text – Bild – Karte: Kartographien der Vormoderne*, ed. Jürg Glauser and Christian Kiening (Rombach Wissenschaften: Reihe Litterae 105) (Freiburg im Breisgau: Rombach, 2007), 149–73, here 160ff.

16 Michel Foucault, *The Order of Things* (Abingdon: Routledge Classics, 2002), 19–28. Original: *Les mots et les choses* (Paris: Gallimard, 1966); discussed in Münkler, “*Monstra und mappae mundi*,” 160ff.

circles and squares) for narrative spatialization. And the third will investigate how the cartographers constructed Jerusalem as an extensive narrative space, and used various paradigms of perception and presentation to position it within cartographic and geographical traditions and systems of reference.

Jerusalem's Centrality

Unlike present-day maps, medieval world maps include different temporal planes, integrating them into the overall spatial view of an abstract T-O pattern. This allows narrative and memory to be anchored in space and time, individually weighted with graphic signs, and differentiated geographically, theologically, politically, and socially. Thematic, historical, and geographic recognition and referencing therefore generate different levels of understanding in the viewer, a complex process which presupposes a certain coherence in the ensemble of signs, and is guided by preexisting civilizational knowledge, a targeted search, or the curiosity to discover new things.¹⁷

Such a reading is influenced by the context of transmission – for example, by the texts that surround a cartographical sketch in a codex. The large-format maps (such as the wall maps of Ebstorf and Hereford or the Venetian map of Fra Mauro) have a greater individual impact, and play an encyclopedic role, presenting knowledge from the Bible, ethnology, geography, history, and natural history. They are therefore able to connect the temporal sequences of history with spatial structures in more complex ways than small representations of the world.

As we know, the creators of medieval world maps were able to develop new visual and geographic forms from a typological, literary reading of the Bible and from the information given in encyclopedic works. This was an essential prerequisite to interpreting the vision of the world as a historical pilgrimage of humanity, a vision that arose in the twelfth and thirteenth centuries. Even Paradise, although part of salvation history, had been given a geographical location within the world since the time of Augustine, and could be understood as a kind of multifunctional hub for the comprehension of time and space in a divine and worldly order.¹⁸ Isidore of Seville and Bede both transformed the

¹⁷ Cf. Cornelia Herberichs, “[. . .] *quasi sub unius pagine visione coadunavit*: Zur Lesbarkeit der Ebstorfer Weltkarte,” in *Text – Bild – Karte*, ed. Jürg Glauser and Christian Kiening (Rombach Wissenschaften: Reihe Litterae 105) (Freiburg im Breisgau: Rombach, 2007), 201–17, here 202–4.

¹⁸ Alessandro Scafi, *Mapping Paradise: A History of Heaven on Earth* (London: British Library, 2006).

Garden of Eden into a place in outermost Asia, real but inaccessible because of the fall of man, and connected to the world via the four rivers. In the same way, both these authorities also emphasized a connection – illustrated by the fall of man and the crucifixion and resurrection of Christ – between the real Jerusalem and the Christian idea of redemption. In both cases, a geographically tangible place was given a meaning that pointed beyond its real geographic existence towards salvation history. This inevitably had cartographic consequences.

The supposed centrality of Jerusalem was based on biblical texts (Ezekiel 5:5) and the commentary of the church father Jerome, who referred to the city as the *umbilicum terrae*.¹⁹ Isidore of Seville and others consolidated this concept in medieval encyclopedic knowledge.²⁰ But it was the Crusades – with the conquest and then even more importantly the new loss of Jerusalem – that provided the stimulus to depict this idea in cartographic form.

The letters “HIERUSALEM” first dominate the crossbar of the T-O pattern in the “Oxford map,” completed around 1110 (Fig. 6.2). The midpoint of this map can be found just beside the cross (the symbol for the Church of the Holy Sepulcher, set in an oval outline) and above Mount Zion. The map space is filled with motifs from the Old and New Testaments, including Noah’s Ark, seven of the twelve tribes of Israel, the *Ciuitas refugii* (based on Joshua 20), and Jericho towards the right-hand edge in the crossbar of the T. We also find the *terra Iuda* and *Palestina* in Africa, and significant places from the lives of Christ and the apostles. The world thus becomes a biblical space; in fact it can almost be seen as a narrative space surrounding the Church of the Holy Sepulcher, in which all (hi)stories are reflected. Even the similarity between the lettering for Europe (in the small crossbar) and Jerusalem alludes to these connections: they reveal a model of interpretation and organization in which Europe and the Holy Land, ideas about crusades and the cult of Jerusalem, salvation history and geography are interlinked in a constant invocation of the navel of the world.

19 See *Hieronimi presbyteri opera, pars I: Opera exegetica 4, Commentariorum in Hiezechielem libri XIV*, ed. Franciscus Glorie (Corpus Christianorum Series Latina 75) (Turnhout: Brepols, 1964), 55ff.: “Haec dicit Dominus Deus: Ista est Hierusalem, in medio gentium posui eam, et in circuitu eius terras; [. . .]. Hierusalem in medio mundi sitam, hic idem propheta testatur, umbilicum terrae eam esse demonstrans.” Cf. Iain Macleod Higgins, “Defining the Earth’s Center in a Medieval ‘Multi-Text’: Jerusalem in ‘The Book of John Mandeville,’” in *Text and Territory: Geographical Imagination in the European Middle Ages*, ed. Sylvia Tomasch and Sealy Gilles (Philadelphia: University of Pennsylvania Press, 1998), 29–53, here 34. For the centering of medieval world maps on Jerusalem see Baumgärtner, “Wahrnehmung Jerusalems,” 271–334.

20 Isidore of Seville, *Etymologiarum sive Originum Libri XX*, ed. Wallace Martin Lindsay, vol. 2, *Libros XI–XX* (Oxford: Oxford University Press, 1911, reprint Oxford 1948), 14.3.21 for Jerusalem as the navel of the whole region: *umbilicus regionis totius*.

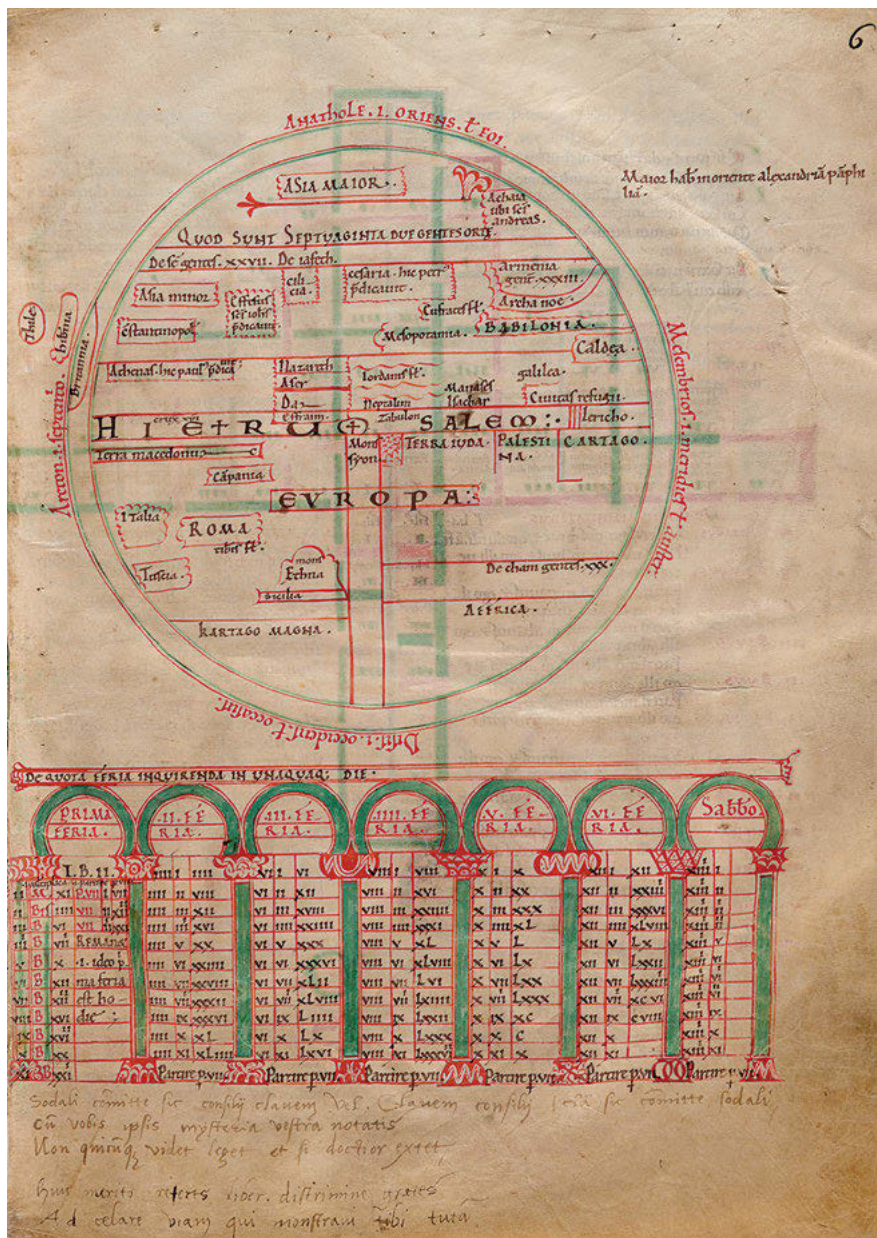


Fig. 6.2: Oxford map, around 1110; Oxford, St. John's College, Ms. 17, fol. 6r. By permission of the President and Fellows of St. John's College, Oxford.

This cartographic centering became even more emphatic after the final loss of Jerusalem in 1244. On the small Psalter map in London and the large wall maps of Ebstorf and Hereford, the eye is magically drawn to the distinctive graphic representation of the city as the center of the world, while countless textual and visual references around it help to construct narrative relationships in time and space. The Psalter map, created after 1262 (Fig. 6.3),²¹ depicts Jerusalem as a triple concentric circle at the midpoint of a world that is also enclosed in three circles, and is less than 9 cm in diameter. The Holy City consists of a small black dot encircled by a red disc and a wheel with the name inscribed on it. This double outline is repeated around Paradise and the four principal winds, and in the nimbus of Christ Pantocrator, whose elbows break through the earth's circle as he holds up a red globe in his left hand. The double outline also appears in the semicircular Caucasus, whose tightly closed gates are meant to hold back the nations of the end times, Gog and Magog (Ezekiel 38–39). Between them the arenas of world history and salvation history unfold, their themes, forms and colors repeatedly revealing connections to the center.

The links most easily recognized are the Foucauldian figures of *convenientia* and *aemulatio*. For example, the map includes an extremely unusual element, Jacob's Well or the Well of Sychar (*Puteus Josep*), where Jesus asked the woman from Samaria for water, and led the Samaritans to faith (John 4:4–42). This is marked as a circle with a central point, indicating a formal kinship; both the content and form of the well emphasize the life-giving function of faith, and remind viewers of the Christian pilgrimage on earth. The fourteen grotesquely misshapen hybrid and mythical creatures in the southern gallery of monsters clearly constitute a frightening antithesis to the ideal form of the center, and thus a kind of centrifugal reaction to the magnetic pull of the heavenly Jerusalem.

The Hereford map, created ca. 1300, similarly turns the Holy City into the circular central hub of the spatial and temporal world order (Fig. 6.4).²² At first

²¹ London, British Library, Add. Ms. 28681, fol. 9r (diameter 95 mm); text in *Mappaemundi: Die ältesten Weltkarten*, ed. Konrad Miller, vol. 3, *Die kleineren Weltkarten* (Stuttgart: J. Roth, 1895), 37–43; reproduced in, e.g., Ute Schneider, *Die Macht der Karten: Eine Geschichte der Kartographie vom Mittelalter bis heute* (Darmstadt: Theiss, 2004), 29. For an explanation of the context see Anna-Dorothee von den Brincken, *'Fines Terrae': Die Enden der Welt und der vierte Kontinent auf mittelalterlichen Weltkarten* (Hanover: Harrassowitz, 1992), 85–89; Evelyn Edson, *Mapping Time and Space: How Medieval Mapmakers Viewed Their World* (London: British Library, 1997, reprint 1999), 137. For the dating see Nigel Morgan, *Early Gothic Manuscripts*, vol. 2, *1250–1285* (Survey of Manuscripts Illuminated in the British Isles 4/2) (London: Harvey Miller, 1988), no. 114, 82–85.

²² Scott D. Westrem, *The Hereford Map: A Transcription and Translation of the Legends with Commentary* (Terrarum orbis 1) (Turnhout: Brepols, 2001), no. 389.



Fig. 6.3: Psalter map, after 1262; London, British Library, Add. Ms. 28681, fol. 9r. Creative Commons 1.0.

glance, due to the subtle coloring, Jerusalem does not stand out as much as it does in the other two maps. But this first impression is deceptive: the four evenly distributed, inward-pointing gates and towers and the sixteen outward-facing battlements transform Jerusalem into a cogwheel, the gear on which the whole universe turns.²³ The iconography is sophisticated: above the city on Mount Calvary the crucified Christ appears as an earthly counterpart to the risen Christ at the Last Judgment in the map's frame. There Christ is enthroned

²³ Edson, "Mapping Time and Space," 140.

above the globe as judge of the world, while Paradise appears in the east, framed like a tympanum. The reference to death is intensified by the letters “MORS” in the four corners of the design. The depiction of the crucifixion, finally, is a painful rather than glorious reference to the programmatic notion of redemption. The representation of the world offers a lesson on the transience of earthly existence, and on the agonizing longing for the lost Jerusalem, focal point of the religious world. It seems obvious that the whole world relates to the Holy City, thus transforming the globe, in interaction with the bordering area, into a narrative space of Jerusalem.



Fig. 6.4: Hereford map, detail showing Jerusalem, after 1290; London, Royal Geographical Society, Hereford map. Creative Commons 1.0.

Some of the ecumene maps of the thirteenth and fourteenth centuries follow these famous individual works, but no other cartographic centering of Jerusalem attains the intensity and complexity described above. The closest we get to a comparable narrative order is the world map from the Benedictine abbey of Ramsey, which takes up two pages and is filled with long legends (Fig. 6.5).²⁴ Here Jerusalem, shifted slightly to the east, is placed in a somewhat atypical oval outline. This map's size and nomenclature give it a singular position among the twenty-one maps (with oval, almond-shaped, or circular outlines) that accompany Ranulf Higden's (d. 1363) *Polychronicon* in the fourteenth and fifteenth-century manuscript tradition.²⁵ It is also one of the oldest of the eight colored ovals,²⁶ all of which date from after the author's second redaction in 1342.

In the large Ramsey map Jerusalem is represented by the biggest city symbol, highlighted by a blood-red circle. It dominates the world, whose history and inhabitants are described in narrative sequences. Everything about it is

24 London, British Library, Royal Ms. 14. C. IX, fols. 1v–2r (465 × 342 mm; after 1342). For the *Polychronicon* maps see Ingrid Baumgärtner, “Graphische Gestalt und Signifikanz: Europa in den Weltkarten des Beatus von Liébana und des Ranulf Higden,” in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis: Vorstellungswelten des Mittelalters 10) (Berlin: Akademie Verlag, 2008), 81–132, here 107–9 (a translation of this paper can be found in this volume; see essay no. 5: “Graphic Form and Significance: Europe in the World Maps of Beatus of Liébana and Ranulf Higden”).

25 Cf. *Mappaemundi*, ed. Miller, 3:94–109 and book II, pl. 15; John Taylor, *The “Universal Chronicle,” of Ranulf Higden* (Oxford: Clarendon Press, 1966), 64–67 with a description; Paul D. A. Harvey, *Medieval Maps* (London: British Library, 1991), 34, pl. 26; Edson, “Mapping Time and Space,” 128ff. For the relationship between the text of the *Polychronicon* and the entries in the large Higden map, see Petra Ueberholz, “‘Requiritur autem mapa duplex’: Die Darstellung Afrikas in der angelsächsischen Geschichtsschreibung und Kartographie des Mittelalters,” in *Aus Überrest und Tradition: Festschrift für Anna-Dorothee von den Brincken*, ed. Peter Engel (Lauf an der Pegnitz: Europaforum, 1999), 54–72. Cf. Ulrich Fischer, “InnenWELTEN – zur Konstruktion von Raum in ausgewählten mittelalterlichen Weltkarten,” in *Innenwelten vom Mittelalter zur Moderne: Interiorität in Literatur, Bild und Psychologiegeschichte*, ed. Claudia Olk and Anne-Julia Zwierlein (Trier: Wissenschaftlicher Verlag Trier, 2002), 21–38, here 33; Scafi, *Mapping Paradise*, 134–36, Fig. 6.3a; Baumgärtner, “Graphische Gestalt und Signifikanz,” 101–29.

26 London, British Library, Royal Ms. 14. C. IX, fol. 2v (285 × 210 mm; after 1342; Benedictine abbey in Ramsey); San Marino, CA, The Huntington Library, HM 132, fol. 4v (160 × 203 mm; after 1342; Benedictine abbey in St. Werburgh, Chester); Oxford, Bodleian Library, Tanner 170 (S.C. 9996), fol. 15v (326 × 212 mm; after 1347; priory of the Canons Regular of St. Augustine, Gloucester); Paris, Bibliothèque nationale de France, Lat. 4922, fol. 2r (277 × 200 mm; after 1367; Norwich Cathedral); Edinburgh, National Library of Scotland, Advokats Ms. 33.4.12, fol. 13v (235 × 198 mm; fourteenth century); Oxford, Corpus Christi College, Ms. 89, fol. 13v (203 × 293 mm; fourteenth century); Benedictine abbey of St. Peter, Gloucester); London, Lambeth Palace Library, Ms. 112, fol. 2v (273 × 193 mm; fourteenth century).



Fig. 6.5: World map in Ranulf Higden's *Polychronicon* (465 × 342 mm), after 1342; London, British Library, Royal Ms. 14. C. IX, fols. 1v–2r. © The British Library Board.

disproportionately large: not just the urban area around the well-fortified Church of the Holy Sepulcher with its quatrefoil windows, an area extended northward by the Mount of Olives, Mount Zion, and Calvary, but also the Holy Land. Like the world maps of Ebstorf and Hereford, this includes on the one hand cities of pilgrimage and crusade such as Acre, Jaffa, and Ashkelon,²⁷ and on the other hand sites of biblical events of salvation, including Noah's Ark, the River Jordan, the Dead Sea with Sodom, the Tower of Babel and the crossing of the Red Sea by the children of Israel.²⁸ In terms of Foucault's concept of reflection, Jerusalem is in dialogue with other parts of the world. The church vignettes connect it to the Christian pilgrimage destinations of Rome and Santiago de Compostela; the central position on the map links it to the Pillars of Hercules and Paradise as the limits of the habitable world; the medallions connect it to the wind blowers in the outer ocean who move the world; its form and color link it with the red semi-circle of Anglia in the northwest. Even the texts create analogous connections. The crossing to the Holy Land, we learn, begins at the port of Brindisi in Puglia.²⁹ Thus the Ramsey map, showing a relatively high level of conformity with the Jerusalem-centered world maps, provides encyclopedic geographical information explaining how the world is connected to its imaginary navel, biblically, historically, and etymologically.

None of the other Higden maps come anywhere near constructing a narrative space of this kind. There are perhaps echoes of it in four of the nine almond-shaped drawings (Fig. 6.6),³⁰ in which the name of the central city has a striking border. However, the content of the maps is devoid of any attempt at narration and is radically reduced to toponyms. And the last remaining effects can be discerned in the 55 × 99 cm wall map from the English Benedictine

27 *Mappaemundi*, ed. Miller, 3:102; Westrem, *The Hereford Map*, nos. 360, 374, 377, 396; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 32/17–19, 32/21, 32/2, 33/26.

28 *Mappaemundi*, ed. Miller, 3:102ff.; Westrem, *The Hereford Map*, nos. 224, 246, 261, 262, 180, 278; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 24/1, 32/1, 33/12, 34/4, 33/11, 33/15, 18/22, 27/16.

29 *Mappaemundi*, ed. Miller, 3:100.

30 Oxford, Magdalen College, Ms. 190, fol. 1v (295 × 180 mm; after 1376); London, British Library, Royal Ms. 14. C. XII, fol. 9v (355 × 210 mm; after 1377; Hospital of St. Thomas of Acre in Cheapside); Cambridge, Corpus Christi College, Ms. 21, fol. 9v (367 × 238 mm; fourteenth century; Hospital of St. John the Evangelist in Cambridge); Winchester, Winchester College, Ms. 15, fol. 14r (336 × 203 mm; 1400). This clear marking is absent in the maps in the codices in Warminster, Longleat House, Library of the Marquess of Bath, Ms. 50, fol. 7v (344 × 220 mm; after 1360); London, British Library, Add. Ms. 10104, fol. 8v (363 × 227 mm; fourteenth century, after 1377); Oxford, Bodleian Library, Digby 196 (S.C. 1797), fol. 195v (291 × 210 mm; early fifteenth century); Vatican City, Bibliotheca Apostolica Vaticana, Reg. lat. 731 (410 × 285 mm; fifteenth century); Chester, Cathedral Ms. 2, fol. 6r (mid-fifteenth century).

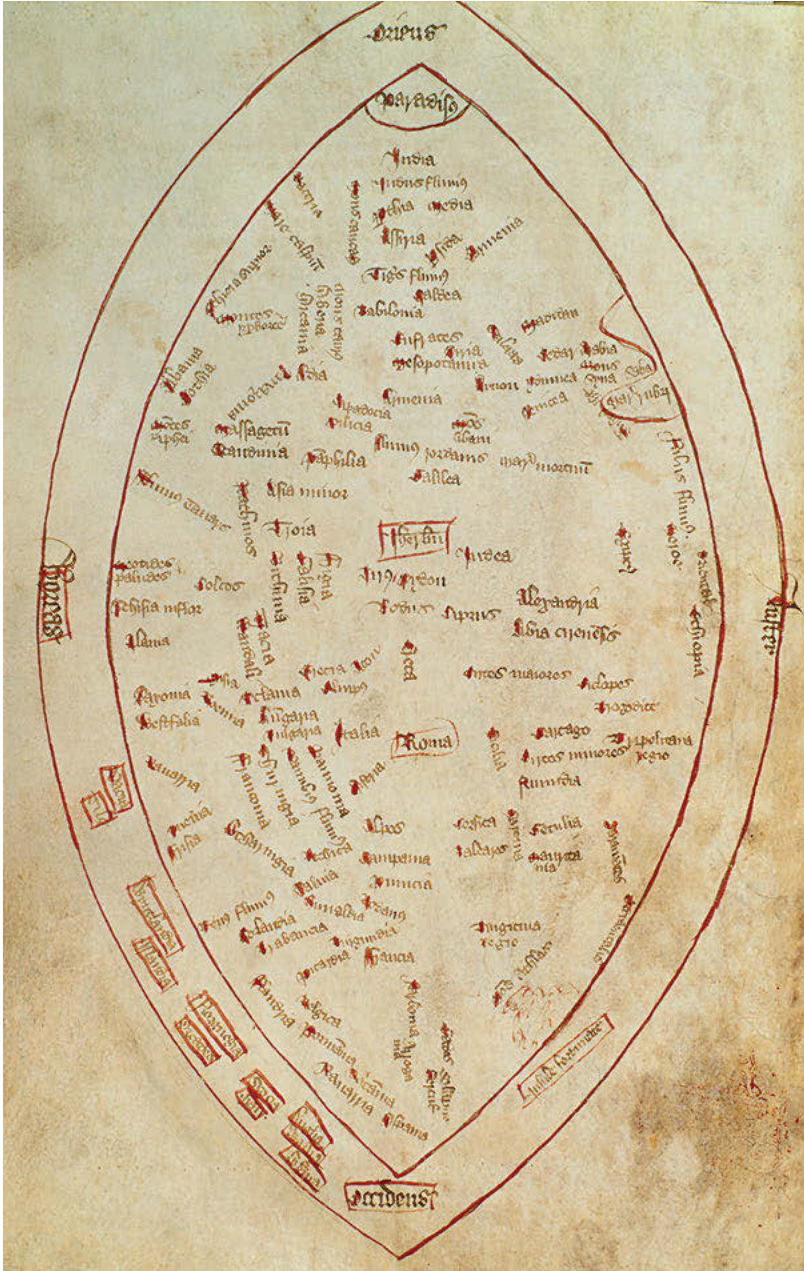


Fig. 6.6: World map in Ranulf Higden's *Polychronicon* (355 × 210 mm), after 1377; London, British Library, Royal Ms. 14. C. XII, fol. 9v. © The British Library Board.

abbey of Evesham,³¹ produced between 1390 and 1392 in the context of a *Polychronicon* continuation: a later hand, probably before 1418, reinforced the batlements of Jerusalem to striking effect.

Thus a cartographic narrative space of Jerusalem was constituted by its centrality, combined with geometric forms, striking coloring, and narrative structures. As the world maps of Andreas Walsperger, Giovanni Leardo, and Hanns Rüst demonstrate,³² this ideologically focused program was able to continue into the fifteenth century, despite new geographic challenges, even if the significance of the concept and the representational strategies changed. The Venetian Fra Mauro gave a concise summary of the relevant thought process in his world map of 1459:³³ he presented rational arguments questioning the geographical centrality of Jerusalem, which contradicted the actual dimensions of the world, but still attempted to justify the map's spiritual focus on Jerusalem with the population density of Europe and Asia.

Geometric Shape and the Holy Land

The shape of Jerusalem as a circle of perfection (with no beginning and no end), or as the square at the heart of the Book of Revelation, was reflected not only in world maps, but in a sequence of ideal-typical maps of Jerusalem and regional maps of the Holy Land.³⁴ These two basic forms followed older traditions and

31 Peter Barber, "Die Evesham-Weltkarte von 1392: Eine mittelalterliche Weltkarte im College of Arms in London: Von der Universalität zum Anglozentrismus," *Cartographica Helvetica* 9 (1994): 17–22, esp. 19–21; Barber, "The Evesham World Map," *Imago Mundi* 47 (1995): 13–33, here 20 with a schematic representation. Cf. Fischer, "InnenWELTEN," 34ff.; Scafi, *Mapping Paradise*, 136ff. with a redrawing in Fig. 6.5a–b; Baumgärtner "Graphische Gestalt und Signifikanz," 116ff. and 129.

32 Cf. e.g. Scafi, *Mapping Paradise*, 198–218 and 233–35 with redrawings.

33 Facsimile, text, and explanations in Piero Falchetta, *Fra Mauro's World Map: With a Commentary and Translations of the Inscriptions*, presentation by Marino Zorzi, CD-ROM Project: CIRCE, team headed by Caterina Balletti (Terrarum Orbis 5) (Turnhout: Brepols, 2006), no. 1011: "HIERUSALEN è in mezo de la terra habitabile secondo la latitudine de la terra abitabile, benchè secondo la longetudine la sia più occidental, ma perchè la parte ch'è più occidental è più habitada per l'europa [. . .], non considerando el spatio de la terra ma la moltitudine di abitanti." German translation in Ingrid Baumgärtner, "Kartographie, Reisebericht und Humanismus: Die Erfahrung in der Weltkarte des venezianischen Kamaldulensermonchs Fra Mauro (gest. 1459)," in *Fernreisen im Mittelalter*, ed. Folker Reichert = *Das Mittelalter: Perspektiven mediävistischer Forschung* 3 (1998): 161–97, here 179.

34 Cf. Paul D. A. Harvey, "Local and Regional Cartography in Medieval Europe," in *The History of Cartography*, ed. John B. Harley and David Woodward, vol. 1, *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (Chicago: Chicago University Press,

were already influencing early medieval ground plans of the Church of the Holy Sepulcher.³⁵ Together with the cross, they dominate maps of Jerusalem in manuscripts of the twelfth to fifteenth century. These constructs, referred to as *situs Jerusalem*, were intended to allow a kind of virtual pilgrimage to the holy sites. They include schematic “wheel” maps, circles divided by distinctive patterns of streets, and a few squares. At first glance most of them convey the ideal image of a city with circular walls, in contradiction of the actual facts.³⁶ The encyclopedist Lambert of Saint-Omer had adopted this kind of stylization in his *Liber floridus*, possibly on the basis of stories told by crusaders: he depicted Jerusalem in the midst of a hilly landscape, standing on a rock and fortified with strong walls.³⁷ This spatially oriented image served as a model for numerous other map

1987), 464–501, esp. 469–76, 492; Patrick Gautier Dalché, “Cartes de Terre Sainte, Cartes de Pélerins,” in *Fra Roma e Gerusalemme nel Medioevo: Paesaggi umani ed ambientali del pellegrinaggio meridionale, Atti del Congresso Internazionale di Studi (26–29 ottobre 2000)*, ed. Massimo Oldoni, vol. 1 of 3 (Salerno: Laveglia, 2005), 573–612.

35 Cf. e.g. Marlis Stähli, “Grundriss der Grabeskirche in Jerusalem,” in *SchriftRäume: Dimensionen von Schrift zwischen Mittelalter und Moderne*, ed. Christian Kiening and Martina Stercken (Medienwandel – Medienwechsel – Medienwissen 4) (Zurich: Chronos, 2008), 242ff. For the architecture see Robert G. Oosterhout, “Flexible Geography and Transportable Topography,” *Jewish Art* 23/24 (1997/98): 393–404.

36 Cf. Rudolf Simek, “Hierusalem civitas famosissima: Die erhaltenen Fassungen des hochmittelalterlichen *Situs Jerusalem* (mit Abbildungen zur gesamten handschriftlichen Überlieferung),” *Codices manuscripti* 16 (1992): 121–53. Fig. 6 can be identified with the map in Uppsala University Library, C. 691; one map that could be added to this is the circular map in London, British Library, Add. Ms. 32343, fol. 15v. Cf. Milka Levy-Rubin, “The Crusader Maps of Jerusalem,” in *Knights of the Holy Land*, exhibition catalogue (Jerusalem: The Israel Museum, 1999), 231–37; Rehav Rubin, *Image and Reality: Jerusalem in Maps and Views* (Israel Studies in Historical Geography) (Jerusalem: The Hebrew University Magnes Press, 1999), esp. 25–33; Gautier Dalché, “Cartes de Terre Sainte,” 576–86. For the Jerusalem maps of Montpellier (rectangular) and Brussels (circular), see Ingrid Baumgärtner, “Jerusalem, Nabel der Welt,” in *Saladin und die Kreuzfahrer: Begleitband zur Sonderausstellung “Saladin und die Kreuzfahrer,”* ed. Alfried Wiczorek, Mamoun Fansa and Harald Meller (Publikationen der Reiss-Engelhorn-Museen 17; Schriftenreihe des Landesmuseums für Natur und Mensch Oldenburg 37) (Mainz: Philipp von Zabern, 2005), 288–93.

37 There are various extant copies of the *Liber floridus*: Bruges, Groote Seminarie, Ms. 127/5, fol. 18r; Leiden, Bibliotheek der Rijksuniversiteit, Voss. Lat. fol. 31, fol. 85r; London, British Library, Cotton Fragments, fol. 19r; Paris, Bibliothèque nationale de France, Lat. 8865, fol. 133r. I would like to thank Hanna Vorholt at the Warburg Institute in London for the information about the manuscripts. Cf. Simek, “Hierusalem civitas famosissima,” 122, 124–26, 133 Fig. 3 (Leiden) and 8 (Paris); Guy Lobrichon, *Die Eroberung Jerusalems im Jahre 1099* (Sigmaringen: Jan Thorbecke, 1998), 44ff., with a reproduction of the lost map from Ghent, Universiteitsbibliotheek 1125 (92), fol. 65r. The depictions of the heavenly Jerusalem in the *Liber floridus* offer another variation; see Simek, “Hierusalem civitas famosissima,” Figs. 18–19 for



Fig. 6.7: Circular map of Jerusalem, second half of twelfth century; Brussels, KBR (Royal Library of Belgium), Ms. 9823–24, fol. 157r. Illustration taken from Baumgärtner, “Jerusalem, Nabel der Welt,” 289. Copyright KBR.

sketches, usually integrated into crusaders' writings, encyclopedias, or even astronomical and geographical compilations.

Typical examples are the east-oriented circular representations of the *situs Jerusalem* in a Brussels manuscript collection from the second half of the twelfth century (Fig. 6.7),³⁸ and in a London manuscript from the thirteenth century.³⁹ A characteristic feature is the external structure of concentric circles formed by the city wall, crowned with battlements and interrupted by five city gates, its stone blocks giving an imposing impression of solidity and strength. This diagrammatic construction recalls the imaginary cogwheel around which the world revolves in the Hereford map. What is different is that the inner city here includes streets bordered with houses and holy sites. The number of gates also differs: the world maps generally leave out the Golden Gate, which had long since been closed. The *situs* was a mnemonic device, an aide-memoire: it served to memorize the functions of the Holy City, to visit the holy sites in spirit, and to evoke memories by association. It was a sign of creation and re-creation, the symbol of a divine world order and a reflection of the act of redemption. Viewers could immerse themselves in religious contemplation, interpreting the local geography in theological terms and experiencing the stations of crucifixion, burial, and resurrection.

In the *rota* or wheel map in Brussels, radial axes structure the arrangement of the monuments in the urban area, between the two circular buildings, the Dome of the Rock in the east and the Church of the Holy Sepulcher in the west. Outside the walls, pilgrims and crusaders in seven small groups follow in Christ's footsteps. Abbreviations of mountains and architectural features symbolize stations of Christ's life and suffering, including (anticlockwise from bottom left) the Mount of Joy, where the first crusaders rejoiced over their first glimpse of Jerusalem; Bethlehem; Rachel's Tomb; Mount Zion with the Room of the Last Supper; the New Testament site of the "field of blood," Akeldama (Matthew 27:3), as the burial site of foreign pilgrims; Bethany; Jericho; and Nazareth. In northeastern Palestine, the River Jordan, rising in Lebanon and leading to the Dead Sea, connects three large lakes with the biblical names Sea of Galilee, Sea of Tiberias,

the manuscripts in Wolfenbüttel and Leiden. For the manuscripts and reproductions of the *Liber floridus* see Hanna Vorholt, *Shaping Knowledge: the Transmission of the Liber floridus* (Warburg Institute Studies and Texts 6) (London: The Warburg Institute, 2017).

38 Brussels, Royal Library of Belgium, Ms. 9823–24, fol. 157r; cf. Simek, "Hierusalem civitas famosissima," no. 2; Baumgärtner, "Jerusalem, Nabel der Welt," 289 with reproduction, 291ff.; Gautier Dalché, "Cartes de Terre Sainte," 582–84.

39 London, British Library, Add. Ms. 32343, fol. 15v; Harvey, *Medieval Maps*, 90 with Fig. 71; not mentioned in Simek, "Hierusalem civitas famosissima."

and Lake of Gennesaret. The mapmaker was probably not aware of their actual identity. Below the sources, a double line leads to the Tomb of the Virgin Mary; it marks the Valley of Josaphat, the site of the Last Judgment. Above it rise the Mount of Olives, the Mount of Temptation, Mount Sinai, and, next to the desert, the Mount of Beatitudes and Mount Tabor, the site of the transfiguration of Jesus and the appearance of the risen Christ. Thus the *situs* undergoes an almost unnoticed transformation from a city map into a regional one.⁴⁰

Not all, but most of these sites are found on the two well-known large Jerusalem-centered maps of the thirteenth and early fourteenth centuries. Here the Holy Land assumes a disproportionate importance,⁴¹ although the circle and square have to fit into a much larger encyclopedic-historical context. Both *mappae mundi* show, in conformity with the *rota* map, an abundance of Old and New Testament sites around Jerusalem. These include the River Jordan with its double source;⁴² the Sea of Galilee; the Dead Sea, recorded in the Old Testament as the Sea of Salt;⁴³ Mount Tabor as the refuge of the Israelites;⁴⁴ Jericho, lying below sea level;⁴⁵ Bethlehem, famous as the birthplace of Christ;⁴⁶ the Mount of Olives from the history of Christ's sufferings;⁴⁷ the Valley of Josaphat;⁴⁸ Mount Sinai;⁴⁹ the splendid Gerar, the old royal city of the Philistines;⁵⁰ and the house of the wedding at Cana, with the six stone jars.⁵¹ Ports such as Gaza, Tyre,

40 For regional maps of the Holy Land see Paul D. A. Harvey, "Der historische (biblische) Inhalt der Palästinakarten des Mittelalters," in *Geschichtsdeutung auf alten Karten: Archäologie und Geschichte*, ed. Dagmar Unverhau (Wolfenbütteler Forschungen 101) (Wiesbaden: Harrassowitz, 2003), 55–63; Paul D. A. Harvey, "Europa und das Heilige Land," in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis: Vorstellungswelten des Mittelalters 10) (Berlin: Akademie Verlag, 2008), 135–42.

41 Cf. Paul D. A. Harvey, "The Holy Land on Medieval World Maps," in *The Hereford World Map: Medieval World Maps and Their Context*, ed. Paul D. A. Harvey (London: British Library, 2006), 243–51, for the arrangement of the Holy Land in some world maps.

42 Westrem, *The Hereford Map*, nos. 244, 246; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 32/1.

43 Westrem, *The Hereford Map*, nos. 247, 261; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 33 (as an expansion of the River Jordan) and 33/12, 34/4.

44 Westrem, *The Hereford Map*, no. 366; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 33/5, 33/10.

45 Westrem, *The Hereford Map*, no. 381; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 33/20.

46 Westrem, *The Hereford Map*, no. 392; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 33/23.

47 Westrem, *The Hereford Map*, no. 385; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 33/4, 33/6.

48 Westrem, *The Hereford Map*, no. 390; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 32/13–14.

49 Westrem, *The Hereford Map*, no. 267; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 27/14.

50 Westrem, *The Hereford Map*, no. 407; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 34/6.

51 Westrem, *The Hereford Map*, no. 368; *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 25/9, 32/5, 34/18.

Tripoli, and Antioch also feature on both maps.⁵² Even the small Psalter map grants the Holy Land a fairly large number of symbols.⁵³

Admittedly, the textual signs also tell different stories. In the Ebstorf map, for example, they recount the histories of the Phoenician capital, Tyre, and tell of the cool climate in the crusader town of Antioch.⁵⁴ In the Hereford map they report the measure of distance between the towns of Dan and Beersheba.⁵⁵ These individual focuses become most interesting when – in keeping with Foucault’s concept of similitude – they continue important narrative strands from the theme of Jerusalem in the immediate vicinity of the city. Thus the makers of the Ebstorf map did not forget to add a series of important graves, even in this section of the map. There is Mount Zion, on which David and Solomon are said to be buried; Bethany, at the foot of the Mount of Olives, with the tomb of Lazarus; and the tomb of the Virgin Mary in the Valley of Josaphat.⁵⁶ The Hereford map creates a very different impression: for example, it presents a large-scale depiction of Calvary with the crucifixion, as the culmination of the Passion of Christ, giving it priority over all the other textual and visual symbols.⁵⁷ In summary, the individual cartographic narrative strands and their geometric forms of expression shape the Holy Land in the *situs* maps, just as they do in the world maps.

Jerusalem in Space: Center and Periphery

A comprehensive narrative space of Jerusalem is only constituted, however, when multilayered memories and patterns of representation serve to create

⁵² Westrem, *The Hereford Map*, nos. 406, 374, 358, 231; *Die Ebstorfere Weltkarte*, ed. Kugler, 1: nos. 34/16 (Gaza), 32/18 and 38/17 (Tyre), 31/33 (Tripoli), 25/11 and 24/20 (Antioch). Cf. Harvey, “The Holy Land on Medieval World Maps,” 249 for the similarities and differences in various world maps.

⁵³ Text in *Mappaemundi*, ed. Miller, 3:40ff. with Antioch, Jericho, Bethlehem, the Mount of Temptation, Mount Zion, Mount Tabor, and the Dead Sea.

⁵⁴ For Antioch see *Die Ebstorfere Weltkarte*, ed. Kugler, 1:no. 25/11 (*Anthiochia civitas*) and no. 24/20: “Orientis fluvius iuxta muros Antyochie decurrit [. . .], cuius fluentis frigidioribus et zeohiris assidue ibi spirantibus tota civitas momentis omnibus refrigeratur.” (“The Orontes flows directly past the walls of Antioch; [. . .] Because of its cold water and the west winds that always blow there the whole city has a cool climate at all times”). For Tyre see *ibid.*, no. 38/17.

⁵⁵ Westrem, *The Hereford Map*, no. 361.

⁵⁶ *Die Ebstorfere Weltkarte*, ed. Kugler, 1:no. 32/7 (*Mons Syon*), nos. 32/16 and 34/9 (*Bethania*), no. 33/3 (*Ecclesia Sancte Marie*).

⁵⁷ Westrem, *The Hereford Map*, no. 388.

links to other regions of the world, to the periphery, and beyond the edge of the world, and when these links are made accessible to the viewer. Ultimately, the map symbols only develop their full potential if the viewer distinguishes the nuances of the cartographic coding. This means not only reading the pictorial structures in the context of the map as a whole, but above all combining the individual symbols into meaning groups, establishing connections between elements of content, and thereby (re)constructing new units of meaning. In the bewilderingly complex large maps, this searching form of reading is guided partly by the polyvalent external legends, partly by striking internal structures.⁵⁸ Though these results are only partially transferable to the maps in book format, which are much less visually dynamic, these also seem to require a searching and categorizing form of reading as the basis for any kind of understanding. There is no denying, however, that even the present-day reading process is determined by the decisions of the mapmaker at the time, whether these were based on content-related or practical factors. In all these maps there is a tension between the aspiration to a representation of the world in its entirety, and the actual details of the selection carried out; between encyclopedic expansiveness and the longing for Jerusalem, focused on a single point.

Recognition of groups of themes and symbols presupposes the presence of familiar elements, which are to be sought or even completed by the educated viewer. There is, for example, the Bible-based division of the world among the sons of Noah, the prerequisite for Jerusalem's central position. Or the veneration of tombs, which creates links between the longed-for holy place and the map's place of origin. Another example is the four kingdoms in the vision of Daniel (Daniel 2) or in the world history of Paulus Orosius, which reconstruct the course of history – understood as *translatio imperii* – from east to west, from the earthly Paradise via Babylon and Jerusalem to Rome. Or there is the mission of the apostles, tracing the distribution of the nations in the diaspora, and raising the question of how to categorize the peoples at the edge of the earth.

Here it is worth revisiting the cross on Calvary in the Hereford map, which also makes multiple appearances in the Ebstorf and even in the Psalter map. As the T in the O, it structures the geographical space, separating Asia, Europe, and Africa from each other. At the same time, the T in the form of the *crux commissa*, in dialogue with the resurrected Christ, symbolizes redemption through Christ's death on the cross. Thus the T schema explains the division of the

58 Cf. Herberichs, "Lesbarkeit der Ebstorfer Weltkarte," 208ff.



Fig. 6.8: Ebstorf map, detail showing Paradise, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, no. 4.

world not only geographically, but also historically; in terms of time as well as space. Narrative and space fuse into a single entity.

We can also consider the symbols of earthly Paradise, which all contain multilayered references to the formal shape of Jerusalem.⁵⁹ On the Ebstorf map (Fig. 6.8) it appears as a rectangle within the earth's circle, standing on a mountain, bordered by a wall with a tower at the side, and placed beside the dominant head of Christ.⁶⁰ On the Psalter map it consists of two concentric circles within the earth's circle. Into this cramped space, two heads have been inserted: either those of Adam and Eve or of the biblical prophets Enoch and Elijah.⁶¹ And on the Hereford map Paradise appears in an indentation of the ecumene, as a circular island in the eastern ocean, whose surrounding walls clearly reflect the cogwheel-shaped fortifications of Jerusalem.⁶² In all three maps, the four rivers of Paradise (the Gihon, Nile, Euphrates, and Tigris, with the addition of the Ganges in the

⁵⁹ Scafi, *Mapping Paradise*, 125–59.

⁶⁰ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 11/3–4.

⁶¹ *Mappaemundi*, ed. Miller, 3:38. Here the author believes he can identify Adam and Eve in Paradise; the same view is taken by Scafi, *Mapping Paradise*, 149.

⁶² Westrem, *The Hereford Map*, nos. 54–70; cf. Scafi, *Mapping Paradise*, 146–48.

Psalter map) have their source in Paradise, and the creation of Paradise, the first event in world history, took place in the east. In dialogue with this origin, Jerusalem served as the cartographic hub of Christian perceptions of space and time, and as a symbol for the progression of history from east to west, from the origin of creation to the place of crucifixion and resurrection.

Even if Jerusalem-related visual and textual symbols often come from biblical, Christian contexts (such as the Old Testament, the Gospels, and the Acts of the Apostles), they are not necessarily incompatible with other types of sources and symbols. The principle of similarity is also able to integrate zoological and ethnological topics, historiographic and legendary material into the narrative space of Jerusalem. For example, the Jerusalem camel,⁶³ disrespectfully turning its rear end towards the Holy City in the Ebstorf map, not only recalls the treasures and customs of Arabia, but also the Magi.⁶⁴ This was not the first time such a camel had appeared. Towards the middle of the thirteenth century Matthew Paris, a Benedictine monk in St. Albans Abbey in the English county of Hertfordshire, produced a map of Palestine. In the legend-laden copy of this map that is now in London,⁶⁵ he placed a camel in front of the gates of the city of Acre. This hints at riches and exoticism, but also at the bridging function of the Holy Land in the exchange between Orient and Occident. Returning to the Ebstorf map, we find not far from the camel the *bonacus*⁶⁶ of Asia Minor, a cattle-like animal (Fig. 6.9), which repels its pursuers with dung that burns like

63 *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 31/19: *Camelus*; cf. Isidorus Hispalensis, *Etymologiae*, 12.1.35, with a description of the camel and the dromedary.

64 For religiously charged animal symbolism see Sabine Obermaier, “Der Heilige und sein Tier, das Tier und sein Heiliger – ein Problemaufriss,” in *Tier und Religion*, ed. Thomas Honegger and W. Günther Rohr = *Das Mittelalter: Perspektiven mediävistischer Forschung* 12, no. 2 (2007): 46–63; for the camel see 60.

65 London, British Library, Royal Ms. 14. C. VII, fols. 4v–5; Harvey, *Medieval Maps*, Fig. 73; text in *Mappaemundi*, ed. Miller, 3:90–94. Cf. Daniel K. Connolly, “Imagined Pilgrimage in the Itinerary Maps of Matthew Paris,” *The Art Bulletin* 81, no. 4 (1999): 598–622, esp. 604ff. with reproduction.

66 *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 31/25 (*bonacus*) and 31/1: “Habet et camelionem vermem plurimum necivum. Habet etiam bonacum animal bovi simile: stercus suum veluti spiculum per spacium iugeris dirigit et quicquid tetigerit velud incendium urit et sic suos insequitores submovet.” (“There is the chameleon, a deadly worm, there is also the bonacus, a cattle-like animal. It can hurl its dung the length of a field like a missile; this burns whatever it touches like fire, and this is how the animal wards off its pursuers.”) Cf. Uwe Ruberg, “Die Tierwelt auf der Ebstorfer Weltkarte im Kontext mittelalterlicher Enzyklopädik,” in *Ein Weltbild vor Columbus: Die Ebstorfer Weltkarte: Interdisziplinäres Colloquium 1988*, ed. Hartmut Kugler in collaboration with Eckhard Michael (Weinheim: Acta Humaniora, 1991), 319–46; see 330ff. for the *bonacus* and the frequently interpreted armed crusader beside it.

fire. From here a line can be drawn to the elk and aurochs further to the north, in the barren land of the strong men (Fig. 6.10).⁶⁷ A diagonal extension to the southeast leads into the upper right-hand corner of the map to the description of the wild cattle of Germany, whose long horns can be used to make prodigiously capacious drinking vessels for the royal table.⁶⁸



Fig. 6.9: Ebstorf map, detail showing camel and *bonacus*, around 1300; *Die Ebstorf Weltkarte*, ed. Kugler, nos. 31–32.

The distribution of these animals over the cartographically defined space takes into account classifications from scholarly knowledge of the world: for example, they all belong to the first chapter of the twelfth book of Isidore's *Etymologies*, following the description of livestock or beasts of burden. This is reflected in the upper right-hand external column of the Ebstorf map, thus forming a diagonal vanishing point.⁶⁹ The animals mark different countries: for example, the elk

⁶⁷ *Die Ebstorf Weltkarte*, ed. Kugler, 1:no. 37/B1, 37/26: *Urus* ("aurochs"); cf. Ruberg, "Die Tierwelt auf der Ebstorf Weltkarte," 321. For the connection with saints see Obermaier, "Der Heilige und sein Tier," 61ff.

⁶⁸ *Die Ebstorf Weltkarte*, ed. Kugler, 1:no. 7/10 in the top right-hand corner outside the earth's circle: "De apris. Apri egestes boves sunt in Germania, habentes cornua in tantum protensa ut regis mensis insigni capacitate ex eis gerule fiant." ("ON AUROCHS: The aurochs are wild cattle in Germania. They have such long horns that these are used to make drinking vessels of prodigious capacity for the royal table.")

⁶⁹ Isidorus Hispalensis, *Etymologiae*, 12.1–7, *De animalibus*, here 12.1.1–60, *De pecoribus et iumentis*. Cf. Ruberg, "Die Tierwelt auf der Ebstorf Weltkarte," 335–43.

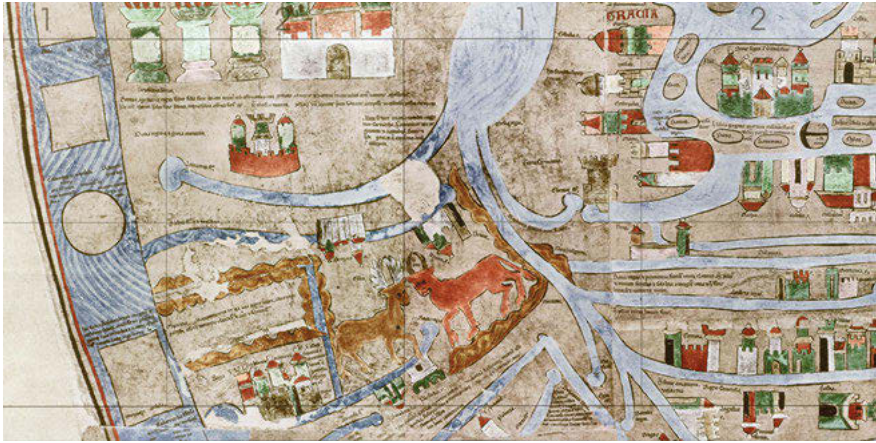


Fig. 6.10: Ebstorf map, detail showing aurochs, around 1300; *Die Ebstorfer Weltkarte*, ed. Kugler, nos. 36–37.

and the aurochs represent cold Russia (*Rucia regio*) at the point of transition to Scandinavia (which has been cut out of the map), while the camel stands for Arabia, blessed with a wealth of commodities.⁷⁰

Other beasts of prey have their roots in the symbolism of power and dominion. The lion, king of the animals and the embodiment of aristocratic values systems, stands as a dark beast in front of the Caspian Gates. In Europe, as a golden heraldic symbol of the power of the Welf dynasty, it rules over the walls of Brunswick.⁷¹ Allegedly even Rome was laid out on the basis of a lion's outline.⁷² The element connecting this to the Roman *lupa* may well have been the Welfs, since the German word *Welf* referred to a young predator or young wolf.⁷³

These and other animals can ultimately even be assigned to the compass points, via the four elements: the flying animals belong mainly to the upper eastern part of the *orbis*, the earth-bound reptiles more to the lower, western part.⁷⁴ The majestic camel asserting its place below the long text on Jerusalem in

⁷⁰ Cf. Ruberg, "Die Tierwelt auf der Ebstorfer Weltkarte," 321.

⁷¹ *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 17/6 (*Leo nobilissimus*) and no. 50/8; cf. no. 14/8 with the detailed description in the external legend. For the symbolism see Georg Scheibelreiter, "Tiersymbolik und Wappen im Mittelalter: Grundsätzliche Überlegungen," in *Tier und Religion*, ed. Thomas Honegger and W. Günther Rohr = *Das Mittelalter: Perspektiven mediävistischer Forschung* 12, no. 2 (2007): 9–23, here 9–15.

⁷² *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 46/38.

⁷³ Scheibelreiter, "Tiersymbolik und Wappen," 10.

⁷⁴ Cf. Ruberg, "Die Tierwelt auf der Ebstorfer Weltkarte," 335, 341–43.

the Ebstorf map becomes a kind of king among the four-legged beasts through its proximity to the lost city, the nexus of religious and political longings.⁷⁵ Thus the arrangement of the animals is not arbitrary, and, as Uwe Ruberg has noted, does not simply convert encyclopedic book learning “into a programmatic diagram of images and texts.”⁷⁶ Instead, the individual animal figures are an important part of the classification system, and refer back to the center in complex ways.

The semanticization of the compass points and the winds suggested further interpretations.⁷⁷ The hot south was home to monstrous, deformed races of humans and snake-like creatures. The north, imbued with negative connotations, was the place of the devil and the desperate; this was where the apocalyptic nations, Gog and Magog, often identified with the *inclusi* of Alexander the Great’s campaign, were expected to burst forth upon the arrival of the Antichrist, in order to lay waste to the earth.⁷⁸ On the Ebstorf map, Alexander has shut in the cruel peoples who will one day serve the Antichrist (Fig. 6.11). Before they leave

75 *Die Ebstorfer Weltkarte*, ed. Kugler, 1:no. 14/3 in the external legend: “De camelis. Cameli, cum onerantur, accubunt, et sunt curvo dorso. Hos licet alie regiones habeant, sed Arabia plurimos. Differunt autem sibi. Nam Arabici bina tubera in dorso habent, reliquarum regionum singula.” (“ON CAMELS. Camels lie down when they are being loaded, and have a hump. Although they also exist in other regions, they are most numerous in Arabia. They differ, however: the Arabian ones have two humps on their backs, the others only one.”). Cf. also *ibid.*, no. 14/4 for dromedaries.

76 Cf. Ruberg, “Die Tierwelt auf der Ebstorfer Weltkarte,” 346.

77 *Die Ebstorfer Weltkarte*, ed. Kugler, 2:29ff. with a schematic representation of the winds on the Ebstorf map. For the semanticization of the compass points see Hartmut Kugler, “Himmelsrichtungen und Erdregionen auf mittelalterlichen Weltkarten,” in *Text – Bild – Karte: Kartographie der Vormoderne*, ed. Jürg Glauser and Christian Kiening (Rombach Wissenschaften: Reihe Litterae 105) (Freiburg im Breisgau: Rombach, 2007), 175–99.

78 For Gog and Magog and the *inclusi* behind the Caspian Gates see Naomi Reed Kline, *Maps of Medieval Thought* (Woodbridge: Boydell Press, 2001), 184–87; Andrew Colin Gow, *The Red Jews: Antisemitism in an Apocalyptic Age, 1200–1600* (Leiden: Brill, 1995); Andrew Colin Gow, “Kartenrand, Gesellschaftsrand, Geschichtsrund: Die legendären judei clausi/inclusi auf mittelalterlichen und frühneuzeitlichen Weltkarten,” in *Fördern und Bewahren: Studien zur europäischen Kulturgeschichte der Frühen Neuzeit*, ed. Helwig Schmidt-Glinzer (Wiesbaden: Harrassowitz, 1996), 137–55. For the relationships between the *Alexander Romance* and medieval universal cartography see Hartmut Kugler, “Der Alexanderroman und die literarische Universalgeographie,” in *Internationalität nationaler Literaturen*, ed. Udo Schöning with the participation of Beata Weinhagen and Frank Seemann (Beiträge zum ersten Symposium des Göttinger Sonderforschungsbereichs 529) (Göttingen: Wallstein, 2000), 102–20. See esp. 108ff. for the more than forty stations from the *Alexander Romance* on the Ebstorf map, including Jerusalem and the impure nations of Gog and Magog.

their mountain prison, they eat human flesh and drink blood.⁷⁹ The scene is vividly depicted: the bleeding body of the victim, deprived of its extremities, lies between the two cannibalistic personifications of evil. The Caspian mountain ranges, better known as the Caucasus and the Taurus, and the sea of the same name lying behind them, far to the northeast, are only just able to hold back the Asian horrors; the Caspian Gates are still more or less closed.⁸⁰

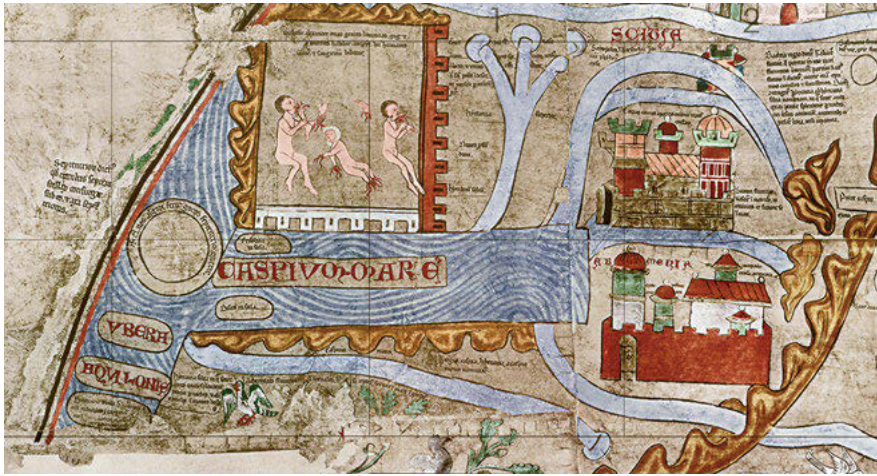


Fig. 6.11: Ebstorf map, detail showing Gog and Magog, around 1300; *Die Ebstorf Weltkarte*, ed. Kugler, nos. 15–16.

This notion of the threat emanating from the northeast gives a certain drama to each of the world maps discussed here.⁸¹ On the Hereford map, the descendants of Gog and Magog sit in isolation on the island of *Terracontia* in the encircling ocean, barbarically consuming the flesh of young men and miscarried fetuses.⁸² Even on

⁷⁹ Cf. *Die Ebstorf Weltkarte*, ed. Kugler, 1:no. 8/7, no. 15/A2: “Hic inclusit Alexander duas gentes immundas Gog et Magog, quas comites habebit Antichrist. Hii humanis carnibus vescuntur et sanguinem bibunt.” (“Here Alexander enclosed the two dreadful nations of Gog and Magog, who will be servants of the Antichrist. They eat human flesh and drink blood.”).

⁸⁰ Cf. *Die Ebstorf Weltkarte*, ed. Kugler, 1:nos. 15/5, 15/8, 16/12.

⁸¹ Further examples in Hartmut Kugler, “Europa pars quarta: Der Teil und das Ganze,” in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (*Orbis mediaevalis: Vorstellungswelten des Mittelalters* 10) (Berlin: Akademie Verlag, 2008), 45–61, esp. 49–55.

⁸² Westrem, *The Hereford Map*, no. 302: “Terracontia insula, quam inhabitant Turchi de stirpe Gog et Magog: gens barbara et immunda, invenum carnes et abortiva manducantes.”

the London Psalter map the semicircular Caucasus with the still closed Caspian Gates is clearly recognizable despite the otherwise very restrained *pictura*.⁸³ They are contrasted – if we do not wish to interpret the two bearded faces in Paradise as Adam and Eve – with Enoch and Elijah, the remaining righteous and the enemies of the Antichrist. At the heart of this multilayered perception and segregation of evil (which is nonetheless part of the essence of the world) is the contrast between Christ and the Antichrist, between the protecting ruler of the world and the legions of the destroyer. Once again this brings us back to the center, Jerusalem.

The significance of Jerusalem was heightened, then, by imaginary counter-worlds, including the monstrous peoples at the southern edge of the earth. The images in the Psalter map are particularly expressive: from east to west, we see four-eyed and six-fingered creatures; pipe-eaters with misshapen mouths; tongueless beings reliant on sign language; creatures without ears or noses; sciapods; people with protruding lips; headless men with eyes on their chests (Blemmyes) or shoulders; snake-eating troglodytes and people bent forward, walking on all fours; cannibals and men with the heads of dogs (*cynocephali*).⁸⁴ Konrad Miller has already pointed out the connection with the much larger Ebstorf map, which depicts these deformed creatures in even greater detail, in two rows.⁸⁵ The monster gallery of the Hereford map seems more modest in comparison – until the observer realizes, after lengthy scrutiny, that the misshapen and depraved beings are distributed over nearly three quarters of the earth's border.⁸⁶

Two explanations have so far been offered for the presence of these figures: one suggests that medieval alterity was associated with a fondness for the fantastical, the other argues that the exotic is an anthropological constant, right up to the entertainment media of our times, such as films and computer games featuring the Middle Ages. Neither explanatory model gets to the heart of the matter, however: despite their representation at the edge of the world, the monstrous peoples should be understood as an important component of a complex system of narrative and classification. As emphasized by Marina Münkler, the marginal

83 *Mappaemundi*, ed. Miller, 3:40. Cf. also Andrew Colin Gow, “Das Gefolge des Antichristen: Zur Legende von den ‘roten Juden,’” in *Der Antichrist: Die Glasmalereien der Marienkirche in Frankfurt (Oder)*, ed. Ulrich Knefelkamp and Frank Martin (Leipzig: Edition Leipzig, 2008), 102–12, here 104.

84 *Mappaemundi*, ed. Miller, 3:42.

85 *Die Ebstorfer Weltkarte*, ed. Kugler, 1:nos. 21, 27–28, 34–35, 42, 49.

86 Westrem, *The Hereford Map*, nos. 961–73; cf. Naomi Reed Kline, “The World of the Strange Races,” in *Monsters, Marvels and Miracles: Imaginary Journeys and Landscapes in the Middle Ages*, ed. Leif Søndergaard and Rasmus Thorning Hansen (Odense: University Press of Southern Denmark, 2005), 27–40.

beings at the periphery make a crucial contribution to the interpretation of the center, on various levels of meaning relating to diversity and transcendence.⁸⁷ They are not a deficient reflection of grotesque medieval distortions, but part of an overall program in which, in the case of the Jerusalem-centered world maps, every single segment is related to the Holy City.

Conclusion

In summary, a complex system of similarity and symbol was the stimulus for the narrative order of the large-format world maps. Similitude, reflections, and unwritten stories drew disparate elements closer together, despite the spatial distances between the symbols, transcending the boundaries of time and space and creating an endless succession of new narrative combinations.⁸⁸ Perhaps this system is most potently present in the medieval maps of the ecumene. These gave cartographic form to the extremely complex relations linking the whole of creation: as temporary proximities, both peaceful and dangerous; as a play of reflections between distant symbols; or as subtle, polyvalent similarities, which only become apparent at second or third glance. The result, in any case, was cross-connections, relations of subordination and superiority, which serve multiple functions in geographically and chronologically defined units of meaning, and can be interpreted in terms of the Foucauldian concept of similitude.

It was only in creative recognition and understanding that readers and viewers created a narrative space, a space which, in the large-format, Jerusalem-centered maps of the ecumene (which could be devotional pictures, representative showpieces, or illustrative material for teaching), was clearly related to the center point. Thus at the end of the thirteenth and the beginning of the fourteenth century Jerusalem came to be the core of a global narrative space. What was once the navel of the world became a space of longing and memory which encompassed the world, and which, building on biblical, Christian motifs, was

⁸⁷ Münkler, “*Monstra und mappae mundi*,” 149–73; cf. also Marina Münkler and Werner Röcke, “Der ordo-Gedanke und die Hermeneutik des Fremden im Mittelalter: Die Auseinandersetzung mit den monströsen Völkern des Erdrandes,” in *Die Herausforderung durch das Fremde*, ed. Herfried Münkler (Interdisziplinäre Arbeitsgruppen, Forschungsberichte 5) (Berlin: Akademie Verlag, 1998), 701–66.

⁸⁸ Münkler, “*Monstra und mappae mundi*,” 161.

able to include all the existing encyclopedic knowledge. Of necessity, knowledge about the narratives had to be reduced to a small number of key words. The viewer's task was to reverse this cartographic reduction, and to carry out a visual exegesis, recognizing contexts of meaning and meaning groups, and their significance for the focal point, Jerusalem.

Chapter 7

Travel Accounts, Maps, and Diagrams: Burchard of Mount Sion and the Holy Land

The Holy Land has always played an important role in the imagination of the Latin Christian Middle Ages. As a multifunctional contact zone between Europe and Asia, it served as a region of diverse interactions between the three Abrahamic religions, a destination for pilgrims, and a place where many disputes over territory took place. The armed crusades of 1099 by the Latin Christians led to the formation of the crusader states, which fell again after the final loss of Jerusalem in 1244 and the fall of Acre to the Mamluk sultan al-Ashraf Khalil in 1291. The seizures and loss of territory meant that this part of the world became the subject of hundreds of travel and crusade accounts, as well as some of the first regional maps created in Europe.¹ Besides the Madaba Mosaic Map, dated to the sixth to seventh century and only preserved as a fragment, more than twenty maps of Palestine have been found, as well as numerous Holy Land diagrams and city maps dating from the twelfth to the fourteenth centuries. This abundance is in sharp contrast to the paucity of detailed city, judicial, country, and sectional maps which we have for the different regions of Europe up to 1400. European

¹ This article was developed from a paper that I gave at the International Medieval Congress in Leeds in 2011. I am grateful to the Gerda Henkel Stiftung for providing financial support for travel and research costs and to the Villa I Tatti, The Harvard University Center for Italian Renaissance Studies, in Florence, Italy, for providing me with the opportunity to stay there as a research associate. Paul D. A. Harvey, “The Biblical Content of Medieval Maps of the Holy Land,” in *Geschichtsdeutung auf alten Karten. Archäologie und Geschichte*, ed. Dagmar Unverhau (Wolfenbütteler Forschungen 101) (Wolfenbüttel: Harrassowitz, 2003), 55–63; Paul D. A. Harvey, “Europa und das Heilige Land,” in *Europa im Weltbild des Mittelalters. Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10) (Berlin: Akademie Verlag, 2008), 135–42. Harvey counts twenty-one maps excluding the city maps, in particular of Jerusalem and its surroundings, and without other drawings such as Brussels, Royal Library of Belgium/Koninklijke Bibliotheek van België (henceforth referred to as KBR), Ms. IV 462, fol. 8r (first half of the thirteenth century); cf. Patrick Gautier Dalché, “Cartes de terre sainte, cartes de pèlerins,” in *Fra Roma e Gerusalemme nel medioevo. Paessaggi umani ed ambientali del pellegrinaggio meridionale*, ed. Massimo Oldoni, vol. 2 (Salerno: Laveglia, 2005), 573–612; Ingrid Baumgärtner, “Das Heilige Land kartieren und beherrschen,” in *Herrschaft verorten. Politische Kartographie des Mittelalters und der Frühen Neuzeit*, ed. Ingrid Baumgärtner and Martina Stercken (Zurich: Chronos, 2012), 27–75; Paul D. A. Harvey, *Medieval Maps of the Holy Land* (London: British Library, 2012).

travelers and draftsmen were already exploring the geography of the Middle East at a time when they seldom mapped their home regions.

The sacred places and the territories surrounding them held ideological significance. The ways in which they are described in texts and visualized in maps and diagrams contributed to the impression that these coveted places were held by the Christian West. Crusader beliefs and the veneration of Jerusalem established a model for interpreting and organizing history, which in turn influenced the world order of European crusaders and the world knowledge of pilgrims and scholars. Using visual descriptions, Europeans found a new way to operationalize their distant conquests. Despite all efforts to make claims to the border region disputed by the various religions a reality, this symbolic occupation can be interpreted as reflecting a fundamental desire. As John Brian Harley argues, “to map the land was to own it and make that ownership legitimate.”² The results were interactions between the textual descriptions provided by pilgrim accounts and encyclopedias and the visual cartographic and diagrammatic images. And so, the questions here are: to what extent were text and cartography, narrative accounts and graphical designs, interdependent, and which spatial visualizations did authors create for the targeted reader through the use of various media?

The following closely examines the relationship between the description and mapping of spaces and the extent to which space can be described and mapped. Travel accounts have a special ability to generate a layout. They refer to spaces and topographies beyond the textual descriptions, thereby making them visible. Even the texts themselves produce positioning, which can be cartographically illustrated as a complement to the description and then color the account once again. The maps are then no longer seen as surveys of topographical reality and visualizations of landscapes and places, but as multipurposed, as we consider their qualities as cultural texts. They represent different systems of classification; they suggest the potential control over and designation of areas, and are used to generate knowledge and discursive interaction with the observer. On the one hand, they are tools for orientation and self-positioning and, on the other, products of discourses on power and religion. Therefore, they play active and passive roles in the visualization of territories. In each of these roles, they are closely

² John Brian Harley, assisted by Ellen Hanlon and Mark Warhus, *Maps and the Columbian Encounter: An Interpretive Guide to the Travelling Exhibition* (Milwaukee: University of Wisconsin, 1990), 99; also quoted in abbreviated form in John H. Andrews, “Introduction: Meaning, Knowledge, and Power in the Map Philosophy of J. B. Harley,” in *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton (Baltimore: Johns Hopkins University Press, 2001), 1–32 at 22.

bound to the political cultures of their times, knowledge of areas, and power. This applies in particular to the Holy Land and its cultural, religious, and geopolitical representation in textual and visual description.

Using Burchard of Mount Sion and his Holy Land description as an example, we can examine how text and image interact in the acquisition of territories, and which changes each of these types of representation were subject to over time. The Dominican wrote down his experiences while or after spending several years in the Holy Land around 1283/84.³ Burchard's *Descriptio terrae sanctae* became a late medieval popular success. Its various versions, including a short and a long version in Latin and translations into German and French, have been handed down in approximately one hundred medieval and early modern manuscripts and some early printed books of the fifteenth and sixteenth centuries. Burchard's description, although little studied even today, is considered a key document that influenced the perception of Palestine in both text and image, in travel accounts and maps until far into the sixteenth century.

Some of the manuscripts and later prints of Burchard's text are accompanied by graphical work, including regional maps, diagrams, miniatures, and city plans. Differentiated regional maps visualize, for instance, two handwritten long versions from the fourteenth and early sixteenth centuries.⁴ Regional diagrams of the winds illustrate a short and a long version from the fourteenth and fifteenth centuries now in London and Munich, respectively, as well as a longer version in

3 For the author and his work cf. Ernst Rotermund, "Das Jerusalem des Burchard vom Berge Sion," in *Zeitschrift des Deutschen Palästina-Vereins* 35 (1912): 1–27 and 57–85; *Repertorium fontium historiae medii aevi* 2 (Rome: Istituto Storico Italiano per il Medio Evo, 1967), 609; Thomas Kaeppli, *Scriptores Ordinis Praedicatorum 1: A–F* (Rome, 1970), 257–60; Karin Schneider, "Burchardus de Monte Sion," in *Die deutsche Literatur des Mittelalters. Verfasserlexikon*, ed. Kurt Ruh, vol. 1 (Berlin: De Gruyter, 1978), 1117f.; Jan Prelog, "Burchard de Monte Sion OP," in *Lexikon des Mittelalters*, ed. Robert-Henri Bautier, vol. 2 (Munich: Artemis & Winkler, 1983), 953; Harvey, "The Biblical Content," 56–59; Gritje Hartmann, *Wilhelm Tzewers: Itinerarius terre sancte. Einleitung, Edition, Kommentar und Übersetzung* (Abhandlungen des deutschen Palästina-Vereins 33) (Wiesbaden: Harrassowitz, 2004), 38–42; Gautier Dalché, "Cartes de terre sainte," 586–92; Ingrid Baumgärtner, "Reiseberichte und Karten. Wechselseitige Einflüsse im späten Mittelalter?," in *In Spuren reisen. Vor-Bilder und Vor-Schriften in der Reiseliteratur*, ed. Gisela Ecker and Susanne Röhl (Münster: LIT Verlag, 2006), 89–124 at 108f.; Harvey, "Medieval Maps," 94–106 for Burchard of Mount Sion and the map of the Holy Land in Florence, Archivio di Stato, Carte nautiche, geografiche e topografiche 4. I am grateful to Professor Harvey for allowing me to read and refer to the relevant chapter of his book prior to publication.

4 Florence, Biblioteca Medicea Laurenziana (henceforth referred to as BML), Plut. 76.56, fols. 97v–98r; Hamburg, Staats- und Universitätsbibliothek (henceforth referred to as SUB), Cod. geogr. 59, pp. 70–71 with a map of the Holy Land.

Hamburg from the early sixteenth century.⁵ A T-O diagram of the world supplements the excerpts of a long version from the fifteenth century now in Munich.⁶ In addition, two portolan-style maps of Palestine, produced around 1300, were transmitted separately from the account that inspired their makers.⁷ These multifaceted circumstances of transmission offer us an opportunity to analyze in greater detail the correlation between map and account, as well as the content, routes, and structures of the transfer of knowledge between written accounts and cartographical visualization.

This interrelation can be outlined in six steps. The first is to examine the biographical context of origin and its complex circumstances of transmission; the second to look at the structure of the account, including its graphical presentation; the third to discuss the diagramming and mapping methods used in the manuscript versions of the account; the fourth to study the relevance of the separately transmitted maps and their interplay with the text of the travel report; the fifth to briefly discuss the visual and textual reception of Burchard's account, in the manuscripts and the printed editions; and the final step is to present a summary of the results.

Biographical Context of Origin and Circumstances of Transmission

What we know of Burchard's life comes only from his travel report. However, without knowing what was added by copyists and annotators, it is difficult to know precisely what Burchard himself wrote. The starting point is complex. We are currently aware of approximately one hundred medieval and early modern copies in Latin, German, and French, including over eighty manuscripts of the Latin text in short and long versions. There are numerous variations on each version. A number of short-version manuscripts contain a preface in two different versions. A few copies of the longer version include an additional description of

⁵ London, British Library (henceforth referred to as BL), Add. Ms. 18929, fols. 1r–50v (long version), fol. 51r with a wind diagram; Munich, Bayerische Staatsbibliothek (henceforth referred to as BSB), Clm 569, fols. 184r–210v (short version), fol. 186v with a wind diagram; Hamburg, SUB, Cod. geogr. 59, pp. 10–69 (long version), p. 13 with a wind diagram. I would like to thank Ekkehart Rotter for graciously referring me to the diagrams in Munich and Hamburg.

⁶ Munich, BSB, Clm 14583, fols. 454r–488v, here fol. 471v with a T-O scheme.

⁷ Florence, Archivio di Stato (henceforth referred to as AST), Carte nautiche, geografiche e topografiche 4; Reinhold Röhrich, "Karten und Pläne zur Palästinakunde aus dem 7.-16. Jahrhundert I," *Zeitschrift des Deutschen Palästina-Vereins* 14 (1891): 8–11; and Figure I, New York, The Morgan Library & Museum, Ms. M.877.

Egypt, as perhaps some of the missing shorter-version manuscripts did. Compilations and excerpts also have been found merged with works of other authors.⁸ All of this leads to the fact that the biographical information contained in the numerous versions and their variations differs significantly. Therefore, we are not able to ascertain sources for the information, who added it, or how reliable the statements are. As a consequence, Burchard's biography and works, thanks to the imagination and additions of others during and after his time, became even more complex constructions.

These multilayered constructions have affected the judgments of scholars up to the present day. This can be partially attributed to the fact that, to this date, neither the long nor short version has been critically edited, and both are available only in old, incomplete editions. In 1604, Heinrich Canisius published the Latin short version, last reprinted in 1725, and without the seldom-transmitted preface.⁹ In 1864, Johann C. M. Laurent published the long version, which was reprinted in 1873.¹⁰ He added a detailed forward about the circumstances of transmission, but

8 Cf. Cecilia Blanco Pascual, "Los manuscritos del *Tractatus de Terra Sancta compilatus a fratre Marino et a fratre Brocardo* (anónimo): Algunas notas críticas," *Exemplaria Classica: Journal of Classical Philology. Revista de Filología Clásica* 12 (2008): 181–93; Cecilia Blanco Pascual, "El *Tractatus de Terra Sancta Compilatus a Fratre Marino et a Fratre Brocardo* (anónimo): "Plagio" y originalidad," *Actas do IV Congresso Internacional de Latim Medieval Hispânico*, ed. Aires Nascimento and Paulo Alberto (Lisbon: Centro de Estudos Clássicos, 2006), 243–49. Michele Campopiano, University of York, is preparing an edition of the compilation in Wolfenbüttel, Herzog-August-Bibliothek (henceforth referred to as HAB), Cod Guelf. 391 Helmst. and examines the different collections of texts in manuscripts with pilgrims' guidebooks; cf. Michele Campopiano, "Tradizione e edizione di una compilazione di testi sulla Terra Santa proveniente dal convento francescano del Monte Sion (fine del XIV secolo)," *Revue d'histoire des textes* n.s. 4 (2011): 329–59; Michele Campopiano, "Islam, Jews and Eastern Christianity in Late Medieval Pilgrims' Guidebooks: Some Examples from the Franciscan Convent of Mount Sion," *Al-Masāq: Islam and the Medieval Mediterranean* 24, no. 1 (2012): 75–89.

9 For an edition of the short version, see Burchard de Monte Sion, "*Descriptio terrae sanctae*," ed. Heinrich Canisius, *Antiquae lectionis*, vol. 6 (Ingolstadt: Officina typographica Ederiana, 1601–1604), 295–322; Burchard de Monte Sion, "*Descriptio terrae sanctae*," in *Thesaurus monumentorum ecclesiasticorum et historicum, sive Henrici Canisii lectiones antiquae*, ed. Heinrich Canisius and Jacques Basnage de Beauval, vol. 4 (Antwerp: Apud Rudolphum & Gerhardum Wetstenios, 1725), 1–28. This is the only edition of the short version; it is based on a manuscript from the monastery of St. Mang in Regensburg, today in Munich, BSB, Clm 569, fols. 184r–210v.

10 Edition of the long version: Burchard de Monte Sion, "*Descriptio terrae sanctae*," in *Peregrinatores medii aevi quatuor*, ed. Johann C. M. Laurent (Leipzig: J. C. Hinrichs Bibliopola, 1873), 11–94; English translation: Burchard of Mt. Sion, *Description of the Holy Land*, trans. Aubrey Stewart (Library of the Palestine Pilgrims' Text Society 12) (London, 1896, reprint New York: AMS Press, 1971); *Pilgrimage to Jerusalem and the Holy Land, 1187–1291*, ed. Denys Pringle (Crusade Texts in Translation 23) (Farnham: Ashgate, 2012), 241–320; reprint and Italian translation: Burchardus de

was unaware of the description of Egypt, which probably was included in only a few of the long-version manuscripts. The situation becomes increasingly complicated, because the two versions, as determined by Ernst Rotermund and recently confirmed by Paul Harvey, may have been two completely different works, and not simply variations of the same text.¹¹

It is even more difficult to clarify the relationship between the two versions. In his preface, Laurent assumed that Burchard wrote the short version while in the Holy Land, sent it to Magdeburg, and only later, based on this first rapid narrative, produced the complete version, which is almost four times longer than the short version.¹² Accordingly, authors such as Johann Laurent and Paul Harvey privileged the short version. They argue that it tells us more about Burchard himself than the long version, as the latter supposedly omits some personal comments.¹³ At the same time, however, Harvey emphasizes that many references made in the short version are meaningful only when read in the context of the long version, which, therefore, must form the basis of the short version.¹⁴ This means that the short version, which contains more biographical information, must have come from the long version. The question of authorship of the individual versions and their biographical additions remains unanswered.

Adaptations and printed copies followed later. In the fourteenth and fifteenth centuries, the works were translated into German and French. These translations are available in only a few manuscripts. One copy of the short version and two copies of the long version in German are found today in Munich, in Vienna, and in Klosterneuburg, Austria.¹⁵ The translated work was distributed in the form of early printed books: German editions in 1534, 1583, 1584,

Monte Sion, “*Descriptio terrae sanctae*,” ed. Sabino de Sandoli, *Itineraria hierosolymitana cruce-signatorum (saec. XII–XIII)* (Publicazioni dello Studium Biblicum Franciscanum 24), vol. 4 (Jerusalem: Franciscan Printing Press, 1978–1984), 119–219.

11 Rotermund, “Das Jerusalem des Burchard,” 3; Harvey, “Medieval Maps,” 98–99. There are differences in the titles, for example. The long version divides the Holy Land into seven or eight sectors, when including the separate chapter on Jerusalem; the short version, in contrast, focuses on individual Holy Land locations and sites.

12 Burchard, “*Descriptio*,” ed. Laurent, 10.

13 Burchard, “*Descriptio*,” ed. Laurent, 3–4; Harvey, “Medieval Maps,” 94–106.

14 Harvey, “Medieval Maps,” 98–100 with examples.

15 Short version in Klosterneuburg, Stiftsbibliothek, Cod. 1056, fols. 75r–98r; long versions: Munich, BSB, Cgm. 317, fols. 131ra–140vb; Vienna, Österreichische Nationalbibliothek, Cod. 4578, fols. 195va–207va. For the codex in Munich, dated 1406–1450, cf. Karin Schneider, *Die deutschen Handschriften der Bayerischen Staatsbibliothek München: Cgm 201–350* (Wiesbaden: Harrassowitz, 1970), 306–16; Kaeppli, *Scriptores*, 260; Reinhold Röhrich, *Bibliotheca geographica Palaestinae. Chronologisches Verzeichnis der von 333 bis 1878 verfassten Literatur über das Heilige Land mit dem Versuch einer Kartographie*, Berlin 1890, verbesserte und vermehrte

1609, 1629, and 1827; and a French edition in 1488. Approximately twenty editions of the Latin version were published by the middle of the eighteenth century, after its first printing in the *Rudimentum novitiorum* in 1475.¹⁶ All of these texts offer different information about the author and his travels through the Holy Land, along with a variety of pictures, diagrams, and maps that illustrate his experiences in foreign territories.

Some manuscripts tell us that Burchard of Mount Sion was of German origin (*Theotonicus*) and that he came from the Magdeburg region.¹⁷ Because of his first name, he has repeatedly been associated with the noble Barby family of the region, not to be confused with the then Earl of Barby. We can assume that he was a Dominican friar: he refers to himself as *frater* in the incipit of the short version (in later printed copies, however, the text refers to Burchard as *monachus*), and addressed a copy of the work to a Dominican friar of the same name, Burchard, in Magdeburg.¹⁸ It is almost certain that Burchard of Mount Sion spent several years in the Middle East, certainly in 1283/84, probably before and perhaps even after; however, the duration of his stay is difficult to estimate. It is possible he spent up to ten years there.

Above all, Burchard's account describes the Holy Land, including its borders, flora and fauna, and the religions of the inhabitants. When he later claims

Neuausgabe mit einem Vorwort von David H. K. Amiran (Jerusalem: John Trotter Publishers, 1963), 57. An edition of the unprinted German version is still missing.

16 *Rudimentum novitiorum* (1475), fols. 176r–200r, map of the Holy Land *ibid.*, fols. 174v–175r; Burchard, “*Descriptio*,” ed. Laurent, 11–17, with a list of the twenty Latin editions from 1475 to 1746 and the print versions of the translations.

17 Padova, Biblioteca del Seminario Vescovile (henceforth referred to as BSV), Cod. 74, fol. 32v, manuscript from the early fourteenth century with two pieces of important information: The explicit of this long version dates the account to 1284 and identifies Burchard as a German (*Theotonicus*). For the codex cf. *I manoscritti della Biblioteca del Seminario Vescovile di Padova*, ed. Andrea Donello et al. (Venice and Florence: Regione del Veneto, Giunta regionale, 1998), 24. Cf. the explicit in Florence, BML, Plut. 76.56, fol. 101v. Harvey, “Medieval Maps,” 94 infers the German descent also from the fact that the short version mentions a place called *Rotenburch*, located between Jerusalem and Jericho, where much blood was spilled; cf. Burchard, “*Descriptio*,” ed. Canisius and Basnage, 16: “Locus idem Rotenburch appellatur, propter multum sanguinem ibi susum [. . .].” For the origin from the Magdeburg region, cf. Burchard, “*Descriptio*,” ed. Canisius and Basnage, 17: “(. . .) quod Ierusalem amplior multo sit & longior, quam antiqua civitas Magdeburgensis (. . .).”

18 Burchard, “*Descriptio*,” ed. Canisius and Basnage, 9: “[. . .] fratri Burchardo, Lectori Ordinis Praedicatorum in Maydenburch, frater Burchardus de monte Sion.” Even the long version in Hamburg (circa 1500) identifies Burchard as a Dominican: Hamburg, SUB, Cod. geogr. 59, p. 10 with the title *Itinerarius terre sancte valde bonus, editus a fratre Borchardo de Berghe ordinis predicatorum*; cf. Burchard, “*Descriptio*,” ed. Laurent, 6.

to have been in Cappadocia, in Cyprus, which was ruled at the time by the Hospitallers, and in Egypt, we must ask ourselves if this statement has any merit.¹⁹ For, in the preface, he emphasizes his personal experiences and status as an eyewitness.²⁰ To fulfill the wishes of his readers, he supposedly crossed the territory on foot many times. He claims to have observed everything his readers would like to know, noted it with care, and written it down diligently. He states that he recorded nothing in his account that he did not see with his own eyes, or, if he was unable to access certain places, he rigorously questioned a Syrian, Saracen, or other native and precisely recorded the answers.

It might be hasty to dismiss these recurring declarations as a topos, since the author admits never setting foot in the remote regions east of Jordan and the Sea of Galilee.²¹ In other places he mentions which monuments and landscapes he saw and which ones he had to forego.²² For example, he reports that because of the wild animals and snakes, and particularly because of the combative Bedouins, about whom the natives had warned him, he was unable to travel to the region where one could see the pillar of salt that was once Lot's wife.²³ Despite this, we do not know much for sure, except that the inquisitive Burchard traveled the Holy Land and wrote a *Descriptio terrae sanctae*.

Even the date of the transcript is questionable. According to Johann Laurent, the work was written between 1271 and 1285, while Denys Pringle concludes that it was written between July 1274 and May 1285.²⁴ The *explicit* of a manuscript in Padua from the early fourteenth century indicates that the account was completed

19 Burchard, "*Descriptio*," ed. Laurent, 61 on the production of balsam in Egypt and 93–94 on the travel routes.

20 Burchard, "*Descriptio*," ed. Laurent, 20–21; cf. *Pilgrimage*, ed. Pringle, 242: "I have inspected, diligently recorded and studiously described in so far as I have been able that land through which I have frequently passed on foot; and I would wish the reader to know that I have included nothing in this description except what I saw with my own eyes when I was in the place itself or, when I was unable to gain access, what I saw standing on some mountain or in another suitable place; and I have noted down what I have learnt from Syrians, Saracens or other inhabitants of the land, diligently questioning them."

21 Burchard, "*Descriptio*," ed. Laurent, 41; cf. *Pilgrimage*, ed. Pringle, 264: "Note that the land beyond the sea of Galilee is extremely mountainous, as it seems to me, although I have not entered it."

22 Burchard, "*Descriptio*," ed. Laurent with words like "non uidi" or "non intraui," such as on p. 53 to Samaria. We can find the word "vidi" nearly fifty times in the report.

23 Burchard, "*Descriptio*," ed. Laurent, 59; cf. *Pilgrimage*, ed. Pringle, 283.

24 Burchard, "*Descriptio*," ed. Laurent, 4. Cf. *Pilgrimage*, ed. Pringle, 50; cf. Harvey, "Medieval Maps," 95.

in 1284.²⁵ This would make a date of composition between 1283 and 1284 plausible. In the long and short versions, the author reports visiting Mount Gilboa on November 11, St. Martin's Day.²⁶ Later printed copies surprisingly date this event as November 1, All Saints' Day, 1283.²⁷ This example also demonstrates the need for a critical edition of the account; irrespective of whether the different versions contain intentional changes or small scribal errors, we still do not know who inserted and altered this information.

Other biographical information appears to be even less reliable. Are we really to believe that Burchard could read Arabic, simply because one copy of the long version proposes that he tried to read the Koran?²⁸ Did he belong to a delegation sent by the Roman King Rudolf I of Habsburg (1273–1291) to the sultan in Cairo, as the long version of the manuscript in Nancy, not written until 1517,²⁹ suggests? Nevertheless, the long version printed by Laurent mentions a visit to Egypt, where Burchard supposedly saw at the sultan's court how balsam was grown in large quantities.³⁰ Only a few manuscripts, including the long versions in Wolfenbüttel, Germany, and Paris (which is lost), give details of this supposed trip to Egypt.³¹

25 For dating purposes cf. Padova, BSV, Cod. 74, fol. 32v: "Explicit liber de Descriptione terre sancte editus a fratre Borcardo theotonico ordinis fratrum predicatorum. Sub anno domini MCCLXXXIII.".

26 Burchard, "*Descriptio*," ed. Laurent 52: "cum in die beati Martini essem ibi"; Burchard, "*Descriptio*," ed. Canisius and Basnage, 15: "Nec est verum quod dicitur de monte Gelboe, quod in eo nec ros nec pluvia descendat: Quia cum in die sancti Martini essem in valle Jezrael sub monte, vidi pluviam maximam super montem, quae etiam aquae ad nos descenderunt de monte."

27 Venice 1519; Magdeburg 1593; the Antwerp edition of 1536 gives the year but not the day; cf. Burchard, "*Descriptio*," ed. Laurent, 52, note 342.

28 Burchard, "*Descriptio*," ed. Laurent, 53; Burchard, "*Descriptio*," ed. de Sandoli 162: "Machometum dicunt nuncium Dei fuisse et ad se tantum a Deo missum. Hoc legi in alcorano, qui est liber eorum."

29 Nancy, Bibliothèque Municipale Ms. 250, fols. 89r–177r, here fol. 89r.

30 Burchard, "*Descriptio*," ed. Laurent, 61; cf. *Pilgrimage*, ed. Pringle, 285–86: "On and around this mountain was a certain garden of balsam [. . .]. This I also saw when I was coming to the sultan in Egypt. He had me taken to it and I took a great quantity of balsam wood and bathed in the well from which it is watered."

31 The supplement from the missing codex in Paris, Bibliothèque nationale de France, NAL 781 was printed by Henri Omont, "Manuscrits de la bibliothèque de sir Thomas Phillipps récemment acquis pour la Bibliothèque nationale," *Bibliothèque de l'École des Chartes* 64 (1903): 490–533 at 498–503; available online at: http://www.persee.fr/web/revues/home/prescript/issue/bec_0373-6237_1903_num_64_1. Cf. Kaeppli, *Scriptores*, 259. The Egyptian section is missing in the printed version of Burchard, "*Descriptio*," ed. Laurent, even though Laurent used a total of twenty-six manuscripts as the basis of his edition; it was transmitted in Wolfenbüttel, HAB, Cod. Guelf. 354 Helmst., fols. 165rb–167rb (Incipit: "De descriptione egipti. Perueni usque ad ostia nyli fluminis"; Explicit: "Istud retulerunt omnes egyptij et cristiani et sarraceni bona fide. Explicit libellus de

Therefore, it is not hard to believe that the later transcripts and early printed books produced new biographical details that seem more and more removed from the lifestyle of a modest traveling Dominican friar. Later copyists designed Burchard's life to suit what they and their contemporaries needed from this traveler to the Holy Land.

The Account and Its Graphical Presentation

As the crusader states dissolved and the Christians were pushed back, Europeans longingly set their sights on foreign lands. The pilgrimage accounts and regional maps produced after these events unfolded dealt with this loss by perpetuating the unrealistic image of biblical and historical traditions or by trying to render a more realistic picture of the lost lands in preparation for new crusades. The account of Palestine by Burchard of Mount Sion, an observer familiar with the area, served both these purposes, not least because it was written by someone with extensive biblical knowledge and considerable personal experience, shortly before the Latin Christians had to leave the Holy Land.

Like all other authors who wrote travel reports of the Holy Land, Burchard wrote for those believers unable to make the journey to the holy places, or for those who wanted to envision past experiences. In his description, Burchard records exactly what a visitor, whose knowledge was shaped by the Old and New Testaments, expected to find there; the rest was taken from Burchard's personal experience. Burchard's account was enriched with specifics on physical distances and structured so that the reader could imagine those distances and understand his travel experiences. This is true for sites in Jerusalem, for the Church of the Nativity in Bethlehem, and for the coastal towns and landscapes. The account was even enhanced by observations on plants and animals.

A variety of pictorial forms illustrate the textual descriptions. For example, a miniature shows crusader-occupied Jerusalem.³² Diagrams, maps of Palestine, and a city plan of Jerusalem help the viewer to position settlements and events.

descripcione terre sancte cuius auctor ignorat"). This manuscript collection from the fourteenth to fifteenth century contains a list of places including their longitude and latitude (*ibid.*, fols. 4r–110v), Ptolemy's *Cosmographia* with two drawings of the world, a globe and a map (*ibid.*, fols. 16r–18v), Burchard's *Descriptio* (*ibid.*, fols. 132va–167rb), a description of the Holy Land by Bede (*ibid.*, until fol. 176ra), the *Imago mundi* of Honorius Augustodunensis (*ibid.*, until fol. 202vb) and the *Historia Hierosolimitana* of Robertus Monachus (*ibid.*, from fol. 208ra).

³² Padova, BSV, Cod. 74, fol. 13v with a full-page miniature, *ibid.*, fol. 1r and fol. 14 with figurative initials; cf. Donello et al., *I manoscritti*, 24.

One manuscript, written around 1300, and found today in the Biblioteca Medicea Laurenziana in Florence, Italy, contains a small sketch of the most important holy places in Jerusalem and a double-sided schematic map of Palestine.³³ Three other manuscripts, written between the fourteenth and early sixteenth centuries, show a diagram of the winds.³⁴ These diagrams divide the land into fan-shaped sectors, position Acre at the center, and match the travel routes described in the text. The manuscript written around 1500 in Hamburg, which was possibly compiled as an apograph, a draft for print, includes yet another map of Palestine,³⁵ which appears to be closely related to the *Rudimentum novitiorum* (Lübeck 1475) and *Prologus Arminensis* (Lübeck 1478). Another diagram presents a T-O schema with the three regions of the world.³⁶ Two other relatively large maps, each on a separate, single sheet, comprise Burchard's knowledge. They were handed down separately and are not connected directly to one of the travel report manuscripts. These maps are located in the Archivio di Stato in Florence and in the Pierpont Morgan Library in New York.³⁷

This complex situation makes it possible to track and analyze the interaction and paths of knowledge transfer between text and diagram and to obtain an understanding of the Holy Land's size, shape, and composition in both media. In contrast to the biographical constructions that primarily enrich the short version, the maps and diagrams, all created by unknown hands, refer primarily to the toponyms of the long version. A few copied short versions written after 1400 do mention a figurative drawing in their prefaces (omitted by Heinrich Canisius in his

33 Florence, BML, Plut. 76.56, fol. 97r with a map of Jerusalem; cf. Reinhold Röhricht, "Marino Sanudo sen. als Kartograph Palästinas," *Zeitschrift des deutschen Palästina-Vereins* 21 (1898): 84–126 and the plates, here pl. 8. Florence, BML, Plut. 76.56, fols. 97v–98r with the map of Palestine.

34 London, BL, Add. Ms. 18929, fols. 1r–50v (long version), fol. 51r with a wind diagram; Munich, BSB, Clm 569, fols. 184r–210v (short version), fol. 186v with a wind diagram, cf. Kaeppli, *Scriptores*, 258, without knowledge of the diagram; Hamburg, SUB, Cod. geogr. 59, pp. 10–69 (long version with an index), p. 13 with a wind diagram. The manuscript in Hildesheim, Dombibliothek, Gymnasium Josephinum 17, unfortunately missing, was originally accompanied by a wind diagram on a separate sheet.

35 Hamburg, SUB, Cod. geogr. 59, pp. 70–71 with a map of the Holy Land. Burchard, "*Descriptio*," ed. Laurent, 6, dates the paper codex, which he believed to be an apograph, to the sixteenth century. The manuscript could have originated as early as 1500. It is the only codex in which the wind diagram and map are depicted together.

36 Munich, BSB, Clm 14583, fols. 454r–488v, here fol. 471v with a T-O scheme.

37 Florence, ASt, Carte nautiche, geografiche e topografiche 4; Reinhold Röhricht, "Karten und Pläne zur Palästina-Kunde aus dem 7.-16. Jahrhundert I," *Zeitschrift des Deutschen Palästina-Vereins* 14 (1891): 8–11 and Figure I with map and transcription (New York, The Morgan Library & Museum, Ms. M.877).

edition) that was probably sketched on accompanying parchment (*pellis*).³⁸ In this preface, Burchard promises the recipient, a *confrère* in Magdeburg, a sketch designed to help him and his Dominican brothers understand the Holy Land. He aimed to describe and re-present everything for the eye so it could be better imagined.³⁹

We still do not know which version of the received maps and diagrams this statement refers to or how the transmitted manuscripts of the Latin text are related. It still remains unclear who inserted this passage into the text and when. At present, there is no printed directory of the extant transmitted texts and their illustrations, via which a connection could be more easily made.⁴⁰ Because of this, it is difficult to determine what exactly this *pellis* is, whether it was a *tabula geographica*, as indicated by Johann C. M. Laurent and interpreted by him and his followers as a geographical map of Palestine, or a different kind of geographical representation. Alternatively, was the illustration for the eye mentioned in the preface only the descriptive visualization in the *Descriptio* itself? This ambiguity is compounded because, during the Middle Ages, the verb *describere* combined both elements: the creation of a text and the production of a drawing.⁴¹

All maps produced from Burchard's description locate biblical and historical elements of various origins in the context of rulership at the time. According to the *Descriptio*, they conceptualize territorial units into which the fortified cities and fortresses of the crusaders fit, as do the mountains, landscapes, and holy places mentioned in the Bible. The three diagrams show the Holy Land in great cartographic abstraction. They consider the political importance of the crusader bastion, the city of Acre, on which all three drafts are centered. From there the routes – in the text, the streets, and in illustrations and the straight

38 The short versions in Wrocław, Biblioteka Uniwersytecka (henceforth referred to as BU), I. F. 221, fols. 232r–242r (dated 1407) and Munich, BSB, Cml 569, fols. 184r–210v (fifteenth century) are manuscripts with complete prefaces, including reference to the *pellis*. These three manuscripts should serve as the basis of a future edition. All of the other known short versions (approximately twenty-one) provide a shortened preface, also including Wrocław, BU, IV. F. 191, fols. 142r–151r and the four short versions in Prague.

39 Wrocław, BU, I. F. 221, fol. 232v: “Que omnia, ut melius possint ymaginari, mitto vobis simul pellem, in qua omnia ad oculum figurantur”; cf. Munich, BSB, Cml 569, fols. 185v–186r; Burchard, “*Descriptio*,” ed. Laurent, 10 with reference to an “addita tabula geographica”; both of which are not found in the edition of Canisius’s short version; cf. Burchard, “*Descriptio*,” ed. Canisius. Cf. Harvey, “Medieval Maps,” 99, note 45 with the notation that the “addita tabula geographica” supplement most likely comes from Laurent himself and is not a Burchard quote.

40 I would like to thank the Gerda Henkel Stiftung for the initial funding of the project.

41 For the meaning of “describere” and “descriptio” see Gautier Dalché, “Cartes de terre sainte,” 590–92.

lines of the wind directions – fan out across Palestine, Syria, and Lebanon, all the way to Lesser Armenia in the north and Egypt in the south. The preface of the long version explains that the model was based on a systematic process.⁴² The division of the world into four continents and twelve wind directions formed the basis for the textual and graphical structure, whereby only seven sectors spanned the land, due to the location of Acre by the sea.

The long version is the basis of this diagram. Its chapter headings, which divide the Holy Land into seven regions (or eight, including the separate chapter on Jerusalem),⁴³ determine this expansive fan-shaped division. Its text describes how the sectors are organized from Syria in the north to the coastal areas in the south, such as Gaza. The first four sectors (*prima, secunda, tercia, and quarta divisio*) are followed by the two densely populated regions of the eastern quarter (*secunda and tercia divisio quarte orientalis*), an accentuated section for Jerusalem and its surroundings, and the southern sector (*prima divisio quarte australis*) with its coastal towns. The concluding three chapters provide an overview of the size and tribes of the Holy Land, the crops and animals of the earth blessed with fertility, as well as the religions and the customs of the region.

It is quite clear that the long version's text and illustrations were coordinated, because the diagrams mirror the structure of the textual description. On the other hand, the short version focuses in greater detail on the individual locations and sites, without taking into consideration the classification according to sectors. In the short version, only isolated remnants of the sector divisions remained in the text, which no longer made sense in the new context.⁴⁴

Despite this, at least one of these diagrams has also been added to the short version. The Munich Clm 569 (Fig. 7.1), a short version with a slightly different textual layout, shows Acre as a heavily fortified triangle with towers and city gates, from which twelve sectors of land and water, named after winds, emanate.

⁴² Burchard, “*Descriptio*,” ed. Laurent, 21; cf. *Pilgrimage*, ed. Pringle, 243: “I thought of defining a central point among them and of setting out all land around it in due measure. And for this centre I have chosen the city of Acre, as it is better known than other places. However, it is not located in the centre but at its western border on the sea. From it I have drawn four lines corresponding to the four parts of the world and each quarter I have divided into three, so that those twelve divisions might correspond to the twelve winds of heaven.”

⁴³ Cf. Padova, BSV, Cod. 74 with red chapter titles.

⁴⁴ Burchard, “*Descriptio*,” ed. Canisius and Basnage, 13: “Procedendo igitur de Accon per primam divisionem quartae Orientalis partis ad quinque milliaria de Accon, occurrit casale quoddam, quod dicitur sanctus Gregorius”; *ibid.*, 13: “In secunda divisione hujus quartae partis Orientalis primo post Accon ad quatuor leucas occurrit Cana Galilaeae”; *ibid.*, 14: “In tertia divisione hujus quartae partis Orientalis de Accon ad quatuor leucas contra Austrum est prima pars montis Carmeli.”

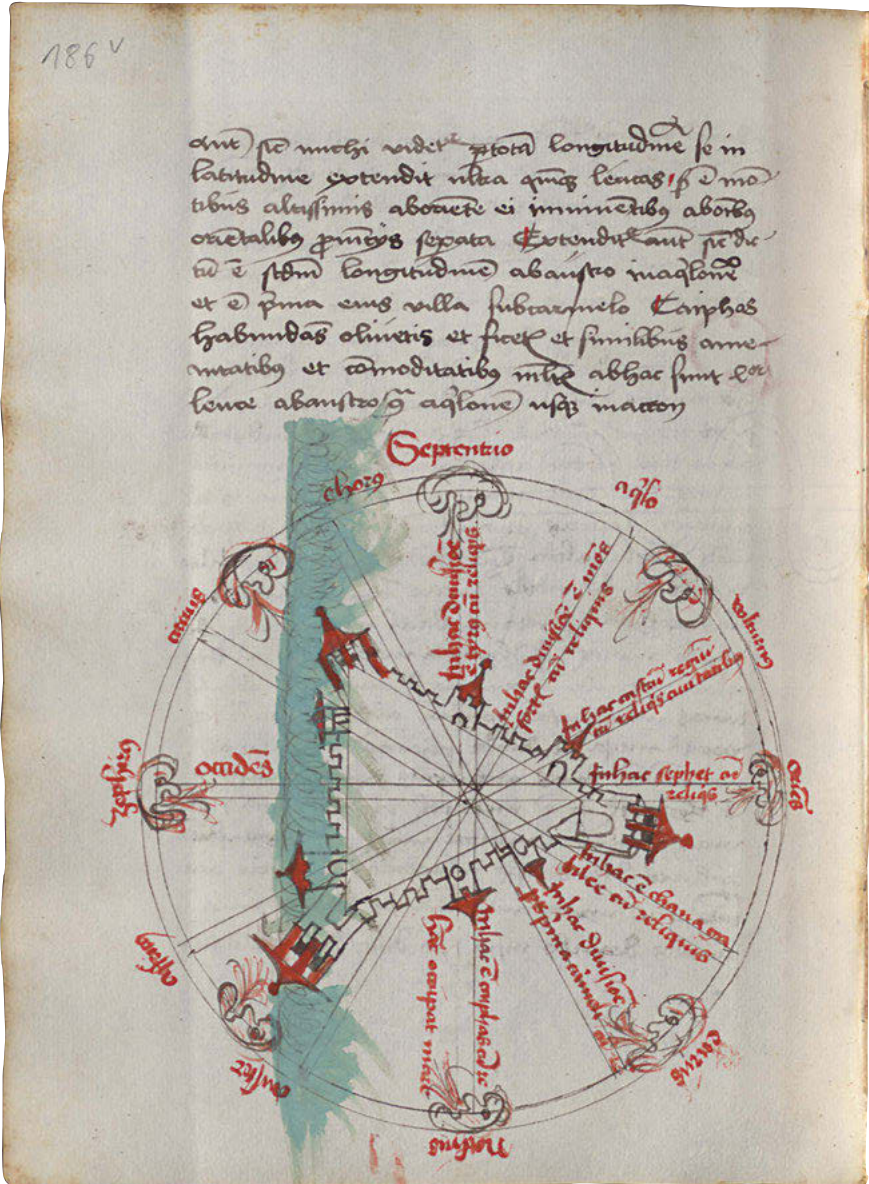


Fig. 7.1: Wind diagram according to Burchard of Mount Sion, fifteenth century; Munich, Bayerische Staatsbibliothek, Clm 569, fol. 186v. Creative Commons 4.0.

In one case, the name of the wind is missing.⁴⁵ Seven labeled double lines with directional arrows traverse the land, and five unlabeled double lines cross the water on the diagram, which is oriented to the north. Perhaps such a diagram would have been more graphically effective if Jerusalem had formed its center, and the surrounding landscapes could then have spread over twelve sectors. But the political situation made such a structure impossible. The decision to make Acre the center of the diagram was determined by which places and territories the crusaders had under control and the fact that only a small part of the Holy Land was under Christian rule at the time. Even Burchard organized his exploration of the area by starting at this Christian bastion.

The location of the metropolis also determined the layout of the second known diagram, now in London (Fig. 7.2). This diagram is oriented to the south and focuses more heavily on the part of the world that lies east of the harbor city.⁴⁶ The listing of the locations and regions between the sector lines appears uniform. It has more text, if for no other reason than because the six winds are named and Acre itself is not shown as a voluminous pictogram, but only as a name. This left room for more text. This means that the geographic circumstances there were illustrated in a most efficient manner – in six evenly large sections of a single semicircle.

Even harder to interpret is the east-oriented diagram in the Hamburg manuscript, because the interior labels that fan out from Acre have been crossed out.⁴⁷ Only a small hill with a church tower, perhaps a symbol for Jerusalem, remains within the semicircle. The surrounding texts name the cardinal directions and winds that lead north, northeast, east, southeast, and south. The distance calculations taken from the account determine the length and width of the Holy Land.⁴⁸

Did a wind diagram corresponding to these manuscripts serve as a comprehension aid for those in Magdeburg to whom Burchard sent his travel report? Was this the figurative *pellis* sketch announced in the letter that is mentioned only in the prologue of a few fifteenth-century manuscripts?⁴⁹ We cannot even be sure that this prologue version and a visualization of this type, if there was one, accompanied the original account. Perhaps it was an addition by later generations. It is tempting to think that Burchard himself conceptualized the geographical area in this simple, but most expert way. Whatever the truth may be, and independent of

45 Munich, BSB, Clm 569, fols. 184r–210v (short version), here fol. 186v.

46 London, BL, Add. Ms. 18929, fols. 1r–50v (long version), here fol. 51r.

47 Hamburg, SUB, Cod. geogr. 59, p. 13.

48 Hamburg, SUB, Cod. geogr. 59, p. 13: “Longitudo terre sancte a Dan usque Bersabe est 90 leuce” and “Latitudo a mari magno usque ad mare mortuum 16 leuce.”

49 Wrocław, BU, I. F. 221, fol. 232v (dated 1407); Munich, BSB, Cml 569, fols. 185v–186r.

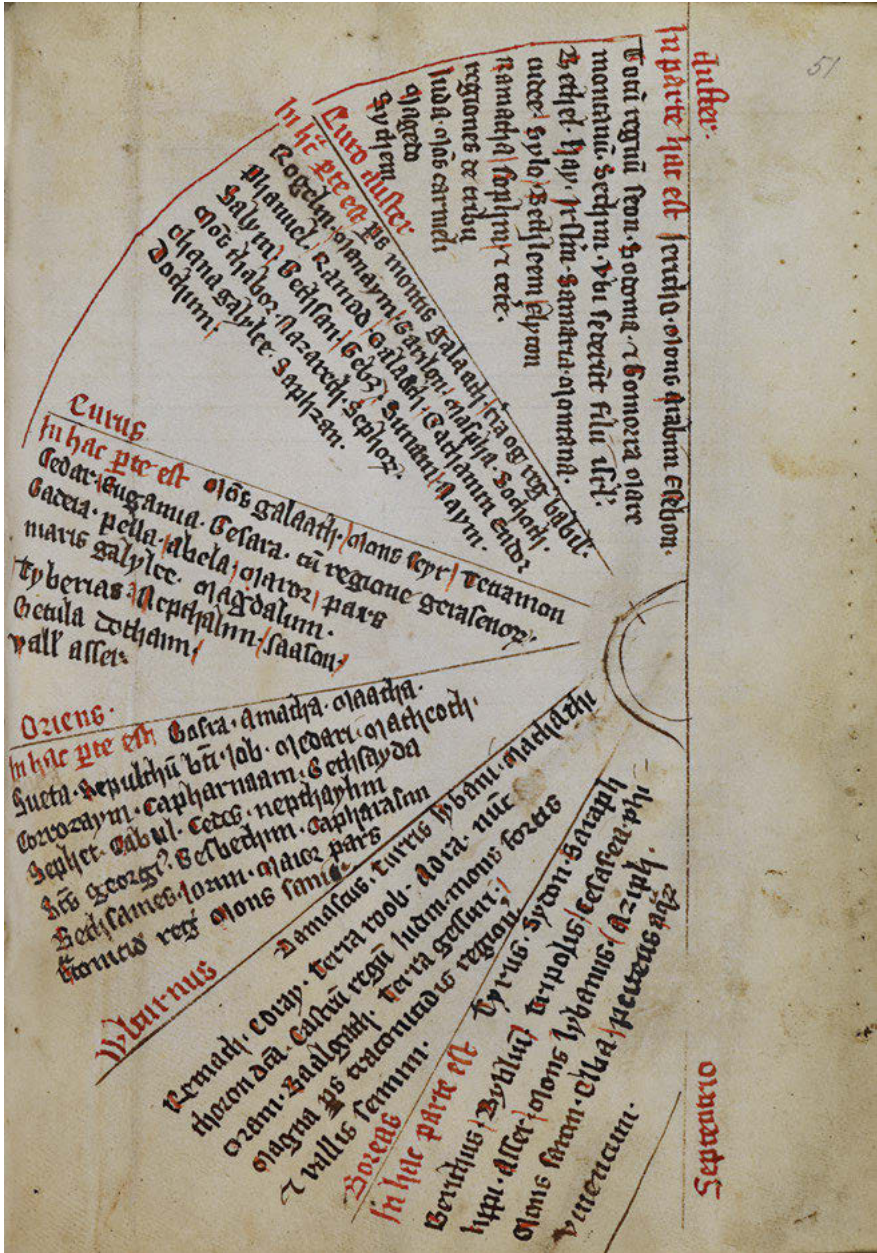


Fig. 7.2: Wind diagram according to Burchard of Mount Zion, fourteenth century; London, British Library, Add. Ms. 18929, fol. 51r. © The British Library Board.

the author and his time, this seemingly innovative approach is based on ancient and medieval educational traditions.⁵⁰ A manuscript in Hildesheim, Germany, which was accompanied by a wind diagram on a separate sheet, could have provided us with more detailed information, were it not missing.⁵¹ We must assume that this type of wind diagram fulfilled its purpose, while the creation of more complex geographical maps would have required an expert with specific skills.

Mapping Methods in the Codex

Abstraction and regularity characterize the unique map of Palestine located in the Biblioteca Medicea Laurenziana in Florence,⁵² which is also included in a codex of the long version (Fig. 7.3). The map with the boxes appears uniform and undifferentiated. This regularity is apparently intentional. The red-framed text entries in black are, at least for the most part, distributed uniformly across the surface; there are a total of 406. Only a few patches were left empty. The amount of text in the fields varies from one word to multi-line sentences. All fields were intended to be identifiable by name and to have a concrete meaning. The “imprisoned” texts became pictorial elements, which were subject to the primacy, so to speak, of regular distribution. The temporal dimensions, which were dominated by a higher-ranking principle of order, were thus equalized. The well of Rachel and the crusader fortresses are placed next to each other on the same level, as are the grave of Cain and the Mountain of the Leopards. This Holy Land presents the picture of a predominately systematically arranged square ruptured by a few borders, mountain ranges, and roads. Even Jerusalem and Acre obey this regularity and dare not obtrude.

However, this uniformity can be deceiving. The legends contain toponyms of very different origins, including terms from the Bible, classical antiquity, contemporary times, and words in Arabic. Similar to the account, they discuss biblical foundations, secular control, and religious differences; they specify the bastions and crusaders, as well as the intercultural competitors there. Signs of biblical significance are mixed with those of secular control. Therefore, it is not always easy to understand the meanings and their multiple layers, and, at

⁵⁰ Alessandro Nova, *The Book of the Wind: The Representation of the Invisible* (Kingston, ON: McGill-Queen's University Press, 2011), 21–57 on the iconography of the wind.

⁵¹ Kaeppli, *Scriptores*, 258 still listed it in 1970, when he wrote the book.

⁵² Florence, BML, Plut. 76.56, fols. 97v–98r. Cf. Röhricht, “Marino Sanudo,” 93–105 and pl. 7 with the typographical rendering but without the coastline or other geographical details; Gautier Dalché, “Cartes de terre sainte,” 607f.



Fig. 7.3: Map of Palestine according to Burchard of Mount Zion; Florence, Biblioteca Medicea Laurenziana, Plut. 76.56, fols. 97v–98r. Su concessione del Ministero della Cultura/Biblioteca Medicea Laurenziana, Firenze.

times, the meanings of the entries can be found only after reading the account. In order to interpret it in greater depth, it will be necessary to transcribe and examine more closely the long version, transmitted in the same codex, which is difficult to read. Therefore, the following specifies only a few examples of the interplay between account and map. To achieve this, attention is placed on contemporary references and individualized statements, which more likely deviate from other accounts than the biblical motifs, which, in a more or less unified form, were reproduced in this map like everywhere else.

A section of the territory around Tripoli (Fig. 7.4a–b) provides us with insight and references to contemporary events. First we see the mighty Margat (*merrgad*, 2; *mons*, 3), one of the most important crusader fortresses in Syria.⁵³ The Hospitallers, as the long version reports, expanded the castle from which they ruled the area into their main settlement, not far from the sea on the mountain above the city of Valenia/Bâniyâs (*ualania*, 4). In the end, they even allowed the seat of the bishop to be moved there from the less-protected town, due to the invasions of the Saracens, until they also lost the fortification to the Muslims in 1285. Not far from there one finds the famous crusaders' territory of Nephin (*nephyn*, 5) and its impressive castle, whose location by the sea and fortress are described by Burchard, in addition to its excellent wine and the fact that it belonged to the Principality of Antioch.⁵⁴ The long version mentions that Tripoli (*Tripolis*, to the left of 5), which is surrounded by the sea, has a large population of Nestorians, Greek, and Latin Christians, in other words adherents of all the Christian denominations. The long version also describes the economic prosperity of the region.⁵⁵ Finally, the presence of the crusaders is set abreast the round and tall Mountain of the Leopards (*Mons eleopar/dorum*, 1). It marks the place where the Muslims visited what they thought to be the tomb of the prophet Joshua. Burchard himself believed that this was the tomb of Canaan, a grandson of Noah, and that Joshua was buried in Timnath-heres near Mount Ephraim.⁵⁶

53 Burchard, "*Descriptio*," ed. Laurent, 30f. on the location in a distance of seven leagues from Antaradus; *Pilgrimage*, ed. Pringle, 252–53. Cf. Röhricht, "Marino Sanudo," 105 and pl. 7: "Merigard" and "Mons."

54 Burchard, "*Descriptio*," ed. Laurent, 27–28; *Pilgrimage*, ed. Pringle, 250. Cf. Röhricht, "Marino Sanudo," pl. 7: "Nephyn."

55 Burchard, "*Descriptio*," ed. Laurent, 28; *Pilgrimage*, ed. Pringle, 250. Cf. Röhricht, "Marino Sanudo," pl. 7: "Tripolis."

56 Röhricht, "Marino Sanudo," pl. 7: "Mons leopardorum." Burchard, "*Descriptio*," ed. Laurent, 28; cf. *Pilgrimage*, ed. Pringle, 250–51. Jacob of Verona adopted this passage including this doubt circa 1335; cf. *Liber peregrinationis fratris Jacobi de Verona*, ed. Ugo Monneret de Villard (Rome: La Libreria dello Stato, 1950), Chap. 14.

The framed short entries on the map can be understood only in combination with Burchard's longer description of the Holy Land, which defines the location of the places with precise distance data and specifies the operational framework. On the cartographic representation, we are unable to account for the activities of regional rulers, pilgrims, or crusaders. Dynamic motifs, such as the approaching crusader ships depicted on the map of Matthew Paris,⁵⁷ are missing completely. This region is subject to other principles of construction: it is not to be measured; indeed, it is immeasurable. The simple text and image structure unite salvific history with localities of war; religious differences and Christian dominance are placed on the same level. One could say that text and image merge time and space.

Despite this, the regular scheme is ruptured in some places. Borders that signify historical developments traverse carefully designed space. For example, the borders between the different crusader states as well as the boundaries between them and the outside world remain visible, even though they were no longer operative (Fig. 7.5a–b). We can see the frontier (7) between the Patriarchate of Jerusalem and the Principality of Antioch, which along with the northern part of Syria had been lost since 1268. The clearly intentional borderline on the map stresses the territorial setback and conceals it at the same time by referring to crusader possessions on both sides of the double line. The text inserted above the borderline (Figs. 7.4a–b, 6) explains the graphical symbol in language that is nearly identical to the textual account.⁵⁸

In most cases, a deeper understanding can be obtained only after reading that account. The Teutonic Knights built Castle Judin (*Judyn*, 8) in 1192 (Fig. 7.6a–b).⁵⁹ Burchard's account not only explains its location in the mountains of Sharon (*mons*, 9), above the city of Acre, but also the fact that the buildings had long been destroyed. Not far from here, located at the foot of the mountain, we see Casal Imbert by the sea (*casale lan/berti*, 10).⁶⁰ At nearby Castle Scandalion (*sandalion*, 11), Burchard does not fail to highlight the fact that the castle was located on a historical site. It was rebuilt in 1116 by King Baldwin I, who intended to pass

⁵⁷ London, BL, Royal Ms. 14. C. VII, fols. 4b–5a; Cambridge, Corpus Christi College, Ms. 16, fols. IIIv and IVr; Cambridge, Corpus Christi College, Ms. 26, fols. IIIv–IVr.

⁵⁸ "Hier endet das Patriarchat von Jerusalem vor dem von Antiochia." Cf. Röhrich, "Marino Sanudo," p. 7: "Hic terminatur patriarchatus Jerosolimitanus ab Antiocono." Cf. almost literally in Burchard, "*Descriptio*," ed. Laurent 27: "Terminatur similiter patriarchatus ierosolimitanus, et incipit patriarchatus antiochenus et comitatus tripolitanus"; cf. *Pilgrimage*, ed. Pringle, 249.

⁵⁹ Burchard, "*Descriptio*," ed. Laurent, 34; *Pilgrimage*, ed. Pringle, 257. Cf. Röhrich, "Marino Sanudo," pl. 7: "Iudyn" and "mons."

⁶⁰ Burchard, "*Descriptio*," ed. Laurent, 23; *Pilgrimage*, ed. Pringle, 246 identified it as Al-Zib, the biblical Akhziv. Cf. Röhrich, "Marino Sanudo," pl. 7: "Cattanberti"; Hartmann, *Wilhelm Tzewers*, 372, note 39, identified it as ez-Zib, 14 km north of Acre.

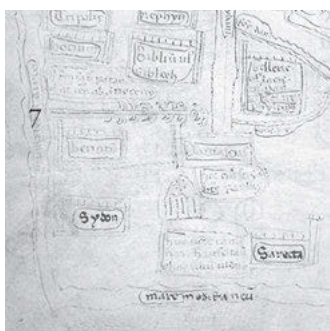


Fig. 7.5a–b: Map of Palestine according to Burchard of Mount Sion (detail); Florence, Biblioteca Medicea Laurenziana, Plut. 76.56, fol. 97v. Su concessione del Ministero della Cultura/Biblioteca Medicea Laurenziana, Firenze.

it on to his vassals, and is tellingly located at the place between Acre and Tyre where Alexander the Great is said to have built his camp, Alexandroskena, during the siege of Tyre.⁶¹

What is striking is the lasting presence of impressive fortresses that once secured the coastal and mountainous borders of crusader states that had long been lost to the enemy. East of the Jordan valley, far to the southeast, one finds al-Karak, not far from the hilltop fortress Montréal (*Mons Regalis*), founded in 1115, or al-Shawbak, which had already been surrendered to Saladin. Both the account and the map mention that the sultans had kept their treasures there since that time.⁶² The author did not try to hide his admiration for the Templar castle Safad (*Saphet*), found on the map on the mountain with the same name, located between Acre and Damascus.⁶³ In his opinion, it was the strongest and most beautiful fort, which was, however, besieged by the Muslims in 1266, fifteen years before Burchard's trip. It was a defeat that aided in the gradual loss of the Holy Land, even if at that time conquering the massive city fortress of Acre still appeared impossible.⁶⁴ The Florentine map no longer emphasizes the fortifications at Safad and Acre.

Knowledge of the relationships between regional rulers in Palestine became even more important after the bitter loss of Acre. The Florentine copyist (active around 1300) adapted the text to contemporary events. Burchard, after all, always used the past tense when he mentioned defeats that reduced the size of the Christian Holy Land under the increasing military pressure of the Muslims. The copyist perpetuated this realism by updating information. He used the imperfect and perfect tenses in passages where Burchard had written in the present tense. He supplemented the text in a way that suggested that he wrote under the painful influence of the fall of Acre in 1291.

The scribe of the Florentine manuscript even supplemented his text with precise additions not found in Laurent's edition. He first changed Burchard's present tense verbs, which he used to describe Acre.⁶⁵ Thus the city's splendid

⁶¹ Burchard, "*Descriptio*," ed. Laurent, 24; *Pilgrimage*, ed. Pringle, 246. Cf. Hartmann, *Wilhelm Tzeweers*, 372, note 40; Röhricht, "Marino Sanudo," pl. 7: "Sandalion."

⁶² Burchard, "*Descriptio*," ed. Laurent, 58–59; *Pilgrimage*, ed. Pringle, 282. Cf. Harvey, "Medieval Maps," 94–106; Röhricht, "Marino Sanudo," pl. 7: "Mons regalis. Hic habitat soldanus et hic tenet depositum."

⁶³ Burchard, "*Descriptio*," ed. Laurent, 34; *Pilgrimage*, ed. Pringle, 257. Cf. Röhricht, "Marino Sanudo," pl. 7: "Sepheth mons"; Harvey, "Medieval Maps," 96 notes that it is the latest event mentioned on the map.

⁶⁴ Cf. Burchard, "*Descriptio*," ed. Laurent, 23; *Pilgrimage*, ed. Pringle, 245–46. Cf. Röhricht, "Marino Sanudo," pl. 7: "Acon uel Tolomayda" no longer emphasized.

⁶⁵ Florence, BML, Plut. 76.56, fol. 94rb, lines 25–30. I am grateful to Dr. Ekkehart Rotter for having pointed out this paragraph to me.

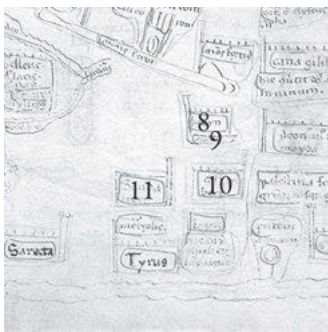


Fig. 7.6a–b: Map of Palestine according to Burchard of Mount Sion (detail); Florence, Biblioteca Medicea Laurenziana, Plut. 76.56, fol. 97v. Su concessione del Ministero della Cultura/Biblioteca Medicea Laurenziana, Firenze.

walls and towers, the fortresses of the Hospitallers, Templars, and Teutonic Knights, and its lively harbor are said to have perished. He then added that the town was seized by the Muslims and razed to the ground in 1291, on Friday, 17 May (the *calendae* of June).⁶⁶ On this day, when several thousand Christians had been massacred, a huge cross was said to have appeared in the sky before vespers to indicate that many people had to suffer martyrdom for Christ's sake. Perhaps these observations also explain why the mapmaker did not follow common precedent, instead choosing not to place any visual stress on Acre.

On this Laurenziana map, only Jerusalem, with all of its sites, is fanned out to a greater extent, and serves rather unobtrusively as a point of concentration. An eastward orientation dominates one's initial perception of the countryside. From Jaffa, the port of arrival for pilgrims, there is a road indicated in red that passes by Hebron, past Jerusalem, to the Dead Sea and Jordan, on whose east side the baptismal place of Jesus is indicated. On the right and left sides at the page margins, the Mediterranean coast does not end but bends upward. Because of this, north of Tyre the map is oriented north, and south of Jaffa it is oriented south. On the extreme right, we also see Egypt beyond the Red Sea, the Exodus route, and the statues of idols in the Egyptian city of Heliopolis.⁶⁷ This is unique and astonishing, because Burchard's visit to Egypt, mentioned in only a few surviving copies of the text, is not even registered on the other Burchard maps. The textual and visual representation of an entry like Heliopolis, which is found so seldom, bears witness to the close interplay between the two media.

The relationship between map and travel account is strengthened by an additional element in the Laurenziana codex: the pictograms of the buildings on the margin of the manuscript folios (Fig. 7.7). As figurative glosses, they accentuate and illustrate the toponyms buried in the text. The marginal notes help to unite the complex description with the cartographic localization in order to topographically localize the stories of the account. Thus text and image are interrelated, and at times even dependent upon one another. Clearly, the modifications to the transmitted texts and their pictorial implementations can hardly lead back to Burchard himself, which means that every copyist added his own principles of order.

⁶⁶ Florence, BML, Plut. 76.56, fol. 94rb, lines 30–34.

⁶⁷ On Heliopolis cf. Röhrich, "Marino Sanudo," 105 and pl. 7: "Elyopoleos hic stabant ydola"; Omont, "Manuscrits," 500: "Eliopolis est villa multum bona et dives, sed non est munita, sicut nec aliqua villa in toto Egypto, preter Alexandriam et Babiloniam, sed habundat fructibus et omnibus deliciis mundi; cassia fistula in magna quantitate crescit ibidem." Cf. *ibid.*, 502: "In Elyopoli et in Babilonia ostenduntur loca in quibus beata Virgo mansit cum puero Jhesu, quando a facie Herodis fugerat in Egyptum et casus ydolorum et templorum, secundum prophetiam Ysaie." Cf. Wolfenbüttel, HAB, Cod. Guelf. 354 Helmst., fols. 132r–167r, here fol. 166v.



Fig. 7.7: Map of Jerusalem, *Descriptio terrae sanctae*, long version with glosses; Florence, Biblioteca Medicea Laurenziana, Plut. 76.56, fol. 95r [or fol. 94r]. Su concessione del Ministero della Cultura/Biblioteca Medicea Laurenziana, Firenze.

Measurability and Portolan Mapping

Despite their similar content, on two other copies of the Burchard map the structures of local power and government have been depicted in a totally different manner. Measuring an impressive 52 × 165 cm, neither is part of a codex; both were therefore more suited as presentation objects for an informed audience. The place-names mentioned in Burchard's text provide the basis of their layout, even if a few settlements, such as Scandalion and Judin, are missing. Nonetheless, both maps organize the geography of Palestine in an innovative way that is closer to modern than medieval conventions, even though they retain the traditional eastern orientation. What results is a completely different picture, with rivers, roads, mountain ranges, towns, and fortresses. This image was highly influential in subsequent decades, because most of the Palestine maps of the fourteenth and fifteenth centuries, from the treatises and historiographical works of Marino Sanudo and Paolino Veneto to the travel report of Bernhard von Breidenbach, followed this model. In Italy, mapmakers like Pietro Vesconte worked this development into the production of portolan charts.

The copy from the Archivio di Stato in Florence (Fig. 7.8), measuring 51.5 × 168 cm, is probably the oldest of this group.⁶⁸ Harvey dates it to approximately 1300 and regards it as the earliest known Burchard map.⁶⁹ The map is oriented toward the east and also refers to the text found in the long version. Blocks of text on the southern (right) and, particularly, on the northern (left) edges of the map explain the geographical context in detail. The alphabetized index of place-names has three columns containing some 200 entries.

The map shows fortresses, cities, and bridges, whose fortified constructions strategically cover the vastness of the land. It is clear that this representation of Palestine corresponds more to today's conventions and the present requirements of using signs, colors, and symbols. For instance, the geographical contours of the coasts, rivers, and mountains appear in brown ink, just like the place-names and texts. Other colors, such as olive green, now faded, have been

⁶⁸ Florence, ASt, Carte nautiche, geografiche e topografiche 4; Röhricht, "Karten und Pläne I," 8–11 and Figure I with the map and a transcription of the text. Cf. Cornelio Desimoni, "Una carta della Terra Santa del secolo XIV," *Archivio Storico Italiano*, ser. 5, 11 (1893): 241–58; Hans Fischer, "Geschichte der Kartographie von Palästina," *Zeitschrift des Deutschen Palästina-Vereins* 63 (1940): 1–111 at 7; Bernhard Degenhart and Annegrit Schmitt, "Marino Sanudo and Paolino Veneto. Zwei Literaten des 14. Jahrhunderts in ihrer Wirkung auf Buchillustrierung und Kartographie in Venedig, Avignon und Neapel," *Römisches Jahrbuch für Kunstgeschichte* 14 (1973): 1–138 at 76; Harvey, "Medieval Maps," 94–106.

⁶⁹ Harvey, "Medieval Maps," 94.

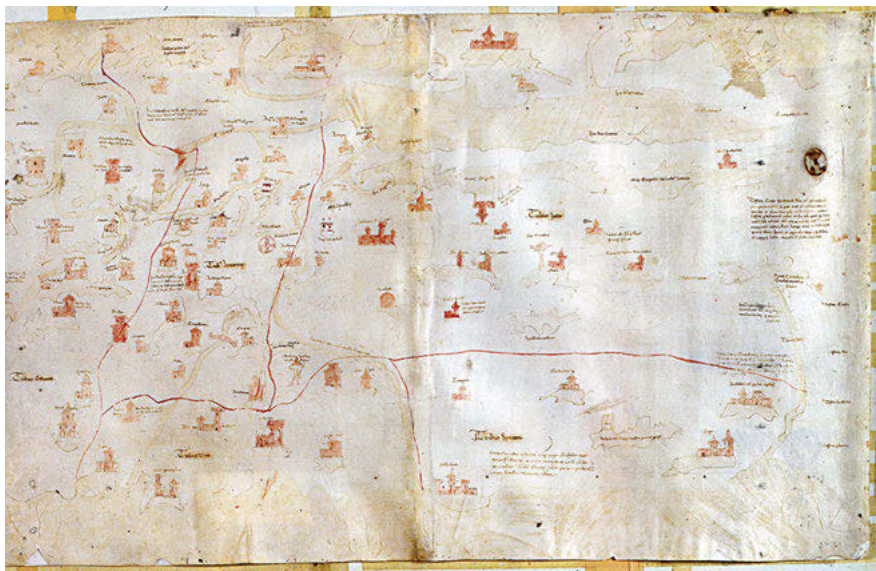
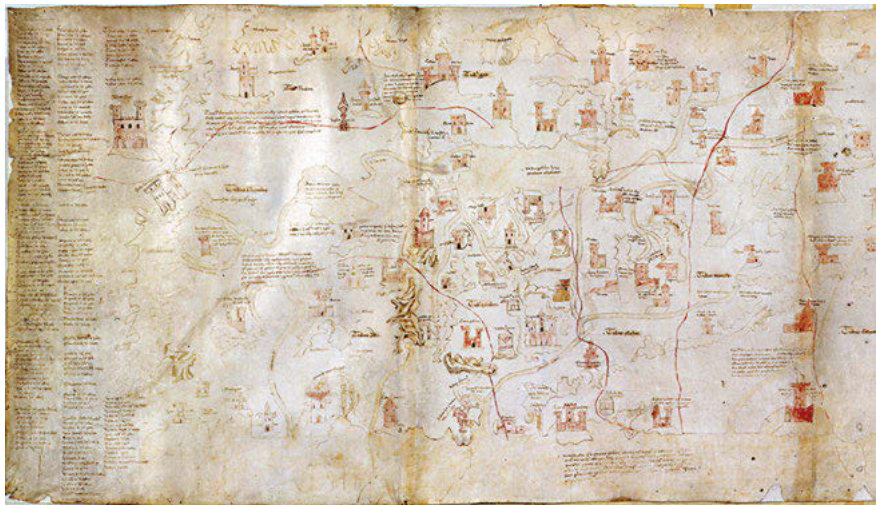


Fig. 7.8: Map of Palestine according to Burchard of Mount Zion; Florence, Archivio di Stato, Carte nautiche, geografiche e topografiche 4. Su concessione del Ministero della Cultura/ Archivio di Stato di Firenze.

used for the bodies of water. However, we can see that various sections were possibly never completely colored in.

The map's apparent "realism" cannot cloak the fact that the different levels of time and argumentation remain active. The twelve tribes of the Old Testament structure the area in the same way the various views of the cities and crusader fortresses do, whose red walls and towers can clearly be seen from a distance. In general, places are identified by name. Only Jerusalem differs; without an accompanying name, it is located in the southern half and represented by a Greek cross within a circle. It thus stands out significantly from the crusader strongholds as the religious center, though it is marked with the same color in a rather inconspicuous way. Even the heavily fortified city of Acre loses its substantial prominence, although three massive towers with city walls secure the area of the peninsula that protrudes into the Gulf of Haifa. South of here, other places along the coast dominate, such as the almost invincible Château Pèlerin (*Castrum pelegrinorum*), the Templar residence abandoned as late as the summer of 1291, and the smaller Templar fortress Merle, built in the old harbor town of Dor, whose location in the middle fold helped to maintain its vibrant red color. The adaptation of portolan conventions determines the cartographical picture: its grid, whose traces are barely discernible, structures and organizes the region.

The somewhat more recent copy at the Pierpont Morgan Library in New York (Fig. 7.9), measuring the same size and also not included in a codex, is almost identical to the older copy in Florence.⁷⁰ However, the portolan-like pattern, with grid lines, eighty-three columns running north-south and twenty-eight running east-west, has emerged clearly, and the well-preserved, intense colors make it almost more impressive. The maps are similar in size and character and also in their arrangements of explanatory texts and geographical details, like the mountain ranges that surround Palestine in the north and east. The deep olive green used for the bodies of water is still well preserved.

It is clear that the maps have a common origin or at least that the Pierpont map, with a reduced amount of text, is more or less directly related to the copy in Florence.⁷¹ The most significant difference between the two is that the index of

⁷⁰ New York, The Morgan Library & Museum, Ms. M.877; cf. Frederick Baldwin Adams, *Seventh Annual Report to the Fellows of the Pierpont Morgan Library* (New York: Pierpont Morgan Library, 1957), 14–17; Henry S. Morgan and Arthur A. Houghton, *The Pierpont Morgan Library: A Review of Acquisitions 1949–1968* (New York: Pierpont Morgan Library, 1969), 5; Harvey, "The Biblical Content," 58–59. For the function of the different types of maps, cf. Eitay Mayraz, "Place and Space in the Mediterranean: The (Mental) Map of a Pilgrim in the Holy Land," *Mediterranean Historical Review* 19 (2004): 25–33.

⁷¹ For details cf. Harvey, "Medieval Maps," 128–32.



Fig. 7.9: Map of Palestine according to Burchard of Mount Sion; New York, The Morgan Library & Museum, Ms. M.877. Purchased as a gift of the Fellows of the Pierpont Morgan Library with the assistance of Mrs. Louis M. Rabinowitz and Mrs. Lester A. Le Wars, 1956.

place-names on the left edge of the Florentine map is missing from the New York copy. The portolan-like presentation emerges even more clearly in the Pierpont map. The neck of the animal from which the parchment was made is evident and the grid lines recall the rhumb lines on portolan charts. Furthermore, both Burchard maps are similar to portolan charts in size and in the accuracy of coastlines

and waterways. These features correspond to Holy Land images from after the fall of the last bastions in Palestine and Syria, when crusading fervor was reignited. The grid lines that structure and outline the region suggest a new accuracy, as do the mountains, rivers, and towns that are carefully arrayed along the new coastline from Gaza to Sidon. The grid system gives the impression of measurability and operational practicability, and a copyist could transfer it to a new parchment quadrant for quadrant.

Distances and their measurements are an important issue for both texts and images. In the account, the regional distances are usually indicated in leagues (*leucae*), shortened leagues (*leucae modicae*), and number of days' journeys. Burchard estimated the width of the Dead Sea, for example, to be six leagues, though he could not determine its length; he estimated the latter to be a five-day journey after consulting with local inhabitants.⁷² Such large units of measure are, of course, not suitable for short distances. Places of interest, for example, are measured in feet (*pedes*), paces (*passus*), and stades (*stadia*).⁷³ Gardens, temples, and urban neighborhoods are calculated in bowshot distances (*quantum potest iacere arcus*) and stones' throws.⁷⁴ The diverse dimensions in the different parts of Europe that accrued over time meant that even scribes and readers of those days had trouble understanding their size precisely and could only imagine their relative significance. Measurability seems to have been more important than consistency of scale and accuracy of dimension.

Distance data such as these are particularly emphasized in some copies of the long version. Two manuscripts from the fourteenth century preserved by the national library in Florence exhibit a principle of order (which has not been studied) noted in the margins. This technique of structuring the text with words, comments, and signs on the margins was apparently passed on more often with the *Descriptio*. At the beginning of each chapter, on the external side margin, the long-version manuscript, F.IV.733 (Fig. 7.10), names the place described.⁷⁵ The glosses in the other fourteenth-century copy, C.VIII.2861 (Fig. 7.11), emphasize the cities described in the text and give their distances from Acre in leagues, and

⁷² Burchard, "*Descriptio*," ed. Laurent, 59; *Pilgrimage*, ed. Pringle, 283. On the distances, cf. Harvey, "Medieval Maps," 95.

⁷³ Burchard, "*Descriptio*," ed. Laurent, 25, 28, 30, 70–72 with "pedes" as measurement; 72 with conversions: "125 passus faciunt unum stadium." Cf. Harvey, "Medieval Maps," 95.

⁷⁴ Burchard, "*Descriptio*," ed. Laurent, 24, 35, 47, 49–51, 55, 58, 61, 62, 66, 70, 73, 78, 81 and 82 for the bowshot as a unit of measurement, *ibid.*, 25, 62, 72, 74 and 75 for the stone's throw; cf. Harvey, "Medieval Maps," 95.

⁷⁵ Florence, Biblioteca Nazionale Centrale (henceforth referred to as BNC), F.IV.733, fols. 29ra–43vb; dating according to Kaeppli, *Scriptores*, 258.

sometimes in miles.⁷⁶ This corresponds to the pictograms of buildings, including the registered toponyms, in the margins of the Laurenziana manuscript. All three copyists were aware of current representational conventions. Their method of presenting content via marginalia and pictograms is unlike most of the short versions, like Florence, Biblioteca Nazionale Centrale, Magl. XXII.22, in which rubrics organize the text, but marginalia are missing.⁷⁷

Irrespective of this, the layout of both independent copies created a new type of cartography, a record of the land to be measured, conquered, and ruled. The copyists went to great lengths to reproduce the distances and their visual representation as accurately as possible, and the grid system helped to emphasize their function as a guiding system. This approach was expanded in the decades that followed, as authors and cartographers attempted to give Holy Land pilgrims and Levant merchants practical instructions for their trips, and to move the Europeans towards a new crusade.

Burchard's Reception

The use of various forms of spatial representation in the Burchard tradition, from geographically and topographically structured travel accounts to diagrammatic and cartographic visualizations, encouraged their employment in new contexts. This broad set of intellectual tools facilitated and stimulated the depiction of the territories in question, locally, regionally, and throughout the known world. Burchard's narratives and their visualizations were subsequently used to help distant readers envision the Holy Land, to give travelers directions, to legitimize the Christian claim to power over the holy places, and to generate military strategies. Geographic measurement meant being tied to a particular time and vision, but also timelessness, because a copyist could utilize a model created at an earlier time and in another place by modifying it to suit current needs.⁷⁸ Burchard's spatially organized knowledge flowed into world chronicles, itineraries, and geographical manuals, just as it influenced crusader propaganda, exegetic writings, and pilgrim accounts. A few examples will suffice.

The content and style of the "Burchard maps" influenced the presentation of the Holy Land in the widespread *Liber secretorum fidelium crucis*, one of nearly thirty tracts demanding the recapture of the Holy Land. Its author was the Venetian

⁷⁶ Florence, BNC, C.VIII.2861, fols. 1–26; dating according to Kaeppli, *Scriptores*, 258.

⁷⁷ Florence, BNC, Magl. XXII.22, fols. 107ra–119rb, short version from the fifteenth century with shortened preface; dating according to Kaeppli, *Scriptores*, 258.

⁷⁸ Gautier Dalché, "Cartes de terre sainte," 603f.

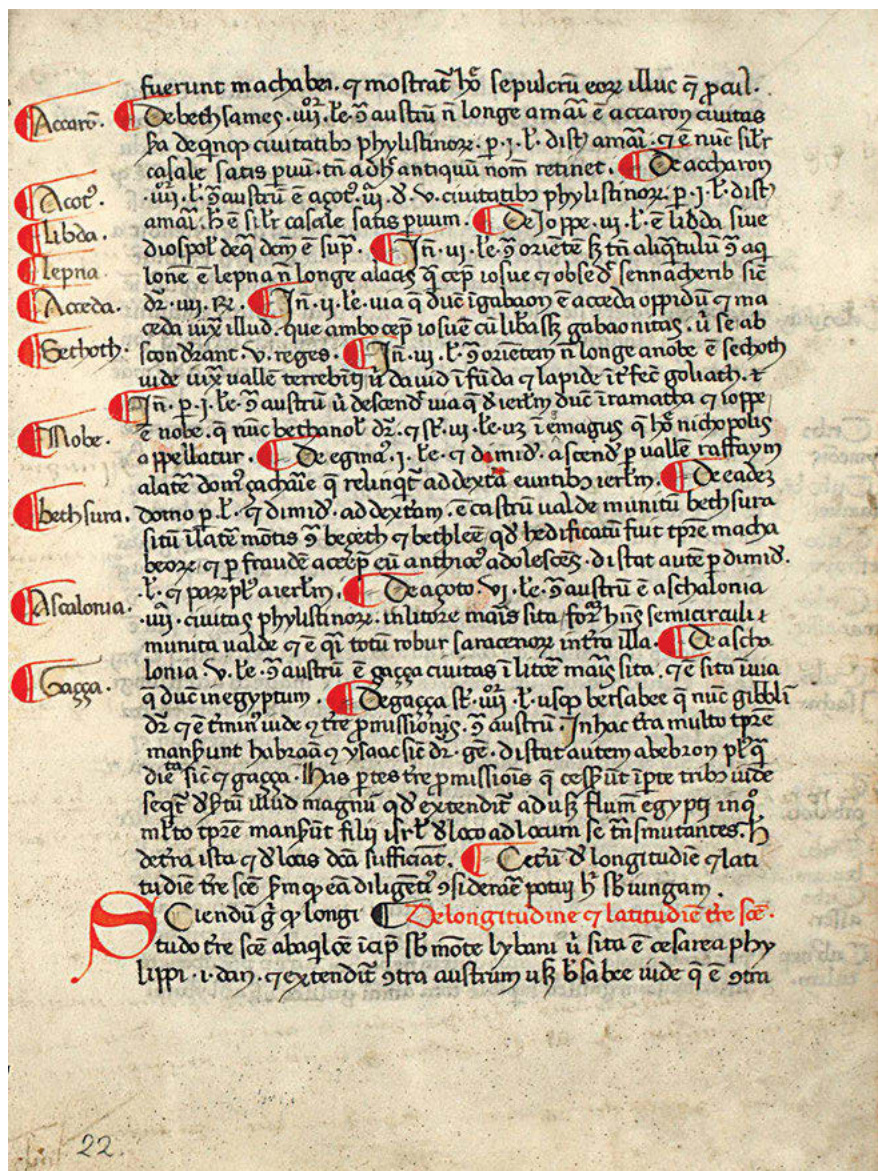


Fig. 7.10: Burchard of Mount Sion, *Descriptio terrae sanctae*, long version with glosses, thirteenth to fourteenth century; Florence, Biblioteca Nazionale Centrale, Conv. Soppr., F.IV.733, fols. 32v–33r. Su concessione del Ministero della Cultura/Biblioteca Nazionale Centrale, Firenze.

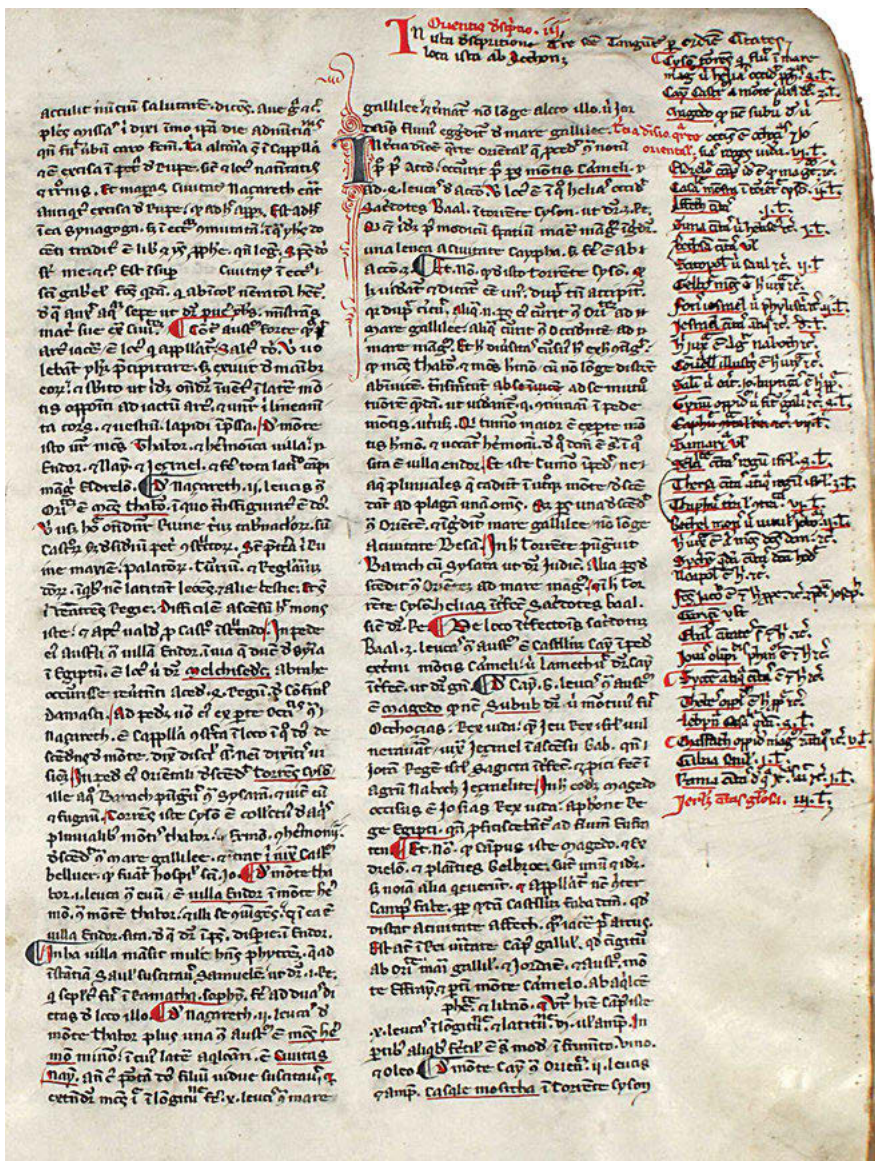


Fig. 7.11: Burchard of Mount Zion, *Descriptio terrae sanctae*, long version with glosses; Florence, Biblioteca Nazionale Centrale, Conv. Sopr., C.VIII.2861, fols. 21v–22r. Su concessione del Ministero della Cultura/Biblioteca Nazionale Centrale, Firenze.

merchant Marino Sanudo (d. 1343),⁷⁹ who set himself the goal of persuading Europe's rulers to undertake a new crusade. On his five journeys to the Holy Land he never advanced beyond Acre into the interior, but his wealth of experience enabled him to describe the coastlines and to calculate the costs for the ships, equipment, crew, and weapons needed for such an expedition.⁸⁰ The Burchard tradition was therefore an ideal supplement to a polemical tract intended to persuade Pope John XXII and other leading personalities of Christian politics in Europe to fit out a fleet to liberate the holy sites.

Ten of the nineteen extant copies of the *Liber* have an appendix of maps, containing a world map and three to five sectional maps, often including a regional map of the Levant and portolan charts of the Mediterranean. Seven of these ten copies are accompanied by a map of Palestine.⁸¹ Sanudo placed even more importance on the harmonic interplay of the two media than the Burchard copyists. The maps, all from the 1320s and 1330s, had no other purpose than to support the argument of the accompanying text. For the best possible execution, Sanudo engaged Pietro Vesconte, originally from Genoa, who had been

79 Marino Sanudo, "Liber secretorum fidelium crucis super Terrae sanctae recuperatione et conservatione," in *Gesta dei per Francos* 2, ed. Jacques de Bongar (Hannover: 1611, reprint Jerusalem: 1972); cf. the translations by Aubrey Stewart, *Marino Sanuto's Secrets for True Crusaders to Help them to Recover the Holy Land, written in A.D. 1321* (Palestine Pilgrims' Text Society 3,14) (London: AMS Press, 1896) (only book 3); Peter Lock, *Marino Sanudo Torsello: The Book of the Secrets of the Faithful of the Cross* (Crusade Texts in Translation 21) (Farnham: Ashgate, 2011). Cf. Sylvia Schein, *Fideles Crucis: The Papacy, the West, and the Recovery of the Holy Land 1274–1314* (Oxford: Clarendon Press, 1991), 269–70; Evelyn Edson, "Reviving the Crusade: Sanudo's Schemes and Vesconte's Maps," in *Eastward Bound: Travel and Travellers, 1050–1550*, ed. Rosamund Allen (Manchester: Manchester University Press, 2004), 131–55 at 134; Patrick Gautier Dalché, "Cartes, réflexion stratégique et projets de croisade à la fin du XIIIe et au début du XIVe siècle: Une initiative franciscaine?," *Francia* 37 (2010): 77–95.

80 Cf. Christopher J. Tyerman, "Marino Sanudo Torsello and the Lost Crusade: Lobbying in the Fourteenth Century," *Transactions of the Royal Historical Society* 32 (1982): 57–73; Schein, *Fideles Crucis*, 203–18.

81 Marino Sanudo, *Liber secretorum fidelium crucis*, atlas of 1320 with a map of Palestine: Vatican City, Biblioteca Apostolica Vaticana (henceforth referred to as BAV), Pal. lat. 1362; first to second redaction: Oxford, Bodleian Library, Ms. Tanner 190; second redaction: Vatican City, BAV, Reg. lat. 548; Florence, Biblioteca Riccardiana, Ms. 237; London, BL, Add. Ms. 27376, fols. 188v–189r; Brussels, KBR, Ms. 9347–9348; Brussels, KBR, Ms. 9404–9405, fols. 173v–174r, all of them from the workshop of Pietro Vesconte, before 1332. Cf. Röhrich, "Marino Sanudo"; Degenhart and Schmitt, "Marino Sanudo," 21–24, 105 and 116–17 with illustrations of Brussels, KBR, Ms. 9404–9405, fols. 173v–174r; Edson, "Reviving the Crusade," 136–37 and 151–52; Gautier Dalché, "Cartes de terre sainte," 598–603; Harvey, "The Biblical Content," 55–63.

making portolan charts in Venice since 1311 or earlier.⁸² All the Sanudo maps are closely connected to the remarks in the text, though it is not clear whether Sanudo himself or Pietro Vesconte was responsible for the revisions.

In the map of Palestine, which illustrated the third section of the work on the history and topography of this region, the territory is once again divided up by a network of lines. In combination with the indications of compass direction, it suggests measurability.⁸³ The content of the map adopts Burchard's specifications and is very familiar. Between the contemporary crusader castles we find the twelve tribes of the Old Testament, Job's grave, and the pillar of salt that was Lot's wife. In many places the interior follows the two sheet maps from Florence and New York – for example, for the river system at the Sea of Galilee, with Chorazin on its east bank.⁸⁴ The coastlines follow more recent discoveries. In view of the intended crusades, the ports are located with particular precision. Later versions are adapted to the military intention. For example, the mouth of the Nile is enlarged to underline its importance for the economic embargo. To emphasize Egypt's leading political role among the eastern Mediterranean countries, the position of different places is measured according to their distance from Cairo.⁸⁵ Even the planned stages for the journey of the crusading army are entered on the map, step by step. The political objective is presented didactically, so to speak.

Two versions of the Sanudo map accompany the *Chronologia magna*, a world chronicle by the Franciscan friar Paulinus Minorita or Paolino Veneto (d. 1344). Born in Venice, Paulinus was an Apostolic Penitentiary in Avignon around 1321. As a member of the papal examination commission employed for the *Liber*, he must have seen the maps. Indeed he may have had the chance to study them earlier, during his activities as a papal diplomat in Venice and as Sanudo's correspondent.

82 Cf. Konrad Kretschmer, "Marino Sanudo der Ältere und die Karten des Petrus Vesconte," *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 26 (1891): 352–70.

83 Cf. Dietrich Huschenbett, "Spätmittelalterliche Berichte von Palästinafahrten und mittelalterliche Kartographie," in *Ein Weltbild vor Columbus: Die Ebstorfer Weltkarte. Interdisziplinäres Colloquium 1988*, ed. Hartmut Kugler in collaboration with Eckhard Michael (Weinheim: VCH Acta Humaniora, 1991), 367–79 at 373; Catherine Delano-Smith, "The Intelligent Pilgrim: Maps and Medieval Pilgrimage to the Holy Land," in *Eastward Bound: Travel and Travellers, 1050–1550*, ed. Rosamund Allen (Manchester: Manchester University Press, 2004), 107–30 at 117–19 and 128.

84 Kenneth Nebenzahl, *Atlas zum Heiligen Land: Karten der Terra Sancta durch zwei Jahrtausende* (Stuttgart: Katholisches Bibelwerk, 1995), 43.

85 Oxford, Bodleian Library, Ms. Tanner 190, fols. 204v–205r. Cf. Marino Sanudo, "Liber secretorum," liber III, pars 14, Chap. 12, ed. de Bongar, 261f.; trans. Stewart, *Marino Sanuto's Secrets for True Crusaders*, 55ff.; trans. Lock, *Marino Sanudo Torsello*, 412–16; Edson, "Reviving the Crusade," 139–48, Fig. 142f., and 146f.

He could even have supplied the models for them. In any case, he subsequently incorporated the geographic illustrations into his historiography, adding further maps of cities and of Italy.⁸⁶

In the course of its reception, Burchard's Holy Land underwent numerous modifications – for example, in its amalgamation with the writings of earlier travelers (such as Jacques de Vitry) or in its interpretation by Marino Sanudo and Pietro Vesconte. Towards the end of the fifteenth century, the map and the longer version of the account were incorporated into an encyclopedic world chronicle, the *Rudimentum novitorum*, printed in 1475 by Lucas Brandis in Lübeck.⁸⁷ The verbal and pictorial description of the geography, modified only slightly, was intended as a theological aid to facilitate Bible reading and to justify the occupation of the land by the Israelites. The aim was to localize the regions and events of the Old and New Testaments and to explain Holy Scripture by areas and cardinal points, so as to enhance the reader's understanding. The references to passages of scripture were therefore emphasized, and echoes of the present were somewhat reduced. This rectangular, east-oriented map with the eight wind blowers is centered on an oversized, heavily fortified, circular Jerusalem, whose shape recalls the three-walled reconstruction after the Babylonian captivity. The only reminders of the period of the Crusades are Acre, the second-largest city on the map, and the fortress of Montfort, while the galleys on the Mediterranean, and the marked pilgrimage routes and stations evoke the bustle of contemporary activities. An additional map of Jerusalem serves, as it does in the Laurenziana codex, to give local detail, while a world map gives broader orientation. The hills in the maps of Palestine and the world are a design element added by the illustrator.

86 Paulinus Minorita (Paolino Veneto), *Chronologia magna*, map of Palestine (Neopolitan, circa 1329): Paris, Bibliothèque nationale de France, Ms. Lat. 4939, fols. 10v–11r and *ibid.*, fol. 10r on the eastern Mediterranean, figure in Degenhart and Schmitt, “Marino Sanudo,” 118, 119 and 115; Vatican City, BAV, Vat. lat. 1960. Cf. Edson, “Reviving the Crusade,” 137–38.

87 Cf. Röhrich, “Marino Sanudo,” 105f.; Anna-Dorothee von den Brincken, “Universalkartographie und geographische Schulkenntnisse im Inkunabelzeitalter (unter besonderer Berücksichtigung des ‘Rudimentum Novitorum’ und Hartmann Schedels),” in *Studien zum städtischen Bildungswesen des späten Mittelalters und der Frühen Neuzeit. Bericht über Kolloquien der Kommission zur Erforschung der Kultur des Spätmittelalters 1978 bis 1981* (Abhandlungen der Akademie der Wissenschaften zu Göttingen, Philologisch-Historische Klasse 3. Folge 137), ed. Bernd Moeller (Göttingen: Vandenhoeck & Ruprecht, 1983), 398–429, reprint in: *Studien zur Universal-kartographie des Mittelalters*, ed. Anna-Dorothee von den Brincken and Thomas Szabó (Veröffentlichungen des Max-Planck-Instituts für Geschichte 229) (Göttingen: Vandenhoeck & Ruprecht, 2008), 263–96; Kenneth Nebenzahl, *Atlas zum Heiligen Land. Karten der Terra Sancta durch zwei Jahrtausende* (Stuttgart: Katholisches Bibelwerk, 1995), 62; Michael Herkenhoff, *Die Darstellung außereuropäischer Welten in Drucken deutscher Offizinen des 15. Jahrhunderts* (Berlin: Akademie Verlag, 1996), 147–56.

This graphic presentation is omitted in the map of Palestine in the *Prologus Arminensis*, a verbal and pictorial stand-alone description of Palestine printed three years later and referred to as a *mappa*.⁸⁸ It was probably written by a mendicant friar in Lübeck between 1460 and 1478. Here too, geographical knowledge is clearly oriented towards an understanding of the Bible. The objective was a systematic, comprehensive representation of the Holy Land, giving young preachers a feeling for the localization of the places and distances. For this purpose, the author brought together information from contemporary accounts of pilgrimage and theological writings; he included Burchard's specifications as they appeared in the *Rudimentum novitiorum*. At the center of the system of the *Prologus* there are no pilgrimage routes or compass directions, but three concentrically expanding sections, the first showing the Temple of Solomon, the second the city of Jerusalem and its environs, and the third the Holy Land with adjacent areas. Each of these three parts is preceded by a map, in which the geography is formed solely by the arrangement of the text, with no graphic outlines: firstly a ground plan of the Temple of Solomon, secondly a kind of ground plan of the city, and thirdly the east-oriented map of Palestine, referred to as a *spectaculum*. In each of the three cases, the legends are distributed over a rectangular surface. The structure of the map of Palestine shows similarities with the enclosed lettering on the Laurenziana map, even if Jerusalem now becomes the starting point and center of the mapping. In comparison, the former crusader sites such as the destroyed town of Acre (*Accon LXXXIII et est iam destructa*), Montfort (*Monford CIII*), and the most recently abandoned Templar castle, Château Pèlerin (*Castrum peregrinorum*), recede into the background. The numbers after the place-names refer to the relevant chapter in the text. As part of a sophisticated system of referencing, they give access to the textual explanations. The geographical localization of a place can simultaneously be used as an additional index, which is organized topographically rather than alphabetically. Conversely, the text refers repeatedly to the maps in order to integrate the sites into the overall concept. The author and printer used these references to systematically create a functional reciprocity, which had been foreshadowed in the rubrics and marginalia of the Burchard manuscripts.

The influence of the Burchard tradition in the fifteenth century was also apparent in illustrated reports from the Holy Land and descriptions of routes. A copy of the map served as a kind of itinerary accompanying William Wey's

⁸⁸ *Prologus Arminensis*, printed anonymously in Lübeck by Lukas Brandis around 1478, fol. 6b with map of Jerusalem, fols. 10b–11a with map of Palestine. Cf. Herkenhoff, *Darstellung*, 156–64.

account of his pilgrimage to the Holy Land, composed in 1462.⁸⁹ Wey claims to have used a *mappa mundi* to prepare for his journey, to which he then added a map of the Holy Land with Jerusalem in the middle. Two pieces of parchment, one with the temple of Jerusalem and one with Calvary, completed this pictorial program for pilgrims. There was also an appendix with travel instructions in book form, including a fascicle on the sites to be visited in Jerusalem.⁹⁰ Such all-in-one packages seem almost to have become the norm at the time. Bernhard von Breidenbach (1486) went down the same path, hiring a painter to illustrate his journey.⁹¹ The reception of Burchard, the ramifications of which still merit further research, indisputably extended to the end of the sixteenth century, when the *Descriptio* was included in Sigmund Feyerabend's collection of travel literature.⁹²

This resulted in purposely designed combinations of accounts and maps of Palestine, which were handled differently by creators of geographical works, Christian devotional books, and world chronicles. Their task was to illustrate the local conditions of the holy sites in a general way and to localize the geographical component of salvific history in a concrete way. The maps of the Holy Land were often combined with other representations of the world and individual regions, topographic city maps, and ground plans, to form an overall concept. Marino Sanudo and Paolino Veneto had been the first to develop this into an early geographic atlas. Burchard's map, like the account itself, was even included in geographic works – for example, as the “*Tabula Nova Terrae Sanctae*” in the Ptolemaic handbook of geography (Florence 1474) and in Gabriele Capodilista's map of Palestine (ca. 1475).⁹³

89 William Wey, *Itineraries* (London: J. B. Nichols and Sons, 1857), 92–95 and 99–102. Cf. Nebenzahl, *Atlas*, 50–52, pl. 17; Harvey, “The Biblical Content,” 58.

90 Röhrich, “Marino Sanudo,” 97: “[A] mappa mundi. Also a mappa of the Holy Land with Jerusalem in the myddys. Also II levys of parchement, on which the temple of Jerusalem, another wyth the holy mounte of Olyvete. Also a sex keveryd wyth blakke and thereopon the bokys, one of the materys of Jerusalem.” Cf. Reinhold Röhrich, “Die Palästinakarte Bernhard von Breitenbach's,” *Zeitschrift des deutschen Palästina-Vereins* 24 (1901): 129–35 at 132f. with note 1; Huschenbett, “Spätmittelalterliche Berichte,” 376.

91 Bernhard von Breidenbach, *Die Reise ins Heilige Land. Ein Reisebericht aus dem Jahre 1483 mit 17 Holzschnitten, 5 Faltkarten und 6 Textseiten in Faksimile*, ed. Elisabeth Geck (Wiesbaden: G. Pressler, 1977); cf. Herkenhoff, *Darstellung*, 180–204; Stefan Schröder, *Zwischen Christentum und Islam: Kulturelle Grenzen in den spätmittelalterlichen Pilgerberichten des Felix Fabri* (Orbis mediaevalis 11) (Berlin: Akademie Verlag, 2009), 83–85.

92 Schröder, *Christentum und Islam*, 77.

93 Nebenzahl, *Atlas*, 53–55, pl. 18 (Gabriele Capodilista, *Palästinakarte*, ca. 1475), 58–59, pl. 19 (Sanudo and Vesconte, “*Tabula Nova Terrae Sanctae*,” in Claudius Ptolemaeus, *Geographia* [Florence: 1474]).

This meant the professionalization of the collaboration between travel author and illustrator. While Burchard of Mount Sion was unable to influence what subsequent copyists did with his manuscripts, and Sanudo still had to painstakingly commission individual copies for decision-makers, Erhard Reuwich's woodcuts with maps and *vedute* of the different pilgrimage stations were produced in an elaborate printing process and precisely coordinated with Breidenbach's account. This guaranteed uniformity despite wide distribution, while the illustrations contributed to the high print volumes and the large number of translations.⁹⁴

Conclusion

Burchard of Mount Sion is regarded as the author of a travelogue which has been preserved in multiple versions and illustrated with various cartographic representations. The different versions and diverging visualizations reveal processes of transformation, allowing us to trace the transmission and appropriation of knowledge about a cultural area at the borders of Europe that was disputed among the world religions. Before any systematic analysis is possible, however, a scientific survey and critical edition of the extant copies, both texts and illustrations, is needed. I have therefore initially focused (using selected examples) on the transition between description and mapping, the context between knowledge generation and system of classification. This required a brief outline of the biographical context of production and the complex situation of transmission. A selective analysis of the different forms of visualization has generated many new findings, up to and including the reception of the tradition of knowledge derived from Burchard's work.

The first thing this analysis has shown is how uncertain and fragmentary our knowledge about Burchard is. Almost the only thing known for certain is that he traveled in the Holy Land around 1283/84, and wrote down the *Descriptio* as an attentive observer. Other details about his life and work have proven to be complex constructions created in various versions by subsequent generations. The second finding is that the long version in particular (the short version not so much) was an important basis for graphic presentations in miniatures, city maps, diagrams, and detailed maps. Traditional research has completely overlooked the fact that these visualizations forged close links with the texts, organizing the knowledge to fit the target audience. One might assume that the detailed maps are more likely to have developed from the diagrams, the more complex

⁹⁴ Cf. Huschenbett, "Spätmittelalterliche Berichte," 375.

representations from the schematic ones, than the other way around. Yet we still do not know which of the visualizations Burchard might have sent to Magdeburg, or whether any were actually sent at all. In any case the diagrams, in which the heterogeneous parts of the territory are abstractly combined into a topographic chronology, are evidence of great representational skill and considerable creativity. The visual reflection took the description of the territory to a new level. The reduction to the essentials allowed the viewer to contemplate the temporal succession of Bible, history, and contemporary happenings side by side in a simulated timelessness, and to systematically categorize even remote events.

A look at the practices of graphics and mapping within the surviving manuscript versions of Burchard's account shows that the diagrams and integrated maps of Palestine created a fluid transition between text and image, word and graphics. Evidently the term *descriptio* (like the later term *mappa*) contained both textual and visual components, which were interdependent. The account and the visualization were largely coordinated in structure and content; marginalia and rubrics referred to topographically arranged localities. This reference system was gradually perfected over successive copies. The printed maps in the *Prologus Arminensis* offer an additional refinement: an integrated topographical index. Even the two separately preserved sheet maps in Florence and New York show a close interaction with the text: an alphabetical index of names in columns not only refers to the places mapped, but also creates links to the manuscript versions of the *Descriptio*.

Lastly, an analysis of selected examples of Burchard's reception in manuscript and print editions has shown that authors and cartographers strategically deployed the knowledge handed down by Burchard to achieve their goals. The maps could help to systematically categorize, localize, and illustrate the ideas described in the text. It was a way to conquer and dominate the Holy Land. The Venetian merchant Marino Sanudo was interested in a military crusade. The unknown Lübeck-based authors of the *Rudimentum* and *Prologus* were concerned with correct biblical exegesis. Late medieval pilgrims such as William Wey and Bernhard von Breidenbach concentrated on describing and visualizing Christian sites. All of them wanted to transmit their concerns to a precisely defined audience: Sanudo and Vesconte were addressing religious and secular leaders, Wey and Breidenbach's target audience was potential pilgrims, and that of the unknown Lübeck authors consisted of Bible readers and preachers. All of them utilized not just the content but the appropriate forms. This analysis has shown that the geographical realm of the Holy Land was never static, but was repeatedly adapted to meet contemporary needs and intentions. Maps were historical documents: they contained political and religious statements about the legitimation and reinforcement of

power and claims to authority, and they were a means of pursuing didactic and moral goals.

There is no doubt that the contact zone in the productive interplay between text and image merits further research. Even within the Burchard tradition, the cartographic representations changed continually under the influence of political and religious developments. The present reflections on Burchard's *Descriptio* and its conceptions of space have shown that more research needs to be done on the different versions of the account and the maps – in their historical, manuscript, and material context; in combination with contemporary accounts of pilgrimages and crusades, or historiographic descriptions of the territory; and in their generative power of visualization. This is, not least, about the political and institutional conditions for the production of regional maps, and about the interests, motives, and goals behind the adoption and exchange of knowledge.

**Part III: Between the Old and the New World:
Maps as Means of Power**

Chapter 8

New Maps for New Worlds? Cartographic Practices of Exploration

“The sea is by nature threefold,” writes Felix Fabri (1437/38–1502), a Dominican friar from the town of Ulm, in his *Evagatorium*, the detailed account of his journeys to Jerusalem. This threefold sea consists of “the great sea, the greater sea, and the greatest sea. The great sea is the Mediterranean Sea, which is called ‘our sea’; the greater sea is the Pontic Sea; the greatest sea is the Ocean, which runs round the world. [. . .] The Ocean, or greatest Ocean sea, is that which encloses the round world, running round about it like a ring. [. . .] This Ocean grows out of the world, and has its root and beginning in it.”¹ These lines, written in scholarly Latin around 1484, reflect the importance that this geographically versed traveler attributed to these bodies of water. The maritime configurations helped the author to explain the structure of the earth, and helped his readers to understand it. In the abstract T-O schema developed in the Middle Ages, the Mediterranean and the Black Sea – including the Sea of Asov at the mouth of the Don – form the T in the all-encompassing O of the encircling ocean. Such descriptions were based on the writings of the church fathers, who had added Christian symbolism to ancient models such as the Greek invention of *Okeanos* and the discourse on intercontinental borders.² They believed that the ocean encircled the tripartite world, with the Mediterranean connecting the known continents. The related cartographic

1 Félix Fabri, *Les errances de frère Félix Fabri, pèlerin en Terre sainte, en Arabie et en Égypte*, ed. Jean Meyers and Michel Tarayre, critical edition, vol. 1 of 6 (Textes littéraires du Moyen Age 25) (Paris: Garnier, 2013), 354–56: “Mare in genere est triplex, scilicet mare magnum, mare maius et mare maximum. Mare magnum est mare Mediterraneum, quod dicitur mare nostrum; mare maius est mare Ponticum; mare maximum est oceanus, quod ambit mundum. [. . .] Oceanus uel oceanum mare maximum, quod exterius per modum circuli ambit orbem terrarum eumque amplectitur. [. . .] Oceanus ille manat ex orbe, et in ipso est radix eius et principium; finis quoque eius est apud finem illius.” English translation based on: Felix Fabri, *The Book of the Wanderings in the Holy Land*, ed. Aubrey Stewart, vol. 1 (London: 1892), 111–12. Cf. *Fratris Felicis Fabri Evagatorium in Terrae Sanctae, Arabiae et Egypti peregrinationem*, ed. Konrad Dietrich Haßler, vol. 1 (Bibliothek des Literarischen Vereins in Stuttgart 2) (Stuttgart: Litterarischer Verein, 1843), 107; Stefan Schröder, *Zwischen Christentum und Islam: Kulturelle Grenzen in den spätmittelalterlichen Pilgerberichten des Felix Fabri* (Orbis medievalis. Vorstellungswelten des Mittelalters 11) (Berlin: De Gruyter, 2009), 53–76.

2 Cf. Ingrid Baumgärtner, “Europa in der Kartographie des Mittelalters: Repräsentationen – Grenzen – Paradigmen,” in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10) (Berlin: De Gruyter, 2008),

schema gained widespread and enduring popularity in the Middle Ages, and was reproduced in hundreds of manuscripts throughout Europe.³

Felix Fabri was able to admire a complex cartographic illustration of these ideas during his second stay in Venice, in the church of San Cristoforo (della Pace) on an island near Murano. This church contained a south-oriented wall map, completed in or before August 1460. Its creator, Fra Mauro, a Camaldolese monk from Venice, had given Africa a southern tip with sea around it, showing confidence in the ongoing success of the Portuguese voyages of discovery. This multilayered work made such an impression on the traveler from Ulm that he wrote an account of the magnificent *mappa mundi*.⁴ Felix Fabri and Fra Mauro shared two basic assumptions: firstly that the infinite encircling ocean determined the shape of the earth's surface, and secondly that the three very different-sized continents were (roughly) separated by the Mediterranean and the Black Sea.⁵

Ten years after Fabri wrote his *Evagatorium*, in 1494, Spain and Portugal divided the world between them in the Treaty of Tordesillas. Although the negotiating parties were hardly in a better position to assess the spatial dimensions of the world than Felix Fabri and Fra Mauro, they fixed a demarcation line that was intended to run from north to south through the middle of the Atlantic, around 370 Spanish miles (ca. 1800 km) west of the Cape Verde Islands. The agreement was that everything to the east of this would belong to the Portuguese, everything

9–28 at 11–17; Klaus Oschema, *Bilder von Europa im Mittelalter* (Mittelalter-Forschungen 43) (Ostfildern: Thorbecke, 2013), 88–96.

3 Patrick Gautier Dalché, who is working on an inventory of the schematic T-O maps up to 1200, stated in 1994 that he already had a list of around 400 such maps; cf. Patrick Gautier Dalché, “De la glose à la contemplation: Place et fonction de la carte dans les manuscrits du Haut Moyen Âge,” in *Testo e Immagine nell’Alto Medioevo* (Settimane di Studio del Centro Italiano di Studi sull’Alto Medioevo 41) (Spoleto: Presso la sede del Centro, 1994), 693–771 at 702. Also in Gautier Dalché, *Géographie et culture: La représentation de l’espace du VIe au XIIIe siècle* (Variorum Collected Studies Series 592) (Aldershot: Routledge, 1997), no. VIII. By December 31, 1997, further finds had raised the number to 625 maps in 465 manuscripts; see Patrick Gautier Dalché, “Mappae mundi’ antérieurs au XIIIe siècle dans les manuscrits latins de la Bibliothèque Nationale de France,” *Scriptorium* 52 (1998): 102–62 at 102. It will be interesting to see how many T-O representations will ultimately be listed in the promised catalogue.

4 Félix Fabri, *Les errances*, ed. Meyers and Tarayre, 1:350: “Est enim inter Venecias et Murianam insula, in qua est ecclesia noua et pulchra sancti Christophori cum monasterio ordinis albi. In illo monasterio est depicta una mappa mundi ualde pulchra.” Cf. *Fabri Evagatorium*, ed. Haßler, 1:106.

5 For ideas about whether the land gave shape to the seas or the seas to the land, see Christoph Mauntel, “Vom Ozean umfasst: Gewässer als konstitutives Element mittelalterlicher Weltordnungen,” in *Ozeane: Mythen, Interaktionen und Konflikte*, ed. Friedrich Edelmayr and Gerhard Pfeisinger (Münster: Aschendorff, 2017), 57–74.

to the west to the Spanish kings. The contracting parties divided up the claimed dominions, but had no actual means of putting the agreement into practice. A joint commission of experts began to carefully study the ancient sources and to compare their statements. Yet it was unable to fix the line of demarcation cartographically in a way that would satisfy both parties. The members representing the two countries cited different traditions, and, most importantly, diverging calculations on the circumference of the earth. This disagreement hampered all attempts to produce a unanimous answer. For thirty-five years, until the Treaty of Saragossa in 1529, the only conceptualization of the division that the parties could agree on was a textual description.⁶

These examples show the reception of “ancient” knowledge in different forms and with diverging results. In the case of Felix Fabri’s account and Fra Mauro’s *mappa mundi*, the ancient knowledge was interpreted through a Christian lens and modified in accordance with Portuguese hopes. In the case of the Treaty of Tordesillas, the experts sought answers to a complex problem in ancient writings, but these ultimately did not help them find a solution. Both discourses revolved around the earth’s circumference and the ratio of water to land. The increasing efforts to measure space were linked with the drive to establish new, intersubjective methods. This led to a clash between opposing ideas about the “right” kind of knowledge: empirical practice versus scholarly knowledge, mariners versus cosmographers, the spoken versus the written word, and particularistic knowledge versus the desire for generalizability. The issue at the heart of this conflict was how much weight should be given to maritime practice in relation to the topographical representation of the world in the tradition of antiquity – though there was no clarity about what “antiquity” actually was.

So what discourses, techniques, and practices were deployed to reflect the different perspectives, and to adapt map production and use to contemporary needs? Or to put the question differently, modifying the words of Raimund Schulz,⁷ what

6 Ute Schneider, “Tordesillas 1494 – Der Beginn der globalen Weltsicht,” *Saeculum: Jahrbuch für Universalgeschichte* 54 (2003): 39–62; Wolfgang Reinhard, *Die Unterwerfung der Welt: Globalgeschichte der europäischen Expansion 1415–2015* (Munich: C. H. Beck, 2016), 107 and 139, on the Treaty of Saragossa.

7 Raimund Schulz, “Einleitung,” in *Maritime Entdeckung und Expansion. Kontinuitäten, Parallelen und Brüche von der Antike bis in die Neuzeit*, ed. Raimund Schulz (Historische Zeitschrift. Beihefte Neue Folge 77) (Berlin: De Gruyter Oldenbourg, 2019), 9–57; Raimund Schulz, “Der weite Weg nach Westen: Maritime Expansion und geographische Horizonsweiterung in der Antike und die Möglichkeiten des Vergleichs mit der frühen Neuzeit,” in *Barrieren und Zugänge: Die Geschichte der Europäischen Expansion. Festschrift für Eberhard Schmitt*, ed. Thomas Beck, Marília dos Santos Lopes and Christian Rädels (Wiesbaden: Harrassowitz, 2004), 51–62; Raimund Schulz, “Oceanic Sea Routes to India: The Western World’s Great Dream from

role did the experiences, ideas, and thought patterns of antiquity play when it came to mapping the dynamics of early modern expansion? To answer this we need to analyze the interrelationship between the exploration of new seas and the cartographic configuration of the world between 1450 and 1550. The following discussion will give a broad outline of this struggle, considering three different aspects: firstly, the reception of diverging ancient knowledge of the world in the fifteenth century; secondly, the relevance of empirical practices and ancient models in the exploration of the world around 1500; and thirdly, the reevaluation of the world and its ancient roots in atlases and cosmographies up to the middle of the sixteenth century.

The Reception of Ancient Knowledge of the World in the Fifteenth Century

In fifteenth-century Europe, the competition between the diverse geographic models of classical antiquity and the new cartographic inventions of the Middle Ages created a rich reservoir of tools for travelers and mapmakers. They could choose from a broad spectrum of travelogues and descriptions of the world, as well as maps – ranging from T-O diagrams and Christian world maps to regional maps and portolan charts – whose content and form were often linked to insights from antiquity.⁸ Probably the most momentous event was the arrival of Ptolemy's *Geographia* in Florence around 1397.⁹ Fragments of the geographical knowledge

Antiquity to Columbus," in *Entre mers – Outre-mer: Spaces, Modes and Agents of Indo-Mediterranean Connectivity*, ed. Nikolas Jaspert and Sebastian Kolditz (Heidelberg: Heidelberg University Publishing, 2018), 95–105.

⁸ An overview is offered by Ingrid Baumgärtner and Stefan Schröder, "Weltbild, Kartographie und geographische Kenntnisse," in *WBG-Weltgeschichte: Eine globale Geschichte von den Anfängen bis ins 21. Jahrhundert*, ed. Johannes Fried and Ernst-Dieter Hehl, vol. 3, *Weltdeutungen und Weltreligionen 600 bis 1500* (Darmstadt: WBG, 2010), 57–83.

⁹ Patrick Gautier Dalché, *La géographie de Ptolémée en Occident (IVe–XVIIe siècle)* (Terrarum Orbis 9) (Turnhout: Brepols, 2009), 145–60; Patrick Gautier Dalché, "Pour une histoire du regard géographique: Conception et usage de la carte au XVe siècle," *Micrologus: Natura, scienze e società medievali* 4 (1996): 77–103; Laura Federzoni, "Testo e immagine: I codici manoscritti e le edizioni a stampa italiane della *Geographia* di Tolomeo," in *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Venetiana 17) (Rome: Viella Libreria Editrice, 2016), 37–71; Ingrid Baumgärtner and Piero Falchetta, "Kartographischer Raum, Venedig und die Welt im 15. Jahrhundert: Eine Einführung," in *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Venetiana 17) (Rome: Viella Libreria Editrice, 2016), 23–34.

gathered in this text had been known since the fourth century in Byzantium and since the seventh century in the West, and had occasionally been incorporated into works of historiography, astrology, and geography. However, the translation of the work into Latin – completed in 1406 or, at the latest, 1409 – triggered a surge of interest. Its effect can be seen in the eighty-six extant Renaissance manuscripts and around nineteen incunabula and early prints produced after 1475.

The general interest in Ptolemy's *Geographia* subsequently helped to diversify the types and forms of cartographic images of the world. Ptolemaic approaches spread into every part of Europe, and the methods of projection and measurement practiced in the portolan charts were transposed from the Mediterranean to the rest of the world. The dissemination of the work in humanist circles in the second half of the fifteenth century led to a pragmatic approach to the Ptolemaic model, whose statements and calculations (especially those relating to the earth's circumference) encouraged confrontation with the new knowledge acquired from the voyages of discovery, and contributed to a mathematical orientation in cartography. In short, the reception of Ptolemy's work dynamized the field. Reports on the Portuguese journeys along the coasts of Africa and Columbus's later accounts of the New World then gave further impetus to rethink ancient and medieval ideas and continually revise their cartographic forms.¹⁰

No usable maps relating to the *Geographia* had been handed down from antiquity, but by the middle of the fifteenth century we find a wide range of illustrations of Ptolemy's ideas. Around 1412, Francesco di Lapacino from Florence was working on the first versions of a Greek and a Latin *pictura*. Confronting the difficult task of creating a new visual order, he linked the Greek information with contemporary topographical references in Latin.¹¹ Domenico Buoninsegni, also from the entourage of the humanist Niccolò Niccoli in Florence, subsequently completed one of the first compilations, combining text and maps. The resulting model was widely disseminated and encouraged the study of Ptolemy's ideas, now presented in both textual and graphic form.

Unsurprisingly, this quest for knowledge did not proceed in linear fashion. For example, we find a significantly modified form of Ptolemy's ideas in Fra Mauro's unique *mappa mundi*, whose enormous size (just under two by two meters) made it possible to reference ancient authors to an almost unlimited extent, without ignoring the necessary discussion of geographic innovations.¹² Thus the contours of

10 Reinhard Krüger, "'Atiro ao Oriente': Die portugiesischen Seeunternehmungen des Spätmittelalters und die europäische Tradition des Erdraubewusstseins," *Lusorama* 41 (2000): 9–44.

11 Gautier Dalché, *La géographie de Ptolémée*, 154–58.

12 Piero Falchetta, *Fra Mauro's World Map: With a Commentary and Translations of the Inscriptions* (Terrarum Orbis 5) (Turnhout: Brepols, 2006), 19–32; Angelo Cattaneo, *Fra Mauro's Mappa*

Africa reflect the experiences of Portuguese mariners, while images and brief inscriptions comment on what are purportedly Ptolemy's specifications – for example, on the system of geographic coordinates, the division of the world into three parts, and the drawing of borders.¹³ Fra Mauro took great trouble to correct Ptolemaic errors, such as those about the legendary Taprobana and the representation of the Indian Ocean as an inland sea.¹⁴ He was also at pains to defend his own deviations regarding the form and dimensions of the world, the assignment of names, and the sizes of provinces,¹⁵ as well as highlighting his own additions such as the Baltic Sea.¹⁶ In fact, not all the knowledge he attributes to Ptolemy is actually Ptolemaic, and he uses a considerable amount of material without mentioning its origins. This is characteristic of his general approach to earlier authors, who include Aristotle, Euclid, Pliny, Poseidonios, Pomponius Mela, Solinus, and Strabo.

The cartographer also added numerous textual insertions incorporating the eyewitness accounts of travelers, so as to at least document the existing contradictions, if not to solve them. An important example was the question of whether Africa was circumnavigable, contrary to Ptolemy's hypothesis of a land bridge to Asia. The proof would not be provided until 1488, when Bartolomeu Diaz completed a secret mission to sail around the Cape of Good Hope and enter the waters of the Indian Ocean.¹⁷ Yet Fra Mauro opted for this solution thirty years earlier, noting that it was contrary to the beliefs of antiquity – but not admitting that it conformed to the views of his Portuguese sponsors. It was a courageous decision,

Mundi and Fifteenth-Century Venice (Terrarum Orbis 8) (Turnhout: Brepols, 2011), 38–46; Piero Falchetta, *Il mappamondo di Fra' Mauro: una storia* (Rimini: Imago, 2013), 11–49; Ingrid Baumgärtner, "Kartographie, Reisebericht und Humanismus: Die Erfahrung in der Weltkarte des venezianischen Kamaldulensermonchs Fra Mauro (gest. 1459)," in *Fernreisen im Mittelalter*, ed. Folker Reichert = *Das Mittelalter: Perspektiven mediävistischer Forschung* 3, no. 2 (1998): 161–97.

¹³ Falchetta, *Fra Mauro's World Map*, see no. 2892 for coordinates, nos. 2489 and 1077 for the tripartite division of the world, no. 1117 for border demarcations; Falchetta, *Il mappamondo*, 60–77 for the reception of Ptolemy in the work of Fra Mauro.

¹⁴ Falchetta, *Fra Mauro's World Map*, see no. 53 for the Indian Ocean, no. 215 for Taprobana; Falchetta, *Il mappamondo*, 60–77.

¹⁵ Falchetta, *Fra Mauro's World Map*, see no. 2834 for the shape and dimensions of the world, nos. 1490 and 2828 for nomenclature, nos. 1490 and 2243 for the size of provinces; Falchetta, *Il mappamondo*, 60–77.

¹⁶ Falchetta, *Fra Mauro's World Map*, see no. 2862 for the *colfo germanico*; Falchetta, *Il mappamondo*, 60–77.

¹⁷ Luis Agustín García Moreno, "Precedentes grecorromanos de la navegación atlántica de Bartolomeu Dias: En torno al Periplo de Hannón," in *Congresso Internacional Bartolomeu Dias e a su época. Actas*, vol. 2 of 5, *Navegações na segunda metade do século XV* (Porto: Universidade de Porto, 1989), 237–57.

since it determined the whole layout of his work. He personally, however, was in no doubt that he had to contradict Ptolemy and completely surround the three parts of the earth with the all-encompassing ocean.¹⁸

Since Greek antiquity there had been debate about how to divide the ecumene. The boundaries between Europe and Asia and (even more so) between Asia and Africa were topographically unclear, and the borders could be drawn in very different ways. The church fathers had chosen the tripartite division favored by Herodotus, and the Christian authors of the Middle Ages had followed suit.¹⁹ Felix Fabri also adhered to this tradition, as well as using his personal familiarity with the local situation to describe the route of a pilgrim to Jerusalem, passing between the three known continents: “He begins his voyage in Europe; at Crete, Rhodes, and Cyprus he reaches Asia, and when he arrives at Alexandria in Egypt he will be in Africa; for the Nile divides Asia from Africa.”²⁰ In using general knowledge to structure his personal experience, Fabri was on well-trodden ground. In contrast, Fra Mauro concentrated on recapitulating scholarly controversies, beginning with authorities such as Pomponius Mela and Ptolemy and continuing as far as the *moderni*. His laconic conclusion was that though such imaginary lines were popular, they were *non molto necessaria*, that is, not helpful, and the related discussions were *materia tediosa*.²¹ The scholarly discourse had long since moved on to more attractive topics.

Nonetheless, there is no mistaking the fact that the ancient authorities were very much present in the fifteenth century. Indeed, they had multiplied with the increasing reception of Ptolemy’s work, and offered rich potential for debate. It

18 Falchetta, *Fra Mauro’s World Map*, no. 53.

19 Ingrid Baumgärtner, “Winds and Continents: Concepts for Structuring the World and Its Parts,” in *Maps and Travel in the Middle Ages and the Early Modern Period: Knowledge, Imagination, and Visual Culture*, ed. Ingrid Baumgärtner, Nirit Ben-Aryeh Debby and Katrin Kogman-Appel (Das Mittelalter, Beiheft 9) (Berlin: De Gruyter, 2019), 91–135, here 104–16 (see essay no. 2 in this volume); Klaus Oschema, *Bilder von Europa im Mittelalter*, 88–99 and 452–81; Christoph Mauntel, Klaus Oschema, Jean-Charles Ducène and Martin Hofmann, “Mapping Continents, Inhabited Quarters and the Four Seas: Divisions of the World and the Ordering of Spaces in Latin-Christian, Arabic-Islamic and Chinese Cartography in the Twelfth to Sixteenth Centuries. A Critical Survey and Analysis,” *Journal of Transcultural Medieval Studies* 5, no. 2 (2018): 295–367.

20 Fabri, *Les errances*, ed. Meyers and Tarayre, 1:362: “In Europa enim nauigare incipit, et in Creta et Rodo et Cypro Asiam tangit, dum uero in Alexandriam Aegypti peruenit, in Affrica erit. Nilus enim diuidit Asiam ab Affrica, in cuius Affricana parte est Alexandria.” Cf. *Fabri Evagatorium*, ed. Haßler, 1:110; English: Fabri, *Book of Wanderings*, ed. Stewart, 1:115.

21 Falchetta, *Fra Mauro’s World Map*, 637; Christoph Mauntel, “Fra Mauro’s View on the Boring Question of Continents,” *Peregrinations: Journal of Medieval Art and Architecture* 6, no. 3 (2018): 54–77.

was impossible to avoid engaging with their actual or supposed views, even if one had no desire to follow them. In this sense, the “ancients” provided crucial stimuli for the expansion westwards across the Atlantic. Christopher Columbus is one of those known to have profited from his contemporaries’ references to ancient authorities. Like many others, he compiled all the available statements on the size of the Atlantic and studied them attentively.

One of the documents that came into his possession was a letter sent to King Afonso V of Portugal (via Ferdinand Martins) by the Florentine geographer Paolo dal Pozzo Toscanelli. Dated June 25, 1474, the letter accompanied a map drawn by Toscanelli, which has since been lost. The news that was conveyed in word and image was revolutionary. Starting from the coasts and islands in Portuguese possession, Toscanelli had sketched the western route to the Spice Islands and the treasures of Asia.²² He had calculated the distances to be covered in miles, worked out how far the route was from the pole and the equator, and had assumed, most importantly, that the shortest route had to lead westwards across the sea, rather than eastwards via the south of Africa. These estimates were based on the calculations presented by Ptolemy. Toscanelli deduced from these that the distance across the Atlantic from Lisbon to “Quinsai,” the city at the end of the Silk Road, was about one third of the Earth’s circumference (*hoc spacium est fere tercia pars tocius spere*), so around 6,500 miles or (based on a Florentine mile of 1.653 km) around 10,745 km.²³ Of course he was mistaken in these figures and calculations, but the underlying idea with its ancient origins was still groundbreaking.

22 The letter to Ferdinand Martins has been preserved in Columbus’s copy under the title “Copia misa Christophoro Colombo per Paulum fixicum cum una carta navigacio.” See *Raccolta di documenti e studi pubblicati dalla R. Commissione Columbiana pel quarto centenario dalla scoperta dell’America*, vols. 1–9 (Rome: Ministero della pubblica istruzione, 1892–1896), here 1.2:364–65 in Latin; Italian version handwritten by Christopher Columbus: 4.1:110–11; *Cristoforo Colombo, Autografi, con prefazione e trascrizione diplomatica di C. De Lollis* (Rome: 1892) = *Raccolta*, 1.3:Table 63 with a reproduction of the handwritten copy and a transcription of the text; see also *Raccolta*, 5.1:571–75 and Table 4. Modern German translation in Alfred Stückelberger, “Kolumbus und die antiken Wissenschaften,” *Archiv für Kulturgeschichte* 69 (1987): 331–40 at 335; cf. Reinhard, *Die Unterwerfung*, 97; Johannes Koder, in collaboration with Hans-Veit Beyer, “Die geographischen Traditionen der Byzantiner und das Weltbild des Christoph Columbus,” in *Gedenkschrift für B. Ferjančić/Zbornik radova bizantinologog instituta* 38 (2000): 407–18.

23 *Raccolta*, 1.2:365: “A civitate Ulixiponis, per occidentem, in directo sunt .26. spacia in carta signata, quorum quolibet habet miliaria . 250. usque ad nobilissim[am] & maximam civitatem Quinsay; circuit enim centum miliaria, & habet pontes decem [. . .] hoc spacium est fere tercia pars tocius spere”; cf. Stückelberger, “Kolumbus,” 335; *Firenze e la scoperta dell’America: Umanesimo e geographia nel ’400 Fiorentino*, ed. Sebastiano Gentile (Florence: Olschki, 1992),

Christopher Columbus, fascinated by the potential of the earth's spherical shape, seems to have copied this letter out personally and added it to his own much-read and annotated copy of Enea Silvio Piccolomini's cosmographic/geographic description of Asia. This was the edition of the *Historia rerum ubique gestarum* that had been printed by Johannes de Colonia and Johannes Manthen de Gerretzheim in Venice in 1477.²⁴ This work, incidentally, not only presented a description of the ecumene referring to Ptolemy, Strabo, and other geographers of antiquity, but also estimated the earth's circumference at 180,000 *stadia*, so around 32,233 km – a similar figure to Toscanelli's.²⁵ Columbus's marginal note on this statement, "totum ambitum noti orbis, scilicet 180 milibus,"²⁶ shows that he must have read this passage attentively and given it serious thought.

Columbus is also known to have intensively studied another work based on ancient knowledge, the *Imago mundi* of Petrus de Alliaco. Again, his annotations and underlinings concern the route from the west coast of Spain to the east coast of India. Petrus argues that this is a short route, backing his assertion with reference to Aristotle, Seneca, and Pliny.²⁷ According to Petrus, Aristotle claimed "that the sea between the west coast of Spain and the east coast of India was small," and Seneca added that this "sea could be crossed in just a few days if the

135–36; Raimund Schulz, *Abenteurer der Ferne: Die großen Entdeckungsfahrten und das Weltwissen der Antike*, 2nd ed. (Stuttgart: Klett-Cotta, 2017), 458–62.

24 Aeneas Silvius Piccolomini, *Historia rerum ubique gestarum, cum locorum descriptione non finita Asia Minor, Venedig, Johannes de Colonia und Johannes Manthen* (1477). Christopher Columbus's personal copy, with notes in his own hand, has been preserved in Seville, Biblioteca Capitular y Colombina. Cf. Stückelberger, "Kolumbus," 335–36.

25 Enea Silvio Piccolomini, Papa Pio II, *Asia*, ed. Nicola Casella (Collana Studi, testi, strumenti) (Bellinzona: Casagrande, 2004), 27, cap. 4: "Ptolemaeus, de latitudine consentiens, longitudinem variam prodit [. . .] totumque ambitum noti orbis stadiis centum et octuaginta milibus constare censet"; Stückelberger, "Kolumbus," 336; *Raccolta*, 1.2:291–369 at 293.

26 *Raccolta*, 1.2:291–369 at 293 no. 16; cf. Stückelberger, "Kolumbus," 336.

27 Pierre d'Ailly, *Ymago mundi. Texte latin et traduction française des quatre traités cosmographiques de d'Ailly et des notes marginales de Christophe Colomb. Etude sur les sources de l'auteur*, ed. Edmond Buron, 3 vols. (Paris: Maisonneuve, 1930), here 1:209–11, cap. 8: "Aristote cependant dit, vers la fin de son livre sur le Ciel et la Terre que la région habitée est plus grande et qu'elle couvre plus du quart de la Terre; ce qui, du reste, est confirmé par Averrhoës. Aristote déclare que la mer est petite qui sépare l'extrémité occidentale de l'Espagne de la partie orientale de l'Inde. [. . .]. De plus, Sénèque dans son livre cinq de la Nature, dit que cette mer peut être franchie en peu de jours par des vents favorables. Et Pline enseigne dans son deuxième livre de l'Histoire Naturelle qu'on a navigué du golfe Arabique jusqu'aux colonnes d'Hercule en un temps pas très long"; cf. Aristotle, *De caelo* 1 c. 298 a 7 f. and 9 f.; Seneca, *Naturales quaestiones*, 1, praef. 13: "quantum est enim, quod ab ultimis litoribus Hispaniae usque ad Indos iacet? Paucissimorum dierum spatium, si navem suus ferat ventus."

wind was favorable.”²⁸ Columbus’s marginal note here sums up these statements, noting that the sea between the Spanish mainland and the coast of India is not excessively large and can be crossed in a few days.²⁹ Columbus believed firmly in the ancient authorities, though in many cases he only knew the content of their writings from the texts of the humanists. In spite of this he referred to them repeatedly, not least in the account of his third voyage of 1498. Here he once again affirmed that Aristotle considered this world to be small, and the waters of the ocean to be so negligible that it was child’s play to pass over the sea from Spain to India.³⁰

Such examples make it easy to see how the ancient authors helped pave the way for the voyage west. They possessed great authority, and yet at the same time they were a source of ongoing uncertainty. Only a critical examination of their writings and the opinions expressed there could equip one to interpret the conditions encountered in reality. The discovery of new worlds therefore raised the question of whether unlimited faith in these authors was still justified. They also offered no solution for the division of the world in accordance with the treaties of Tordesillas and Saragossa.

Practices in the Exploration of the World and New Cartographic Configurations

Columbus’s voyages to America, Portugal’s forays into the Indian Ocean, and Magellan’s circumnavigation of the world in 1519 to 1522 led to a completely new definition of the realm of experience.³¹ The spherical shape of the earth,

28 Translation based on Stückelberger, “Kolumbus,” 338. Stückelberger is able to show that Pierre d’Ailly quoted Seneca (and possibly other writers) indirectly, via Roger Bacon, *Opus maius* VII (= *Moralis philosophia*) pars III, 2, 7–11.

29 *Raccolta*, 1.2:376: “Aristotelis inter finem ispanie et principium indie est mare parvum et navigabile in paucis diebus.” Cf. Stückelberger, “Kolumbus,” 338.

30 Stückelberger, “Kolumbus,” 338: “El Aristótel dize que este mundo es pequeño, y es el agua muy poca, y que fácilmente se pede passar d’Espana á las Yndias”; cf. *Raccolta*, 1.2: 38. In other areas, too, Aristotle and Seneca were frequently cited to justify the seizure of territory in the New World. See e.g. Bruno Rech, “Bartolomé de las Casas und die Antike,” in *Humanismus und Neue Welt*, ed. Wolfgang Reinhard (Weinheim: Acta Humaniora, 1987), 167–98.

31 *Cristoforo Colombo e l’apertura degli spazi: Mostra storico-cartografica*, 2 vols. (Rome: Istituto poligrafico e zecca dello Stato, 1992); *Novos Mundos – Neue Welten: Portugal und das Zeitalter der Entdeckungen. Eine Ausstellung des Deutschen Historischen Museums Berlin*, ed. Michael Kraus and Hans Ottomeyer (Dresden: Historisches Museum, 2007); *Kartographie der Frühen Neuzeit. Weltbilder und Wirkungen. Ergebnisse des in Kooperation mit der Kartenabteilung der*

known since Greek times, had now actually been experienced for the first time, and was no longer just an abstract model. The voyages had made it possible to comprehend the distribution of the seas over the earth's surface, and had given clearer definition to the Americas. This symbolic relevance was combined with groundbreaking procedures and deductions. By 1498, Vasco da Gama's explorations had definitively refuted something that had already been in doubt: the subcontinent posited by Ptolemy to the south of Asia. Soon it also became clear that America had to be considered as a landmass in its own right. And then Magellan, equipped with twenty-three of the latest nautical charts, a map of the world, numerous quadrants, astrolabes, and compasses, sailed through the straits in South America that would later bear his name, landed in the Philippines, and empirically tested the navigability of the Pacific Ocean.³² The implications of this information were huge: this was not just about the proportion of the earth's surface covered in seas, but about the way the whole world was divided up. Armed with this knowledge, both the Spaniards and the Portuguese refused to give up their ambitions for power, and continued the controversies with increasing vehemence on all levels – including that of cartography.

For cartography had become a political instrument – a fact confirmed when the two kingdoms attempted to concretize the line of demarcation they had theoretically agreed on in Tordesillas. Spain owed its version to Juan de la Cosa (d. 1510), a pilot who had accompanied Columbus on his travels. His depiction of the world from around 1500 placed the new continent in the west under the patronage of Saint Christopher, and presented it as belonging nearly exclusively to the king of Spain. The only extant copy is one created before 1510, in the form of a portolan chart.³³ The earliest evidence of the Portuguese interpretation of the Treaty of Tordesillas is the Cantino planisphere of 1502.³⁴ Its unknown draftsman

Staatsbibliothek zu Berlin durchgeführten internationalen Symposiums am Weserrenaissance-Museum Schloss Brake (4.–6. April 2014), ed. Michael Bischoff, Vera Lüpkes and Wolfgang Crom (Marburg: Jonas Verlag, 2015). For more on the individual mariners see e.g. the articles in *Literature of Travel and Exploration: An Encyclopedia*, ed. Jennifer Speake, 3 vols. (New York: Routledge, 2003).

32 Reinhard, *Die Unterwerfung*, 76, 106–7, 138.

33 Madrid, Museo naval, no. 270; reproduced in, e.g., Ute Schneider, *Die Macht der Karten: Eine Geschichte der Kartographie vom Mittelalter bis heute*, 3rd ed. (Darmstadt: Primus Verlag, 2012), 94–95; *L'âge d'or des cartes marines: Quand l'Europe découvrait le monde*, ed. Catherine Hofmann, Hélène Richard and Emmanuelle Vagnon (Paris: Seuil, 2012), 114–15.

34 Modena, Biblioteca Estense Universitaria, C.G.A.2; cf. Schneider, *Macht der Karten*, 94–101; Schneider, “Tordesillas 1494,” 56–59; *L'âge d'or des cartes marines*, ed. Hofmann, Richard and Vagnon, 132–33; Ernesto Milano, “Le grandi scoperte geografiche e i loro riflessi cartografici,” in *Alla scoperta del mondo: L'arte della cartografia da Tolomeo a Mercatore*, ed.

treated Brazil (in the east of which his compatriot Pedro Álvares Cabral had landed two years earlier) as a kind of island, and assigned it to the Portuguese sphere. Regardless of this serious border dispute in largely unknown territory, both solutions were devised in such a way as to cleverly avoid the most urgent problem of the time, the question of whether or not the newly discovered islands and territories were part of Asia.

The cartographic definition of the demarcation line became an even greater challenge when the Portuguese reached the Moluccas, known as the “Spice Islands,” in 1511, and Magellan’s discovery of the western passage proved that the two hemispheres were connected. Beyond all feats of navigation, this meant that the demarcation line continued on the other side of the globe, along the Philippines and the Moluccas, and that the antimeridian also had to be defined.³⁵ As a result, the Portuguese-Spanish debate over the Atlantic was suddenly extended to the Pacific. The conflict over trade rights to the Moluccas sparked intense controversies about how to delimit the two halves of an earth which had always been conceived of as a globe, and whose shape had now been empirically confirmed.

It is not surprising, then, that all the efforts to fix an antimeridian failed. This was due to differing calculations of the earth’s circumference, varying forms of projection, and most significantly, diverging views on the positions of certain places, among them the Cape Verde Islands. Nor could the writers of antiquity offer any help here. It proved difficult to define the border in a virtually unknown area, a problem exacerbated by its location in the middle of the Atlantic. The expert commission responsible for marking the border *in situ* (made up of equal numbers of Spanish and Portuguese representatives) never set off on its voyage, and would in any case never have been able to fulfill its mission. For technical reasons, any attempt to determine lines of longitude at the time was condemned to failure. This lent even greater relevance to topographical representations on maps and globes.³⁶

Catherine Hofmann, H el ene Richard and Emmanuelle Vagnon (Modena: Il Bulino, 2001), 65–168 at 107–11. Cf. also Folker Reichert, “Die Erfindung Amerikas durch die Kartographie,” *Archiv f ur Kulturgeschichte* 78 (1996): 115–43 at 122. Also in Folker Reichert, *Asien und Europa im Mittelalter: Studien zur Geschichte des Reisens* (G ttingen: Vandenhoeck & Ruprecht, 2014), 447–76 at 454.

³⁵ For the politicization of space see Arndt Brendecke, *Imperium und Empirie: Funktionen des Wissens in der spanischen Kolonialherrschaft* (Cologne: B ohlau, 2009), 110–19; J org D unne, “Der verschwundene Tag: Weltreisen und die Datumsgrenze seit der Fr uhen Neuzeit,” in *Grenzerfahrungen*, ed. Achim Landwehr (Studia Humaniora 48) (D usseldorf: D usseldorf University Press, 2015), 75–97.

³⁶ Schneider, “Tordesillas 1494,” 60–61. For the context see Reichert, “Die Erfindung Amerikas,” 115–43, also in Reichert, *Asien und Europa*, 447–76.

The differences were discussed on March 1, 1524 at the Conference of Badajoz, right on the border between the two territories. In fact, the opening discussions were actually held – most uncomfortably – on the cross-border bridge, so that the secret maps demonstrating the negotiators' claims would not have to be removed from their respective countries. Furthermore, the maps, globes, itineraries, and reports serving as evidence were deployed tactically. The Portuguese presented freshly drawn maps of the routes around Africa, so they could leave blank any delicate points and avoid revealing their secret passages. Some of the maps they had brought with them and one itinerary disappeared when the Spanish felt that these confirmed their own claims. The Spanish proposed that only very old maps created before the dispute should be recognized as proof, to exclude any manipulation. And the Portuguese, full of mistrust, argued that instead of nautical maps they should take a blank globe and only enter the information that they had agreed on.³⁷ However, the goal of jointly determining a line of longitude and putting it on a map with the Moluccas was not achieved at this stage.

Eventually a practical solution was found in the Treaty of Saragossa (1529), when Emperor Charles V, always in need of funds, relinquished his alleged trading rights in the Moluccas to Portugal – which was actually the rightful owner, but unable to prove this claim – for a substantial price. From then on, Spain's claim to hegemony was reflected in the fact that the designated line of demarcation was drawn onto a nautical chart authorized by Spain, which was then duplicated and approved by both rulers. This created a model map for the future, though not a consensual representation of geographic knowledge. There was, however, a “topographical map,” a cartographic supplement to the treaty. This constituted an attempt to establish “a uniform and binding system of reference,”³⁸ into which the remote territories could be integrated in future.

One of the participants in the thirty-year political process to implement the line of demarcation was – for a few years at least – Hernando Colón, the illegitimate son of Christopher Columbus, director of the Casa de la Contratación at the time. Another was his most important collaborator, Diogo Ribeiro, who came from Portugal but had served Spain since about 1518/19.³⁹ Hernando Colón, who

³⁷ Brendecke, *Imperium und Empirie*, 116–19. For a discussion of a map by Giovanni Vespucci from the same year, 1523/24, see Christian Heitzmann, “Wem gehören die Molukken? Eine unbekannte Weltkarte aus der Frühzeit der Entdeckungen,” *Zeitschrift für Ideengeschichte* 2 (2007): 101–10.

³⁸ Schneider, “Tordesillas 1494,” 61.

³⁹ Brendecke, *Imperium und Empirie*, 119–22 for the Casa de la Contratación, 130–32 for Diogo Ribeiro; cf. Armando Zuzarte Cortesão, “Diogo Ribeiro,” in *Cartografia e Cartografos portugueses dos seculos XV e XVI* (Lisbon: Seara Nova, 1935), 130–67; L. A. Vigneras, “The Cartographer

recognized Spain's steadily weakening position in the course of the negotiations, is said to have advised Charles V in his diplomatic stratagem. Ribeiro, in contrast, was a navigator with good maritime knowledge, an instrument builder, and the maker of cosmographically oriented nautical charts. One of the tasks entrusted to him was the cartographic illustration of Magellan's experiences from the circumnavigation of the earth. His multifaceted knowledge suited the needs of the Casa de la Contratación, which was at the time trying to establish the cosmographic approach (based on astronomical observation and the use of astrolabes and quadrants) as a major part of the practical navigational training of ships' captains. Previously this had focused mainly on coastlines, tides, currents, and winds.

The original map from the treaty has not survived, but there are four extant planispheres attributed to Ribeiro. These depict astronomical navigation tools – an astrolabe, a quadrant, and a table of declination – to illustrate the methods used.⁴⁰ The third and final version of his world map was produced for Emperor Charles V in 1529, and caused a great sensation. Drawn on precious vellum and measuring 85 × 204 cm, it elaborates on an initial fragmentary draft from 1525 and a revised version from 1527. It shows a world divided into two parts, in which the Moluccas, despite Charles's renunciation on April 22, 1529, are still under Castilian sovereignty. This impressive map, now in the Vatican Library, includes not just the Castilian and Portuguese flags, but also the papal coat of arms. Perhaps it

Diogo Ribeiro," *Imago Mundi* 16 (1962): 76–83; Surekha Davies, "The Navigational Iconography of Diogo Ribeiro's 1529 Vatican Planisphere," *Imago Mundi* 55 (2003): 103–12; Jerry Brotton, *A History of the World in Twelve Maps* (London: Allen Lane, 2012), 186–217, esp. 212–14 for Diogo Ribeiro.

40 Cf. Davies, "The Navigational Iconography," 103–12. Four world maps by Ribeiro from 1525, 1527, and 1529 have been preserved. The first is the *Charta del navegare universalissima et diligentissima* of 1525, known as the *Carta Castiglione* or Castiglione Planisphere, now in Modena, Biblioteca Estense Universitaria, C.G.A.12 (209.5 × 81.0 cm). The second is a world map from 1527, now in Weimar, Klassik Stiftung Weimar, Herzogin Anna Amalia Bibliothek, Kt 020–57 S (*Carta Vniversal En Qve Se Contiene Todo Lo Qve Del Mvndo Se A Descubi[erto] Fasta Aora Hizola Vn Cosmographo De Sv Magestad Anno M.D.XX.VII. En Sevilla*, 86 × 213 cm). The third is a world map from 1529, now in Weimar, Klassik Stiftung Weimar, Herzogin Anna Amalia Bibliothek, Kt 020–58 S (*Carta Uniuersal en que Se contiene todo lo que del mundo Se ha descubierto fasta Agora*, 88 × 212 cm). And the fourth is the "Borgia chart" of 1529, now in the Biblioteca Apostolica Vaticana, Ms. Borgiano III. Also preserved is a 1532 map of America attributed to Ribeiro: Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 104 A Aug. 2o. Cf. Milano, "Le grandi scoperte," 136–43; Felipe Fernández-Armesto, "Maps and Exploration in the Sixteenth and Early Seventeenth Centuries," in *The History of Cartography*, ed. David Woodward, vol. 3, *Cartography in the European Renaissance* (Chicago: University of Chicago Press, 2007), 738–59 at 759 and Figs. 30.25, 30.28, 30.30.

was intended as a gift, to demonstrate Charles V's global dominance to the papal authorities before his imperial coronation in Bologna on February 24, 1530.⁴¹

Several cartographers subsequently adopted Ribeiro's excellent mapping of the New World, including Battista Agnese of Venice, who became highly influential in the courts of Europe between 1534/35 and 1564.⁴² His workshop produced a large number of hand-drawn portolan atlases, of which seventy-eight copies, with a total of nearly a thousand pages, have been preserved. Nine further individual maps are also known to be extant. They all show how the outlines of a new world gradually emerge from the ocean. They also reveal how empirical surveying practices and astronomical or cosmographic views complemented each other, and how the emphasis and the forms of visualization changed over time.

In Agnese's atlases, as in Ribeiro's maps, the mapping of the Pacific Ocean from America to the Moluccas in the far west reflects the major new discoveries of the time. Even more significantly, it shows the process by which the contours of distant islands and of a whole landmass rose out of the waters of the sea (Fig. 8.1). The groundwork was laid by the seafarers and explorers who sailed north and south, east and west, constantly trying out new routes to explore the world. One of these was the mariner Giovanni da Verrazzano, in French service at the time.

41 Brotton, *A History of the World*, 207–13; for the development of contemporary Italian cartography see Marica Milanese, "La cartografia italiana nel Medio Evo e nel Rinascimento," in *La cartografia italiana: Cicle de conferències sobre historia de la cartografia. Tercer curs* (Barcelona: Generalitat de Catalunya, 1993), 15–80.

42 *Der Portulan-Atlas des Battista Agnese: Das Kasseler Prachtexemplar von 1542*, ed. Ingrid Baumgärtner (Darmstadt: WBG, 2017), 131–35, with a list of the known copies; Zolt Török has also drawn my attention to an individual map not included in this list, in the national library in Budapest; Ingrid Baumgärtner, "Die Portulan-Atlanten des Battista Agnese," in *Kartographie der Frühen Neuzeit. Weltbilder und Wirkungen. Ergebnisse des in Kooperation mit der Kartenabteilung der Staatsbibliothek zu Berlin durchgeführten internationalen Symposiums am Weserrenaissance-Museum Schloss Brake (4.–6. April 2014)*, ed. Michael Bischoff, Vera Lüpkes and Wolfgang Crom (Marburg: Jonas Verlag, 2015), 19–36 (a translation and revision of this paper can be found in this volume; see essay no. 9: "Battista Agnese's Portolan Atlases"); Ingrid Baumgärtner, "Battista Agnese e l'atlante di Kassel: La cartografia del mondo nel Cinquecento," in *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Veneziana 17) (Rome: Viella Libreria Editrice, 2016), 245–70; Cattaneo, Angelo, "L'Atlante nautico di Battista Agnese: Descrizione codicologica e analisi storico-cartografica del codice della Biblioteca Nazionale Centrale di Firenze," in *Battista Agnese. Atlante nautico. Codice conservato presso la Biblioteca Nazionale Centrale di Firenze con la segnatura Banco Rari 32. Saggi e commenti* (Rome: Treccani, 2008) 139–61; Alberto Magnaghi, "Agnese, Battista," in *Enciclopedia Italiana di scienze, lettere ed arti*, vol. 1 (Milan: Treccani, 1929; reprint 1949), 898–99; Francesco Cagnetti, "Agnese, Battista," in *Dizionario Biografico degli Italiani*, vol. 1 (Rome: Istituto della Enciclopedia Italiana, 1960), 439.

On his first voyage to America from January to July 1524, his quest for a northern passage to Asia led him to explore the east coast of North America from present-day North Carolina to Maine and Nova Scotia. He was accompanied on the journey by his younger brother Girolamo, a cartographer, and was therefore able to bring this knowledge back to France. Another explorer known personally to Ribeiro was Estevan Gómez, a Portuguese seafarer in Spanish service. A few months after Verrazzano, but still in 1524/25, Gómez also followed the east coast of America northwards while trying in vain to find a northwestern passage. The record of this voyage has been preserved in Ribeiro's cartographic illustration: his planispheres and maps of America repeated this coastline with slight modifications numerous times, ensuring a wide distribution.

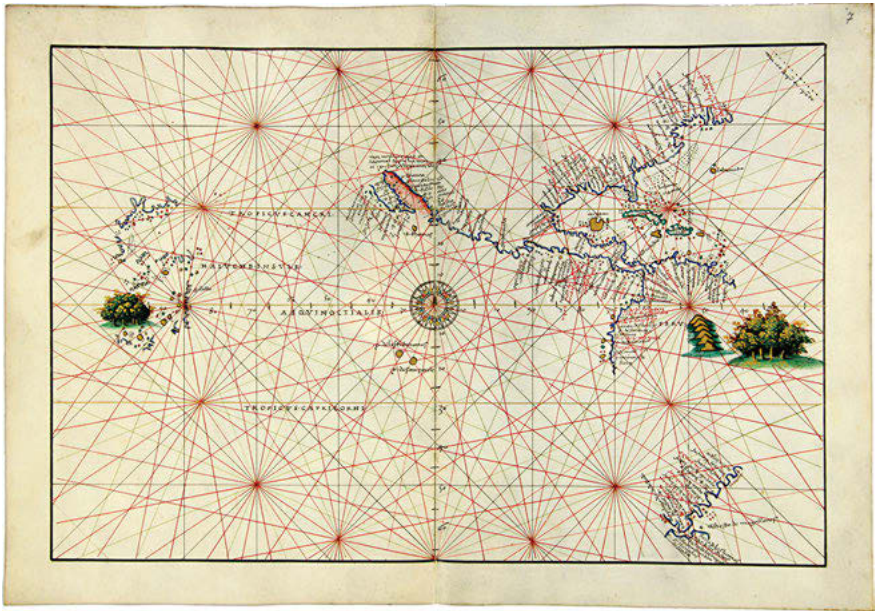


Fig. 8.1: Battista Agnese, Pacific Ocean from the Moluccas in the west to America in the east, with the new discoveries on the east coast of North America, and with the Baja California Peninsula on its west coast, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 6v–7r. Creative Commons 4.0.

Fifteen years later, Francisco de Ulloa (d. 1540) undertook a similar attempt on the west coast of America, starting in the Pacific. Instead of a passage to the east he found the Baja California Peninsula, a discovery that quickly circulated

among cartographers.⁴³ Ulloa investigated the exact shape of the coast by the pragmatic method of sailing into the Gulf of California and up to the mouth of the Colorado River at its northern end. He then sailed back along the opposite coast of the gulf, headed around the southern tip of the peninsula, and, despite hostile conditions and currents, continued to follow the Pacific coast. This disproved the hypothesis that Baja California was an island, but it was not until after another expedition led by Hernando de Alarcón the following year that this fact became widely known. The reason was that Alarcón not only wrote a remarkable report on his encounters with the native population, but also managed to record the outline of the coast cartographically. This made it possible to share the information gathered.

All this information was completely new; there were no prior models to compare it with. In contrast, those mapping the Atlantic and Indian oceans had to compare the Portuguese explorations in Africa and India with the heterogeneous knowledge received from antiquity (Fig. 8.2). When receiving and processing such new information, Agnese developed his own individual style. For example, the atlases from his first phase of activity depict the west coast of America without the Baja California Peninsula.⁴⁴ But these explorations had begun to influence Agnese's work by the beginning of his second phase of activity in 1542.⁴⁵ This rapid transposition into the cartographic image – beginning around the same time as Gerhard Mercator – shows how attentively the market-oriented mapmakers followed the current state of knowledge. But the fragmentation of the coastlines also reveals the limits of empirical knowledge. In the case of Battista Agnese, the fragmentary nature of North America continues on the east coast. Here the Portuguese explorer Estevan Gómez and his fleet, equipped with the latest maps by Diogo

43 *Der Portulan-Atlas des Battista Agnese*, ed. Baumgärtner, 26–28 and 62–66.

44 *Der Portulan-Atlas des Battista Agnese*, ed. Baumgärtner, 26–28; cf. e.g. the atlases in San Marino, CA, The Huntington Library, HM 25, fol. 4r; Oxford, Bodleian Library, Ms. Can. Ital. 144, fol. 16v; *L'Atlante nautico di Battista Agnese conservato alla Biblioteca Trivulziana di Milano* (Milan: Vister, 1968), fol. 4r; for the atlas in London, Admiralty Library VA 1g cf. Dominic Fontana, John Lippiett and Jennifer Wraight, “Map of the Known World from a Manuscript Portolan Atlas by Battista Agnese c1535,” in *Mapping Portsmouth's Tudor Past*, ed. Mary Rose Trust, in collaboration with Dominic Fontana, John Lippiett and Jennifer Wraight (Portsmouth: Mary Rose Trust, 2010), 17.

45 Cf. e.g. Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4o Ms. Hist. 6; *Der Portolan-Atlas des Battista Agnese von 1546 aus der Russischen Nationalbibliothek Sankt Petersburg*, ed. Arthur Dürst, with a commentary on the facsimile edition by Tamara P. Voronova (Graz: Akademische Druck- und Verlagsanstalt, 1993); *Der Portulan-Atlas des Battista Agnese*, ed. Baumgärtner, 28–33 and the details given in the list of maps on pages 131–35.

Ribeiro, had searched for the northwestern passage for nearly eleven months, and had been forced to the conclusion that the land simply carried on forever.⁴⁶ In the end he probably only got as far as Cape Race (44 degrees north) at the southern tip of Avalon in Newfoundland. This turning point was actually much further south than the point marked by Ribeiro and subsequently Agnese with the phrase *terra che descrobrio steuen comes* (“the land that Estevan Gómez discovered”).



Fig. 8.2: Battista Agnese, Atlantic with the bordering continents of Europe, Africa and America, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 7v–8r. Creative Commons 4.0.

The coastlines of South America were also incomplete at the time: there was still a gap between Peru and the Straits of Magellan. Ultimately, all these breaks denote the end of the known world. In a sense, they separate the secured from the

⁴⁶ Cf. *Der Portulan-Atlas des Battista Agnese*, ed. Baumgärtner, 62–66; Pierluigi Portinaro and Franco Knirsch, *The Cartography of North America, 1500–1800* (New York: Facts on File, 1987); Henry Harrisse, *The Discovery of North America: A Critical Documentary and Historic Investigation* (Paris: Henry Stephens and H. Welter, 1892), 216, 366, 542–43, 558, 603, 625, 626–30, 631 and 647 for Battista Agnese; Henry Raup Wagner, *The Cartography of the Northwest Coast of America to the Year 1800* (Amsterdam: N. Israel, 1968), 7, 10, 14, 16–18, 21–23, 26–29, 47, 50–52 and 59 for Battista Agnese.

unsecured, the newly discovered from the still-to-be-discovered, the realm of experience from the realm of possibility,⁴⁷ that is, the realms experienced in the past from those where future discoveries were still possible. They found cartographic expression in fragmented coastlines, which awakened expectations of the future without using the past to define this future. The ancient models that had once paved the way for the exploration of new realms had long since been superseded by navigational practice and its translation into cosmographic knowledge.

The Valorization of Cosmography in Atlases and Descriptions

Antiquity nonetheless remained a crucial reference point in the development of an independent geographic and cartographic culture. This new science, closely linked to antiquity, concerned content and form, descriptions of the world and mapping. The Venetian mapmakers and the workshop of Battista Agnese, who took their cues from the market as well as from scientific and seafaring progress, can once again be cited as telling examples.

In many of these maps, the presence of antiquity is quite inconspicuous. Agnese's maps often include undefined golden islands, far away from Europe, which are suggestive of the ancient myth of the gold-rich island of Chryse at the extreme eastern edge of the world. This legendary island was often equated with Taprobana, later Ceylon, now Sri Lanka. After Marco Polo's journeys it was frequently identified as Zipangu, the largest of his 7,448 east or southeast Asian islands. It was the unimaginable treasures of these islands that had inspired Columbus's quest for the east in the west. Several cartographers of the 1530s and 1540s equated the golden island with Hispaniola or Yucatán. Even Abraham Ortelius still included Chryse in his atlas in 1570, although Giacomo Gastaldi (Agnese's Venetian rival, commissioned to produce new wall maps for the senate chamber and audience hall in the Doge's Palace) had already broken with this tradition. In

47 Benjamin Scheller, "Erfahrungsraum und Möglichkeitsraum: Das sub-saharische Westafrika in den 'Navigazioni Atlantiche' Alvise Cadamostos," in *Venezia e la nuova Oikoumene: Cartografia del Quattrocento/Venedig und die neue Oikoumene: Kartographie im 15. Jahrhundert*, ed. Ingrid Baumgärtner and Piero Falchetta (Venetiana 17) (Rome: Viella Libreria Editrice, 2016), 201–20. Cf. Benjamin Scheller, "Verkaufen, Kaufen und Verstehen: Die Atlantikexpansion der Europäer, die Fernhändler und die neue Erfahrung des Fremden im 14. und 15. Jahrhundert," in *Maritimes Mittelalter*, ed. Michael Borgolte and Nikolas Jaspert (Ostfildern: Thorbecke, 2016), 233–60.

his three world maps from 1546 to 1561, Gastaldi placed Zipangu further and further away from the American mainland, and finally dispensed with it altogether.⁴⁸

Nevertheless, the crucial factor in such modifications was not just a thirst for knowledge, but the very different availability of cartographic models for individual regions of the world. While access to colonial nautical charts was severely restricted, there was nothing to stop Venetian cartographers from studying ancient writings and incorporating these in their work. This had implications for the atlases, which – in the case of Battista Agnese – increased considerably in volume from about 1550. They now included not only the three large oceans, a few maps of Europe, a table of declination, an armillary sphere, and a planet system, but also numerous special illustrations of Mediterranean islands, and even a concluding text based on Ptolemy. In other words, the emphasis had changed: ancient traditions were used to help classify new experiences. This was, however, based on an image of antiquity which the humanists of the Renaissance had created for themselves, just as they had created the manuscript Ptolemaic maps. The incunabula and early prints of Ptolemy's *Geographia* may have contributed to this reception of antiquity, but even more important were the new editions and translations with their corrections and updates. A good example is the 1548 Venetian edition of Ptolemy's text, with a cartographic appendix created by Giacomo Gastaldi. Here every Ptolemaic plate was accompanied by one or more contemporary maps, so as not to overlook current knowledge about land and seas.

Such examples make it very clear that Ptolemy was no longer the only authority who had to be studied for chorographic descriptions and regional maps. Nonetheless, his image of the world had become a mental schema that defined people's everyday view of the world, including that taught in schools.⁴⁹ The same applies to certain formal aspects. For example, the titles at the edge of every page of the Agnese atlases in Greenwich (London) and New Haven, dated to 1554 and 1559, even reproduce the formal details found in printed versions of Ptolemy's work.⁵⁰

48 Folker Reichert, "Mythische Inseln," in *Burgen, Länder, Orte*, ed. Ulrich Muller and Werner Wunderlich (Mittelalter-Mythen 5) (Konstanz: UVK, 2008), 639–57; Reichert, "Zipangu: Marco Polos Japan und das europäische Weltbild zwischen Mittelalter und Neuzeit," in Reichert, *Asien und Europa*, 397–402. For the presence of antiquity in the ornamentation of later Agnese atlases see e.g. *L'âge d'or des cartes marines*, ed. Hofmann, Richard, and Vagnon, 74, with a reproduction of Paris, Bibliothèque nationale de France, Lat. 18249, fols. 3v–4r.

49 Gautier Dalché, *La géographie de Ptolémée*, 302–33.

50 London (Greenwich), National Maritime Museum, P/24 from May 4, 1554 and signed, with table of declination, cosmographic-astronomical synopsis, armillary sphere, zodiac, and twenty-five pages of maps, in which German titles and toponyms are added in the margins; New Haven, Yale University, Beinecke Rare Book & Manuscript Library, Beinecke Ms. 560 from August 8, 1559 and signed, with twenty-three pages of maps and cosmographic-astronomical synopsis; cf. Chet

Several atlases from this last phase of Agnese's activities in the 1550s include cosmographic and astronomical synopses in textual form. These Latin texts evoke ancient knowledge and describe the relationship between the earth and space.⁵¹ They reproduce passages from Ptolemy's widely disseminated *Almagest* on the measurement of the earth, astronomical distances, and the movements of celestial bodies, as well as on the length of the day and the division of the world into climate zones. These are most effective when considered in the context of the armillary sphere. At the beginning of the synopsis, Agnese mentions the belief of the ancients that the spherical earth was fixed and immobile in space, that all the celestial bodies revolved around this central point, and that there was therefore a proportionate correspondence between the degrees of the terrestrial and celestial spheres. An exact measurement of the world, he says, had shown at the time that one terrestrial degree corresponded to $56 \frac{2}{3}$ miles, assuming that one mile was 4,000 ells. Since there are 360 degrees in the equator, this means that the earth's circumference is 20,400 miles. If this number is divided by $3 \frac{1}{7}$, Agnese continues, this gives a diameter of 6,490 $\frac{10}{11}$ miles and therefore a radius of 3,245 $\frac{5}{11}$ miles from the center of the earth to the surface.

Even in Agnese's time, however, it was difficult to translate these figures. Depending on whether one was using a Lombard, Tuscan, Neapolitan, or Venetian mile, a *miglio di mare* of around 1,852 meters, or an Arabic mile of nearly 2,000 meters, totally different values were produced. The explorers and contemporary map-makers generally underestimated the distances known today. But in listing these figures, which were in wide circulation at the time, Agnese was catering to contemporary tastes: his audience was willing and even eager to engage with the ancient models.

Van Duzer, "Storia delle Azzorre quali Insulae Solis o Isole del Sole nella Cartografia del XVI secolo," *Geostorie* 18, no. 1–2 (2010): 87–109 at 99–100; *Der Portulan-Atlas des Battista Agnese*, ed. Baumgärtner, 132–33.

51 Venice, Biblioteca Nazionale Marciana, It IV 62 = 5067, fols. 2v–3r; Venice, Museo Correr, Port. 1 from September 1, 1553: *Atlante nautico di Battista Agnese, 1553. Riproduzione in facsimile dell'esemplare conservato nel Museo Correr di Venezia. Presentazione di Giandomenico Romanelli. Introduzione e commento di Marica Milanese* (Venice: Marsilio Editori, 1990); Munich, Universitätsbibliothek, Cim. 18, fols. 22v–23r: Uta Lindgren, *Battista Agnese. Portulan Atlas München Universitätsbibliothek Cim 18, Farbmikrofiche-Edition. Untersuchungen zu Problemen der mittelalterlichen Seekartographie und Beschreibung der Portulankarten. Textband* (Monumenta cartographica et topographica 2) (Munich: Lengenfelder, 1993). Cf. further details in the list of maps in *Der Portulan-Atlas des Battista Agnese*, ed. Baumgärtner, 131–35; see also essay no. 9 in this volume: "Battista Agnese's Portolan Atlases."

The pages⁵² added in the 1554 edition of the atlas, with tables of distance and coordinates, offer exemplary proof of Agnese's unceasing efforts to broaden his horizon of knowledge beyond the coastlines, to provide more specific information about the geography of the earth's surface, and to take into account not only maritime but terrestrial surveys. In contrast to his early maps, which mainly relied on the coastal outlines, his later work focused more on chorographic details. This meant a shift in emphasis from the sea to the land, although islands and territories close to the sea continued to receive preferential treatment. Agnese's choice of sources reflected this new situation: for the Aegean he used the then-popular *isolari* or island books, for Africa and America he consulted the Portuguese and Spanish maps, and for most European realms he modified the Ptolemaic foundations.

A similarly relaxed approach to Ptolemy can also be observed in other cartographers. Giacomo Gastaldi, a mathematician and cosmographer of Piedmontese origin who was active in Venice between 1539/40 and 1564, made excellent use of the interplay between cartographic representations, iconographic design, and informative texts of varying form and length for his products. These included the cartographic illustrations⁵³ for Giovanni Battista Ramusio's three-volume collection of travelogues, *Delle Navigazioni e Viaggi*. Because of the international competition, Ramusio's first folio on the New World, actually conceived as the third in the series, was quickly brought to the market in 1550 before the other volumes on the Asian world.⁵⁴ Several of the texts compiled here attempt to refer to the models provided by antiquity, for example when discussing a northern sea passage to India (supposedly much shorter than the Portuguese route) or the worldwide importance of trade and travel, seen as overcoming the limitations of the Middle Ages.⁵⁵ In combination with the text, the cartographic images seek to deepen this global dimension.

On a world map from 1550 designed with Matteo Pagano, Giacomo Gastaldi uses text blocks to comment on the depiction of the earth. One of the things he explains here is how the fourth continent completes the tripartite world known since antiquity. In his opinion, the world known in antiquity (consisting of Europe,

52 For example in the codex in Venice, Biblioteca Nazionale Marciana, It IV 62 = 5067, fols. 2v–3r.

53 Milanese, "La cartografia," 70 and 76.

54 Davide Scruzzi, *Eine Stadt denkt sich die Welt: Wahrnehmung geographischer Räume und Globalisierung in Venedig von 1490 bis um 1600* (Berlin: Akademie Verlag, 2010), 136–42 and 154–57 for the atlases of Battista Agnese in Venice.

55 Scruzzi, *Eine Stadt*, 139–40. The basis for this is Pliny, *Historia naturalis*, 2.67: he mentions Indians who have been stranded on the German coast.

Asia, and Africa) encompasses one half of the globe, 180 degrees of longitude. The newly discovered “West Indies,” which were unknown to the ancients, take up the remaining 180 degrees of longitude.⁵⁶ Such sentences show that Gastaldi perceived the basic structure of the world as mathematically calculable. He also adorned his maps with celestial globes, signs of the zodiac, and portraits of famous geographers from Strabo to Columbus, thus establishing the iconographic foundations of geography, and elegantly incorporating the ancient traditions into the new global perspective.

Even more closely tied to antiquity, though, is Gastaldi’s revised version of Ptolemy’s *Geographia*, published in Venice in 1548. This was illustrated with sixty maps, of which thirty-four, so more than half, were newly drafted by Gastaldi as *tabulae novae*.⁵⁷ It was clearly important to him to engage with the standard work, completing and correcting it. He also produced a new nautical chart and two illustrations of the hemispheres – which considerably expanded the Ptolemaic model – for Ruscelli’s edition of Ptolemy in 1561. For Gastaldi and his contemporaries, then, antiquity provided the great authorities. The task of the moderns was to continue to revise their fundamental principles, uncovering and correcting their errors. Gastaldi defended this view of geography even more vigorously in his short cosmographic text (barely twenty pages) *La universale descrizione del mondo*, which appeared in 1548 and provided a summary of his extensive cartographic *oeuvre*.⁵⁸ In all these works, both maps and descriptions, antiquity was a reference to be developed and improved. This constituted a major challenge for the cartographic practices of exploration.

Conclusion

Geographical maps and atlases were hybrid genres, reflecting culturally ingrained habits of seeing in various ways. Though maps and atlases continued to incorporate the Ptolemaic tradition, by 1500 the ancient information had become insufficient to map empirical experiences. It was in fact the divergences and inconsistencies that stimulated cartographers to seek new visual paths and develop new practices. When it came to mapping the feats of navigation in the

⁵⁶ Scruzzi, *Eine Stadt*, 147–48. For the construction of a new geography in the sixteenth century see Axelle Chassagnette, *Savoir géographique et cartographie dans l’espace germanique protestant (1520–1620)* (Travaux d’Humanisme et Renaissance 583) (Geneva: Librairie Droz, 2018).

⁵⁷ Scruzzi, *Eine Stadt*, 135–36 and 143.

⁵⁸ Scruzzi, *Eine Stadt*, 149–50.

New World, the discourses of legitimation shifted from the ancient authorities to the relevance of empiricism. Ultimately, however, the new had to be assigned a place within the framework of the familiar, and considered in the context of the teachings of ancient and medieval cosmographers. Various experiences and models from antiquity spurred the exploration of new lands and seas between around 1450 and 1550. In the process, new discourses, techniques, and practices were developed to translate the dynamics of early modern expansion into cartographic images and descriptive texts, and to configure the world cartographically. The relevance of empirical practices in the exploration of the world around 1500 constitutes a crucial step between the reception of ancient knowledge of the world in the fifteenth century and the reevaluation of ancient models in maps, atlases, and descriptions of the world in the sixteenth century.

Chapter 9

Battista Agnese's Portolan Atlases

Battista Agnese, who described himself as a native of Genoa, produced over a thousand hand-drawn portolan charts in his workshop in Venice between 1514/35 and 1564. These were used to create elaborate atlases for an elite clientele in various European countries. Agnese's work was based on the models developed in the previous century: a great variety of types and forms of world maps, regional maps, and nautical charts, offering a wide range of different ways to visualize space.¹ The aims of the individual map types varied considerably. This depended on whether the ideas of time and space which they reflected were informed by insights from religion and philosophy, astronomy and cosmology, maritime surveying, or geography and the physical world. Constantly changing informational needs and interests caused redefinitions of the socially and culturally determined uses of maps, altering the forms of representation. The Greeks' theoretical conception of a spherical earth fixed in the center of the solar system had led to calculations of the earth's circumference and the degrees of longitude and latitude, which became increasingly important with the reception of Ptolemy in the fifteenth century. The Romans had developed precise measurement techniques for administrative and military purposes, to survey their empire and maintain their dominance. The high medieval European world maps had depicted a circular *orbis terrarum*, oriented towards Paradise in the east. This reflected their emphasis on a Christian concept of the world, enriched with an encyclopedic synthesis of classical and biblical knowledge. These were the foundations for the new types of map that evolved in the late Middle Ages and Renaissance. On the basis of detailed surveying of the world, of its regions and seas, they helped to process new experiential knowledge, which often contradicted classical and medieval models.

¹ The English version of this essay is based on a revised version of the original. Cf. Ingrid Baumgärtner and Stefan Schröder, "Weltbild, Kartographie und geographische Kenntnisse," in *WBG-Weltgeschichte: Eine globale Geschichte von den Anfängen bis ins 21. Jahrhundert*, ed. Johannes Fried and Ernst-Dieter Hehl, vol. 3, *Weltdeutungen und Weltreligionen 600 bis 1500* (Darmstadt: WBG, 2010), 57–83. For Battista Agnese, see the more recent publications of Ingrid Baumgärtner: *Der Portulan-Atlas des Battista Agnese: Das Kasseler Prachtexemplar von 1542* (Darmstadt: WBG, 2017) and *Atlas Heinrichs VIII. Battista Agnese Barb. Lat. 4357: Kommentarband zur Faksimile-Edition der Handschrift aus der Biblioteca Apostolica Vaticana* (Vatican City: Belser, 2020).

These different aims and forms of visualization did not simply succeed one another in a linear sequence, but coexisted and interacted with each other into the early modern period. The atlases of Battista Agnese offer a good example of the way such developments were implemented. The most important stimuli came from both practice and science. Cultural contacts and reports from pilgrims, envoys, traders, and seafarers encouraged a reassessment of old ideas. The rediscovery of the Ptolemaic view of the world and the mapping of discoveries outside Europe gave the impetus to refine scientific methods of projection and measurement. A new uncertainty about which image of the world was “right” contributed to the plurality of forms of representation. This can also be seen in the modifications within a single genre, for example the portolan atlases.

The following article is concerned with the group of maps known as portolan or nautical charts. These were focused on the sea, could be turned in any direction, and were constructed on the basis of measurements and bearings taken with a compass. The term itself was derived from the Latin *portus* and the Italian *porto*, because the map structure was originally based on the coastal towns and ports of the Mediterranean. For many years, scholars associated these nautical charts with progress, precision, and accuracy, without fully exploring their potential for the study of cultural history. But in recent times interest has shifted to the significance of late medieval nautical charts as instruments of cultural spatial practices.² For example, researchers have stressed the fact that the complex structure of the charts represents the geographical space in an impressive synthesis of textual and figurative signs, which require close interpretation. Studies have examined the production, use, and function of the nautical charts, explored questions of dating, place of origin, style, and construction, and highlighted the way maps transform knowledge. These transformations must in turn be considered in all their temporal and spatial nuances, within the context of the relevant social and cultural conditions. The main focus of scholarly discussion has been

2 Ramon J. Pujades i Bataller, *Les cartes portolanes: La representació medieval d'una mar solcada/Portolan Charts: The Medieval Representation of a Ploughed Sea* (Barcelona: Lunwerg Editores, 2007); Philipp Billion, *Graphische Zeichen auf mittelalterlichen Portolankarten: Ursprünge, Produktion und Rezeption bis 1440* (Marburg: Tectum, 2011); *L'âge d'or des cartes marines: Quand l'Europe découvrait le monde*, ed. Catherine Hofmann, Héléne Richard and Emmanuelle Vagnon (Paris: Seuil, 2012); Emmanuelle Vagnon, *Cartographie et représentations de l'Orient méditerranéen en Occident (du milieu du XIIIe à la fin du XVe siècle)* (Terrarum Orbis 11) (Turnhout: Brepols, 2013); Emmanuelle Vagnon, “La représentation cartographique de l'espace maritime,” in *La terre: Connaissance, représentations, mesure au Moyen-Âge*, ed. Patrick Gautier Dalché (L'Atelier du Médiéviste 13) (Turnhout: Brepols, 2013), 443–503.

the multifunctional situations in which these maps were used – as aids to orientation at sea, preparation for sea voyages, evidence in court cases, or collector’s items in libraries.³

Even the terminology has not been uncontroversial. For example, Emmanuelle Vagnon advocated the use of *carte marine*, which was close to the terminology in the sources, instead of the scholarly term “portolan chart.”⁴ The latter is in fact ambiguous, since it was used in the Middle Ages mainly to designate texts providing information on ports and their geographical position. Despite this issue, we will continue to use the established term “portolan chart” here, given that “nautical chart” – which ignores the representations of land in the atlases – is not altogether unproblematic either.

Using the example of the extensive output from Battista Agnese’s workshop in Venice, the following essay aims to demonstrate the culturally determined nature of nautical charts and atlases, even in the first half of the sixteenth century. The models produced here were a response to the rediscovery of the Ptolemaic worldview, the new information generated by the voyages of discovery, and the needs of an audience that was hungry for knowledge and eager to display wealth and status. In this context, we need to examine Agnese’s atlases for their concept, composition, and efficacy. The first step is to assess Battista Agnese’s production in its historical context, the second is to analyze the atlas available in a facsimile in Kassel (Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6), and the third is to consider the significance of such works for Agnese’s contemporaries.

The Portolan Charts of Battista Agnese

For at least thirty years Battista Agnese ran a highly productive workshop in Venice, creating portolan charts more or less in series. Made as individual items, these were then assembled into atlases. Agnese’s output far exceeded that of

³ Piero Falchetta, “The Use of Portolan Charts in European Navigation during the Middle Ages,” in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis 10) (Berlin: Akademie Verlag, 2008), 269–76; *Carte da navigar: Portolani e carte nautiche del Museo Correr 1318–1732*, ed. Susanna Biadene (Venice: Marsilio, 1990), see 54–70 for Battista Agnese.

⁴ Vagnon, “La représentation cartographique,” 445. Cf. Uta Lindgren, *Battista Agnese: Portulan Atlas München Universitätsbibliothek Cim 18, Farbmikrofiche-Edition. Untersuchungen zu Problemen der mittelalterlichen Seekartographie und Beschreibung der Portulankarten. Textband* (Monumenta cartographica et topographica 2) (Munich: Lengenfelder, 1993), 8–30.

other mapmakers of his time:⁵ today we know of ten individual nautical charts and around eighty complete portolan atlases. The latter vary considerably in extent, but generally contain between six and thirty maps, with the number increasing over the years along with additional material being added. In total, well over a thousand portolan charts and world maps were produced in Agnese's workshop. The list provided in the appendix gives a preliminary overview over the extant material; no doubt there will be further additions.⁶

In view of this substantial output, the first thing to note is that Agnese produced only hand-drawn manuscripts, and did not make use of modern printing technology. He preferred traditional methods: the drawn and painted codex on precious white parchment. Given that Venice was a well-known center for printing and offered a cartographer the ideal conditions for producing and selling printed reproductions, this is surprising. Yet the two areas of production, manuscript atlases and printed maps, seem to have existed more or less separately. We can therefore assume that Agnese deliberately opted for the individual hand-

5 Armando Maugini, "Battista Agnese," in *Enciclopedia italiana di scienze, lettere e arti*, vol. 1 (Rome: Istituto della Enciclopedia italiana, 1949), 1:898ff.; Francesco Cagnetti, "Agnese, Battista," in *Dizionario Biografico degli Italiani*, vol. 1 (Rome: Istituto della Enciclopedia italiana, 1960), 439; Tamara P. Voronova [Woronowa], "Der Kartograph Battista Agnese und sein Werk," in *Der Portolan-Atlas des Battista Agnese von 1546 aus der Russischen Nationalbibliothek Sankt Petersburg*, ed. Arthur Dürst (Graz: Akademische Druck- und Verlagsanstalt, 1993), 3–31, also in *The Portolan Atlas of 1546 of Battista Agnese from the Russian National Library St. Petersburg*. Commentary on the facsimile edition by Tamara P. Voronova (Disentis: Desertina; Graz: Akademische Druck- u. Verlagsanstalt; Moscow: Avtor, 1993). For the most recent work see Baumgärtner, *Der Portulan-Atlas des Battista Agnese*; Baumgärtner, *Atlas Heinrichs VIII*. In total there are already fifteen facsimile editions of Agnese's atlases, listed in Baumgärtner, *Atlas Heinrichs VIII*, 117, and in the appendix to this essay.

6 Cf. the lists in Walther Ruge, *Aelteres kartographisches Material in deutschen Bibliotheken: Fünfter Bericht über die Jahre 1910–1913* (Nachrichten der Königlichen Gesellschaft der Wissenschaften zu Göttingen. Philologisch-historische Klasse, 1916, Beiheft) (Berlin: Weidmannsche Buchhandlung, 1916), 4 and 10–21. Ruge mentions numerous manuscripts from private collections, which have since been sold. See also Henry R. Wagner, "The Manuscript Atlases of Battista Agnese," *Papers of the Bibliographical Society of America* 25 (1931): 1–110; additions in Roberto Almagià, *Monumenta cartographica Vaticana*, vol. 1, *Planisferi, carte nautiche e affini dal secolo XIV al XVII* (Vatican City: Biblioteca Apostolica Vaticana, 1944), 62–71; Henry R. Wagner, "Additions to the Manuscript Atlases of Battista Agnese," *Imago Mundi* 4 (1947): 28–30; Richard Pflederer, *Census of Portolan Charts & Atlases. As Reported and Listed by the Noted Scholars of the Genre in Their Works Ranging from 1897 to 2008*, presented in three formats: tabular spreadsheet (Microsoft Excel on CD-ROM), searchable database (Microsoft Access on CD-ROM), and printed version (Williamsburg, VA: Richard Pflederer, 2009). Cf. Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 131–35; Baumgärtner, *Atlas Heinrichs VIII*, 108–16.

made technique to appeal to a particular clientele, the wealthy and powerful, and thus reach a specific market.

Portolan charts were clearly a lucrative business. These were maps that originally concentrated on coastal towns and ports in the Mediterranean area, including North Africa, the Middle East, and the Black Sea, and were highly popular in the fifteenth and sixteenth centuries. In Agnese's time they already covered the whole of the known world, and were therefore ideally suited to visualizing the expansion of that world. Although the maps are bound into atlases, the place-names are always written at right angles to the coastline (standard practice at the time), so the reader has to keep turning the page around. Another salient feature of this type of map is its geodetic precision, a response to the new need for accurate measurement. Essentially, the orientation, size, and shape of the seas are in line with modern conceptions, even if the sixteenth-century representations were often still slightly distorted. In this image of the central Mediterranean (Fig. 9.1), for example, it is easy to see that the “boot” of Italy is too wide in places, and that some Mediterranean islands are too big, while the position of Italy in relation to the African continent is askew.

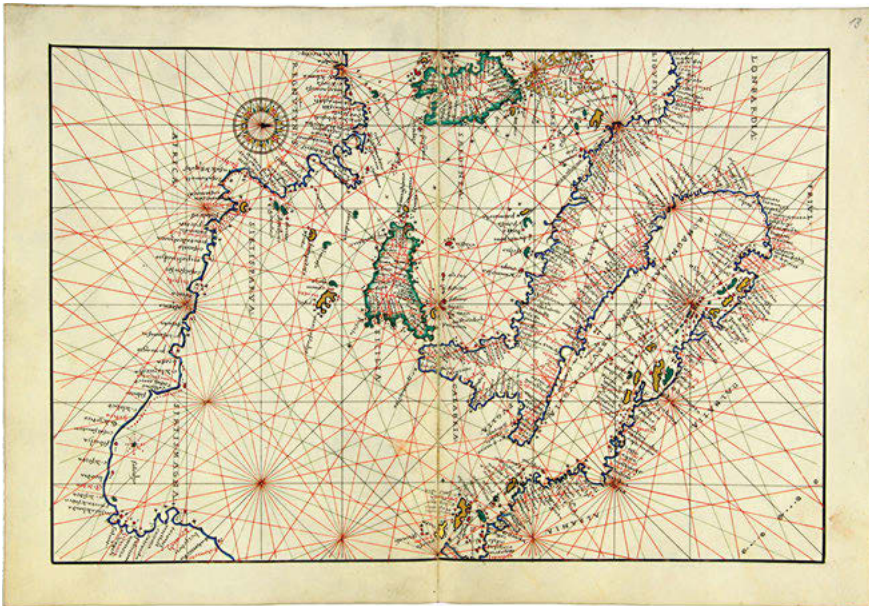


Fig. 9.1: Battista Agnese, Central Mediterranean with Italy, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fol. 13r. Creative Commons 4.0.

The impression of modernity is intensified by the rhumb lines, a grid stretching over the entire surface of the map, which (along with the scale) points to the underlying mathematical calculations. The lines do not correspond to the projections used in later geographical maps, since they do not indicate latitude or longitude, but serve purely to determine direction and course. As in a wind rose, the lines radiate from a number of central points or vertices, systematically distributed across the chart. There are normally either sixteen or thirty-six of these points; Battista Agnese always used sixteen. The rays recall a compass rose, which Agnese also included in nearly every portolan chart. An unintentional northwest rotation of the early maps as a result of the declination – that is, the deviation of the earth's axis of rotation from the magnetic North Pole – provides evidence that the development of this type of map was linked to the compass. This explains why Agnese made the compass the hallmark of his workshop, and often inserted it into a wind rose on the inside of the atlas's back cover. An example can be found in the Kassel manuscript, though the needle is missing here (Fig. 9.2).



Fig. 9.2: Compass with no needle, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, inside back cover. Creative Commons 4.0.

Agnese's map technique is highly recognizable in both the European and the Venetian context.⁷ His products are relatively simple and focus on the essentials; there are no long accompanying texts or elaborate ornamentation.

Production in the Agnese workshop was probably collaborative. After the initial decision about what was to be depicted, the first aspects to be determined were the size of the sheets, the structure of the atlas, and the number of maps. The next step was to draw a frame and begin the delicate pen drawings inside it. The cartographer drew in the most important structural lines with dark ink, and transferred the outlines of the coasts to the new map sheet, to establish the scale and design and fit in the landmasses. Then he or a specialist added the toponyms and written entries along the coasts, and labeled the seas and continents. Either before or after that, the network of rhumb lines was drawn in and the colors were added.

In a large workshop, all these processes were divided between workers. Based on the quality of the calligraphy and the type of entry, the operations can be attributed to different hands. The first steps were to choose a concept for content and form, and to determine the scale and the overall layout before the outlines of the coasts could be drawn in. The hand of an expert was required for the written entries, which had to be entered without errors in tiny, even-sized letters. The network of rhumb lines and horizontal and vertical lines seems to have been added fairly late in the process, to increase the emphasis on the sea and maritime voyages. This network of lines has the effect of transforming the representations of continents and land regions into nautical charts; here it is a design feature with no structural relevance. Further specialists were responsible for the decorative elements, which were carefully applied with costly paints and materials, the most precious being gold paint.

Notices of ownership and coats of arms at the beginning of the atlases allow us to ascertain – as will be discussed in more detail below – that Agnese's market-leading workshop focused on creating the finest luxury objects, destined for the libraries of ruling princes, cardinals, bishops, nobles, scholars, and wealthy patri-cians.⁸ Several magnificent manuscripts were sent to Europe's ruling dynasties as gifts, illustrating the workshop's enormous and rapid rise in prestige, most notably in the 1540s. Emperor Charles V, his successor to the Spanish throne, Philip II, and Henry VIII of England each had their own "Agnese," as did Cosimo I de' Medici, Grand Duke of Tuscany, his son-in-law Alfonso II d'Este, Duke of Ferrara, and

⁷ Cf. Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 48–50; Baumgärtner, *Atlas Heinrichs VIII.*, 58–61.

⁸ For a detailed account see Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 50–54; Baumgärtner, *Atlas Heinrichs VIII.*, 61–65.

John Ernest, Duke of Saxe-Coburg. Leading princes of the church and even monasteries in the French, German, and English territories shared this thirst for cartographic and geographic knowledge. The atlases were particularly widespread in Italy, where scholars such as Paolo Giovio and urban patricians in cities such as Florence and Venice were among the proud owners.

In this context, Peter Barber has pointed out that some of the atlases, with their allegorical scenes and extravagant borders, were probably produced by scribes and illuminators closely connected to the Venetian chancellery.⁹ He deduces from this that high-ranking Venetian delegations took the Agnese maps with them and distributed them, and even that the Venetian senate officially supported their production. The hypothesis that Venetian representatives may have presented the objects at Europe's leading courts is certainly convincing, even if it is not clear how Agnese was linked to the Great Council and its diplomatic circles.

In any case, Battista Agnese was one of the most hard-working and effective portolan cartographers of this time – a time when the kingdom of Majorca and the Italian peninsula (for example, Venice and Genoa) were dwindling in importance as centers of creative and modern cartography. The most important centers were now Lisbon and Seville, where the Spanish and Portuguese royal courts were strategically gathering geographical and nautical knowledge to support their quest for domination. The workshops of well-known fifteenth-century nautical chart makers, such as Battista Becharius, Gratioioso and Andrea Benincasa, Petrus Roselli, and Gabriel de Valsecha had been superseded by the new institutions, whose focus lay in the west, across the Atlantic. In the first half of the sixteenth century, leading positions were occupied by Vesconte Maggiolo in Genoa and versatile figures such as the Portuguese cartographers Lopo and Diogo Homem, Pedro and Jorge Reinel, and Diogo Ribeiro – who had moved to Spain and risen to the position of royal cosmographer in Seville.¹⁰

This is the context in which Agnese lived and worked, though we know next to nothing about his actual life. All that we have is the few words and clues that he entrusted to his own maps. Only about twenty-five of the over one thousand maps from his workshop are signed, including single maps in some of his atlases

⁹ Peter Barber, review of *The Portolan Atlas of 1546 of Battista Agnese from the Russian National Library St Petersburg*. Commentary on the facsimile edition by Tamara P. Voronova and Arthur Dürst, *Imago Mundi* 47 (1995): 196–97; Baumgärtner, *Atlas Heinrichs VIII.*, 64–65. See also Peter Barber, “An Atlas for a Young Prince,” in *Lambeth Palace Library: Treasures from the Collection of the Archbishops of Canterbury*, ed. Richard Palmer and Michelle P. Brown (London: Scala, 2010), 98–101.

¹⁰ For more detail see Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 18–23; Baumgärtner, *Atlas Heinrichs VIII.*, 16–24 and 47–50 for Diogo Ribeiro.

and a few of his individual maps. The Kassel atlas bears the following signature on the map with the Black Sea (Fig. 9.3): “Battista Agnese Januensis fecit Venetijs 1542 [. . .] Junij” (The Genoese Battista Agnese made [this map] in Venice on June [. . .], 1542).¹¹ The day of the month is covered by a cherub’s head, which was evidently added later than the writing underneath it, as part of the ornamentation. The atlas itself comes from the master’s most productive phase: in 1542 he signed not only the Kassel atlas, but also other compilations. Nautical charts from the atlases now held in New York, the Biblioteca Apostolica Vaticana, Glasgow, and Tenri in Japan all bear his name.¹²

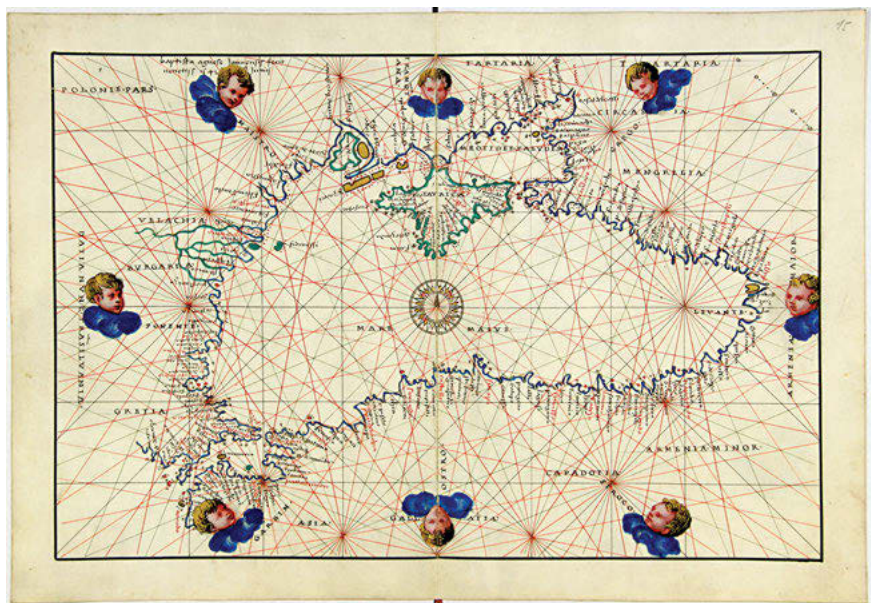


Fig. 9.3: Battista Agnese, map with Black Sea, signed “Battista Agnese Januensis fecit Venetijs 1542 [. . .] Junij,” 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fol. 14v. Creative Commons 4.0.

¹¹ Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fol. 14v. For the work produced in 1542 and thereafter see Baumgärtner, *Atlas Heinrichs VIII.*, 31–37.

¹² New York, The Morgan Library & Museum, Ms. M.507 of May 15, 1542; Vatican City, Biblioteca Apostolica Vaticana, Pal. lat. 1886 of June 28, 1542; Glasgow, Hunterian Museum, Har. 38 of September 25, 1542; Tenri, Tenri Central Library/Daigaku Toshokan, Ms. 290.91-i14.

According to the signatures, all the maps that Agnese signed after 1530 can be attributed to the workshop in Venice. And yet no relevant archive documents have been found there so far. Perhaps there has not yet been a sufficiently systematic search for deeds, wills, legal disputes, or contracts with clients. One possibility that has to be considered, however, is that this silence on the part of the sources may indicate a cultural value judgment. Piero Falchetta voiced the suspicion that this absence of evidence could reflect a fairly subordinate role of the cartographer in (Venetian) society at the time.¹³ The hypothesis is that members of this profession may have been seen as mere craftsmen. In any case it seems strange that a large, top-level workshop, producing for a learned pan-European clientele, and dominating the contemporary market with its atlases (produced in series, but all individually designed), should have left no traces in textual documents.

Be that as it may, Venice's long-established, leading international role in map manufacturing allowed Agnese to interact with numerous actors and traditions of knowledge.¹⁴ Giovanbattista Ramusio and Giacomo Gastaldi collected maps, travel accounts, and descriptions of the world, and published the first printed version of these in their three-volume *Navigazioni e viaggi* in 1550. In the preceding decades, the grandiose *vedute* of Jacopo de' Barbari (1500) and the regional maps of the Swede Olaus Magnus had been created in Venice. Several decades earlier, the Camaldolese monk Fra Mauro, with his great synthesis of different traditions, had provided important foundations for the understanding of the world. The production of portolan charts had also been a thriving business in Venice for many years. Another factor motivating the Genoese cartographer to settle in Venice at the beginning of his career may have been its cultural contacts with northern Europe,

13 Piero Falchetta, "La terra laggiù . . . L'Atlante di Battista Agnese," *Cahiers d'art* 13 (1994): 86–88; Piero Falchetta, "Introduzione alla storia della cartografia nautica a Venezia (sec. XIV–XV)," in *L'atlante di Battista Agnese (1554–1556): Edizione integrale in CD-ROM*, ed. Piero Falchetta (Palinsesti. Facsimili della Biblioteca Nazionale Marciana di Venezia 1) (Venice: Canal Multimedia, 1996), 117–97; CD-ROM no longer readable. Cf. Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 15–18; Baumgärtner, *Atlas Heinrichs VIII.*, 16–24 and 64–65.

14 Davide Scruzzi, *Eine Stadt denkt sich die Welt: Wahrnehmung geographischer Räume und Globalisierung in Venedig von 1490 bis um 1600* (Berlin: Akademie Verlag, 2010); Falchetta, "La terra laggiù," 86–88; Falchetta, *L'atlante di Battista Agnese (1554–1556)*, 117–97; Marica Milanesi, "La cartografia italiana nel Medio Evo e nel Rinascimento," in *La cartografia italiana: Cicle de conferències sobre historia de la cartografia. Tercer curs* (Barcelona: Generalitat de Catalunya, 1993), 15–80; Angelo Cattaneo, "L'Atlante nautico di Battista Agnese: Descrizione codicologica e analisi storico-cartografica del codice della Biblioteca Nazionale Centrale di Firenze," in *Battista Agnese. Atlante nautico. Codice conservato presso la Biblioteca Nazionale Centrale di Firenze con la segnatura Banco Rari 32. Saggi e commenti* (Rome: Treccani, 2008), 139–61 at 141f.

the Arab and Ottoman world, and the whole Mediterranean area. This was a city that traded goods and information far beyond its borders.

Agnese was not the only immigrant cartographer in Venetian history whose life remains veiled in obscurity.¹⁵ We have only to think of the cartographer Pietro Vesconte, also from Genoa, who was producing world maps and nautical charts in Venice at the beginning of the fourteenth century. Other than this, we know little about him. Visconte was probably responsible for the maps which Sanudo the Elder, a protagonist of Venetian cultural history, inserted into his *Liber secretorum fidelium crucis*, a work distributed among the highest echelons of society to inspire interest in a new crusade. Sanudo, however, never named the source of his maps. An example from the fifteenth century was Grazioso Benincasa from Ancona, who produced maps and atlases in Venice, but appears to have left no traces in the reports of his contemporaries. It is astonishing, though, that this absence of information continues into the sixteenth century.

Agnese's map signatures, which – where present – all use more or less the same wording, allow us to establish a rough chronology of his production. The first signed atlas is from 1536,¹⁶ the last from 1564.¹⁷ Only one individual map has an earlier date, though the name of the producer appears modified. In the copy in Wolfenbüttel, bearing the date 1514, we read the words “Battista Januensis fecit,” but the surname and place of production are missing.¹⁸ Stylistic idiosyncrasies and the signature, reduced to the first name, have (quite rightly) led to scholarly debate about whether an earlier date should be set for the beginning of Agnese's activities. Should we assume that his working life extended over a period of fifty years, even though we have no other evidence of the first twenty?

The pattern used by Agnese's workshop to compile the atlases remained largely similar in content and form. The later atlases, which are much more comprehensive than the earlier ones, retained the same basic core of knowledge but added more and more new information. This approach suggests a conscientious

15 Falchetta, “La terra laggiù,” 86–88; Falchetta, *L'atlante di Battista Agnese (1554–1556)*, 117–97; Milanese, “La cartografia italiana,” 15–80.

16 Vatican City, Biblioteca Apostolica Vaticana, Vat. lat. 7586, dated to 1536; another manuscript produced at around the same time but not dated is BAV Barb. lat. 4431A; other manuscripts from this early phase include London, British Library, Add. Ms. 19927 and Philadelphia, University of Pennsylvania Library, LJS 28 (previously Cologne, Sammlung Ludwig, XIII 15), before 1541.

17 London, British Library, Add. Ms. 25442 from 1564 with eight maps.

18 Giuseppe Caraci, “Di due carte di Battista Agnese,” *Rivista Geografica Italiana* 35, no. 6 (1928): 227–34; Roberto Almagià, “Una carta del 1514 attribuita a Battista Agnese,” *Rivista Geografica Italiana* 56, no. 2 (1949), 167–68; Baumgärtner, *Atlas Heinrichs VIII.*, 25.

copyist attentive to current developments, rather than a geographer carrying out independent research.

Taking as a starting point Henry Wagner's old division based on chronological criteria and moments of substantial innovation, three overall phases of production can be distinguished. A broader range of factors, such as the extent and concept of the cartographic works, can be used to define these more precisely.¹⁹

If we ignore the 1514 map, which can be regarded as an outlier, the first, "pre-Californian" phase can be placed between 1535 (at the latest) and about 1540/41. Its first defining characteristic is that the Baja California Peninsula on the west coast of America, whose shape was only discovered in 1539, is not yet depicted on either the map of the Pacific or the planisphere (Fig. 9.4). The second is that the Yucatan peninsula appears as an island. In general, these early atlases only contain seven to ten illuminated maps. The oldest signed manuscripts of this type, found in the Vatican and London, are dated to the year 1536.²⁰

The atlases of the second phase, from 1542 to around 1550/51, generally contain ten to twelve maps, rising to as many as nineteen in a few cases after 1545. It is worth noting that nearly half of all the signed manuscripts date to the beginning of this phase, from 1542 to 1545.²¹ Agnese's efforts to incorporate the latest findings of contemporary voyagers to America can be clearly seen on the map of the Pacific (Fig. 9.5) and the oval planisphere at the end of the atlas. He was one of the first cartographers, at roughly the same time as Gerhard Mercator, to represent Baja California in the form of a peninsula on the west coast of America. Two other updates are also impressive. In the Pacific, Agnese visualizes the knowledge about the west coast of South America gathered by the Pizarro brothers and Diego di Almagro during the conquest of the Inca Empire in 1532. And on the oval planisphere, a wavy line traces the route taken by Ferdinand Magellan on his circumnavigation of the world between 1519 and 1522. In contrast to these contemporary adjustments, certain traditional inaccuracies are perpetuated. On the map of northern Europe, for example, England and Scotland appear as two separate islands.²²

19 Wagner, "The Manuscript Atlases of Battista Agnese," 49–110; Wagner, "Additions to the Manuscript Atlases of Battista Agnese," 28–30; revisited in Cattaneo, "L'Atlante nautico di Battista Agnese," 139–40; Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 23–41; Baumgärtner, *Atlas Heinrichs VIII.*, 24–47.

20 Vatican City, Biblioteca Apostolica Vaticana, Vat. lat. 7586; London, British Library, Add. Ms. 19927; cf. Baumgärtner, *Atlas Heinrichs VIII.*, 28–31 with information about the other atlases from this phase and their individual variations.

21 Leo Bagrow, "Die Manuskript-Atlanten des Battista Agnese," *Petermanns Mitteilungen* 78, no. 7 (1932): see 190–91 for the distribution of the atlases over the three phases. Cf. Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 28–33; Baumgärtner, *Atlas Heinrichs VIII.*, 31–37.

22 See Baumgärtner, *Atlas Heinrichs VIII.*, 39–43.

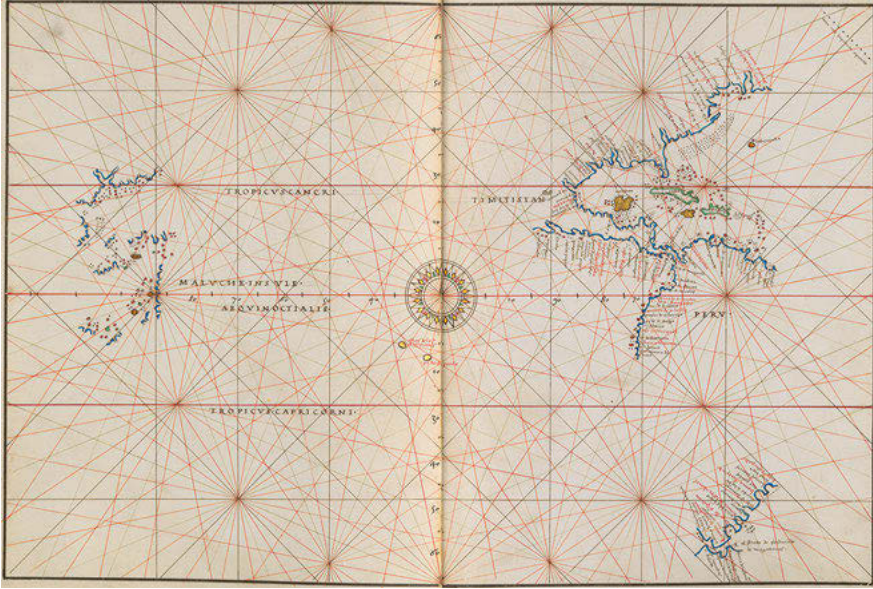


Fig. 9.4: Battista Agnese, Pacific Ocean, before 1542; Munich, Bayerische Staatsbibliothek, Cod. icon. 136, fols. 3v–4r. Creative Commons 4.0.

This is the phase in which Battista Agnese seems to have enjoyed his greatest successes, created his most magnificent *Gesamtkunstwerke*, and met the highest demand. Coats of arms, ornamentation, and adjustments relating to matters of sovereignty were some of the individual adaptations to the specific needs of high-ranking recipients.

In the third and final phase, from 1552 (at the latest) to 1564, Battista Agnese once again redefined his profile.²³ He added new map types to his atlas-making repertoire, and his work was informed by a new self-image as a Venetian. He changed the formula he had used for many years to sign his atlases, and stopped mentioning his Genoese origins. He concentrated more and more on maps of Europe, integrating many new, varied representations of northern Europe, northern Italy, Greece, and the Tsardom of Russia. He also substantially increased the extent of the atlases by adding small-scale and large-scale maps in an innovative style.

The later atlases contain up to thirty maps each, including regional maps of southern European islands and regions, such as Crete, Cyprus, Sicily, Tuscany,

²³ See Baumgärtner, *Atlas Heinrichs VIII.*, 37–39.

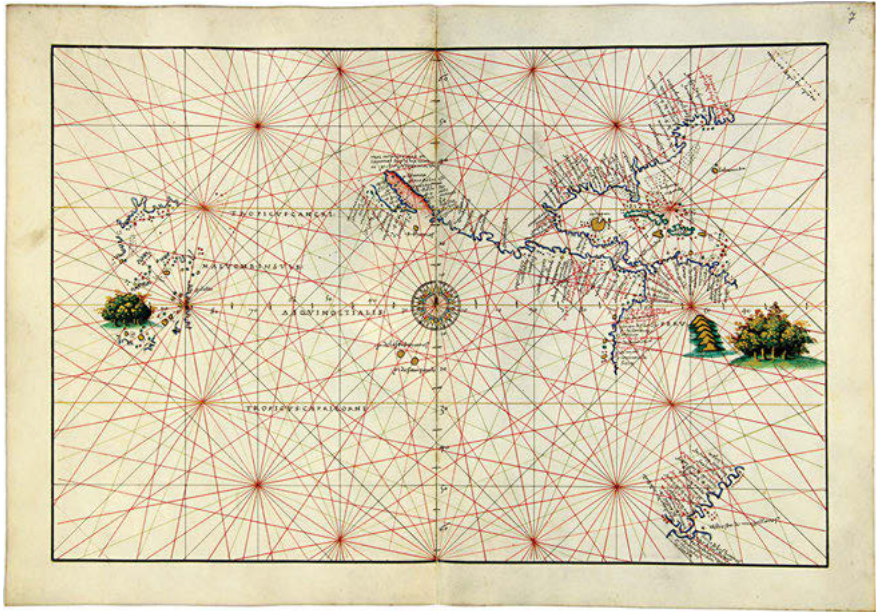


Fig. 9.5: Battista Agnese, Pacific Ocean with Baja California Peninsula, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 6v–7r. Creative Commons 4.0.

Piedmont, and areas in the Middle East such as Syria, Palestine, and Egypt.²⁴ To mention just two examples, the two most comprehensive atlases are both in Venice: one, from 1553, is in the Museo Correr (Port. 21); the other, dated to between 1554 and 1556, is in the Biblioteca Marciana.²⁵ The regional maps made it possible to give a more chorographic design to inland areas, shifting attention from the sea to the territorial landscapes (Fig. 9.6). The maps of northern Europe of this type are the first to show England and Scotland as a single, united island, no longer separated by a deep-sea channel.

Agnese was working in a period of constant discoveries, and the changes in his cartography, especially in the second phase, allow us to trace the gradual

²⁴ See Baumgärtner, *Atlas Heinrichs VIII.*, 43–44.

²⁵ *Facsimile delle carte nautiche di Battista Agnese dell'anno 1554 illustrate da Teobaldo Fischer* (Venice: Ongania, 1881); *Atlante nautico di Battista Agnese, 1553. Riproduzione in facsimile dell'esemplare conservato nel Museo Correr di Venezia*, presented by Giandomenico Romanelli. Introduction and commentary by Marica Milanese (Venice: Marsilio, 1990); cf. Falchetta, *L'atlante di Battista Agnese (1554–1556)*; Baumgärtner, *Atlas Heinrichs VIII.*, 52–58.

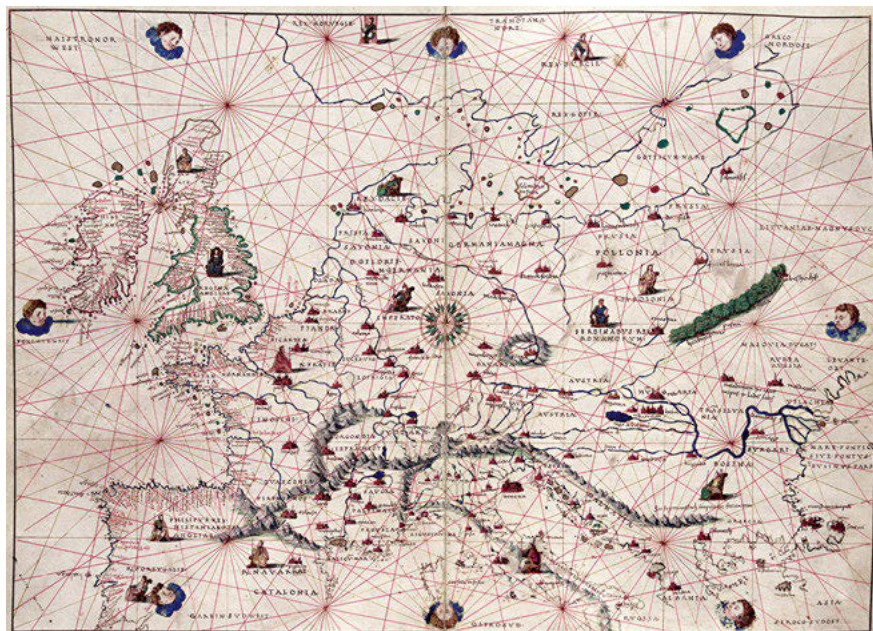


Fig. 9.6: Battista Agnese, northwestern and central Europe with chorographic interiors and England and Scotland united as a single island, 1554–1556; Venice, Biblioteca Nazionale Marciana, Ms. Marc It IV 62 = 5067, fols. 8v–9r. Su concessione del Ministero della Cultura / Biblioteca Nazionale Marciana. Divieto di riproduzione.

expansion of geographic knowledge and its impact on European cartographers. Agnese's main models were probably the maps of Diogo Ribeira, produced towards the end of the 1520s. As he adapted these, he developed his own individual, relatively simple style. This typical, highly distinctive map technique plays a key role in making Agnese's products easy to identify. The maps bound together in a single atlas were not completely homogeneous, however, because each one – as has already been observed by Gaetano Ferro and others – had its own scale and its own specific criteria.²⁶ Often they had even been produced in different years.

²⁶ Gaetano Ferro, "L'Atlante manoscritto della Scuola di Battista Agnese conservato a Bergamo (Sixteenth Century Manuscript Map of the Battista Agnese School)," *Rivista Geografica Italiana* 91 (1984): 501–20 at 506.

The Kassel Atlas and Its Structure

The Kassel atlas, 22.5 × 16.5 cm, is made up of nineteen parchment sheets. Dating from Agnese's pioneering and highly productive middle period of activity,²⁷ it is a perfect example of the conception and execution of this second type of atlas. Structurally it is composed of four parts, closely coordinated to illustrate the underlying concept: first a representation of the cosmos, to define the position of the world in the universe; secondly the three oceans, which combine to create a world map in flat projection; thirdly the individual sections of well-surveyed areas of the world, such as the Mediterranean region and pre-industrial Europe; and fourthly two maps of the world, which finish off this all-encompassing view of the earth and its contents. All the parts are interrelated; they integrate conquests, new discoveries, and the adventurous voyages of humanity into a universal structure.

Agnese did not invent this structure from scratch, but developed it by studying predecessors such as Benedetto Bordone. His first step is to define the position of the world in the cosmos, in accordance with science.²⁸ The atlas therefore begins (after preliminaries such as coats of arms and ownership marks) with a table of declination (Fig. 9.7), containing information on the height of the stars above the celestial equator. The ninety days between the equinox and the solstice are arranged in three columns of thirty days, so the table can be used to calculate the height of the sun at different times of year. The armillary sphere (*sfera armillare*), a precursor of the planetarium, is executed in gold paint and didactic in conception, offering a striking illustration of the most important circles of the heavens. The zodiac, the equator, the tropics, and the polar circles constitute the rings of the armillary sphere, encircling the small map of the world in the center. This reappears in the oval planisphere at the end of the atlas. The planetary system shows, in more detail, the twelve constellations formed by the sun, moon, and other planets in the course of a year. Again, a globe is depicted in the middle, making the earth the central element of cosmic thinking.

²⁷ Hartmut Broszinski, *Kasseler Handschriftensätze* (Kassel: Stauda, 1985), 93–96; *Die Handschriften der Universitätsbibliothek Kassel. Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel*, ed. Peter Vogel (Manuscripta Historica 4, 3) (Wiesbaden: Harrassowitz, 2000), 95; cf. Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 55–84. For more on the subject developed below see the description of other Agnese atlases – e.g., Cattaneo, “L’Atlante nautico di Battista Agnese,” 145–58 for Florence, Biblioteca Nazionale Centrale, Banco Rari 32, or Baumgärtner, *Atlas Heinrichs VIII.* for Biblioteca Apostolica Vaticana, Barb. lat. 4357.

²⁸ Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, fols. 4v–6r.

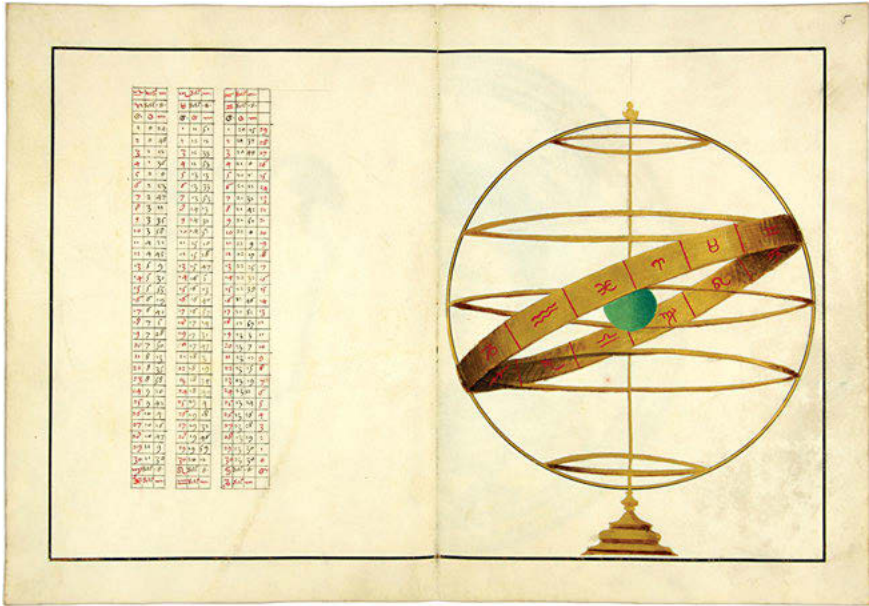


Fig. 9.7: Battista Agnese, table of declination, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fol. 4v. Creative Commons 4.0.

This is followed in the second section by the north-oriented coastal maps of the three great oceans, the Pacific, Atlantic, and Indian Oceans, which collectively present a sort of world map in flat projection.²⁹ The Pacific Ocean (Fig. 9.5), from the Moluccas on the left to America with the Baja California Peninsula, reflects the great innovations of the time. These are, most notably, the first known representation of the discovery of California by Francisco de Ulloa, and the northern section of the east coast of North America, taken from the maps of Ribeiro. This stretch of coast, labeled *terra che descrobrio steuen comes*, had been discovered by Estevan Gómez in his search for a northern passage to the Orient in 1524/25. He had in fact only advanced as far as Cape Race (44 degrees north), not nearly as far north as Ribeiro and subsequently Agnese assumed. Less spectacular developments can be

²⁹ Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 6v–9r. See e.g. Falchetta, *L'atlante di Battista Agnese (1554–1556)*, 117–97; Cattaneo, “L’Atlante nautico di Battista Agnese,” 147–50; Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 62–70.

traced on the maps of the Atlantic and Indian Ocean, which were influenced by Portuguese explorations in Africa and India.

The third section of the atlas contains the coastal maps of northwestern and central Europe, Spain (including northwestern Africa), the western, central, and eastern Mediterranean, and the Black Sea.³⁰ Apart from the central Mediterranean, which is oriented to the west, all of them are more or less north-oriented. Scholars have frequently examined their accuracy. The islands of the Aegean are drawn with great expertise, as are all the territories dominated by Venice in the eastern Mediterranean. The drawing technique matches that of the ocean maps: the coasts are outlined in blue; the islands in green or gold. The green and gold outer border of England and the golden outline of Scotland make it very clear that these are meant to be perceived as two separate islands (Fig. 9.8).

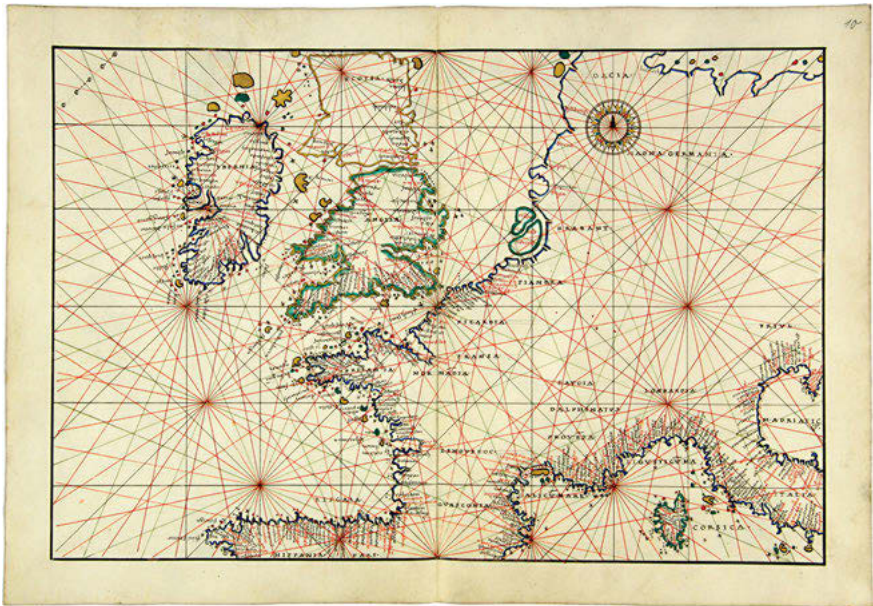


Fig. 9.8: Battista Agnese, England and Scotland as separate islands, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 9v–10r. Creative Commons 4.0.

³⁰ Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 9v–15r; cf. Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 70–78.

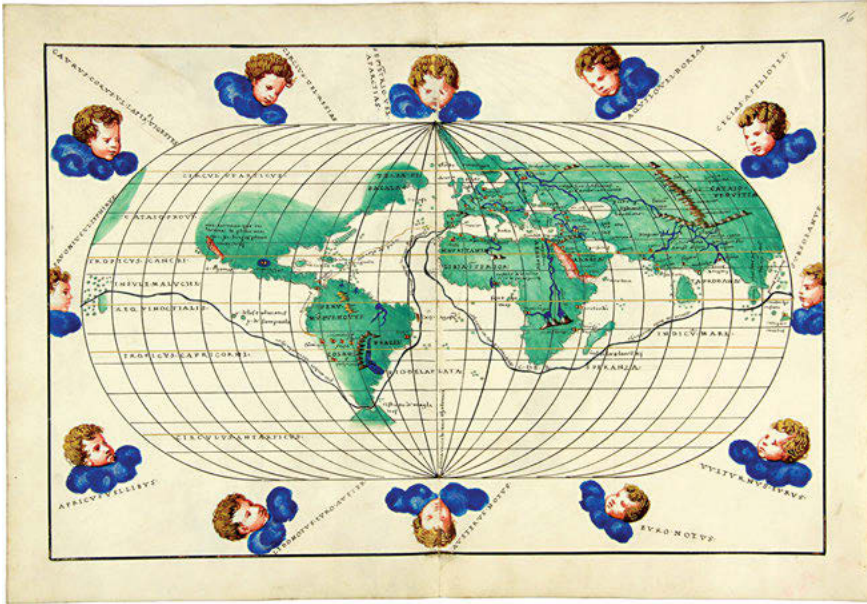


Fig. 9.9: Battista Agnese, Ptolemaic-ellipsoid world map with straight parallels of latitude; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, fols. 15v–16r. Creative Commons 4.0.

More important for the present argument, however, are the two world maps with which Agnese ends his atlas.³¹ The Ptolemaic, ellipsoid world map shows straight parallels of latitude, and – like the preceding map of the Black Sea – is framed by the principal winds in the form of cherubs (Fig. 9.9). Even here, in typical Agnese fashion, there are updates and allusions to voyages of discovery. The sea route traced from southern Spain through the Strait of Magellan to the Moluccas creates various connections: to models such as Diogo Ribeira, the first person to capture this route in cartographic form; to Ptolemy, whose ideas influenced this map type; and also within the work, to the preceding map of the Pacific. In the world maps, the mountains are brown, the continents green, and the rivers blue. Even the oval form, signaling an openness to experiential knowledge, is no longer a new representational model. In Venice it had already been adopted by Francesco Rosselli in 1508 and Benedetto Bordone in 1528. Further cosmographers

³¹ Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, fols. 15v–17r. Cf. Broszinski, *Kasseler Handschriftenschatze*, 94; Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 78–84.

had followed: first Sebastian Münster in Basel in 1532, then, in Venice, Bartolomeo da li Sonetti in 1540 and Agnese in 1542.³² The latter appears to have known the earlier illustrations and used them as the basis for his own composition of the world.³³ The atlas finishes with a circular world map (Fig. 9.10), which projects the geographical perceptions of the classical and medieval authors onto a globe – though it only shows horizontal and vertical lines rather than lines of latitude and longitude. It therefore harmoniously unites the different traditions, but without including the Ptolemaic distortions or giving further space to the individual experiments.

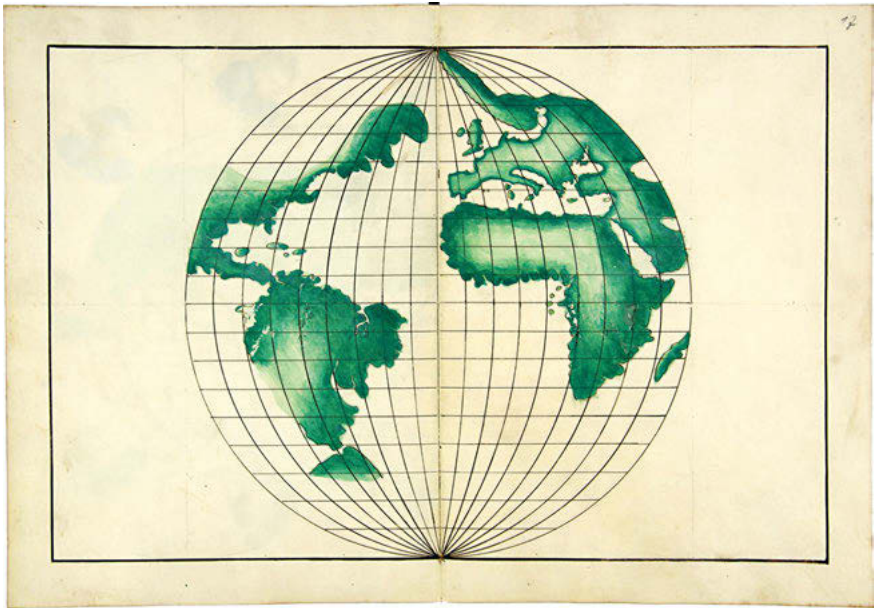


Fig. 9.10: Battista Agnese, circular world map with vertical and horizontal lines instead of lines of longitude and latitude, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° Ms. Hist. 6, fols. 16v–17r. Creative Commons 4.0.

³² Piero Falchetta, “Bartolomeo ‘da li Sonetti’ e Battista Agnese: Due autori per un isolario,” in *Navigare e descrivere: Isolari e portolani del Museo Correr di Venezia, XV–XVIII secolo*, ed. Camillo Tonini and Piero Lucchi (Venice: Marsilio, 2001), 45–48.

³³ See Falchetta, *L’atlante di Battista Agnese (1554–1556)*, 117–97. Falchetta also examines the subsequent reception in the work of Giacomo Gastaldi (Venice 1546 and 1548) and Matteo Paganò (Venice 1550), and other cartographers of this period.

The combination of cosmos, nautical charts, and world maps outlined here unites not only the world and the universe, but also various types of knowledge and map.³⁴ Firstly, the armillary sphere and the signs of the zodiac position the geographical representation of the world in the cosmos. Secondly, the nautical charts depict the coasts of the three great oceans, and of the Mediterranean and Black Sea, in accurate detail. Thirdly, the two world maps summarize geographical knowledge since Ptolemy, and help to relate the fragmented parts to one another. Here the coastal charts and the oval or circular world maps are based on different concepts. The former only reproduce known information, while the latter, in their focus on the whole, also encompass the unexplored parts of the world. The coast between Chile and the Strait of Magellan offers a clear example. In the map of the Pacific (Fig. 9.5) it is fragmented, since its exact course was still partially unknown, while the world maps draw a relatively complete picture of the South American continent. It is important to note the achievement that this represents: the atlas successfully combines cultural knowledge with the geographical, astronomical, and mathematical foundations of cartography.

This interaction between world maps and regional maps was also based on medieval traditions: for example, the Arab cartographer al-Idrisi was commissioned by the Norman king Roger II of Sicily to capture the whole known world in a single monumental work. In his attempt to represent all the countries in the ecumene with partially accurate coastlines, al-Idrisi created a total of seventy section maps with accompanying texts, as well as a circular world map to provide an overall view.³⁵ The regional subdivision was not based on political or cultural parameters, but on the idea of the seven climatic zones. Al-Idrisi subdivided each of these into ten sections of equal size, and worked his way systematically through these subsections. The atlas therefore offered contemporary viewers a comprehensive insight into the topography, economy, and culture of the world's nations, from the Indian Ocean in the southwest to Scandinavia in the northeast.

Thus different images of the world not only coexisted, but complemented each other in fruitful ways. This is also demonstrated by the atlas of the Venetian captain Andrea Bianco, produced in 1436, now in the Biblioteca Marciana in Venice.³⁶ The work, 28 × 39 cm in size and comprising ten plates, contains three world maps based on different concepts. A portolan chart, together with four other partial maps, concentrates on the Mediterranean area, including

34 Cattaneo, "L'Atlante nautico di Battista Agnese," 153–58.

35 Baumgärtner and Schröder, "Weltbild, Kartographie und geographische Kenntnisse," 78.

36 Baumgärtner and Schröder, "Weltbild, Kartographie und geographische Kenntnisse," 80.

newly discovered islands in the Atlantic. An east-oriented, circular world map follows the tradition of the *mappae mundi*, complete with Paradise, nations of the end times, and monstrous figures, but does not totally ignore the geographical innovations of the time. A third sketch of the world, most probably copied from one of the oldest Ptolemy manuscripts to have reached Italy, illustrates Ptolemy's *Geography* and transfers the three continents schematically to a grid.³⁷ Such representations of the world, based on a Ptolemaic, geocentric orientation, were specifically suited to establishing geographic location, either at the beginning or at the end of a cartographic compilation. This model had become more or less standard practice by the mid-fifteenth century and remained in use in subsequent years. It was frequently justified with quotations from Ptolemaic works or related texts.

Agnese abstains from almost all explanations and discussions in his atlases. Long texts have no place in his cartography. His only language is the cosmographic and cartographic images, the clear lines he uses to sketch the world. In visual abstraction, he describes the voyages of the Spanish and Portuguese fleets to the New World. He captures on parchment the growing knowledge linked to this expansion, without getting lost in unnecessary details. Perhaps this attitude reflects an awareness that he lived at a time when Venice's claim to supremacy, closely linked with the Mediterranean, had long since been superseded by Atlantic networks and a universally perceived globalization.

And yet there is a narrative structure present throughout the atlas.³⁸ The sections from the earth's geography – the oceans, the Mediterranean, and the regional maps – fit seamlessly into the firm framework formed by the cosmography, the heavens, and the elements, together with the final world maps. The world with all its details finds its place in the system of planets and zodiacs. The ringed globe and the planetary system show vividly how small the world in their center is. The universe, the circumnavigation of the world, and the Ptolemaic measurement of the globe bring together the continents, seas, lands, regions, and ports. The earth becomes the immobile center of the celestial bodies that circle around it, their distances recorded in tabular form.³⁹ These larger

37 Christiane Deluz, "Une image du monde: La géographie dans l'Occident médiéval," in *La terre: Connaissance, représentations, mesure au Moyen-Âge*, ed. Patrick Gautier Dalché (L'Atelier du Médiéviste 13) (Turnhout: Brepols, 2013), 15–58 at 150.

38 Cattaneo, "L'Atlante nautico di Battista Agnese," 144.

39 Tamara P. Voronova [Woronowa], "Portolan-Atlas des Genuesen Battista Agnese: Faksimile des Luxusexemplars aus der Russischen Nationalbibliothek in St. Petersburg," *Imagination: Zeitschrift für Freunde des alten Buches* 9 (1994): 40–41.

spaces seem to encompass the viewer as he travels through the world, protecting him from the challenges and dangers that come with the new discoveries.

Behind this concept is a desire to explain the world and what surrounds it with simple lines, and to arrange the whole wealth of knowledge almost systematically and hierarchically. To capture this complexity and make it tangible, Battista Agnese (more than other portolan chart makers such as Diogo Homem) concentrates on the essentials: clear lines and distinct contours, the conscious use of color, and elementary classifications. The small fits smoothly into the large. As viewers, we stand on the earth, tiny and invisible, awed by the magnitude of the cosmos and the vastness of the world.⁴⁰

Significance for Agnese's Contemporaries

For each of these Agnese atlases, the history of its reception must be individually examined. The parchment manuscript now in Kassel came into the possession of the Hessian landgraves in Kassel in 1686, with the Palatine inheritance.⁴¹ By this time the content was certainly no longer fully up to date, since the conquistadores had made further progress in their appropriation of the world. In any case, the details presented in such works were obsolete soon after their production, while the cosmos in its totality remained valid. Thus there was at least one basic need that the atlases could fulfill in the long term: the owners' desire to locate their own dominions within the vastness of the world. Princely rulers around 1550 were also often eager to express their modernity. For this the depiction of discoveries was less useful than the attempt to survey their own territory and use the new techniques of cartographic representation to control it.⁴²

A clue to the huge significance of such images of the world in the Renaissance is the fact that entire map rooms were installed in varying political contexts – for example, in the Vatican, in the Doge's Palace in Venice, or in the Palazzo Vecchio in Florence. The knowledge presented there also quickly became obsolete, but the world maps or regional maps painted on walls and the globes displayed in reception rooms or foyers symbolized the owners' permanent access

⁴⁰ For the individual map pages see Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 131–35.

⁴¹ Broszinski, *Kasseler Handschriftenschatze*, 96.

⁴² Ingrid Baumgärtner, "Landesvermessung und Herrschaftsvisualisierung: Zielsetzung, Forschungstendenzen und Ergebnisse," in *Fürstliche Koordinaten: Landesvermessung und Herrschaftsvisualisierung um 1600*, ed. Ingrid Baumgärtner (Schriften zur sächsischen Geschichte und Volkskunde 46) (Leipzig: Leipziger Universitätsverlag, 2014), 13–27.

to geographic knowledge and their claim to domination, even if it was only over a part of the world precisely defined by contemporary concepts of order. Mapping served to capture and penetrate space. New forms and techniques of representation responded to changed requirements. The sixteenth century was a time of creative interchange between surveying and mapping.

Such atlases were not simply aids to geographical orientation during journeys, sea voyages, or trade. Elaborately hand-crafted with precious materials, they were, first and foremost, objects of art and prestige, to be preserved and displayed. Notices of ownership and coats of arms suggest that this was precisely the market Agnese was targeting – and that the demand for new copies remained strong over several decades. There is evidence that his workshop supplied ruling princes and cardinals, statesmen and members of the political elites, nobles of different regional and social origins, and wealthy patricians. Thus Agnese's masterpieces traveled far beyond Venice to the most important courts of Europe.

A splendid manuscript from 1548, now in Providence, Rhode Island, was – according to the imperial coat of arms placed at the beginning – destined for Emperor Charles V and his son Philip II.⁴³ This is corroborated by the representation of a boy reaching for the globe, surrounded by banners and a portrait of the emperor in the style of classical antiquity. The programmatic and extremely opulent decoration of the borders transforms a mere cartographic work into a luxurious art object. To fulfill the needs of such high-ranking clients to display their status, Agnese evidently used the services of Venetian book illustrators. Another impressive atlas is the one now held in Saint Petersburg, which may initially have belonged to a member of the family of Cardinal Ludovico Boddicattaro, before being presented to Paul I, tsar of Russia and grand master of the Order of Malta, in 1798.⁴⁴

A somewhat simpler masterpiece, now in Lambeth Palace in London, was apparently consigned to Henry VIII or his son, Edward VI. This can be deduced from the material at the beginning of the atlas: the English royal coat of arms, accompanied by the emblem of the Order of the Garter and the allegories of the four cardinal virtues.⁴⁵ Between 1542 and the death of Henry VIII on January 28, 1547, another manuscript found its way into the royal library. This atlas, relatively simple in structure, is now in the Vatican Library (Barb. lat. 4357). The text in the

⁴³ Providence (Rhode Island, USA), John Carter Brown Library, Brown University, accession number 04376, Codex Z3 (around 1548); cf. Cattaneo, "L'Atlante nautico di Battista Agnese," 139.

⁴⁴ Voronova [Woronowa], "Der Kartograph Battista Agnese," 7.

⁴⁵ Barber, "An Atlas for a Young Prince," 98.

cartouche and the large coat of arms on the first double-page spread clearly show that it was addressed to the king as the future owner.⁴⁶ Just under a hundred years later, probably around 1640/41, the codex was transferred to the extensive book collection of the erudite Cardinal Francesco Barberini (1587–1679), who personalized it with a printed representation of his own library. At this point Barberini, later secretary of state in the Vatican, probably already owned another Agnese atlas, Barb. lat. 4313. Evidently even simpler works ended up in the libraries of high-ranking dignitaries.

Such depictions of the world, presented in luxury editions, were not just art objects for princely collections. They were also prestigious resources, enabling princely owners to demonstrate the extent of their authority. Even before the middle of the century, the hand-drawn atlases were in extremely high demand, and numerous courts in Europe appear to have had copies. In Florence, Cosimo I de' Medici had an edition. Its origin is unmistakable, even if the coat of arms is now missing.⁴⁷ His son-in-law Alfonso II d'Este also had "an Agnese," as the coat of arms in the Bologna codex proves.⁴⁸ Alfonso, who married Lucrezia de' Medici in 1558, was a great patron of science.

In the Gotha manuscript of 1543, a one-page miniature with an allegory of Patience triumphing over the horrors of war, accompanied by a Latin inscription, points to John Ernest, Duke of Saxe-Coburg (d. 1553). Ecclesiastical prince-electors, such as the archbishop of Mainz and various cardinals, seem to have been equally appreciative of Agnese's work: Cardinal Guido Ascanio Sforza di Santa Fiora, in office from 1534 to 1564, probably had the Turin codex (Varia 115) in his possession, while the cardinal's crest of Francesco Barberini was only added to Barb. lat. 4313 in the seventeenth century.

The highest secular rulers and leading princes of the church clearly took pleasure in "their Agnese." Other influential nobles in England, France, and the Holy Roman Empire followed their example. The English Lord Lumley, a member of parliament and brother-in-law of the Welsh cartographer Humphrey Llwyd, acquired the early compilation now found in London (BL Royal Ms. 14. C. V., containing only seven maps), as an addition to his extensive library. The intermediary may have been his father-in-law Henry Fitzalan, Earl of Arundel, who was Llwyd's patron. The atlases were also in high demand in the Holy Roman Empire and in France, judging by the coats of arms added to them. Their owners included the imperial count of Hohenlohe-Neuenstein (NYPL SC

⁴⁶ Baumgärtner, *Atlas Heinrichs VIII.*, 69–71 and 99–103.

⁴⁷ Florence, Biblioteca Medicea Laurenziana, Med. Pal. 245, dated February 15, 1543; cf. Florence, Biblioteca Medicea Laurenziana, Acq. e Doni 3 from Agnese's third period of activity.

⁴⁸ Bologna, Biblioteca Universitaria, Cod. 997.

MS 005), the Clugny family (Montpellier, BI Section Médecine, H. 70), and later the Valbelle de la Baume family in southern France (San Marino, HM 10). The atlases were even popular in monasteries, as revealed by the coat of arms of Hieronymus Ruffault, abbot of Saint-Vaast in Arras from 1537 to 1563, in the codex in Washington, DC (Port. Ch. 5).

Last but not least, the Agnese atlases were widely distributed in Italy, where numerous copies are still extant today – though unfortunately they often have no coat of arms. The buyers included scholars, bishops, and urban patricians. One of them was Tommaso Campeggio, bishop of Feltre, who undertook extensive journeys on behalf of the pope. In 1541 Campeggio gave a copy to the Como-born scholar Paolo Giovio, bishop of Nocera. The manuscript, with a dedication written by Campeggio, is now in Philadelphia.⁴⁹ The coat of arms in one of the manuscripts in London (Egerton Ms. 2854) points to the Guadagni family in Florence, who were able to acquire a late “Agnese.” A slender eight-map codex (Florence, BNC Banco Rari 32) belonged to the noble Da Sommaia family, which was based near Florence and had houses in the districts of San Giovanni and Santa Maria Novella.⁵⁰ Agnese seems to have produced more modest versions for this clientele.

The golden armorial cartouche in the Kassel atlas (Fig. 9.11) was also intended for the coat of arms of the future owner, though in this case, as in many other copies, this was never painted in. It seems as though the coats of arms were often only added later by the buyers; Agnese may never have mastered the complexity of heraldic symbols. The contemporary cover of the Kassel edition (Fig. 9.12) is typical of a whole series of atlases. The red-brown leather with blind-embossed and gold lines is mounted on wooden boards, and there are eight gold fillets imprinted on both the front and back covers.⁵¹ Did Agnese usually arrange the binding of the atlases himself, as suggested by Konrad Kretschmer?⁵² This cannot be confirmed, since such covers often lack the necessary individuality for precise attributions. The same uncertainty applies to the Kassel manuscript, whose appearance was further embellished with gilt edging and four brass clasps.

The opulent decoration makes it clear that portolan atlases were not only objects of scholarship, but also served as means of propaganda and self-presentation,

⁴⁹ Anton von Euw and Joachim M. Plotzek, *Die Handschriften der Sammlung Ludwig*, vol. 3 (Cologne: Schnütgen-Museum der Stadt Köln, 1982), no. XIII 15, 305–8 and Figs. 276–87.

⁵⁰ Cattaneo, “L’Atlante nautico di Battista Agnese.”

⁵¹ Broszinski, *Kasseler Handschriftenschatze*, 96.

⁵² Konrad Kretschmer, “Die Atlanten des Battista Agnese,” *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 31 (1896): 362–68, also in *Acta Cartographica* 8 (1970): 259–65. Wagner, in “The Manuscript Atlases of Battista Agnese,” 6, questions this suggestion.

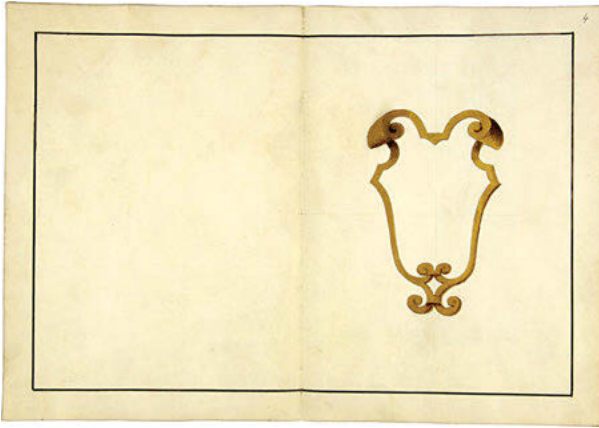


Fig. 9.11: Battista Agnese, armorial cartouche, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6, fol. 4r. Creative Commons 4.0.



Fig. 9.12: Cover, 1542; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4^o Ms. Hist. 6. Creative Commons 4.0.

as luxury items and gifts in diplomatic relations.⁵³ A type of map that may originally have been developed for practical use in navigation had been transformed

⁵³ Ingrid Baumgärtner, “Kartographie als Politik: Die Landesaufnahme in Hessen um 1600,” in *Fürstliche Koordinaten: Landesvermessung und Herrschaftsvisualisierung um 1600*, ed. Ingrid Baumgärtner (Schriften zur sächsischen Geschichte und Volkskunde 46) (Leipzig: Leipziger

into a polysemantic cultural object, using the representation of the world in the universe to symbolize power and influence, education and erudition, orientation and knowledge. Cartographic images had come to express new global realms of possibility,⁵⁴ daring voyages to the end of the world, the colonial conquest of new spheres of action, and the cultural appropriation of foreign areas of knowledge and economic activity.

The wide dissemination of these atlases encouraged Agnese to produce them in different formats: from small volumes resembling luxury pocketbooks, 22.5 × 15 cm in size, to large folios measuring roughly 60 × 40 cm. In Agnese's workshop there was certainly no linear development from small formats at the beginning to much larger, more valuable, and richly decorated ones (such as the 1554/56 codex in the Marciana library), whose full complexity has yet to be explored. In any case there was something antiquarian about these handwritten works, destined for the bookshelf of a library or for display in state rooms, in the sixteenth century. The educated, high-status buyers were willing and able to purchase cartographically and codicologically traditional products, whose prestige lay in the repetition of a model, not in the innovative exploration of new methods. Agnese's efficacy as a well-trained craftsman and copyist is one of the key reasons for his long-standing neglect by scholars. The few who have studied his work have tended to categorize him as a mere imitator and epigone of his predecessors, and to view this schematic repetition as a model that was already outdated in his time. Their focus has mainly been on Agnese's geographically correct presentation of contemporary discoveries, and no close attention has been paid to the innovative and audience-pleasing concept underlying his works.

In conclusion, the maps from Agnese's workshop followed a uniform pattern and used a highly recognizable mapping technique, rendering them very easy to identify. Three phases of production can be distinguished, reflecting not only the gradual expansion in core geographical knowledge as a result of contemporary discoveries, but also developments in Agnese's cartographic work. The phases run from around 1535 to 1541, from 1542 to 1552, and from 1552 to 1564, with each phase bringing innovations, but also modifications and omissions. The products of the second type, the first to depict Baja California and other details, are particularly close to the practices of the explorers. The Kassel atlas (nineteen parchment sheets, size 22.5 × 16.5 cm) has its origins in this trailblazing middle period,

Universitätsverlag, 2014), 189–217 (a translation of this paper can be found in this volume; essay no. 10: "Cartography as Politics: The Topographic Land Survey in Hesse around 1600").

54 See Scruzzi, *Eine Stadt denkt sich die Welt*, for the terms and concepts.

and may be regarded as a perfect example of its time. It shows a table of declination and the armillary sphere, the planetary system with the zodiac, various coastal maps of the oceans, different parts of Europe and the Mediterranean, and two world maps to finish off. Typical features are allusions to the great voyages of discovery, such as the sea route from southern Spain to the Moluccas. Inside the back cover is a wind rose with a compass inside it, the hallmark of Agnese's workshop. Already old-fashioned at the time, these manuscripts were conceived as prestigious items catering to the taste of their princely, wealthy, or learned owners.

The traditional scholarly view of Battista Agnese is one-sided and in need of substantial revision. In future his products must be considered with greater attention and a broader knowledge of the sources. The first essential step will be to register and evaluate all the extant atlases. Only then can we examine the cultural relevance of these maps and their groundbreaking global concept of the world within their historical context. Portolan atlases were not unchanging reproductions, but cultural models, offering a superb reflection of the wishes and needs of their viewers.

Appendix of Battista Agnese's Portolan Atlases

Facsimile Editions of the Agnese Atlases

Almeida, Roberto F. de (ed.). *Tesouros cartográficos da Sociedade de Geografia de Lisboa*. Lisbon: 2002. CD-ROM (Lisbon, Sociedade de Geografia de Lisboa, 14-A-12).

Atlante nautico di Battista Agnese (Amraser Atlas, Wien Nationalbibliothek Cod. Ser. 2630). *Presentazione di Otto Mazal, Introduzione di Lelio Pagani*. Bergamo: Grafica Gutenberg, 1980 (available in, e.g., New York, The Morgan Library & Museum, 173.6 A2).

L'Atlante nautico di Battista Agnese conservato alla Biblioteca Trivulziana di Milano. Milan: Vister, 1968.

Atlante nautico di Battista Agnese, 1553. Riproduzione in facsimile dell'esemplare conservato nel Museo Correr di Venezia. *Presentazione di Giandomenico Romanelli. Introduzione e commento di Marica Milanese*. Venice: Marsilio, 1990.

Atlante nautico e terrestre. L'Atlante manoscritto della scuola di Battista Agnese conservato a Bergamo. Bergamo: Camera di Commercio, 1984.

Battista Agnese. Atlante nautico. Codice conservato presso la Biblioteca Nazionale Centrale di Firenze con la segnatura Banco Rari 32. Rome: Treccani, 2008.

Battista Agnese. Atlante nautico (Milan, Biblioteca Ambrosiana, SP II.34). Rimini: 2004 (available in, e.g., New York, The Morgan Library & Museum, 173.6 A2 A88).

Baumgärtner, Ingrid. *Atlas Heinrichs VIII. Battista Agnese. Barb. Lat. 4357. Kommentarband zur Faksimile-Edition der Handschrift aus der Biblioteca Apostolica Vaticana*. Vatican City: Biblioteca Apostolica Vaticana, 2020.

Baumgärtner, Ingrid (ed.). *Der Portulan-Atlas des Battista Agnese. Das Kasseler Prachtexemplar von 1542*. With introduction and commentary by Ingrid Baumgärtner. Darmstadt: WBG, 2017.

Colección: Atlas de Carlos V y Atlas de Magallanes (Madrid, Biblioteca Nacional, MSS 176), con commento di Carmen Liter Mayayo e F. Sanchis Ballester. Valencia: Patrimonio, 2005.

Dürst, Arthur (ed.). *Der Portolan-Atlas des Battista Agnese von 1546 aus der Russischen Nationalbibliothek Sankt Petersburg*. Commentary on the facsimile edition by Tamara P. Voronova [Woronowa]. Graz: Akademische Druck- und Verlagsanstalt, 1993.

Facsimile delle carte nautiche di Battista Agnese dell'anno 1554 illustrate da Teobaldo Fischer. Venice: Ongania, 1881.

Falchetta, Piero (ed.). *L'atlante di Battista Agnese (1554–1556), (Ms. Marc. It. IV 62 = 5067), Edizione integrale in CD-ROM (Palinsesti 1)*. Venice: Canal Multimedia, 1996.

Lindgren, Uta. *Battista Agnese. Portulan Atlas München Universitätsbibliothek Cim 18, Farbmikrofiche-Edition. Untersuchungen zu Problemen der mittelalterlichen Seekartographie und Beschreibung der Portulankarten. Textband (Monumenta cartographica et topographica 2)*. Munich: Lengenfelder, 1993.

Voronova, Tamara P. (ed.). *The Portolan Atlas of 1546 of Battista Agnese from the Russian National Library St Petersburg*. Commentary on the facsimile edition by Tamara P. Voronova. Edited and expanded with regard to the history of cartography by Arthur Dürst. Disentis: Desertina; Graz: Akademische Druck- u. Verlagsanstalt; Moscow: Avtor, 1993.

Portolan Charts and Atlases of Battista Agnese⁵⁵

Arlington/USA, University of Texas, Arlington Library, 50/1 85–283 (before 1553, probably around 1540; a map of the British Isles; 22 × 32 cm).

⁵⁵ The list is based on the old lists in Ruge, *Aelteres kartographisches Material*, 4 and 10–21; Wagner, “The Manuscript Atlases of Battista Agnese,” 1–110; Almagià, *Monumenta cartographica*

Bergamo, Biblioteca Civica Angelo Mai, MA 557 (after 1556, atlas from the third phase with Baja California and England/Scotland united as a single island, incomplete; table of declination, zodiac, seventeen maps with the New World, no map of the world; workshop).⁵⁶

Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Ms. Hamilton 529 (after 1552, atlas from the third phase with Baja California, but England/Scotland as two islands; armillary sphere, zodiac, sixteen maps with one map of the world, cosmographical-astronomical synopsis, compass; map image size 29.8 × 43.8 cm).⁵⁷

Berlin, Staatsbibliothek zu Berlin – Preußischer Kulturbesitz, Kartenabteilung 2o Kart B 118 (after 1553, atlas from the third phase with Baja California and England/Scotland united as a single island; coat of arms, table of declination, zodiac, nineteen maps with one map of the world and three sheets that each contain two maps, cosmographical-astronomical synopsis; dimensions when closed 39 × 28 cm; map image size 35 × 25 cm).

Bologna, Biblioteca Universitaria, Cod. 997 (after 1556, atlas from the third phase with Baja California and England/Scotland united as a single island; coat of arms, table of declination, armillary sphere, zodiac, eighteen maps with the New World and one world map; workshop; map image size 23.3 × 43.2 cm).⁵⁸

Brescia, Biblioteca Civica Queriniana, Legato Martinengo I.III, 24 (around 1536, atlas from the first phase; table of declination, zodiac, ten maps with one map of the world; map image size 23 × 30 cm).⁵⁹

Budapest, National Széchényi Library, chart 1 (a map of the Mediterranean with Europe, North Africa, and western Asia).

Vaticana, 1:62–71; Wagner, “Additions to the Manuscript Atlases of Battista Agnese,” 28–30; Tony Campbell, “Census of Pre-Sixteenth-Century Portolan Charts,” *Imago Mundi* 38 (1986): 67–94; Pfleiderer, *Census of Portolan Charts & Atlases*; Baumgärtner, *Der Portulan-Atlas des Battista Agnese*, 131–35; updated and supplemented in Baumgärtner, *Atlas Heinrichs VIII.*, 108–16, with information on the dimensions and extent of the works and additional literature beyond that presented by Pfleiderer. In contrast to Baumgärtner, Pfleiderer (who does not distinguish between atlases and single maps) mentions a total of eight additional works, which still need to be precisely identified and categorized, especially as the buying and selling of Agnese's atlases in recent decades has led to double listings of individual works at different locations.

56 Ferro, “L’Atlante manoscritto,” 501–20; Chet Van Duzer, “Storia delle Azzorre quali Insulae Solis o Isole del Sole nella Cartografia del XVI secolo,” *Geostorie* 18, no. 1–2 (2010): 100; facsimile 1984.

57 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 47.

58 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 65; Van Duzer, “Storia delle Azzorre,” 100f.

59 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 14.

Catania, Biblioteca Regionale Universitaria, Ms. U. 85 (February 24, 1562, signed; a map with western Europe and North Africa; 59.5 × 83 cm).

Chantilly, Musée et Château de Chantilly (Musée Condé), Cod. 700 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; two coats of arms, table of declination, zodiac, ten maps with one map of the world, compass; known as “Portulan de l’Amiral Coligny”).

Chatsworth in Derbyshire, Duke of Devonshire’s Library, no call number (around 1544, atlas from the second phase; table of declination, armillary sphere, ten maps with one map of the world; closed 24.8 × 17.6 cm).⁶⁰

Chicago, The Newberry Library, Ayer Ms. 10 (before 1553, atlas from the second phase with England/Scotland as two islands; six maps on western Europe, Mediterranean and Black Sea, no world map, compass; closed 26 × 17.8 cm, map image size 24.5 × 35 cm).

Chicago, The Newberry Library, Ayer Ms. 12 (after 1556, atlas from the third phase with Baja California and England/Scotland united as a single island; fifteen maps with the New World but no world map; map image size 21 × 31.5 cm).⁶¹

Chicago, The Newberry Library, Ayer Ms. 13 (after 1556, atlas from the third phase with Baja California and England/Scotland united as a single island; zodiac, ten maps with the New World but no world map; map image size 20.5 × 31 cm).⁶²

Den Haag, Koninklijke Bibliotheek, 129 E 16 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, ten maps with one map of the world).

Dresden, Sächsische Landesbibliothek, Ms. Dresd. F 140a (February 5, 1544, signed, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, ten maps with one map of the world, compass; map image size 19.5 × 30 cm).⁶³

Dresden, Sächsische Landesbibliothek, Ms. Dresd. F 140b (before 1542, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac, ten maps with one map of the world; map image size 19 × 29 cm).⁶⁴

Dublin, Trinity College, K 3.15, no. 917 (October 22, 1544, signed, atlas from the second phase; two coats of arms, table of declination, armillary sphere, zodiac, eleven maps with one map of the world; closed 21.3 × 15.2 cm).⁶⁵

⁶⁰ Barber, review of *The Portolan Atlas of 1546*; Van Duzer, “Storia delle Azzorre,” 101.

⁶¹ Wagner, “The Manuscript Atlases of Battista Agnese,” no. 66.

⁶² Wagner, “The Manuscript Atlases of Battista Agnese,” no. 67.

⁶³ Wagner, “The Manuscript Atlases of Battista Agnese,” no. 29.

⁶⁴ Wagner, “The Manuscript Atlases of Battista Agnese,” no. 9.

⁶⁵ Wagner, “The Manuscript Atlases of Battista Agnese,” no. 31.

Florence, Biblioteca Medicea Laurenziana, Acq. e Doni 3 (sixteenth century, atlas from the third phase with Baja California and England/Scotland united as a single island; table of declination, armillary sphere, zodiac, twenty-six maps with both world maps, cosmographical-astronomical synopsis; closed 26.8 × 18.6 cm).⁶⁶

Florence, Biblioteca Medicea Laurenziana, Med. Pal. 245 (February 12, 1543, signed, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, eleven maps with both world maps, compass; closed 24.5 × 17.5 cm).⁶⁷

Florence, Biblioteca Nazionale Centrale, Banco Rari 32 (around 1550, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms, table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection, coat of arms and compass; closed 25.4 × 17.8 cm).⁶⁸

Genoa, Museo Navale, N.I.M.N. 3373 (sixteenth century; one map from an atlas, showing the Black Sea).

Glasgow, Hunterian Museum, Har. 38 (September 25, 1542, signed, atlas from the second phase with Baja California and England/Scotland as two islands; monogram, table of declination, armillary sphere, zodiac, twelve maps with both world maps; closed 22.5 × 15.3 cm).⁶⁹

Gotha, Forschungs- und Landesbibliothek, Memb. II 146 (February 18, 1543, signed, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, twelve maps with both world maps, compass; closed 22.75 × 15.75 cm).⁷⁰

Göttingen, Niedersächsische Staats- und Universitätsbibliothek, Cod. Ms. Mapp. 9 (around 1550–1553, atlas from the end of the second phase with England/Scotland as two islands; a nautical chart of the European and North African coasts with details of interior).

66 Wagner, "The Manuscript Atlases of Battista Agnese," no. 60; Van Duzer, "Storia delle Azzorre," 100.

67 Wagner, "The Manuscript Atlases of Battista Agnese," no. 26; *Monumenti di cartografia a Firenze (secc. X–XVII)*, ed. Mario Tesi (Florence: Biblioteca Medicea Laurenziana, 1981), no. 117; Pierluigi Portinaro and Franco Knirsch, *The Cartography of North America, 1500–1800* (New York: Facts on File, 1987), 71f.; Van Duzer, "Storia delle Azzorre," 98.

68 Wagner, "The Manuscript Atlases of Battista Agnese," no. 46; Van Duzer, "Storia delle Azzorre," 99; facsimile: *Battista Agnese. Atlante nautico*, 2008.

69 Wagner, "The Manuscript Atlases of Battista Agnese," no. 23; Van Duzer, "Storia delle Azzorre," 98.

70 Wagner, "The Manuscript Atlases of Battista Agnese," no. 27.

Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4o Ms. Hist. 6 (June 1542, signed, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, eleven maps with both world maps, compass; closed 22.5 × 16.5 cm).⁷¹

Lisbon, Sociedade de Geografia de Lisboa, 14-A-12 (before 1542, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac, nine maps with one map of the world in oval projection; closed 26.5 × 23.4 cm).⁷²

London, Admiralty Library, VA 1g (around 1542, atlas from the first to second phase without Baja California on the ocean map, but with Baja California on the map of the world and with England/Scotland as two islands; table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection, compass; map image size 19.5 × 30 cm).⁷³

London, British Library, Add. Ms. 18154 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; eleven maps).⁷⁴

London, British Library, Add. Ms. 19927 (October 13, 1536, signed, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac with 1536, eleven maps; map image size 41 × 59 cm).⁷⁵

London, British Library, Add. Ms. 25442 (May 25, 1564, signed, atlas from the third phase with Baja California and England/Scotland united as a single island; table of declination, diagram, zodiac, eight maps with one map of the world; map image size 20.7 × 32.5 cm).⁷⁶

71 Wagner, "The Manuscript Atlases of Battista Agnese," no. 21; Broszinski, *Kasseler Handschriftenschätze*, no. 15; *Die Handschriften der Universitätsbibliothek Kassel*, ed. Vogel, 95; Van Duzer, "Storia delle Azzorre," 97f.; Baumgärtner, *Der Portulan-Atlas des Battista Agnese*.

72 Wagner, "The Manuscript Atlases of Battista Agnese," no. 6; Van Duzer, "Storia delle Azzorre," 97; facsimile: de Almeida 2002, CD-ROM.

73 Wagner, "The Manuscript Atlases of Battista Agnese," no. 18; Dominic Fontana, John Lippiett and Jennifer Wraight, "Map of the Known World from a Manuscript Portolan Atlas by Battista Agnese c1535," in *Mapping Portsmouth's Tudor Past*, ed. Mary Rose Trust in collaboration with Dominic Fontana, John Lippiett and Jennifer Wraight (Portsmouth: Mary Rose Trust, 2010), 17.

74 Van Duzer, "Storia delle Azzorre," 100.

75 Wagner, "The Manuscript Atlases of Battista Agnese," no. 4; Van Duzer, "Storia delle Azzorre," 97.

76 Wagner, "The Manuscript Atlases of Battista Agnese," no. 61; Van Duzer, "Storia delle Azzorre," 100.

London, British Library, Egerton Ms. 2854 (around 1552–1564, atlas from the third phase with Baja California and England/Scotland united as a single island; coat of arms of the Florentine Guadagni family, table of declination, armillary sphere, zodiac, twelve maps with both world maps, cosmographical-astronomical synopsis, compass).⁷⁷

London, British Library, Royal Ms. 14. C. V. (before 1541, probably around 1535, atlas from the first phase without Baja California and with England/Scotland as two islands; seven maps with one map of the world without Magellan's route; map image size 32 × 43.7 cm).⁷⁸

London, Lambeth Palace Library, Ms. 463 (after 1542, atlas from the second or third phase with Baja California and, probably corrected, England/Scotland united as a single island; English royal coat of arms, table of declination, armillary sphere, zodiac, twelve maps with two world maps, one of them in oval projection, compass; closed 20.6 × 13.5 cm, map image size 14 × 22 cm).⁷⁹

London, Royal Geographical Society RGS-IGB Collections, CA15B-001 (after 1552, atlas from the third phase with Baja California and England/Scotland united as a single island; coat of arms, table of declination, armillary sphere, zodiac, thirteen maps with two world maps, cosmographical-astronomical synopsis, compass).

London (Greenwich), National Maritime Museum, P/12 (March 24, 1555, signed, atlas from the third phase; blank armorial cartouche, table of declination, armillary sphere, zodiac, twenty-five maps with both world maps, cosmographical-astronomical synopsis, compass; map image size 26 × 37.5 cm).⁸⁰

London (Greenwich), National Maritime Museum, P/24 (May 4, 1554, signed, atlas from the third phase; table of declination, cosmographical-astronomical synopsis, armillary sphere, zodiac, twenty-five maps with both world maps; German titles and toponyms in margin; map image size 26 × 40 cm).⁸¹

Madrid, Biblioteca Nacional de España, Ms. 176 (July 1, 1544, signed, atlas from the second phase with Baja California and England/Scotland as two islands; armillary sphere, zodiac, eleven maps, compass, two maps added later with southern and northern hemisphere; reverse bound; closed 21.8 × 15.2 cm).⁸²

⁷⁷ Almagià, *Monumenta cartographica Vaticana*, 1:67; Van Duzer, "Storia delle Azzorre," 100.

⁷⁸ Wagner, "The Manuscript Atlases of Battista Agnese," no. 1.

⁷⁹ Wagner, "Additions to the Manuscript Atlases of Battista Agnese," no. 69; Barber, "An Atlas for a Young Prince."

⁸⁰ Wagner, "The Manuscript Atlases of Battista Agnese," no. 57.

⁸¹ Van Duzer, "Storia delle Azzorre," 99f.

⁸² Wagner, "The Manuscript Atlases of Battista Agnese," no. 30; Van Duzer, "Storia delle Azzorre," 98; facsimile 2005.

Milan, Biblioteca Ambrosiana, SP II.34 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms erased, table of declination, armillary sphere, zodiac, eleven maps with one map of the world, also modern planisphere added later inside the back cover; closed 25 × 18 cm).⁸³

Milan, Biblioteca Trivulziana e Archivio Storico Civico, Cod. N. 2160 (1536 or soon after, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac with 1536, nine maps with one map of the world, compass; 21.2 × 14.8 cm).⁸⁴

Montpellier, Bibliothèque Interuniversitaire, Section Médecine, H. 70 (after 1552, atlas from the third phase with Baja California and England/Scotland united as a single island, with a border between them; coat of arms, table of declination, armillary sphere, zodiac, seventeen maps with one map of the world in oval projection and an eastern hemisphere, compass; map image size 28.8 × 40.4 cm).⁸⁵

Munich, Bayerische Staatsbibliothek, Cod. icon. 136 (before 1542, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac, ten maps with one map of the world; closed 23.5 × 16.5 cm, map image size 19.5 × 29.5 cm).⁸⁶

Munich, Universitätsbibliothek, Cim. 18 (after 1552, atlas from the third phase with Baja California and England/Scotland united as a single island; armorial cartouche, table of declination, armillary sphere, zodiac, cosmographical-astronomical synopsis, nineteen maps with one map of the world, compass; closed 36.5 × 27.5 cm, map image size 29 × 47.5 cm).⁸⁷

Naples, Biblioteca Nazionale “Vittorio Emanuele III,” Ms. VIII.D.7 (after 1552, atlas from the third phase with Baja California and England/Scotland united as a single island; table of declination, armillary sphere, zodiac, twenty-six maps with both world maps; map image size 26.4 × 39 cm).⁸⁸

83 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 25; facsimile Rimini 2004.

84 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 7; Osvaldo Baldacci, *Atlante colombiano della grande scoperta* (Rome: Istituto poligrafico e Zecca dello Stato, 1997), Table 40B; Van Duzer, “Storia delle Azzorre,” 97; facsimile 1968.

85 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 45.

86 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 16.

87 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 49; Hans Wolff, “Die Münchener Portolankarten einst und heute,” in *America: Das frühe Bild der Neuen Welt, Ausstellung der Bayerischen Staatsbibliothek München*, ed. Hans Wolff (Munich: Prestel, 1992), 138–40; Van Duzer, “Storia delle Azzorre,” 99; Lindgren, *Battista Agnese*, with facsimile on colored microfiche.

88 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 59.

New Haven, Yale University, Beinecke Rare Book & Manuscript Library, Beinecke Ms. 560 (August 8, 1559, signed, atlas from the third phase with Baja California and England/Scotland united as a single island; coat of arms, twenty-three maps with one map of the world, cosmographical-astronomical synopsis; map image size 20.5 × 32.5 cm).⁸⁹

New York, Hispanic Society of America, K 13 (around 1550, atlas from the second phase; coat of arms, table of declination, armillary sphere, zodiac, fourteen maps with both world maps; closed 35 × 25.2 cm).⁹⁰

New York, The Morgan Library & Museum, Ms. M.460 (around 1543–1546, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms, table of declination, armillary sphere, zodiac, ten maps with one map of the world, compass; closed 25 × 18 cm).⁹¹

New York, The Morgan Library & Museum, Ms. M.507 (May 15, 1542, atlas from the second phase with Baja California and England/Scotland as two islands; wind diagram, table of declination, armillary sphere, zodiac, ten maps with one map of the world; closed 22 × 16 cm).⁹²

New York, New York Public Library, Spencer Collection Ms. 005 (around 1552–1564, atlas from the third phase with Baja California and England/Scotland united as a single island; coat of arms of the imperial counts of Hohenlohe-Neuenstein, table of declination, armillary sphere, zodiac, fifteen maps with both world maps, cosmographical-astronomical synopsis, compass; closed 25 × 18 cm, map image size 19.2 × 29.5 cm).⁹³

Oxford (University of), Bodleian Library, Ms. Can. Ital. 142 (around 1553, atlas at the transition to the third phase with Baja California and England/Scotland united as a single island, with a border between them; table of declination, zodiac, eight maps with one map of the world, cosmographical-astronomical synopsis; map image size 23 × 30 cm).⁹⁴

89 Wagner, "The Manuscript Atlases of Battista Agnese," no. 58; Van Duzer, "Storia delle Azzorre," 100.

90 Wagner, "The Manuscript Atlases of Battista Agnese," no. 40; Van Duzer, "Storia delle Azzorre," 99.

91 Wagner, "The Manuscript Atlases of Battista Agnese," no. 43; Van Duzer, "Storia delle Azzorre," 99.

92 Wagner, "The Manuscript Atlases of Battista Agnese," no. 20; Van Duzer, "Storia delle Azzorre," 97.

93 Wagner, "The Manuscript Atlases of Battista Agnese," no. 52; *The Splendor of the World: Medieval and Renaissance Illuminated Manuscripts at the New York Public Library*, ed. Jonathan James Graham Alexander, James H. Marrow and Lucy Freeman Sandler (New York: New York Public Library, 2005), 343f.; Van Duzer, "Storia delle Azzorre," 99.

94 Wagner, "The Manuscript Atlases of Battista Agnese," no. 62.

Oxford (University of), Bodleian Library, Ms. Can. Ital. 144 (after 1536, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac with 1536, eight maps with one map of the world; map image size 39.5 × 57 cm, world map image size 21.5 × 51.5 cm).⁹⁵

Paris, Bibliothèque nationale de France, Département des cartes et plans, Rés. Ge B 1134 (sixteenth century; just one map).

Paris, Bibliothèque nationale de France, Département des cartes et plans, Rés. Ge B 2131 (sixteenth century; just one map).

Paris, Bibliothèque nationale de France, Département des cartes et plans, Rés. Ge B 9945 (sixteenth century; just one map).

Paris, Bibliothèque nationale de France, Département des cartes et plans, Rés. Ge FF 14410 (June 25, 1543, signed; atlas; blank armorial cartouche, table of declination, armillary sphere, zodiac, ten maps with one map of the world; map image size 21 × 29 cm).⁹⁶

Paris, Bibliothèque nationale de France, Lat. 18249 (around 1541–1552, atlas from the second phase with England/Scotland as two islands; coat of arms, armillary sphere, zodiac, ten maps with one map of the world; closed 22.2 × 15.85 cm).⁹⁷

Parma, Archivio di Stato (A.S.PR), Raccolta Mappe e Disegni, vol. 60 n. 62 (1553–1564, atlas from the third phase with England/Scotland united as a single island, with a border between them; a map of the Mediterranean and Black Sea with Europe, North Africa, and the Middle East).

Philadelphia, University of Pennsylvania Library, LJS 28 (before 1541, probably around 1535, atlas from the first phase without Baja California and with England/Scotland as two islands; dedication from 1541, seven maps with one map of the world in oval projection without Magellan's route; maps 5–6 by another hand; closed 39.8 × 28.5 cm; gift from Tommaso Campeggio, bishop of Feltre, to Paolo Giovio, bishop of Nocera; previously in Cologne, Sammlung Ludwig, XIII 15).⁹⁸

Providence (Rhode Island/USA), John Carter Brown Library, Brown University, accession number 04376, Codex Z3 (around 1548, atlas from the second phase with Baja California and England/Scotland as two islands; figure with globe and portrait of Charles V, coats of arms of Castile and Aragon, zodiac, table of declination, Jupiter, eleven maps with one map of the world in oval

⁹⁵ Wagner, "The Manuscript Atlases of Battista Agnese," no. 5.

⁹⁶ Wagner, "The Manuscript Atlases of Battista Agnese," no. 28.

⁹⁷ Wagner, "The Manuscript Atlases of Battista Agnese," no. 13; *L'âge d'or des cartes marines*, ed. Hofmann, Richard and Vagnon, 74 with illustration fols. 3v–4r.

⁹⁸ Euw and Plotzek, *Die Handschriften der Sammlung Ludwig*, 3:XIII 15.

projection, image of Atlas with the world on his shoulders, coat of arms of Emperor Charles V; closed 21 × 14 cm).⁹⁹

Saint Petersburg, Arkhiv Tsentral'nogo kartograficheskogo proizvodstva Voyenno-Morskogo Flota (around 1554, atlas from the third phase; armillary sphere, zodiac, eleven maps with a planisphere, cosmographical-astronomical synopsis, compass; map image size 19.5 × 30 cm; previously in Kaliningrad).¹⁰⁰

Saint Petersburg, Russian National Library (from 1932 to 1992 Saltykov-Shchedrin Library) (May 26, 1546, signed, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms, Argonauts on their quest for the Golden Fleece, table of declination, armillary sphere, zodiac, thirteen maps with one map of the world in oval projection, cosmographical-astronomical synopsis, Neptune, god of the sea, from the *Aeneid*, image of Atlas with the world on his shoulders, compass; closed 36 × 25 cm).¹⁰¹

San Marino (California/USA), The Huntington Library, HM 10 (around 1550; atlas at transition to third phase with Baja California and England/Scotland as two islands; coat of arms, table of declination, armillary sphere, zodiac, sixteen maps with one map of the world in oval projection and eastern hemisphere; closed 32.6 × 23.2 cm, map image size 28.9 × 41.7 cm).¹⁰²

San Marino (California/USA), The Huntington Library, HM 25 (sixteenth century, before 1542, atlas from the first phase without Baja California and with England/Scotland as two islands; coat of arms, table of declination, zodiac, ten maps with one map of the world in oval projection; closed 22.3 × 16 cm, map image size 19.3 × 29.3 cm).¹⁰³

San Marino (California/USA), The Huntington Library, HM 26 (around 1543–1545, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms, table of declination, armillary sphere, zodiac, eleven maps with both world maps, compass; closed 24.2 × 17.1 cm, map image size 19.3 × 29.5 cm).¹⁰⁴

San Marino (California/USA), The Huntington Library, HM 27 (July 8, 1553, signed, atlas from the third phase with Baja California and England/Scotland

99 Wagner, "The Manuscript Atlases of Battista Agnese," no. 32; Van Duzer, "Storia delle Azzorre," 98.

100 Wagner, "The Manuscript Atlases of Battista Agnese," no. 53, in Kaliningrad at the time.

101 Facsimile Dürst and Voronova [Woronowa] 1993.

102 Wagner, "The Manuscript Atlases of Battista Agnese," no. 44; *Guide to Medieval and Renaissance Manuscripts in the Huntington Library*, ed. Consuelo W. Dutschke, vol. 1 (San Marino, CA: Huntington Library, 1989); Van Duzer, "Storia delle Azzorre," 99.

103 Wagner, "The Manuscript Atlases of Battista Agnese," no. 10; *Guide*, ed. Dutschke, 1.

104 Wagner, "The Manuscript Atlases of Battista Agnese," no. 34; *Guide*, ed. Dutschke, 1.

united as a single island; circular calendar, table of declination, armillary sphere, zodiac, ten maps with a planisphere, annual table, compass; closed 36.9 × 27.1 cm, map image size 28.8 × 46 cm).¹⁰⁵

Stockholm, Kungliga Biblioteket, Sveriges Nationalbibliotek, Kartavd. Handrit. vol. 24 (around 1541; atlas with table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection; map image size 22.2 × 15.3 cm).¹⁰⁶

Tenri (Japan), Tenri Central Library (Daigaku Toshokan) Ms. 290.91-i14 (1542, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection; closed 16.7 × 23.2 cm, open 31.1–32.3 × 21.7–21.9 cm).

Turin, Biblioteca Reale, MSS Varia 115 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms of Cardinal Guido Ascanio Sforza di Santa Fiora, table of declination, armillary sphere, zodiac and twelve maps with both world maps; map image size 14 × 20.5 cm).¹⁰⁷

Turin, Biblioteca Reale, Ms. Varia 148 (after 1556, atlas from the third phase with Baja California and England/Scotland united as a single island; zodiac, twenty-eight maps with New World and two world maps, one of them an incomplete planisphere without Magellan's route; workshop; map image size 21 × 31 cm).¹⁰⁸

Vatican City, Biblioteca Apostolica Vaticana, Barb. lat. 4313 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; coat of arms of Cardinal Francesco Barberini, table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection, compass; map image size 19.6 × 29.6 cm).¹⁰⁹

Vatican City, Biblioteca Apostolica Vaticana, Barb. lat. 4357 (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands, later corrected; dedication to Henry VIII, king of England, and English royal

¹⁰⁵ Wagner, "The Manuscript Atlases of Battista Agnese," no. 54; *Guide*, ed. Dutschke, 1.

¹⁰⁶ Wagner, "The Manuscript Atlases of Battista Agnese," no. 12.

¹⁰⁷ Wagner, "The Manuscript Atlases of Battista Agnese," no. 35.

¹⁰⁸ Wagner, "The Manuscript Atlases of Battista Agnese," no. 68.

¹⁰⁹ Wagner, "The Manuscript Atlases of Battista Agnese," no. 39; Van Duzer, "Storia delle Azzorre," 99.

coat of arms, table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection, compass; map image size 21.9 × 35.5 cm).¹¹⁰

Vatican City, Biblioteca Apostolica Vaticana, Barb. lat. 4431A (1536 or soon after, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac with 1536, seven maps with both world maps; map image size 44.1 × 64.7 cm).¹¹¹

Vatican City, Biblioteca Apostolica Vaticana, Pal. lat. 1886 (June 28, 1542, atlas from the second phase with Baja California and England/Scotland as two islands; blank armorial cartouche, table of declination, armillary sphere, zodiac, eleven maps with both world maps; map image size 19.5 × 29.6 cm).¹¹²

Vatican City, Biblioteca Apostolica Vaticana, Vat. lat. 7586 (1536 or soon after, atlas from the first phase without Baja California and with England/Scotland as two islands; table of declination, zodiac with 1536, eight maps with both world maps; map image size 37.1 × 55.8 cm).¹¹³

Venice, Biblioteca Nazionale Marciana, It. IV 62 = 5067 (1554–1556; October 20, 1554, signed, atlas from the third phase with Baja California and England/Scotland united as a single island; blank armorial cartouche, cosmographical-astronomical synopsis, table of declination, armillary sphere, zodiac, thirty-one maps with two world maps; closed 29.5 × 23 cm).¹¹⁴

Venice, Biblioteca Nazionale Marciana, It. IV 492 = 5120 (May 8, 1545, signed, atlas from the second phase with Baja California and England/Scotland as two islands; blank armorial cartouche, table of declination, armillary sphere, zodiac, twelve maps with one map of the world in oval projection; closed 29.5 × 21.75 cm).¹¹⁵

Venice, Museo Correr, Port. 1, inventory cl. XLIVa n. 0001 (September 1, 1553, signed, atlas from the third phase with Baja California and England/Scotland united as a single island; cosmographical-astronomical synopsis, table of declination, armillary sphere, zodiac, twenty-nine maps with one map of the world in oval projection, compass; closed 49.2 × 29.4 cm).¹¹⁶

110 Wagner, "The Manuscript Atlases of Battista Agnese," no. 38; Van Duzer, "Storia delle Azorre," 98f.; Barber, "An Atlas for a Young Prince," 98.

111 Wagner, "The Manuscript Atlases of Battista Agnese," no. 2.

112 Wagner, "The Manuscript Atlases of Battista Agnese," no. 22; Van Duzer, "Storia delle Azorre," 98.

113 Wagner, "The Manuscript Atlases of Battista Agnese," no. 3.

114 Wagner, "The Manuscript Atlases of Battista Agnese," no. 56; Van Duzer, "Storia delle Azorre," 100; facsimile Falchetta 1996.

115 Wagner, "The Manuscript Atlases of Battista Agnese," no. 37.

116 Wagner, "The Manuscript Atlases of Battista Agnese," no. 55; Guglielmo Cavallo, *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica*, vol. 2 (Rome: Istituto

Venice, Museo Correr, Port. 2, inventory cl. XLIVa n. 0002 (around 1550, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, coat of arms of the Tron family, armillary sphere, zodiac, fourteen maps with one map of the world in oval projection, compass; closed 39.4 × 28 cm).¹¹⁷

Venice, Museo Correr, Port. 3, inventory cl. XLIVa n. 0003 (around 1536, atlas from the first phase without Baja California; table of declination, zodiac, eight maps with one map of the world in oval projection; closed 44.8 × 31 cm).¹¹⁸

Venice, Museo Correr, Port. 31, inventory cl. XLIVa n. 0031 (1536–1540, atlas from the first phase without Baja California; table of declination, zodiac with 1536, ten maps with one map of the world in oval projection; closed 23.5 × 16.4 cm).¹¹⁹

Venice, Museo Correr, Port. 32, inventory cl. XLIVa n. 0032 (1536–1540, atlas from the first phase without Baja California; table of declination, zodiac with 1536, seven maps; closed 42.8 × 29.5 cm).¹²⁰

Vienna, Österreichische Nationalbibliothek, Cod. Ser. n. 2630 Han (around 1542–1552, atlas from the second phase with Baja California and England/Scotland as two islands; blank armorial cartouche, table of declination, armillary sphere, zodiac, twelve maps with one map of the world in oval projection, compass; closed 22 × 16 cm).¹²¹

Vienna, Österreichische Nationalbibliothek, Cod. Ser. n. 12879 Han (around 1542–1552; atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection).

Vienna, Österreichische Nationalbibliothek, Cod. Vindobonensis Palatinus 623 (around 1542/43, February 15 [. . .], signed, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, twelve maps with both world maps; map image size 23.4 × 15.4 cm).¹²²

Washington, DC, Library of Congress, Port. Ch. 5 (around 1543, atlas from the second phase with Baja California and England/Scotland as two islands;

Poligrafico e Zecca dello Stato, 1992), 717–24; Van Duzer, “Storia delle Azzorre,” 99; *Carte da navigar*, ed. Biadene, no. 11; facsimile 1990.

117 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 48; *Carte da navigar*, ed. Biadene, no. 10.

118 *Carte da navigar*, ed. Biadene, no. 7.

119 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 8; *Carte da navigar*, ed. Biadene, no. 8.

120 *Carte da navigar*, ed. Biadene, no. 9.

121 Facsimile Mazal and Pagani 1980.

122 Wagner, “The Manuscript Atlases of Battista Agnese,” no. 19.

coat of arms of Hieronymus Ruffault, abbot of Saint-Vaast in Arras, table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection, compass; closed 21 × 14.5 cm).¹²³

Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 100 Aug. 2o (July 1, 1514, signed; a nautical chart with the Mediterranean, Europe, and North Africa; 55 × 86 cm).

Wolfenbüttel, Herzog August Bibliothek, Cod. Guelf. 4.1 Aug. 4o (around 1545–1550, atlas from the second phase with Baja California and England/Scotland as two islands; table of declination, armillary sphere, zodiac, ten maps with one map of the world in oval projection, cosmographical-astronomical synopsis; closed 25.5 × 17.9 cm).¹²⁴

Zurich, Zentralbibliothek, Ms. C-48-704 (sixteenth century, atlas from the third phase with Baja California and England/Scotland united as a single island; blank armorial cartouche, armillary sphere, three maps, table of declination, zodiac, eleven further maps with both world maps; closed 34 × 24 cm).¹²⁵

123 Wagner, "The Manuscript Atlases of Battista Agnese," no. 33; Lawrence Martin, "A Rare Agnese Atlas," *Library of Congress Quarterly Journal of Current Acquisitions* 1, no. 2 (1944): 25–28, reprint as "A Manuscript Atlas by Battista Agnese," in *A la carte: Selected Papers on Maps and Atlases*, compiled by Walter W. Ristow (Washington: Library of Congress, 1972); Van Duzer, "Storia delle Azzorre," 98.

124 Wagner, "The Manuscript Atlases of Battista Agnese," no. 42; Otto von Heinemann, *Katalog der Augusteischen Handschriften* (Kataloge der Herzog-August-Bibliothek Wolfenbüttel 7) (Frankfurt am Main: Klostermann, 1966).

125 *Katalog der Handschriften der Zentralbibliothek Zürich*, ed. Ernst Gagliardi and Ludwig Forrer, vol. 2, *Neuere Handschriften seit 1500* (Zurich: Zentralbibliothek, 1982).

Chapter 10

Cartography as Politics: The Topographic Land Survey in Hesse around 1600

The advances in geodesy and cartography made in Saxony under Elector Augustus (1553–1586) and his successors, Christian I (1586–1591), Christian II (1591–1611), and John George I (1611–1656) were not unique; many other German rulers are known to have rivaled these achievements. Imperial and regional princes, both secular and ecclesiastical, developed the need to survey their dominions and represent them in the medium of the map. They ordered the manufacture of technically complex, elaborately crafted survey instruments, and were eager to use the latest geometric, mathematical, and cartographic methods. The aim was to accelerate the consolidation of power in their own territories, and to utilize the new knowledge for legal, military, tax-related, and administrative purposes. Surveying and mapping the terrain was a good way to assess the scope of governmental measures and to improve the administration's access to the territory. And it was becoming increasingly clear that purely textual descriptions of the terrain and statistical records without any graphical presentation were no longer sufficient to meet these growing needs.

The following essay explores these issues with specific reference to the Landgraviate of Hesse-Kassel, with a particular focus on the court cartographer Wilhelm Dilich.¹ Sooner or later, nearly all rulers felt the need to survey and map their lands.² Even princes of the church such as the archbishop of Trier, Johann von der Leyen, turned to cartographers such as the young Arnold Mercator to obtain a graphic visualization of the possessions to which they laid claim – in this

1 Cf. *Wilhelm Dilich: Landtafeln hessischer Ämter zwischen Rhein und Weser 1607–1625*, ed. Ingrid Baumgärtner, Martina Stercken and Axel Halle (Schriftenreihe der Universitätsbibliothek Kassel 10) (Kassel: Kassel University Press, 2011); Ingrid Baumgärtner, “Wilhelm Dilich und die Landtafeln hessischer Ämter,” in *Wilhelm Dilich*, ed. Baumgärtner et al., 9–35; *Wilhelm Dilichs Landtafeln hessischer Ämter zwischen Rhein und Weser: Nach den Originalen in der Landesbibliothek in Kassel, im Staatsarchiv zu Marburg und im Landgräflichen Archiv zu Philippsruhe auf 24 meist farbigen Tafeln und Doppeltafeln mit 16 Abbildungen im Text*, ed. Edmund Stengel (Marburg: Elwert'sche, 1927); Edmund Stengel, “Wilhelm Dilichs Landtafeln hessischer Ämter zwischen Rhein und Weser,” *Zeitschrift des Vereins für hessische Geschichte und Landeskunde* 70 (1959): 150–201 or 486–537.

2 Cf. Axelle Chassagnette, “Mesurer et décrire: Savoir géographique et cartographie dans l'espace germanique protestant (des années 1530 aux années 1620),” *Revue de l'Institut français d'histoire en Allemagne* 2 (2010): 194–200.

case the Benedictine abbey of Prüm around 1558.³ This required the collection and spatial analysis of mathematical and engineering data on real-life topography. As a consequence, practical geometry created new spatial navigational technologies, which had an impact not only on cartography, but also on the fields of navigation and military technology.

Standardized instruments were the prerequisite for standardized maps, spaces, and buildings. Wolfgang Schäffner conceptualized early modern fortresses as diagrammatic forms of operation, presenting multilayered models of space: on the one hand, they protected their inhabitants from attacks by means of isolation; on the other, their outward effect allowed them to establish political orders, create infrastructures, and organize local administrative areas.⁴ Maps functioned in a similar manner. On paper, the spatial configurations became not only visible, but also more readily administered and therefore controlled. Graphics, measurement instruments, and technologies were media that created or at least developed potential areas for politics and administration. Here cartography was supported by other disciplines such as optics, astronomy, and military technology. The surveying of space was linked to the measurement of time. Elaborate sundials and quadrants, magnetic compasses and odometers, pedometers and sectors supplemented traditional instruments such as drawing compasses, the right-angled triangle, and the astrolabe. The objects gathered and exhibited in cabinets of arts and curiosities at the princely courts embodied this growing knowledge. They also represented the mastery of technology and the measurability of the world.

The following discussion focuses on the significance of early modern scientific land surveying and mapping within the web of politics and history. The aim is to use the example of the Hessian landgraviate in the decades around 1600 to

³ Cf. Fritz Hellwig, "Zur älteren Kartographie der Saargegend," *Jahrbuch für westdeutsche Landesgeschichte* 3 (1977): 193–228; Jürgen Hartmann, "Die Moselaufnahme des Arnold Mercator: Anmerkungen zu zwei Karten des Landeshauptarchivs Koblenz," *Jahrbuch für westdeutsche Landesgeschichte* 5 (1979): 91–102; Roland Geiger, "Die Ämter des Erzbistums Trier zwischen Mosel und Blies: Eine Kartenaufnahme von Arnold Mercator aus dem Jahre 1566 in einer 'Kopie' von Peter Balthasar von 1776," *Heimatbuch des Landkreises St. Wendel* 26 (1994): 125–30; Peter H. Meurer, "Les fils et petits-fils de Mercator," in *Gérard Mercator cosmographe: Le temps et l'espace*, ed. Marcel Watelet (Antwerp: Fonds Mercator Paribas, 1994), 370–85; for the later copy in Jan van Schilde's atlas see Meurer, "Die 'Trevirensis episcopatus exactissima descriptio' des Jan van Schilde: Analysen zur ältesten gedruckten Karte von Kurtrier," in *Aktuelle Forschungen aus dem Fachbereich VI Geographie/Geowissenschaften*, ed. Roland Baumhauer (Trier: Geographische Gesellschaft Trier, 1997), 285–300.

⁴ Cf. Wolfgang Schäffner, "Diagramme der Macht: Festungsbau im 16. und 17. Jahrhundert," in *Politische Räume: Stadt und Land in der Frühneuzeit*, ed. Cornelia Jöchner (Hamburger Forschungen zur Kunstgeschichte 2) (Berlin: Akademie Verlag, 2003), 133–65.

illustrate the project of systematic land surveying and land description, paying special attention to the interdependence of politics and cartography. The first step is to consider the Hessian maps in their political context, the second is to study the interactions between surveying and mapping, and the third is to consider the legitimization of power at the interface between geographic representation and history.

Politics and Cartography

When Landgrave Maurice of Hesse-Kassel (“Maurice the Learned”) came to power in 1592, he soon realized that his policy of territorial consolidation faced various risks. The inheritance disputes with the other lines of the landgrave’s family were constantly reigniting, the frictions with the neighboring territories were never-ending, and Maurice’s first major military intervention, on the Lower Rhine in 1598/99, was a dismal failure. Splendid court festivities, the sponsorship of science, and an extravagant courtly household overtaxed his country’s finances, leaving little scope for the necessary defensive measures. Not always blessed with success in his political and military actions, the landgrave sought other strategies to support his expansionist territorial policies.

Historiography and cartography seemed to offer a way to justify the expansion of the landgraviate to its furthest possible limits, and to substantiate Kassel’s inheritance claims against those of Hesse-Darmstadt after the extinction of the Hesse-Marburg line (1604). Maurice therefore commissioned various works whose aim was to provide supporting arguments for his territorial policy. This objective was to be achieved by Wilhelm Scheffer, known as Dilich, born in Wabern around 1571/72, who was appointed to the court in 1592 after his studies in Wittenberg.⁵ One of the works commissioned was the *Hessische Chronica*, printed in 1605,⁶ another the hand-drawn *Landtafeln hessischer Ämter zwischen Rhein und Weser*. Begun in 1607 on the basis of Maurice’s own plans, this project was intended to

5 Cf. Horst Nieder, *Wilhelm Dilich (um 1571–1650): Zeichner, Schriftsteller und Kartograph im höfischen Dienst* (Materialien zur Kunst- und Kulturgeschichte in Nord- und Westdeutschland 28) (Lemgo: Weserrenaissance-Museum Schloss Brake, 2002), 10f.; Horst-Peter Bertinchamp, “Wilhelm Dilich, ein hessischer Topograph in sächsischen Diensten (1625–1650),” *Sächsische Heimatblätter: Zeitschrift für sächsische Geschichte, Denkmalpflege, Natur und Umwelt* 34, no. 1 (1988): 31f.; Holger Thomas Gräf, “Dilich, Wilhelm,” in *Kassel Lexikon*, vol. 1, A–K (Kassel: Euro-geo-verlag, 2009), 139f.; Baumgärtner, “Wilhelm Dilich.”

6 Cf. Wilhelm Dilich, *Hessische Chronica*, 2 vols. (Kassel: Wilhelm Wessel, 1605); reprint ed. Wilhelm Niemeyer (Kassel: Bärenreiter, 1961).

include a total of 174 maps showing general overviews, the whole country, individual districts, and other specific subjects. Both the *Chronica* and the *Landtafeln* were works of great power, although the hand-colored pen drawings of the map anthology were only partially completed by the time Dilich ceased to work on them over ten years later (in 1617/1625). Both publications, however, had limited success in reaching a wider audience, not least because of the rapid changes in the political situation and numerous personal, financial, and political differences.

The illustrated chronicle was a two-volume topographical description of Hesse containing maps, cityscapes, and a history of the inhabitants. Published by the court press, the Wesselsche Druckerei in Kassel, it had run to four editions by 1617. The text describes a territory with an apparently long-established history and a broad geographical reach, extending as far as the Rhine, the Neckar, the Thuringian Forest, and the Weser. It thus presents an expanded version of Hesse, incorporating the Wetterau counties and parts of the Electoral Palatinate. This alone was enough to ensure that it would meet with massive opposition.

The *Landtafeln*, begun in 1607, were intended to elaborate this agenda. The idea of the land survey was to increase awareness of the political coherence of the fragmented area. The landgrave therefore set out 136 points, precisely enumerating his wishes. He prescribed which areas his cartographer was to include, and in what size. He wanted three small-scale general plates of the lower and upper principality of Hesse-Kassel with the counties of Katzenelnbogen and Ziegenhain; eight general plates of the areas (described as *Quartiere*) on the rivers Diemel, Werra, Fulda, Schwalm, Lahn, and Eder, in Waldeck, and in the lower county of Katzenelnbogen; around fifty-eight maps of administrative districts (*Ämter*) and bailiwicks (*Vogteien*); and around 105 large-scale special plates of individual localities.⁷ Dilich worked intensively on this enormous challenge from 1607 to 1609, only occasionally from 1611 to 1617, and hardly at all between then and 1625. As a result, the *Landtafeln* ultimately remained an incomplete collection of varying consistency.

The project had been underestimated by all those involved, and the duration and costs rose continuously. Suspended and arrested in 1617, the land surveyor was nonetheless able to secure his release from prison by promising the impossible: to finish the maps at his own expense. The disputes ended in March 1625, when Dilich fled to the court of John George I of Saxony. The move to Dresden, facilitated by the upheavals of the Thirty Years War (1618–1648), brought a change

7 Cf. Hessisches Staatsarchiv Marburg (hereafter HStAM), Bestand 17 d, Dilich 1, fols. 10r–13v with the incompletely preserved “Verzeichnus derer general und spezial landttaffeln, so unser verordender geographus Wilhelm Dilichius verfertigen soll.” Cf. Stengel, “Wilhelm Dilichs Landtafeln,” 1959, 165–68 or 501–4.

in Dilich's professional profile, from cartographer to fortification engineer.⁸ After preparing initial plans for the design of the great hall in the royal palace in Dresden,⁹ he dedicated both his theoretical writings and his practical building work, until his death in 1650, to military technology and fortress construction. These were the most urgent tasks facing Saxony in the stormy years it experienced from 1635 onwards, after its change of allegiance to the Catholic, imperial side.

The surveying and mapping for the Hessian *Landtafeln* were under the direct supervision of the landgrave, who decided personally in what order the territories were to be included. Given the political objective, it was not surprising that Dilich, upon receiving his mandate on September 1, 1607, did not begin his work with the core areas of the landgraviate, but with the former county of Katzenelnbogen and a few enclaves further to the north in the Hessian Rhine areas (Fig. 10.1).¹⁰ The Katzenelnbogen possessions, positioned strategically on the Rhine, had been brought into the landgraviate in 1479 by Anna, wife of Henry III of Hesse and daughter of Philip the Elder of Katzenelnbogen. At the estate settlement after the death of the childless Philip II (the Younger) of Hesse-Rheinfels (1567–1583), the territories had passed to his brother William IV of Hesse-Kassel. The splendid castles and palaces included the mighty spur castle of Rheinfels (the landgrave's main fortress on the Rhine),¹¹ Neukatzenelnbogen,¹²

8 Cf. Nieder, *Wilhelm Dilich*, 72–82; Eva-Maria Seng, *Stadt – Idee und Planung: Neue Ansätze im Städtebau des 16. und 17. Jahrhunderts* (Berlin: Deutscher Kunstverlag, 2003), 124; Baumgärtner, “Wilhelm Dilich,” 23f.

9 Cf. Seng, *Stadt*, 38–42; *Wilhelm Dilich, Federzeichnungen kursächsischer und meissnerischer Ortschaften aus den Jahren 1626–1629*, ed. Paul Emil Richter and Christian Krollmann, 3 vols. (Dresden: C.C. Meinhold und Söhne, 1907).

10 Cf. Ingrid Baumgärtner, “Landtafeln hessischer Ämter zwischen Rhein und Weser” (article on Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2° Ms. Hass 679, fol. 19 Burg Hohenstein; fol. 33 Amt Reichenberg, Amt Rheinfels und St. Goarshausen; fols. 34–35 Neukatzenelnbogen; fol. 36 Stadt und Pfandschaft Rhens mit Königsstuhl), in *Burg und Herrschaft: Eine Ausstellung des Deutschen Historischen Museums Berlin*, ed. Rainer Atzbach, Sven Lücken and Hans Ottomeyer (Dresden: Sandstein, 2010), 77–79, no. 3.18 a-e. The mandate or patent is found in HStAM, Bestand 17 d, Dilich 1.

11 Cf. Melanie Panse, “Schloss Rheinfels,” in *Wilhelm Dilich*, ed. Baumgärtner et al., 86–93, nos. 3–6 on fols. 22–25; Karl E. Demandt, *Rheinfels und andere Katzenelnbogener Burgen als Residenzen, Verwaltungszentren und Festungen 1350–1650* (Darmstadt: Hessische Historische Kommission, 1990), 407–11; Eduard Sebald, “Rheinfels in Farben: Wilhelm Dilichs Borgan-sichten,” *Baudenkmäler in Rheinland-Pfalz* 58 (2003): 11–16 at 11.

12 Cf. Susanne Schul, “Burg Katz,” in *Wilhelm Dilich*, ed. Baumgärtner et al., 94–101, nos. 7–10 on fols. 34–35 and 50–51.

Reichenberg,¹³ and Hohenstein, which was not directly on the Rhine.¹⁴ The years around 1608/09 also saw the mapping of the associated administrative districts of Rheinfels, including the bailiwick of Pfalzfeld¹⁵ and Reichenberg.¹⁶ Situated at the outermost borders of the landgraviate, and coveted by powerful neighbors such as the archbishoprics of Trier and Mainz and the county of Nassau, these territories – which changed hands repeatedly during Hessian estate settlements – were fundamentally threatened. Far away from the central areas of Lower Hesse, they were not easy to control from Kassel.



Fig. 10.1: Rhine-Main area of the Landgraviate of Hesse-Kassel, map by Lutz Münzer; *Wilhelm Dilich*, ed. Baumgärtner, Stercken and Halle, endpapers.

The desire to survey and map these important lands and fortresses was not new. Immediately after taking possession of the lower county, Maurice's father, Landgrave William IV of Hesse-Kassel, had ordered an assessment of its geographical

¹³ Cf. Vanessa Schmidt, "Burg Reichenberg," in *Wilhelm Dilich*, ed. Baumgärtner et al., 102–13, nos. 11–16 on fols. 27–32.

¹⁴ Cf. Stefan Schröder, "Schloss Hohenstein," in *Wilhelm Dilich*, ed. Baumgärtner et al., 138–47, nos. 29–33 on fols. 15–19.

¹⁵ Cf. Bettina Schöller, "Amt Rheinfels und Vogtei Pfalzfeld," in *Wilhelm Dilich*, ed. Baumgärtner et al., 84f., no. 2 on fol. 21.

¹⁶ Cf. Bernd Giesen, "Amt Reichenberg, Amt Rheinfels und St. Goarshausen," in *Wilhelm Dilich*, ed. Baumgärtner et al., 82f., no. 1 on fol. 33.

characteristics. To present the results in a way that was useful for administration, William had employed the mathematically and artistically gifted Arnold Mercator, son of the famous Gerardus, who immediately devoted himself to the assignment. In March 1584, perhaps as a sample, Arnold began by drawing the territory of the Hospital Gronau; the map was later added to the Gronau *Salbuch* (register of land ownership, taxation, and services) of 1587.¹⁷ In June 1584 he received further instructions on how he was to proceed in the administrative district of Rheinfels, and what support he would receive. The highly knowledgeable landgrave, who was away in Braubach at the time, sent his orders by letter to the local government official.¹⁸ It must be noted, however, that these Rhineland studies have not been preserved. Indeed their cartographic output was already missing in 1630, and we do not know whether it was still available to Dilich.

Ultimately the topographical survey was intended to take in the full geographical extent of Hesse. This was the third task assigned to Arnold Mercator, in March 1585. Again, this was not without precedent: there was, for example, the first printed map produced by the Marburg astronomer and mathematician Johannes Dryander (1500–1560), an overview without great detail.¹⁹ Sebastian Münster had used this in 1540 for the fourth map of the Rhine in his Latin edition of Ptolemy's *Geographia*. Ten years later he had included it as a woodcut in his *Cosmographia*, the first time it had been published in its entirety. Even Abraham Ortelius made use of Dryander's map in 1579. Up till then, it must be said, all the attempts of local cartographers to map the Hessian dominion had been unable to progress beyond either a general overview or close details. For example, Joist Moers of Korbach (d. 1625), active from around 1572, did not get any further than surveying individual properties in Waldeck and the environs of Kassel.²⁰ In

17 Cf. Kurt Köster, "Die Beziehungen der Geographenfamilie Mercator zu Hessen," *Hessisches Jahrbuch für Landesgeschichte* 1 (1951), 171–92 at 172f.

18 Cf. Köster, "Die Beziehungen," 180.

19 Cf. Fritz Wolff, *Kartographen – Autographen* (Marburg: Das Archiv, 1990), 30–35 at 6–9 for Dryander, 14–17 for the son and grandson of Gerhard Mercator; Fritz Woff and Werner Engel, *Hessen im Bild alter Landkarten* (Marburg: Hessisches Staatsarchiv, 1988); Martina Stercken, "Repräsentation, Verortung und Legitimation von Herrschaft: Karten als politische Medien im Spätmittelalter und in der Frühen Neuzeit," in *Wilhelm Dilich*, ed. Baumgärtner et al., 37–52 at 44f. with Fig. 6.

20 Cf. Karl Schäfer, "Leben und Werk des Korbacher Kartographen Joist Moers," *Geschichtsblätter für Waldeck* 67 (1979): 123–77; Werner Engel, "Joist Moers im Dienste des Landgrafen Moritz von Hessen," *Hessisches Jahrbuch für Landesgeschichte* 32 (1982): 165–73; Winfried Wroz, "Der hessische Landmesser Joist Moers und seine Karte des Kaufunger Waldes (um 1590)," *Mitteilungen des Vereins für hessische Geschichte und Landeskunde* n.s. 26 (1993): 9–13, map 20f.

contrast, Heinz Markgraf of Frankenberg (d. 1604)²¹ concentrated on small-scale images in Upper Hesse. Even the output of Arnold Mercator, who died young in 1587, was ultimately very limited, although his son Johann continued the undertaking until the death of William IV in 1592. Of this work, only a single map of Lower Hesse has been preserved in the Hessisches Staatsarchiv Marburg, incomplete but colored and of high quality.²² As early as December 1604, however, the landgrave's councilors were searching in vain for Mercator's large *Landtafel* of Hesse, and the map of Upper Hesse. In fact, we do not know whether the latter actually ever existed.²³

Such maps were occasionally accompanied by measures to record rights of sovereignty and use, such as land descriptions, registers of possessions and income for individual estates, boundary records, or written registrations of certain goods. One example is Dilich's *Hessische Chronica*; another is the inventory of the furniture and household goods at Rheinfels, produced when the office of the burgrave was about to change hands in 1607. The instigator was the chief bailiff (*Oberamtmann*) Otto Wilhelm von Berlepsch, who administered this imperiled area on the Rhine and was a loyal servant to the landgrave. Dilich's mapping of the open and forested areas of the judicial district (*Gericht*) of Jesberg at the foot of the Kellerwald had been preceded by earlier stocktaking exercises: records of border inspections and a *Salbuch* which Landgrave William IV had had produced in 1585/86. An accompanying map by Joist Moers had already recorded the position of boundary markers and the names of open and wooded areas, though the later surveys of 1613 diverged from these in some cases.²⁴

Dilich also quickly tackled the mapping of the village of Hollnich on the left bank of the Rhine, a small Hessian exclave in northeastern Hunsrück.²⁵ Its isolated, marginal position explains the efforts made to produce drawings in support of its incorporation into Hesse. The same goes for the two politically disputed

21 Cf. Wolff, *Kartographien*, 6–9 for Dryander, 24–27 for Joist Moers, and 28f. for Heinz Markgraf.

22 Cf. HStAM, Karten R II Nr. 28 in large format (dimensions: 138 × 173.5 cm) and poor state of preservation; detail included in Wolff and Engel, *Hessen im Bild*, 8.

23 Cf. HStAM, Bestand 17 d, Dilich 1, fol. 5; *Wilhelm Dilichs Landtafeln*, ed. Stengel, 1927, 22 no. 1.

24 Cf. Bernd Giesen, "Gericht Jesberg 1613," in *Wilhelm Dilich*, ed. Baumgärtner et al., 172f., no. 46 on fol. 2, dated to 1613; Joist Moers, *Das Amt Jesberg*, HStAM, Bestand 17e Jesberg Nr. 61; Fritz Wolff, "Der frühneuzeitliche Wald in der Kartographie," in "Weil das Holz eine köstliche Ware . . .": *Wald und Forst zwischen Mittelalter und Moderne*, ed. Andreas Hedwig (Marburg: Hessisches Staatsarchiv, 2006), 39–58 at 46–48 (Moers) and 52–54 (Dilich).

25 Cf. Bernd Giesen, "Hollnich im Hunsrück," in *Wilhelm Dilich*, ed. Baumgärtner et al., 114f., no. 17 on fol. 20.

Rhine areas situated even further to the north. The first was Rhens, a town and pledge-holding (*Pfandschaft*) on the left bank of the Rhine.²⁶ Pledged to Philip of Katzenelnbogen in 1445, it had passed to Hesse in 1479. In 1629 the pledge reverted to the archbishopric of Cologne, to which the town had traditionally belonged. The second was the district of the town of Braubach²⁷ on the right bank of the Rhine, containing the Marksburg²⁸ and the Philippsburg palace.²⁹

In these productive years up to the end of 1609, Dilich probably produced a total of thirty-eight largely true-to-scale plates on strategically important territories in the exposed western border region. He supplied the impatient Maurice with brief interim reports, referred to as *Memorial*. On December 16, 1608, for example, he reported from Marburg that, of the forty-five plates planned for the county of Katzenelnbogen, the only ones missing were the judicial district of Katzenelnbogen itself, the pledge-holding of Limburg, Ems, and a small proportion of the administrative district of Reichenberg, a territory with three rulers. He expected to deliver these within a month, however.³⁰ The landgrave replied ten days later from Eschwege, saying that it would have been better if Dilich had hurried more. He now gave the instruction to omit Ziegenhain and begin with the mapping of the upper principality.

The situation was also politically volatile in the lordship (*Herrschaft*) of Eppstein and the judicial district of Liederbach (Fig. 10.2),³¹ isolated exclaves in the disputed Rhine-Main area, and within the Wetterau sphere of influence. These were also areas that Hesse-Kassel had only gained in 1604, after Louis IV of Hesse-Marburg had died without an heir. Given the existence of numerous rival powers within a very small area, Landgrave Maurice immediately used all possible means to try to assert his rights against the archbishopric of Mainz, the imperial city of Frankfurt, and the county of Nassau. Records of Dilich's food expenses even suggest that the surveys began in the lordship of Eppstein.³² There are also aspects of

²⁶ Cf. Bernd Giesen, "Stadt und Pfandschaft Rhens," in *Wilhelm Dilich*, ed. Baumgärtner et al., 116f., no. 18 on fol. 46.

²⁷ Cf. Rebekka Thissen-Lorenz, "Bezirk der Stadt Braubach," in *Wilhelm Dilich*, ed. Baumgärtner et al., 118f., no. 19 on fol. 36.

²⁸ Cf. Rebekka Thissen-Lorenz, "Marksburg," in *Wilhelm Dilich*, ed. Baumgärtner et al., 120–29, nos. 20–24 on fols. 41–45.

²⁹ Cf. Mareike Kohls, "Philippsburg," in *Wilhelm Dilich*, ed. Baumgärtner et al., 130–37, nos. 25–28 on fols. 37–40.

³⁰ HStAM, Bestand 17 d, Dilich 1, fols. 8–9; *Wilhelm Dilichs Landtafeln*, ed. Stengel, 1927, 22 no. 2.

³¹ Cf. Ralph A. Ruch, "Herrschaft Eppstein, Gericht Liederbach," in *Wilhelm Dilich*, ed. Baumgärtner et al., 150–57, nos. 35–37 on fols. 47–49, no. 38 on fol. 13.

³² Cf. Nieder, *Wilhelm Dilich*, 62.

content that support such an assumption: the Upper Hessian claims to power manifested in Dilich's *Chronica* had so inflamed the smoldering conflict with the independent imperial estates of the Wetterau that the Nassaus obliged the Electoral Palatine councilor Marquard Freher to compose a refutation. This astute work was published in the spring of 1608 after several revisions. Landgrave Maurice had his spies buy the whole print run, and simultaneously pushed the relatively unknown *Hessische Chronica* onto the market, the work that had triggered the geopolitical controversies between Kassel and Nassau in the first place. This is clear evidence of the determination with which Maurice pursued his political goals of territorial consolidation. It seems that he had already sent his geographer to this exposed outer district in 1607: Dilich's mission was to send back local knowledge facilitating the appropriation of the territory, and to complete the task with a strategic cartographical annexation.

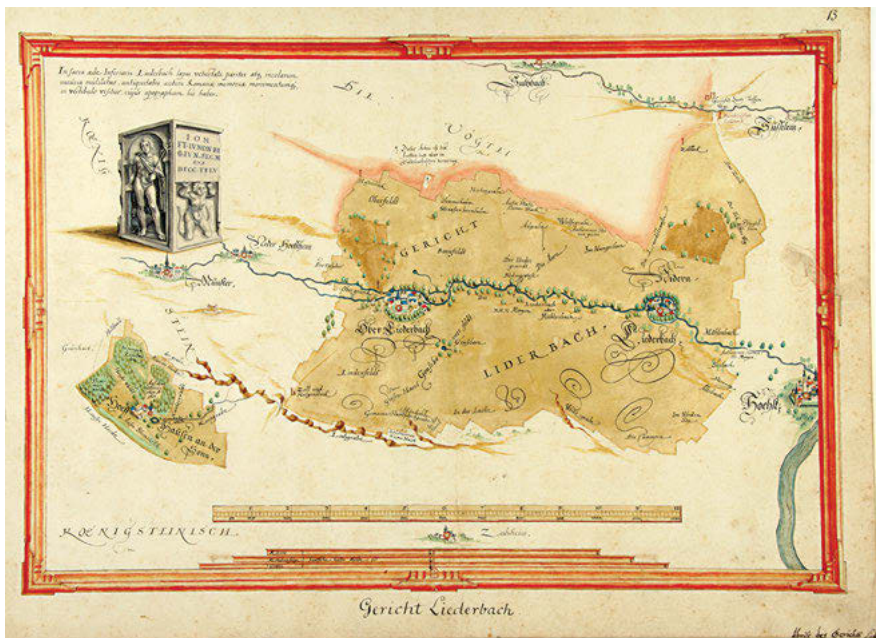


Fig. 10.2: Wilhelm Dilich, judicial district of Liederbach (Gericht Liederbach); Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2o Ms. Hass. 679, fol. 13. Creative Commons 4.0.

A cartographer could potentially risk life and limb surveying external borders, as an episode from February and March 1609 shows. Dilich had traveled to the

Hessian exclave of Auburg in the far northeast of the landgraviate on the orders of his master. Hesse-Kassel had taken over this bailiwick (*Amtsvogtei*), formerly part of the Lüneburg county of Diepholz, after the death of Count Frederick of Diepholz in 1585. Here a dispute over territorial sovereignty had broken out with Philip William of Cornberg, who had inherited Auburg as the illegitimate son of Landgrave William IV. Probably on his orders, Lüneburg soldiers arrested Dilich on his way back. The surveyor was suspected of espionage and of crossing district borders in the course of his surveying. He feared for his life. In order to be released, he had to hand over all his notes and declare in writing that he would not use the results of his research against Brunswick-Lüneburg.³³

Elaborate surveying works on foreign territory could hardly remain concealed. In September 1616 the landgrave had ordered that surveys should be carried out in Plesse, a Hessian exclave in the territory of Brunswick, which had passed to William IV as a fiefdom in 1571. The bailiff of Plesse, Barthold Wintherst, therefore turned to the chancellery and councilors in Kassel to ask whether he should obtain permission from the Brunswick side before the border inspections, or whether such a request was deemed unnecessary.³⁴ It is obvious that difficulties were to be expected: arbitration over a disputed woodland in the border area had ended with a finding in favor of Brunswick, but Hesse was eager to describe the lordship of Plesse in its former extent. Brunswick would hardly have agreed to new surveys.

In view of such dangers, it is understandable that the land surveyor ensured he had princely backing at every step. When Dilich was about to begin the laborious task of surveying the lowlands of the Schwalm river in Ziegenhain³⁵ in 1611 (Fig. 10.3), the central position in the southern part of North Hesse offered a certain protection. Nonetheless, he asked the landgrave's personal physician, Dr. Hermann Wolff, to ask his master whether he should survey only the county as a territory, or also the palace and fortress, with floor plans and elevations.³⁶ A significant factor in this area was the influence of the old imperial abbey of Hersfeld,

33 Cf. Marburg HStAM, Bestand 17 d, Dilich 1, fol. 16 and fol. 17; *Wilhelm Dilichs Landtafeln*, ed. Stengel, 1927, 22 nos. 3–4; Stengel, "Wilhelm Dilichs Landtafeln," 1959, 170f.; Nieder, *Wilhelm Dilich*, 64.

34 Cf. *Wilhelm Dilichs Landtafeln*, ed. Stengel, 1927, 23 no. 10.

35 Cf. Christina Posselt, "Schloss Ziegenhain," in *Wilhelm Dilich*, ed. Baumgärtner et al., 168f., no. 44 on fol. 1; Hartmut Broszinski, "Wilhelm Dilich: Landtafeln hessischer Ämter zwischen Rhein und Weser 1607–1622," in Broszinski, *Kasseler Handschriftenschatze* (Pretiosa Casselana) (Kassel: Stauda, 1985), 97–102, no. 16, here 99; Stengel, "Wilhelm Dilichs Landtafeln," 1959, 171f.; Nieder, *Wilhelm Dilich*, 64.

36 Cf. Marburg HStAM, Bestand 17 d, Dilich 1, fol. 20; *Wilhelm Dilichs Landtafeln*, ed. Stengel, 1927, 23 no. 7 of May 3, 1611; Christian Krollmann, "Wilhelm Dilich. Zur Einführung in sein

where Maurice had been able to install his eldest son, Otto, as the administrator in 1606. This allowed him to more or less incorporate the abbey into the landgraviate. The map of Ziegenhain was therefore intended – like the drawings of the judicial districts of Wallenstein and Neuenstein³⁷ – to reflect the increase in power that the landgraves had achieved by successfully repressing the traditional claims of the imperial abbey in this region, and dividing the originally united area of Wallenstein-Neuenstein into two judicial districts.

The landgraves William IV and his son Maurice indisputably used cartography as a political instrument, to secure border regions and claim exclaves, to gain an overview over their possessions, and, above all, to incorporate their growing new acquisitions into the Hessian government and administration. The *Landtafeln* offered an excellent basis for the reorganization of administrative and economic structures. The project was only partially successful, however: surveying the whole country was too time-consuming to allow spontaneous reactions to volatile situations, and the impatient Maurice lacked the necessary staying power. By the beginning of the Thirty Years War in 1618, other demands such as defense and fortress construction had taken center stage. Eventually the whole undertaking became irrelevant with the end of the Marburg inheritance dispute in 1623/26: Hesse-Kassel was forced to relinquish the entire lower county of Katzenelnbogen – including the two castles of Reichenberg and Rheinfels and the attached administrative districts – to the Hesse-Darmstadt line, which had been loyal to the imperial cause.

Surveying and Mapping

It has long been common knowledge that the landgraves of Hesse promoted the sciences at their court, and that they used cartography to serve their purposes. As early as 1558, Melancthon is said to have asked the young landgrave's son William

Werk," in *Rheinische Burgen nach Handzeichnungen Dilichs (1607)*, ed. Carl Michaelis (Berlin: Ebhardt, 1900), 1–13 at 7; Wolff, *Kartographien*, 32–33.

³⁷ Cf. Rebekka Thissen-Lorenz, "Gerichte Neuenstein und Wallenstein," in *Wilhelm Dilich*, ed. Baumgärtner et al., 158–61, nos. 39–40 on HStAM, Karte P II 15604 and a missing folio, previously Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, Karte A 11 [64]; Bettina Schöller, "Gericht Wallenstein 1611, Gericht Neuenstein," in *Wilhelm Dilich*, ed. Baumgärtner et al., 162–65, nos. 41–42 on fol. 10 and fol. 14; Fritz Fenner, *Wallenstein in Hessen: Zur Geschichte von Burg und Dorf* (Homberg: Zweigverein des Vereins für hessische Geschichte und Landeskunde, 1973), 47.



Fig. 10.3: Landgraviate of Hesse-Kassel without the Rhine-Main area, map by Lutz Münzer; *Wilhelm Dilich*, ed. Baumgärtner, Stercken and Halle, endpapers.

(later William IV) for help in producing a map of Germany.³⁸ Highly respected scientists such as the mathematician and astronomer Christoph Rothmann (d. around 1600), the instrument maker Jost Bürgi (1552–1632), and the clockmaker Eberhard Baldewein (d. 1593) gathered at the landgrave’s court in Kassel. Works

38 Cf. e.g. Jürgen Hamel, *Die astronomischen Forschungen in Kassel unter Wilhelm IV. Mit einer Teiledition der deutschen Übersetzung des Hauptwerkes von Copernicus um 1586* (Acta Historica Astronomiae 2) (Frankfurt am Main: Verlag Harri Deutsch, 2002), 1; *Der Ptolemäus von Kassel. Landgraf Wilhelm IV. von Hessen-Kassel und die Astronomie*, ed. Karsten Gaulke (Kataloge der Museumslandschaft Hessen Kassel 38) (Kassel: MHK, 2007).

by Nicolaus Copernicus and other authorities were translated. The collection of measuring instruments and tools for astronomy, fortress construction, geodesy, and cartography was of the highest standard. Bürgi's instruments were later even depicted in paintings to attribute technical knowledge and professional authority to the portrait subjects.³⁹ Wilhelm Dilich must have been personally acquainted with Bürgi: the famous metrologist was active at the Kassel court from 1579 to 1604, and returned there repeatedly in subsequent years.⁴⁰

During this drive to consolidate state power by means of geodesy and cartography, technically skilled and widely educated scholars took pains to survey the relevant territories, either for individual maps or as part of campaigns. They also devoted their efforts to mapping border conflicts accurately, and precisely documenting claims to sovereignty and possession.⁴¹ They undertook to visualize the country's geography with mountains, rivers, usable land, settlements, and individual buildings, using toponyms to concretize the area occupied by the state. Surveys were intended to pave the way for administrative measures or to replace on-site inspections when courts were required to adjudicate border disputes. The topographic land surveys in particular required systematic, large-scale surveys on the ground. The results were initially recorded in reports and sketches. Original drawings were then created and, in individual cases, reproduced in woodcuts or copperplate engravings.

Surveying was a skilled craft in its own right. It required the correct use not only of simple tools such as drawing compasses, the bearing compass, the magnetic compass, and the surveyor's chain, but also of complicated instruments. Numerous instruments for measuring height and distance have been preserved, providing evidence of the technical advances being made at the time⁴² – for

39 Cf. Baumgärtner, "Wilhelm Dilich," 24 for Sebastian Furck's portrait of Johann Wilhelm Dilich (1636), holding Jost Bürgi's universal sector in his right hand; in Nieder, *Wilhelm Dilich*, 12, wrongly labeled as a portrait of Wilhelm Dilich.

40 Cf. Bettina Schleier, "Wilhelm Dilichs Bremer Chronik," *Bremisches Jahrbuch* 73 (1994): 12–47 at 32.

41 Cf. Ute Schneider, "Geowissenschaften: Kartographie und Geodäsie," in *Raum: Ein interdisziplinäres Handbuch*, ed. Stephan Günzel in collaboration with Franziska Kümmerling (Stuttgart: J. B. Metzler, 2010), 24–33 at 24.

42 Cf. Reinhard Glasemann, *Erde, Sonne, Mond & Sterne: Globen, Sonnenuhren und astronomische Instrumente im Historischen Museum Frankfurt am Main* (Frankfurt am Main: Verlag Waldemar Kramer, 1999), esp. 137–45; Glasemann, "Dilichs Instrumente und die Befestigung von Frankfurt am Main: Die Sammlung des Historischen Museums," in *Aufsicht – Ansicht – Einsicht: Neue Perspektiven auf die Kartographie an der Schwelle zur Frühen Neuzeit*, ed. Tanja Michalsky, Felicitas Schmieder and Gisela Engel (Frankfurter Kulturwissenschaftliche Beiträge 3) (Berlin: Trafo, 2009), 387–406 at 394–97 for the shadow square and *Auftragsbussole* (an

example, protractors, mechanical cart-mounted odometers, geometric quadrants, and sectors. One such new tool was the triangulation device developed in Kassel by Jost Bürgi, which – even if its practical value is disputed among researchers – was intended to permit exact measurements of angles and distances.⁴³ The newly invented sector or proportional compass also helped to carry out complex calculations and to draw landscapes to an accurate scale. The Swiss mechanic Jost Bürgi, who built technical devices of this kind at the court in Kassel, is even said to have designed a frame for perspective drawing around 1604. It seems it was just as common to compile an image at the drawing board as it was to combine compass bearings and triangulations, gained independently in time-consuming measurement processes.⁴⁴ The increasingly specialized instruments ultimately led to geometric techniques that were useful for every kind of surveying work: in mining and hydraulic engineering, in the military field as a whole, in the design of gardens and fortifications, and in cartography.

Last but not least, precise surveying made it possible to take possession of strategically important territories and economically profitable districts. Holm Graessner has described the transformations resulting from the application of geometry to the mapping of state territories as a social process, in which traditional legal knowledge was supplemented by non-legal, empirical knowledge.⁴⁵ The measurability of the world was partly about the effort to achieve accurate representation, but also about a pragmatic focus on the readership of the maps and their modes of use. The territorial statements made by these maps should always be understood as social actions, in which the significance of the territory remains

instrument consisting of a compass and a rotating ruler for measuring and drawing angles on maps); Klaus Schillinger, “Zur Entwicklung der Vermessungsinstrumente im 16. Jahrhundert,” in *Hiob Magdeburg und die Anfänge der Kartographie in Sachsen*, ed. Rainer Gebhardt (Annaberg: Adam-Ries-Bund, 1995), 71–100.

43 Cf. Nieder, *Wilhelm Dilich*, 58–61; *Genau messen = Herrschaft verorten: Das Reißgemach von Kurfürst August, ein Zentrum der Geodäsie und Kartographie*, ed. Wolfram Dolz and Yvonne Fritz (Dresden: Deutscher Kunstverlag, 2010), with illustrations of the instruments. At the conference “Kurfürstliche Koordinaten” on January 21–22, 2011 in the Dresden Royal Palace, Karsten Gaulke demonstrated that, contrary to previous assumptions, the triangulating instrument supposedly used by Wilhelm Dilich did not produce accurate measurement results; cf. Lena Thiel, “Bericht zur Tagung ‘Kurfürstliche Koordinaten,’” in *H-Soz-u-Kult*, May 7, 2011.

44 Cf. Meurer, “Trevirensis Episcopatus,” 293–98 at 296.

45 Cf. Holm Graessner, “Punkt für Punkt: Zur Kartographie des staatlichen Territoriums vor und mit der Geometrisierung,” in *Text – Bild – Karte: Kartographien der Vormoderne*, ed. Jürg Glauser and Christian Kiening (Rombach Wissenschaften. Litterae 105) (Freiburg im Breisgau: Rombach Wissenschaft, 2007), 293–316.

negotiable.⁴⁶ The evidence of geometric lines makes it possible to understand spatial relations from a distance, and to use these to govern. Additional comments and textual inserts, coats of arms and attributions illuminated the area available for control. Their function was to contextualize the results of the surveys. They were an expression of power, of control over the fortresses, and of dominion over the land. They propagandized the appropriation of territories, legitimized their possession, and confirmed control over them.⁴⁷

Geographer and Historian – Strategies for the Legitimation of Power

If the maps commissioned by the landgraves were to fulfill their purpose, strategies had to be developed to make their claims to power visible. Cartographers such as Johann Moers and Arnold Mercator used increasing accuracy and precision as means of persuasion, and this was one of the reasons why the huge project of surveying the country exceeded their capabilities. Dilich, not just a draftsman but also a historian, tried to present a more diverse justification for Hesse's expansionist ambitions. He cultivated the interplay between textual description and visual representation, between modern metrology and time-honored history. He inserted texts and visual quotes into his *Landtafeln*, and added *vedute* and cartographic sketches to the chronicles. He used documentary evidence (for example, in the chronicle for Bremen) to reinforce historiographical statements, and included the image of a ruler and pair of compasses on his maps to symbolize technically verified exactitude. The transfer between different media and disciplines and the transcending of genre boundaries were intended to sharpen the argument.

Dilich's *Hessische Chronica*, published just one year after the death of Landgrave Louis IV of Hesse-Marburg, was a political polemic with a territorial policy agenda.⁴⁸ It described an expansion of the country which would inevitably lead

⁴⁶ Cf. Martina Stercken, "Inszenierung bürgerlichen Selbstverständnisses und städtischer Herrschaft: Jos Murers Darstellung der Stadt Zürich aus dem Jahre 1576," in *Stadtbilder der Neuzeit. 42. Arbeitstagung des Südwestdeutschen Arbeitskreises für Stadtgeschichtsforschung*, ed. Bernd Roeck (Ostfildern: Thorbecke, 2006), 105–22 at 110; Maria Snyder, "Mathematische und militärische Perspektiven im Süddeutschland des 16. Jahrhunderts: Schedel, Münster, Dürer und Specklin," in *Text – Bild – Karte*, ed. Glauser and Kiening, 275–92.

⁴⁷ Cf. Christine M. Petto, "Semblance of Sovereignty: Cartographic Possession in Map Cartouches and Atlas Frontispieces of Early Modern Europe," in *Symbolic Landscapes*, ed. Gary Backhaus and John Murungi (Berlin: Springer, 2009), 227–50 at 233–46 with examples.

⁴⁸ Cf. Wilhelm Dilich, *Hessische Chronica*.

to disputes with those powers that it implicitly incorporated – that is, the Electoral Palatinate and the independent Wetterau counties such as Hanau, Isenburg, Solms, and Nassau.⁴⁹ The reference to the Germanic peoples and the Chatti served as a historical justification for a single, enlarged Hessian territory between the Rhine, the Neckar, the Thuringian Forest, and the Weser.

Maps inserted into the text illustrate the dynamic developmental processes of historical appropriation. The first graphic representation shows the settlement areas of the Germanic tribes to the north of the Danube.⁵⁰ The text describes a land of the Chatti in the middle of Germania, extending far beyond contemporary Hesse to the Teutoburg Forest, the Saale, and over the Neckar. The chronicle compares the fruitfulness and abundance of this territory to the biblical Palestine, and a general map (Fig. 10.4) emphasizes Hesse's claims to it.⁵¹ Two regional maps of Upper and Lower Hesse (Figs. 10.5 and 10.6)⁵² further concretize the landgrave's extensive ambitions and his vision of a Hesse united under his domination, its borders aligned with a supposedly natural regional identity, predefined by mountains and rivers.

This claim to regional dominance was further reinforced by seven special plates taking a closer look at the disputed borderlands: the two counties of Lower and Upper Katzenelnbogen far to the west on the Rhine;⁵³ the counties of Nassau,⁵⁴ Rheingau, and Wetterau, where Hesse was in competition with the *Wetterauer Grafenverein* (Wetterau Association of Counts);⁵⁵ the imperial city of Frankfurt,⁵⁶ and the northern Hessian lands of Hersfeld Abbey,⁵⁷ whose territorial setbacks benefited the landgraviate.

49 Cf. Gerhard Menk, "Die Chronistik als politisches Kampfinstrument: Wilhelm Dilich und Marquard Freher," in *Hessische Chroniken zur Landes- und Stadtgeschichte*, ed. Gerhard Menk (Marburg: Trautvetter & Fischer Nachf., 2003), 147–84, esp. 168–79; see Manfred Rudersdorf, *Ludwig IV. Landgraf von Hessen-Marburg, 1537–1604: Landesteilung und Luthertum in Hessen* (Mainz: Zabern, 1991) for the earlier history.

50 Cf. Wilhelm Dilich, *Hessische Chronica*, 11f. and map after 12; Horst Nieder, "Die 'Hessische Chronica' von Wilhelm Dilich," *Mitteilungen des Vereins für hessische Geschichte und Landeskunde* 47 (2006): 5–8 at 7.

51 Cf. Wilhelm Dilich, *Hessische Chronica*, 15f. and map after 16.

52 Cf. Wilhelm Dilich, *Hessische Chronica*, map after 32 and 112.

53 Cf. Wilhelm Dilich, *Hessische Chronica*, maps after 36, 40, 52, and 56; Stengel, "Wilhelm Dilichs Landtafeln," 1959, 162–64.

54 Cf. Wilhelm Dilich, *Hessische Chronica*, map after 74.

55 Cf. Wilhelm Dilich, *Hessische Chronica*, maps after 52.

56 Cf. Wilhelm Dilich, *Hessische Chronica*, city map with surrounding countryside after 60.

57 Wilhelm Dilich, *Hessische Chronica*, map after 112.

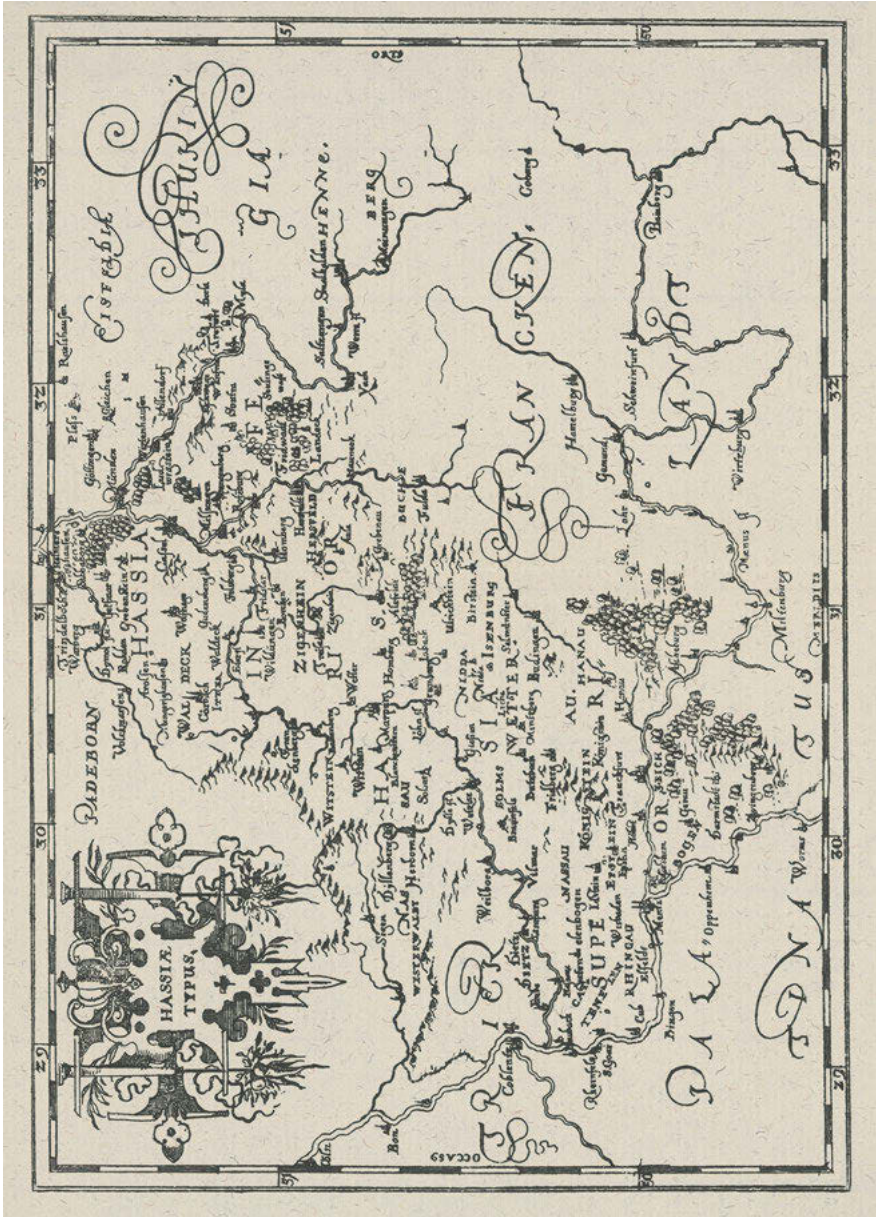


Fig. 10.4: General map of Upper and Lower Hesse; Wilhelm Dilich, *Hessische Chronica*, 2 parts, Kassel 1605, reprint ed. Wilhelm Niemeyer, 1961, after 16.



Fig. 10.5: Map of the Upper Hesse territory under Landgraves Maurice and Louis; Wilhelm Dilich, *Hessische Chronica*, 2 parts, Kassel 1605, reprint ed. Wilhelm Niemeyer, 1961, after 32.

No independent measurements of distances and angles were available for the illustrations in the chronicle. The maps of the Germanic peoples and of Lower Hesse are essentially based on the sketches of Arnold and Johann Mercator, the small regional maps probably on cartographic information from the relevant parts of the country. To overcome the fragmentation of his territory and create the prerequisites for a homogeneous state with a central administration, the landgrave demanded even more exact representations. The purpose of the *Landtafeln hessischer Ämter* was to give a more precise depiction of the spatial conditions, increase topographical accuracy, and establish new conventions of representation, in order to justify the political constellations. Dilich used a historical line of argument to perform this task. Thus his maps show not only Hesse's mighty castles and productive landscapes, but also its great age and historical magnitude.⁵⁸ Historiography completes topography; historical memory shapes the actually surveyed landscapes.

The aim of the new approach was to use media to spotlight or “stage” (*inszenieren*) places with symbolic and commemorative value, monuments, and historical inscriptions.⁵⁹ Magnifications in the form of *vedute* and large-scale map insertions served to emphasize significant places and their identity-forming function. One such symbolic, commemorative place was the *Königsstuhl* (king's chair), a monument near Rhens (Fig. 10.7).⁶⁰ Marked above the town in a walnut grove on the bank of the Rhine, and enlarged in the lower right-hand corner, it recalled the prerogative of the late medieval prince-electors to elect the monarch. The throne's presence in Hesse-Kassel gave the landgraviate a supra-regional luster. This is why the octagonal stone monument, already half in ruins by the early

58 For cartography and historiography see e.g. Martina Stercken, “Kartographische Repräsentationen von Herrschaft: Jos Murers Karte des Zürcher Gebiets von 1566,” in *Bild und Wahrnehmung der Stadt*, ed. Ferdinand Opll (Linz: Österreich. Arbeitskreis für Stadtgeschichtsforschung, 2004), 219–40; Stercken, “Kartographie und Chronistik: Jos Murers Karte des Zürcher Herrschaftsgebiets von 1566,” in *Geschichte schreiben: Ein Quellen- und Studienhandbuch zur Historiographie (ca. 1350–1750)*, ed. Susanne Rau and Birgit Studt (Berlin: De Gruyter, 2010), 475–87. For the following see Baumgärtner, “Wilhelm Dilich,” 24–28.

59 For the application of the concept of “staging” (*Inszenierung*) to political spaces see Achim Landwehr, “Das Territorium inszenieren: Der politische Raum im frühneuzeitlichen Venedig,” in *Inszenierung und Ritual in Mittelalter und Renaissance*, ed. Andrea von Hülsen-Esch (Düsseldorf: Droste, 2005), 219–38. For identity and cartography see Martina Stercken, “Regionale Identität im spätmittelalterlichen Europa: Kartographische Zeugnisse,” in *Europa im Weltbild des Mittelalters: Kartographische Konzepte*, ed. Ingrid Baumgärtner and Hartmut Kugler (Orbis mediaevalis. Vorstellungswelten des Mittelalters 10) (Berlin: Akademie Verlag, 2008), 277–300.

60 Cf. Giesen, “Stadt und Pfandschaft Rhens,” 116f., no. 18 on fol. 46; Egon Dillmann, *Rhens mit dem Königstuhl* (Neuss: Gesellschaft für Buchdruckerei, 1975).

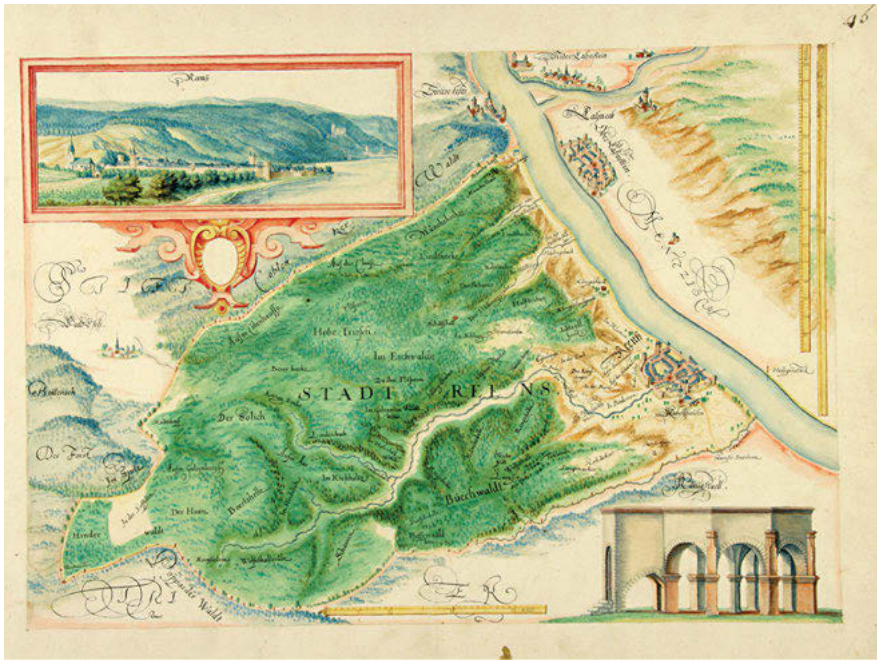


Fig. 10.7: Wilhelm Dilich, town and pledge-holding of Rhens (Stadt und Pfandschaft Rhens); Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2o Ms. Hass. 679, fol. 46 [and detail]. Creative Commons 4.0.

seventeenth century, was depicted here in all its late Romanesque glory. It symbolized the present of a unique past.

Historical inscriptions and gravestones also bore witness to this political power of tradition (Fig. 10.8). In Rheinfels Castle, for example, Dilich had found a plaque from the late fifteenth century, its Latin text praising the history and historical achievements of the former owners. He subsequently integrated these well-chosen words into the legend of his southeast view of the castle.⁶¹ The castle's venerable former existence under the five counts of Katzenelnbogen was destined to introduce an even greater future under Hessian rule.

The function of such insertions becomes even clearer in Dilich's mapping of the lordship of Eppstein.⁶² The general map presents three selected gravestones of the counts of Eppstein-Münzenberg (Fig. 10.9). The precisely reproduced bas-reliefs, which can still be seen today in the Protestant parish church of Eppstein, are deliberately chosen and carefully arranged. Particularly elaborate is the wall monument to Engelbrecht of Eppstein-Münzenberg at the top left. Engelbrecht died young (in 1494), the dynasty died with him, and his father sold the core lands to Hesse in 1492. There could hardly be a better way to illustrate the transfer of power than this gravestone of the predecessor.

In the bottom right-hand corner we see the resting places of the earlier generations, the cleric Adolf of Eppstein-Münzenberg (d. 1434), bishop of Speyer and great-uncle of Engelbrecht, and his father Gottfried VII (d. 1437), a knight in armor, founder of the parish church. The inscription explains the reasons for this illustration, namely the sale of the territory presented on the map to Hesse. Admittedly the text confuses Gottfried VI with Gottfried VII, and it was actually Gottfried IX who was compelled to sell, but this is unimportant. It is not about the exactitude of historical details, but about the presentation of a long-dead dynasty, whose line of ancestry legitimizes the Hessian successors. Here Dilich was able to identify the tombs and locate them cartographically: the church tower and the circle mark the location in the church in the locality of "Epstein," and textual explanations specify the connection with the land survey.

Dilich makes masterly use of the possibilities of mapping, positioning history so that it supports the landgrave's policies. He inserts enlarged monuments (such as these gravestones), *vedute* of significant places (such as the *Königsstuhl* or Rheinfels Castle), and large-scale representations of particular parts of the country. Metaphorically speaking, the historical-graphical concretization reanimates

⁶¹ Cf. Panse, "Schloss Rheinfels," 88f., no. 4 on fol. 23; Eberhard J. Nikitsch, *Die Inschriften des Rhein-Hunsrück-Kreises*, vol. 1, *Boppard, Oberwesel, St. Goar* (Wiesbaden: Reichert, 2004), DI 60/1, no. 114, 121.

⁶² Cf. Ruch, "Herrschaft Eppstein," 150f., no. 35 on fol. 47; Nieder, *Wilhelm Dilich*, 62.

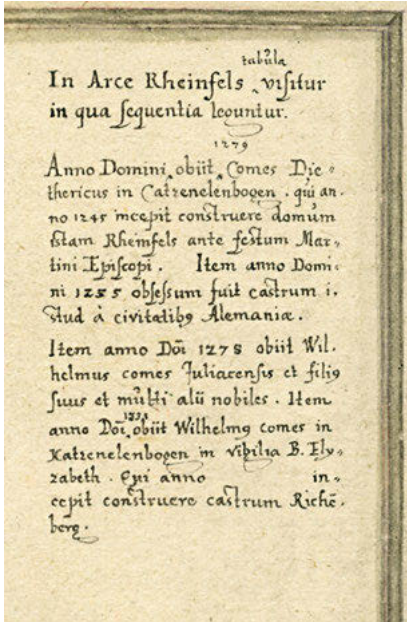


Fig. 10.8: Wilhelm Dilich, Rheinfels Castle, southeast view (Schloss Rheinfels, Südostansicht); Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2o Ms. Hass. 679, fol. 23 [and detail of inscription]. Creative Commons 4.0.



Fig. 10.9: Wilhelm Dilich, lordship of Eppstein (Herrschaft Eppstein); Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2o Ms. Hass. 679, fol. 47 [and detail showing gravestones]. Creative Commons 4.0.

the country's cultural past; it implies or constructs territorial identity, thereby exalting the succeeding rulers. The maps of the district of Rheinfels (Fig. 10.10) and the judicial district of Liederbach offer an exemplary illustration of the historical dimension.⁶³ The Celtic *Flammensäule* (column of flame), now dated to the fifth century BCE and held in the Rheinisches Landesmuseum in Bonn, had just been rediscovered at the time, and was thought to be a relic of the Roman or Chatti past. On Dilich's map, an arrow, a miniature column, and the lettering *Obeliscus* next to the church of Pfalzfeld point to its "real" location and the site where it was found.

In the plate for the judicial district of Liederbach⁶⁴ (Fig. 10.2), we see a Latin text at the top left, and below it an ancient block of stone, a so-called *Jupitersäule* (Jupiter column). Both are in black and white, setting them apart from the otherwise colored page and thus clearly separating the different temporal planes. According to the accompanying text, the base of the column, of venerable age, had been found in a mutilated state in the walls of the church in Lower Liederbach.⁶⁵ Exhibited in the vestibule, it was given the apograph quoted above. The cartographic presentation of these multiple temporal layers is outstanding: both the Roman stone from the second or third century CE and the inscription with which it was exhibited in the church, written after its discovery, are enlarged and differentiated by color.

In the *Hessische Chronica*, Dilich had legitimized the landgraves' claim to territories outside the landgraviate by presenting the Hessians as the direct ethnic successors to the Germanic Chatti.⁶⁶ Because these assertions did not go unchallenged,⁶⁷ the *Landtafeln* gave additional support to the historical argument. For the plate on the judicial district of Wallenstein (Fig. 10.11), Dilich must even have

⁶³ Cf. Bettina Schöller, "Amt Rheinfels und Vogtei Pfalzfeld," 84f., no. 2 on fol. 21; Ralph A. Ruch, "Gericht Liederbach," in *Wilhelm Dilich*, ed. Baumgärtner et al., 156f., no. 38 on fol. 13; Martin Ott, *Die Entdeckung des Altertums: Der Umgang mit der römischen Vergangenheit Süddeutschlands im 16. Jahrhundert* (Kallmünz and Oberpfalz: Lassleben, 2002), 247–69.

⁶⁴ Cf. Ruch, "Gericht Liederbach," 156f.; Museum Wiesbaden, Sammlung Nassauischer Altertümer, Inv. Nr. 376; Gerhard Bauchhenß, *Die Jupitersäulen in der römischen Provinz Germania Superior* (Cologne and Bonn: Rheinlandverlag, 1981), no. 176; Tanja Michalsky, "Land und Landschaft in den Tafeln Wilhelm Dilichs," in *Wilhelm Dilich*, ed. Baumgärtner et al., 53–72.

⁶⁵ Quote in Ruch, "Gericht Liederbach," 157; Bauchhenß, *Jupitersäulen*, 132.

⁶⁶ Cf. Wilhelm Dilich, *Hessische Chronica*, part 2, 4–25 for the commonalities between the Chatti and the Hessians, 26–56 for the history of the Chatti up to their decline.

⁶⁷ Cf. Schmidt, "Burg Reichenberg," 102–13, nos. 11–16 on fols. 27–32, here 106f., no. 13 on fol. 29; Menk, "Chronistik," 170f.; Thomas Fuchs, *Traditionsstiftung und Erinnerungspolitik: Geschichtsschreibung in Hessen in der frühen Neuzeit* (Kassel: Verein für hessische Geschichte und Landesurkunde, 2002), 159–65.

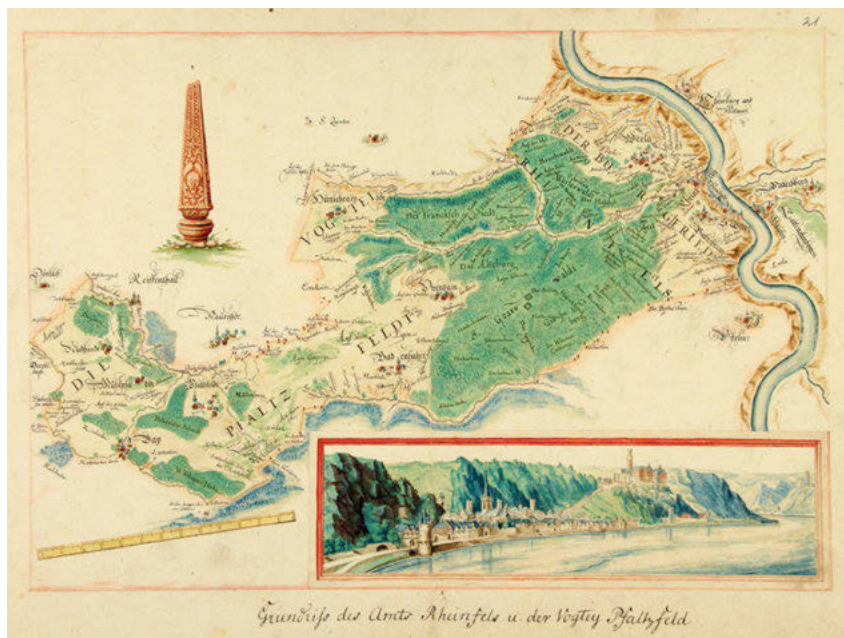


Fig. 10.10: Wilhelm Dilich, administrative district of Rheinfels and bailiwick of Pfalzfeld (Amt Rheinfels und Vogtei Pfalzfeld); Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2o Ms. Hass. 679, fol. 21 [with details of *Flammensäule* and its location]. Creative Commons 4.0.

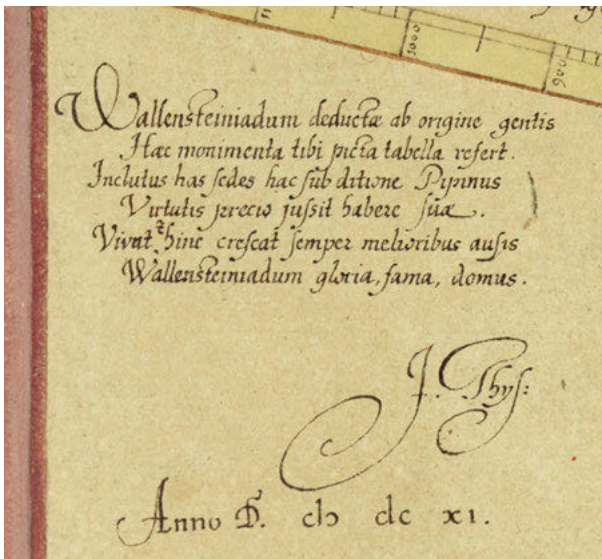
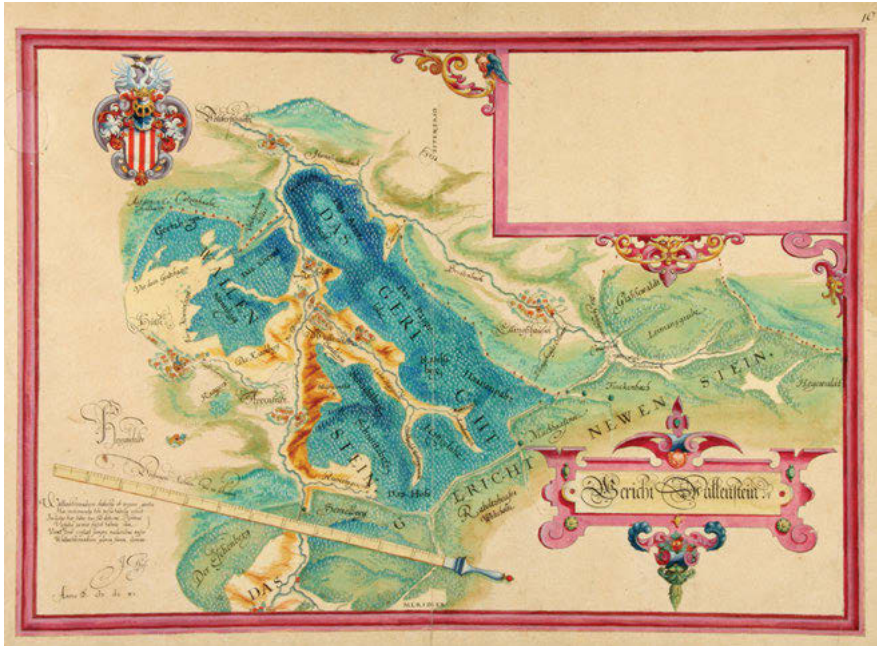


Fig. 10.11: Wilhelm Dilich, judicial district of Wallenstein (Gericht Wallenstein), 1611; Kassel, Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 2o Ms. Hass. 679, fol. 10 [and detail of poem]. Creative Commons 4.0.

requested a suitable panegyric from another employee of the landgrave, the Kassel librarian Jacob Thysius (1555–1628) – later to become a professor of history and poetry in Marburg.⁶⁸ The verses sing the praises of the Wallenstein dynasty, tracing their genealogy back to the distribution of land under King Pepin, the father of Charlemagne. In the *Hessische Chronica*, Dilich had emphasized the role played here by Pepin as mayor of the palace (*Pfalzvogt*). In 750, in the fight against the Westphalian Saxons, he had allegedly distinguished himself by supporting the Hessians and killing the Saxon king Edelhardt.⁶⁹ This deed, according to Dilich, was instrumental in the founding of Hesse and (as the reader may conclude) the elevation of the landgraves' dynasty.

Conclusion

Wilhelm Dilich's *Hessische Chronica* and the *Landtafeln hessischer Ämter* were created in a political context which was, in the Landgraviate of Hesse-Kassel in the late sixteenth and early seventeenth centuries, shaped by a policy of territorial consolidation and a striving for regional predominance. It was clearly the acquisition of new castles and lands that motivated Landgrave William IV and later his son, Maurice the Learned, to arrange for the surveying and mapping of their territories, especially those in border locations. This was linked with the endeavor to subject these territories to the administration of the landgraviate, and to investigate the local infrastructural conditions for future economic and military measures. Inheritance, escheat, other successes, and lucky coincidences contributed to a major expansion of the landgraves' dominion. New acquisitions of this period included the lordship of Plesse near Göttingen in 1571; the Rhine castles and possessions of the county of Katzenelnbogen, as a result of the estate settlement after the death of Philip II (the Younger) of Hesse-Rheinfels in 1583; the bailiwick of Auburg in 1585; parts of the administrative district of Jesberg in 1586; the lordship of Eppstein and the judicial district of Liederbach within the Wetterau sphere of influence, after the death without heirs of Louis IV of Hesse-Marburg in 1604; and finally the administration of Hersfeld Abbey in 1606. The aim of the surveying and mapping work was to explore these sometimes remote lands and exclaves, to

⁶⁸ Cf. Schöller, "Gericht Wallenstein 1611," 162f., no. 41 on fol. 10; Georg Landau, *Die hessischen Ritterburgen und ihre Besitzer*, vol. 2 (Kassel: Luckhard, 1832–1839; reprint 2000), 373–428 for the beginnings of Hesse, here 380; *Wilhelm Dilichs Landtafeln*, ed. Stengel, 1927, 21; Fenner, *Wallenstein*, 48.

⁶⁹ Cf. Wilhelm Dilich, *Hessische Chronica*, 2:89 and 97f.

mark out the boundaries separating them from foreign territories, and to take possession of them, at least on paper.

The surveying and mapping of Hesse, which showed no discernible system at the time of Johannes Dryander of Marburg or Joist Moers of Korbach, briefly gained momentum when Arnold Mercator was tasked with a topographical survey of the strategically important new acquisitions on the Rhine in 1584. However, his early death prevented a more in-depth exploration. It is only with Wilhelm Dilich's *Hessische Chronica*, in response to the succession of 1604, and his *Landtafeln hessischer Ämter*, produced from 1607, that we see how mental images of space and geography came to have increasing importance for the enforcement of power. What Dilich was attempting to do, on behalf of the landgrave, was to use various branches of science, such as historiography, geodesy, and mapping, to assert his master's sovereign territories. For him and his contemporaries, land surveying and cartography meant not only new forms of knowledge production, but also a changed understanding of space. Space came to be understood much more as a surface area, encompassed by continuous borderlines. The increasing standardization of geodesy and cartography had created new conditions for rulers to survey and gain access to the areas to which they laid claim.

The examples presented here show the possible ways in which historical arguments may be used to support aspirations to power, specifically in contested border areas. In Dilich's understanding, cartography was more than just land surveying. He supplemented historiography with representations of landscapes and topographic drawings; he inserted models of history into the *Landtafeln*. Even if such strategies were local in focus, they ultimately conveyed a message about the country's history as a whole. So, in many cases, the pictorial history narratives of the *Landtafeln* expanded on the concepts of identity offered in the *Hessische Chronica*, and used these to legitimize political actions. Inscriptions, tombstones, and monuments, visibly located in the landscape, bore witness to a continuity of rule across different periods in time. The political ambitions of the landgraviate were not unique within the network of German and European powers, but Dilich's maps illustrated very distinctively how scientific surveys could be combined with history to legitimize power.

Index of Toponyms and Locations

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