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

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.”

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, 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. It allows students – with a playful,

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, 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. Maps do, however, provide superb demonstrations of the way cultural techniques and practices


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. 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

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.

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. 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.

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). 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. Perhaps this is also the reason why Africa remained empty in the copy in...
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. l.2.4° S, 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 \textit{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 \textit{Dream of Scipio} (\textit{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


\(^{19}\) Macrobius, \textit{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)\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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

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

\textsuperscript{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.

\textsuperscript{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. Israeel, 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.

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. 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. 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.

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. Such encyclopedic diversity can neither be taken in at a glance nor

---


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 leadings 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. 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. Their

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

---

32 Cantino’s planisphere of 1502, Modena, Biblioteca Estense Universitaria, C. G. A. 2; reproduced in Schneider, *Die Macht der Karten*, Fig. 45.
The Kassel Atlas of 1542 (Universitätsbibliothek Kassel – Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel, 4° 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

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° Ms. Hist. 6, fols. 15v–16r. 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.