The Depiction of Cities on Maps

5.1

In short, "maps" are by definition an abstraction, a subjective, selective representation of the surrounding world. The earliest surviving terrestrial maps attempted to display the known world, from relatively small areas to their concept of the entire known world. Today, whether on electronic *Google* maps or printed world or road maps, standardized conventions symbolize cities of various sizes and significance, along with a "legend" that explains the symbols employed by the cartographer. Even on modern maps the choice of which cities to display is a selective and subjective process by the cartographer. "Capital cities" are often not displayed in favor of better known cities (e.g. Chicago, New York, Houston, Los Angeles, Zurich, Venice, Istanbul, Jerusalem) depending on the purpose of the map. In the case of early attempts to display settlements or cities/city-states a variety of generic drawings were employed to recognize significant settlements. It was only much later, in the 15th and 16th centuries, that more recognizable techniques were employed, such as geometric symbols like circles/dots and/or simply text were used to identify cities/settlements and the incorporation of realistically constructed "vignettes" of major cities.



Two of the major themes throughout the history of humankind are the city and transportation. Those interrelated themes are brought together by maps. Anthropologists tell us that cities were first constituted in about 3500 BC as people gathered together for protection. The social and economic advantages were then discovered. People with similar financial, faith or information needs gravitated toward each other as trade, religion, and education centers evolved. A "city" is a relatively large and permanent human settlement. Although there is no agreement on how a "city" is distinguished from a "town" within general English language meanings, many cities have a particular administrative, legal, or historical status based on local law. There is not enough evidence to assert what conditions gave rise to the first cities. Some theorists have speculated on what they consider suitable pre-conditions, and basic mechanisms that might have been important driving forces.

The conventional view holds that cities first formed after the Neolithic revolution (10,000-4,500 B.C,). The Neolithic revolution brought agriculture, which made denser human populations possible, thereby supporting city development. The advent of farming encouraged hunter-gatherers to abandon nomadic lifestyles and to settle near others who lived by agricultural production. The increased population-density encouraged by farming and the increased output of food per unit of land created conditions that seem more suitable for city-like activities. Towns and cities have a long history, although opinions vary on whether any particular ancient settlement can be considered a city. The first true towns are sometimes considered large settlements where the inhabitants were no longer simply farmers of the surrounding area, but began to take on specialized occupations, and where trade, food storage and power were centralized. In 1950 Gordon Childe attempted to define a historic city with the following 10 general metrics.

1. Size and density of the population should be above normal.
2. Differentiation of the population. Not all residents grow their own food, leading to specialists.
3. Payment of taxes to a deity or king.
4. Monumental public buildings.
5. Those not producing their own food are supported by the king.
6. Systems of recording and practical science.
7. A system of writing.
8. Development of symbolic art.
9. Trade and import of raw materials.
10. Specialist craftsmen from outside the kin-group.

This categorization is descriptive, and it is used as a general touchstone when considering ancient cities, although not all 10 of the characteristics listed above need be present.

Early cities developed in a number of regions of the ancient world. Mesopotamia can claim the earliest cities, *Eridu, Uruk,* and *Ur*. After Mesopotamia, this culture arose in Syria and Anatolia, as shown by the city of *Çatalhöyük* (7500–5700 BC). It is the largest Neolithic site found to date. Although it has sometimes been claimed that ancient Egypt lacked urbanism, several types of urban settlements were found in ancient times.



*Drawing from the wall-painting of the city of Çatalhöyük, 7500-5700 BCE (see **#100**)*

The Indus Valley civilization and ancient China are two other areas with major indigenous urban traditions. Among the early Old World cities, *Mohenjo-daro* of the Indus Valley civilization in present-day Pakistan, existing from about 2600 BCE, was one of the largest, with a population of 50,000 or more.

In ancient Greece, beginning in the early first millennium BC, there emerged independent "city-states" that evolved for the first time the notion of citizenship, becoming in the process the archetype of the free city, the *polis*.

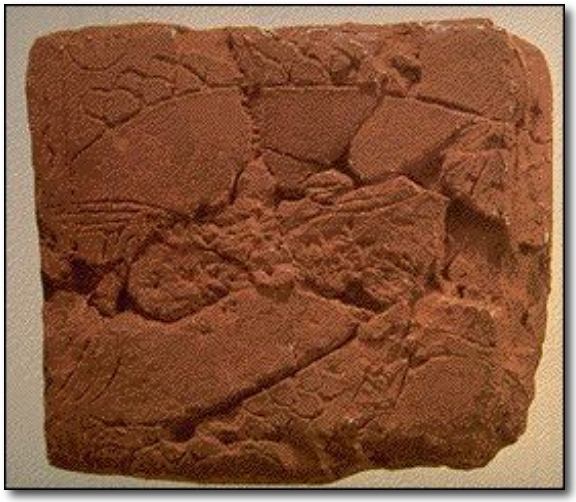
Initially on ancient western small scale maps, such as world maps, only a very few significant cities were depicted – principally Jerusalem and Rome, and later Constantinople, Babylon, Alexandria, Carthage and Athens. Note that some of the world's largest cities were not necessarily displayed on maps. Again, it was the cartographer's selection process and the objective of the map itself (religious, commercial, political) that

determined what was displayed. Old world cities such as London, Paris, Beijing, Bagdad, Moscow, Venice, Amsterdam, Madrid and Lisbon were normally not displayed until the later Middle Ages and the Renaissance periods due to their lack of religious and/or commercial significance, and sometimes simply because of the lack of physical space on the early world maps.

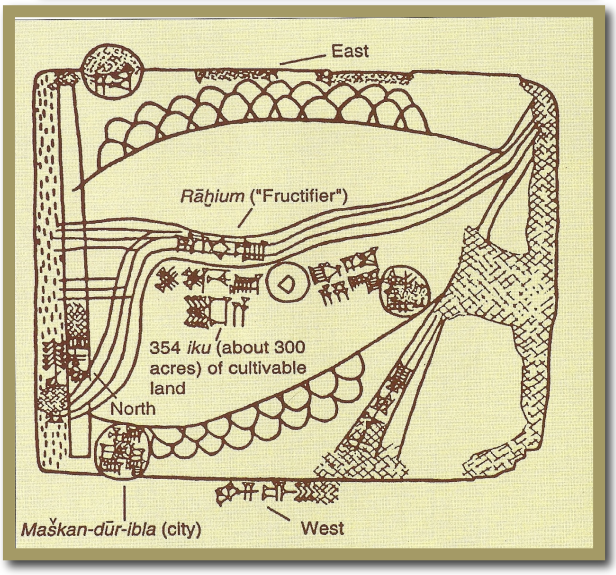
Conventions such as standardized abstract symbols as we know them today were not employed on early maps. The representation of terrestrial features such as mountains, rivers, etc. were also displayed in a variety of graphical representations, but by no means were universally accepted conventional symbols, nor accompanying legends used to explain these representations.

Antiquity: The human activity of graphically translating one's perception of his world is now generally recognized as a universally acquired skill and one that pre-dates virtually all other forms of written communication. Set in this pre-literate context and subjected to the ravages of time, the identification of any artifact as "the oldest map", in any definitive sense, becomes an elusive task. Nevertheless, searching for the earliest forms of cartography is a continuing effort of considerable interest and fascination. These discoveries provide not only chronological benchmarks and information about geographical features and perceptions thereof, but they also verify the ubiquitous nature of mapping, help to elucidate cultural differences and influences, provide valuable data for tracing conceptual evolution in graphic presentations, and enable examination of relationships to more "contemporary primitive" mapping.

As such, there are a number of well-known early examples that appear in most standard accounts of the history of cartography. The most familiar artifacts put forth as "the oldest extant cartographic efforts" are the Babylonian maps engraved on clay tablets. These maps vary in scale, ranging from small-scale world conceptions to regional, local and large-scale depictions, down to building and grounds plans. In detailed accounts of these cartographic artifacts there are conflicting estimates concerning their antiquity, content and significance. Dates quoted by "authorities" may vary by as much as 1,500 years and the interpretation of specific symbols, colors, geographic locations and names on these artifacts often differ in interpretation from scholar to scholar.



One such Babylonian clay tablet that has been generally accepted as "the earliest known map" is the artifact unearthed in 1930 at the excavated ruined city of *Ga-Sur at Nuzi* [Yorghan Tepe], near the towns of present-day Harran and Kirkuk, 200 miles north of the site of *Babylon* [present-day Iraq] ***(shown one the right; see monograph #100)***. Small enough to fit in the palm of your hand (7.6 x 6.8 cm), most authorities place the date of this map-tablet from the dynasty of Sargon of Akkad (2,300-2,500 BCE); although, again, there is the conflicting date offered by the historian Leo Bagrow of the *Agade Period* (3,800 BCE).



The surface of the tablet is inscribed with a map of a district bounded by two ranges of hills and bisected by a water-course. This particular tablet is drawn with cuneiform characters and stylized symbols impressed, or scratched, on the clay. Inscriptions identify some features and places. In the center the area of a plot of land is specified as 354 *iku* [about 12 hectares], and its owner is named *Azala*.

None of the names of other places can be understood except the one in the bottom left comer. This is *Mashkan-dur-ibla*, a place mentioned in the texts from *Nuzia* as *Durubla*. By the name, the map is identified as of a region near present-day Yorghan Tepe (*Ga-Sur* at the time, the name *Nuzi* 1,000 years later), although the exact location is still unknown.

Whether the map shows a stream running down a valley to join another, or running from that to divide in to three, and whether they are rivers or canals, cannot be determined. The shaded area at the left side, to or from which the channels run, was named, but the writing is illegible. Groups of overlapping semicircles mark ranges of hills, a convention used by artists then and in later times.

The geographic content consists of the area of a river valley that may be that of the Euphrates River flowing through a three-lobed delta and into a lake or sea in the northern part of Mesopotamia. Also shown on this tablet may be the tributary river the Wadi-Harran, the Zargos Mountains in the east, the Lebanon, or Anti-Lebanon in the west, and cities that are represented/symbolized by circles. North, East and West are indicated by inscribed circles, implying that maps were aligned in the cardinal directions then as they are now. This tablet also illustrates the *sexagesimal* system of mathematical cartography developed by the Babylonians and represents the earliest known example of a topographic map.

This roster of early urban traditions is notable for its diversity. Excavations at early urban sites show that some cities were sparsely populated political capitals, others were trade centers, and still other cities had a primarily religious focus. Some cities had large dense populations, whereas others carried out urban activities in the realms of politics or religion without having large associated populations. Theories that attempt to explain ancient urbanism by a single factor, such as economic benefit, fail to capture the range of variation documented by archaeologists.

The growth of the population of ancient civilizations, the formation of ancient empires concentrating political power, and the growth in commerce and manufacturing led to ever greater capital cities and centers of commerce and industry, with Alexandria, Antioch and Seleucia of the Hellenistic civilization, *Pataliputra* (now Patna) in India, *Chang'an* (now Xi'an) in China, Carthage, ancient Rome, and its eastern successor Constantinople (later Istanbul).

Cities of Late Antiquity underwent transformations as the urban power base shrank and was transferred to the local bishop (i.e., in the Late Roman Empire). Cities essentially disappeared, earliest in Roman Britain and Germania and latest in the Eastern Roman Empire and Visigothic Spain.

The following Babylonian clay tablet known as the ***Mesopotamian City Plan for Nippur*** was drawn around 1,500 BCE and measuring 18 x 21 cm, is incised with a plan of Nippur, the religious center of the Sumerians in Babylonia during this period *(see **#101).*** The tablet marks the principal temple of Enlil in its enclosure on the right edge, along with storehouses, a park and another enclosure, the river Euphrates, a canal to one side of the city, and another canal running through the center. A wall surrounds the city, pierced by seven gates which, like all the other features, have their names written beside them. As on some of the house plans, measurements are given for several of the structures, apparently in units of twelve *cubits* [about six meters]. Scrutiny of the map beside modern surveys of Nippur has led to the claim that it was drawn to scale. How much of the terrain around Nippur has been included cannot be known because of damage to the tablet, nor is there any statement of the plan's purpose, although repair of the city's defenses is suggested. As such, this tablet represents possibly the earliest known town plan drawn to scale.

A later Babylonian clay tablet, dating from the Persian Period (ninth-fifth century BCE), shows an *asysocentic* view of a flat, round world with Babylonia in the center. Its identity as a map attempting to depict the entire world is substantiated by the adjacent text, which mentions *"seven outer regions beyond the encircling ocean"*. This is a slightly different concept from that of the early Greeks, for whom the encircling ocean was outside of all known lands.

During the fifth century Babylon was still a flourishing city, regarded as the center - the "hub" - of the universe. Yet only with the rise to supremacy of the Babylonian kings, with Hammurabi toward 2000 BCE, had its claim to this position become possible. Previously the position was occupied by one of the former capitals of the earlier kingdoms. Probably the Sumerians made the city of *Nippur*, honored by them as a central shrine, a "Sumerian Rome", the center of the universe from about 2300 BCE, for at that time supremacy was regarded as conditional upon the possession of *Nippur*.

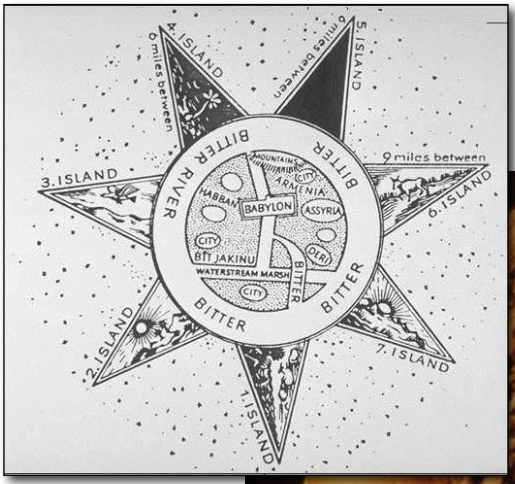
Also shown below on page six is an unbaked clay tablet now in the British Museum (Gallery 55, Case 15) that contains a text accompanied by a map ***(see #103).*** Although believed to have been found in Sippar or Borsippa, Iraq, the tablet is likely to have been made in Babylon in the seventh or sixth century BCE A note inscribed on the tablet, however, indicates that it was copied from an older tablet made (it would seem from internal evidence) in the ninth century BCE The tablet, somewhat damaged around the edges, measures 12.2 x 8.2 cm (5 x 3 inches). About a third of one side and all the reverse is filled with text and the map occupies the remaining two-thirds.



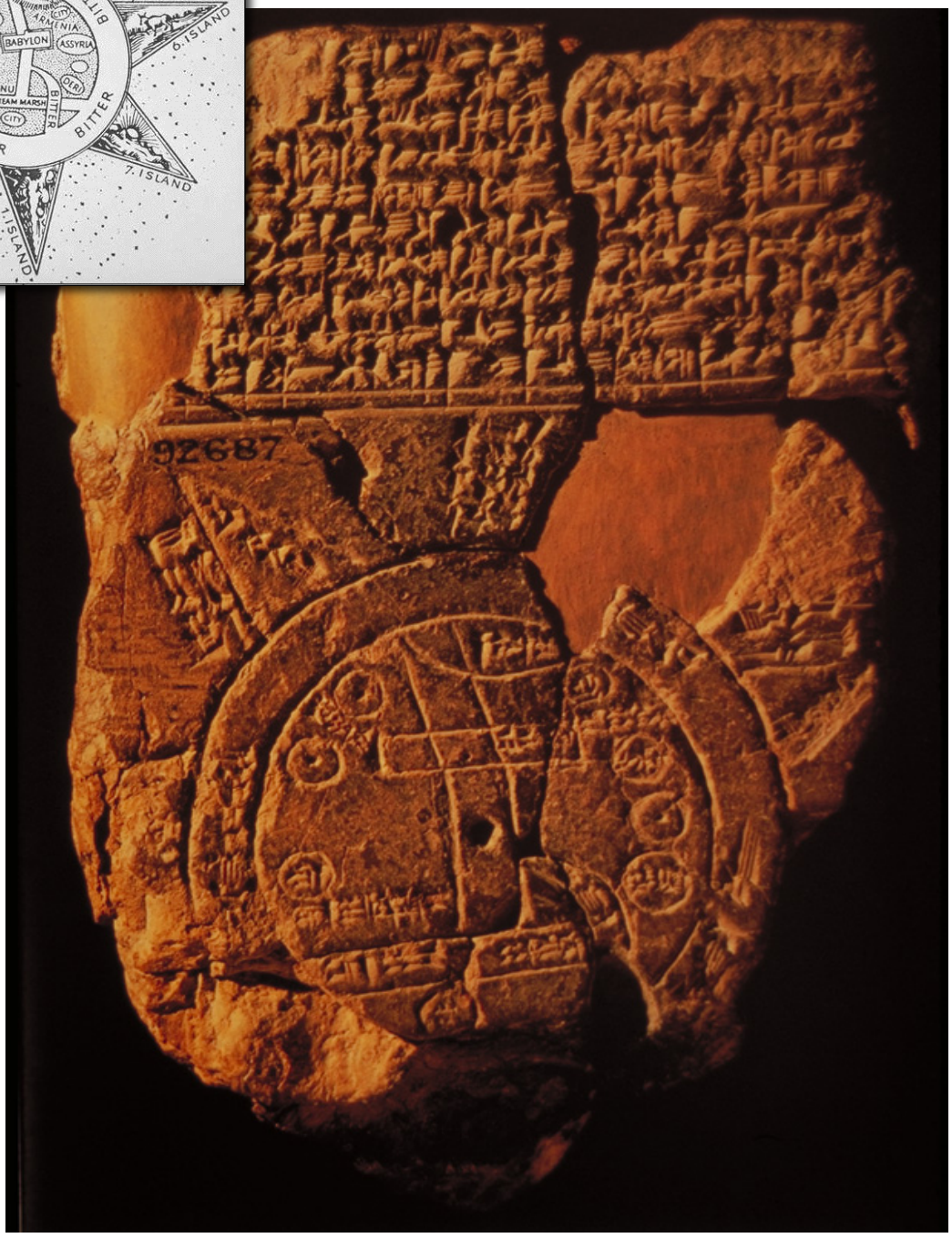
Mesopotamian City Plan for Nippur, 1500 BCE, 18 x 21 cm ***(#101)***

The tablet was made at a time when the Babylonian and Assyrian empires had reached their maximum extent and the map highlights the relationship of the most distant regions of the earth to the Babylonian heartland. Its features are clearly delineated and most are actually labeled. Orientated with north at the top, the map shows the world "as a disk surrounded by (or maybe floating in) a ring of water called the *Bitter River*", marked on the map simply as *ocean*. The outer *nagu* (districts; possibly originally eight in number) are shown as triangles reaching out beyond the encircling salty sea. The distance of each from the other is given. Within the circle, the Babylonian world is clearly delineated. *Babylon* is singled-out by a rectangular place sign. Other cities are shown, some so labeled in the center of the circular sign, some with just a central dot. Regions are identified, such as *Assyria, Der, Bit-Yakin* (territory of an Aramaean tribal group around the southern Euphrates), *Habban* (part of Kassite territory around Kermanshah) and *Urartu* (an independent kingdom in the Iranian-Turkish-Russian borderland). Mention of these last three helps date the original composition of the map to the ninth century BCE at the earliest. The unnamed river, marked by parallel lines, appears to represent the Euphrates. It flows into a swamp (marked by a rectangle at the mouth of the river and labeled as such) before reaching the sea in two outflows (one so labeled). A canal or waterway (*bitqu*, possibly an antecedent of the modern Shatt-al-Arab) is shown. In the northeast, a mountain is also labeled. Other features belong to local history or

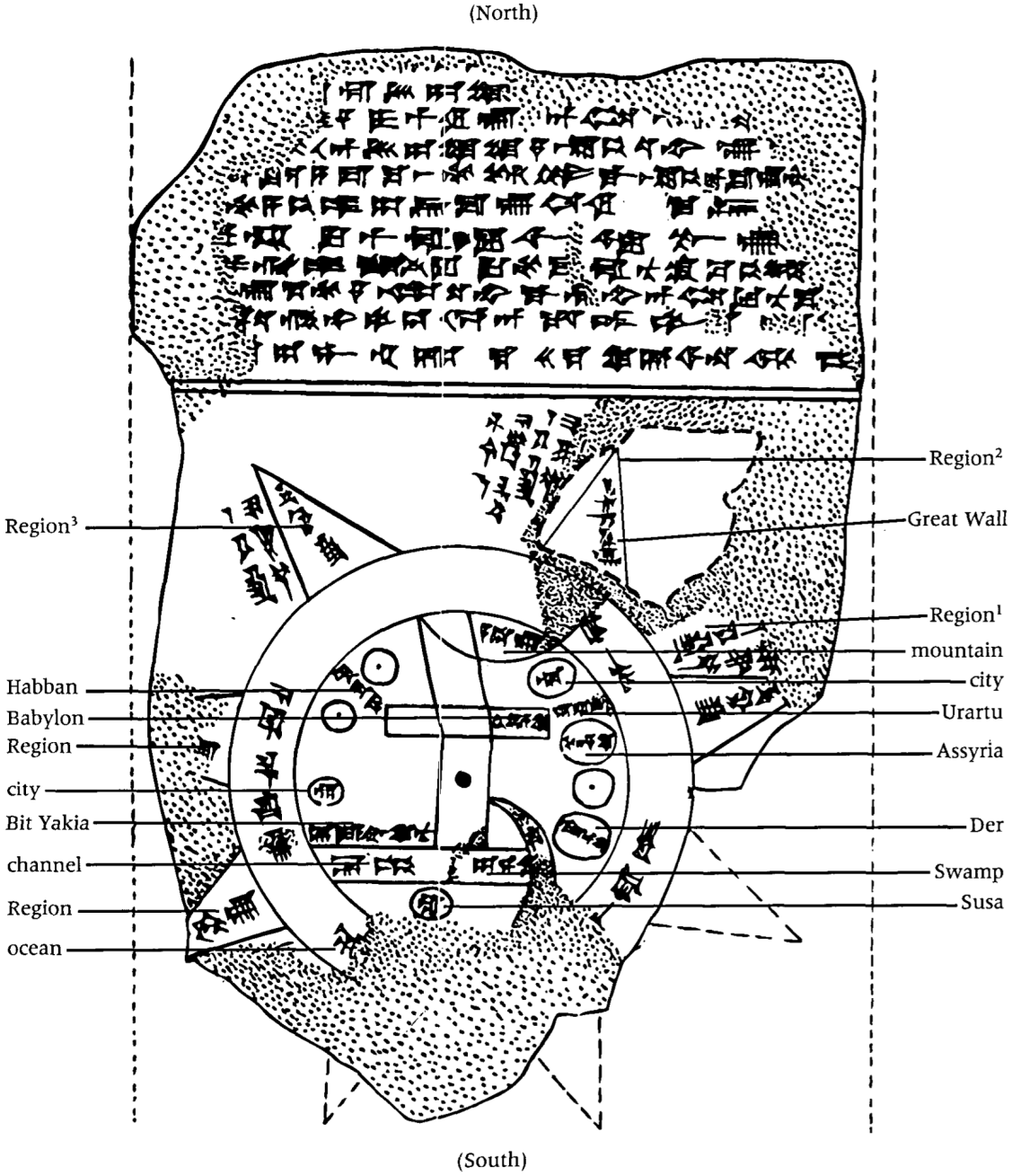
cosmological belief, such as the *Fort of the god*. The reinstated text in Region 2 reads, rather unexpectedly, *Great Wall*. This is likely to refer to the "great wall" thought to be the birthplace of a demonic figure according to some Sumerian texts, and certainly not to the one in China. The literary figures and exotic animals mentioned in the texts, together with the description of conditions in far-away regions, suggest the ancient author was reflecting the general interest with distant areas characteristic of the first half of the last millennium BCE, when the Assyrian and Babylonian empires reached their maximum extents. The ancient author concluded by commenting that his sketch showed, as we would put it today, "the four corners of the world".



The identified remote lands are said to be inhabited by legendary beasts. In one, it is noted that *the sun is not seen*. Various legendary beasts are named which were reputed to live in regions beyond the ocean that encircled the



Babylonian world. A few ancient heroes reached those places, and the badly damaged text appears to describe conditions in them. The map is really a diagram to show the relation of these places to the world of the Babylonians.



Region¹ Region/8 leagues/in between
Region² Region/3 leagues/in between/where the sun/is not seen
Region³ Region/6 leagues/in between

This Babylonian plan of the world illustrates the idea concerning the world that was current in the late Babylonian period. It represents the region of Babylonia, Assyria, and the neighboring districts as a circular plain surrounded by the Persian Gulf (*Ma-ra-tum*). The city Babylon (*Babylu*) is indicated near the

center, and next to it the land of Assyria (*Ashshur*). The position of certain other cities is indicated. The district toward the south, bordering the Persian Gulf, is represented as being full of canals and marshes. Toward the north is marked a district that is referred to as mountainous. Beyond the circle is represented the Persian Gulf, and a number of triangles pointing outward from the circular zone, each being labeled "region," indicating a vague conception concerning the same.

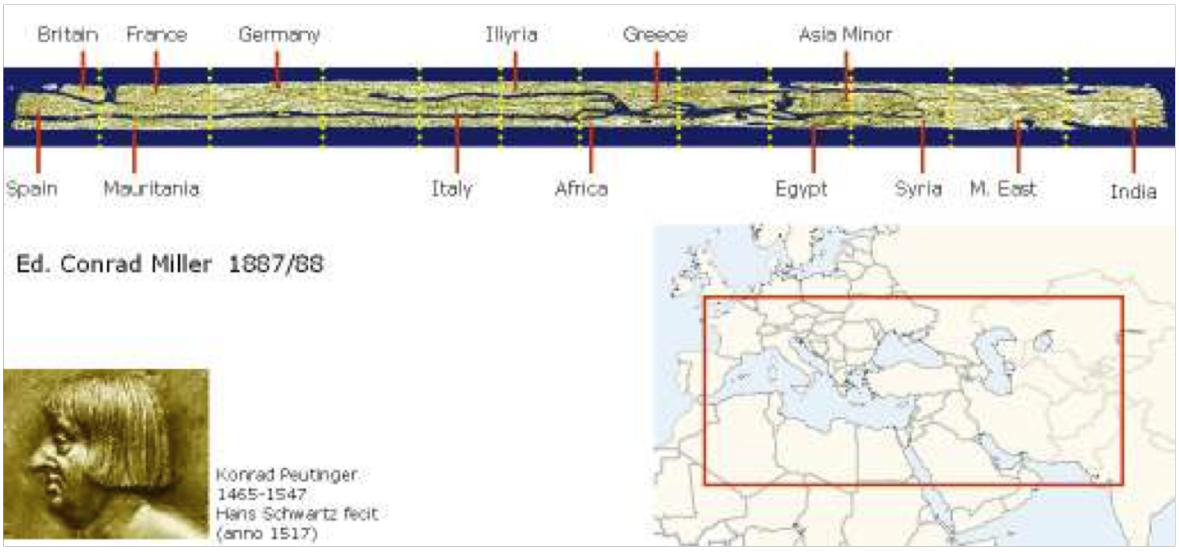
In addition to the entire kingdom of Babylonia, which is schematically portrayed on this clay tablet, seven unnamed circles are depicted and an accompanying cuneiform text is found on both sides of the tablet. The front-side text contains names of countries and cities but, on the reverse side, the text is chiefly concerned with a description of the *Seven Islands* or regions which are depicted in the form of equal triangles (only one of which is entirely intact on the tablet) rising beyond the circle of the *Earthly Ocean*. Some scholars believe that there may have been eight "islands" originally. The tablet further states that these islands are at equal distances of seven miles (from either each other or from the Babylonian world), around the outer periphery of the *Earthly Ocean*. But the distance between them varies, being sometimes six, sometimes nine miles. The description of two of these islands, however, has not survived.

A trumpet-shaped arm of the ocean curves around the right end of the marsh so that its neck touches the lines from Babylon. Despite the absence of a name, it is clear that the parallel lines running to and from Babylon represent the river Euphrates. To the right of Babylon an oval marks *Assyria*, and above it is apparently *Urartu* [eastern Turkey and Armenia]. Several other cities are marked by small circles; one near the trumpet-shaped sea, named *Fort of the god,* is probably *Der* [Badrah] at the foot of the Zagros Mountains. The name *Khabban* to the upper left appears to denote an area of Elam southeast of the Zagros, geographically out of place (it might also be another town of the same name otherwise unknown).

At the top, in the north, are the mountains, whence the Euphrates descends, in a southeasterly direction. In the center lies Babylon - the "hub of the universe". Encircling the earth is the *Earthly Ocean*, entitled the *Bitter River*, creating a gulf (the Persian Gulf of today), it flows across the earth as far as the Euphrates. To the southwest is shown the land of *Habban*. For the rest, the map gives various nameless places indicated only by blank ovals. It is oriented towards the northwest. From other Babylonian sources it can be learned that for the Babylonians, the *Bitter River* or *Earthly Ocean* was enclosed by a double range of mountains, those to the east and west - the *sunrise* and *sunset* range, respectively being specially mentioned.

Obviously this is not so much a topographical map as it is an attempt to illustrate ideas expressed in the accompanying text, greatest attention being paid to the remote regions. The Babylonians evidently viewed the earth as flat, in common with other ancient peoples. Their references to the "four corners" relate to the directions of the winds and should not be taken as implying that they thought it was square.

Shown below are reproductions of an early road map of the imperial highways of the Roman world known as the ***Tabula Peutingeriana (#120),*** covering the area roughly from southeast England to present day Sri-Lanka. It is not a world 'map' in the true sense of the word, but a *cartogram*, or *itineraria*. There is no exact proportion between the representation and the actual physical elements, but rather a road map that prefers to indicate the road system marked with stopping places and the most prominent towns, while neglecting geographic elements (represented only schematically). No copies of the original have survived but a copy of it, now in Vienna, was purportedly made in 1265 by a monk at Colmar who fortunately contented himself with adding a few scriptural names, and who seems to have omitted nothing important that appeared in the original. The entire map was originally a long, narrow parchment roll and in its present state measures 22 feet, 1.75 inches long by 13.25 inches wide (6.75 meters long but only 34 centimeters wide). Only one of these 'original' twelve segments, or section, is now lost. The fact that Britannia, Spain and the western part of Africa are missing, leads scholars to suppose that part of the *Tabula* has been lost.



The Tabula Peutingeriana depicting the region between Spain and India

According to most authorities, about 250 CE the original tables were, themselves, copied from a larger original map of the first century CE (some scholars have identified that the author may have used M.V. Agrippa's world map ***(#118))*** as his source. About 350 CE the presentation of the coastal regions was improved and some islands were added. At the turn of the fifth - sixth centuries the world ocean was added and improvements were made to the seas; at about the same time, the influence of this map appears in a work by an anonymous cosmographer of Ravenna, who made use of some new material recently added to his source. Since the Ravenna cosmographer names a certain Castorius as the author of his source in connection with material also found in the *Tabula Peutingeriana*, it has been inferred by early historians that this was the maker's name for the original. The overall form of the Colmar edition, which is the basic form of the *Tabula* as it has reached us today, must have been fixed at this period, about 500 CE; although a few local corrections were made subsequently, for example, in the eighth and ninth centuries.

In its design, the *Peutinger Table* makes no pretense of showing the whole world or even its major parts in correct proportion. It is merely a graphic compendium of mileages or basically an itinerary route map with the roads delineated predominantly by straight lines, often with curious jogs. The routes are drawn in red, while the sea is indicated by greenish-blue. The map does not conform to the rules of any projection, nor is it possible to apply a constant scale to determine distances from place to place; for these measurements we have to refer to the figures written in by the author. Also the *Table* was not apparently designed for military use, but instead gives prominence to trading centers, mineral springs, places of pilgrimage, mountain chains (in profile) and in three great cities (Rome, Constantinople and Antioch) set three rulers, believed to represent the sons of Constantine enthroned as symbols of a tripartite empire. The use of vignettes and/or medallions is also found depicting the city of Alexandria, while smaller towns are illustrated by little houses; three forest districts, two in Germany and one in Syria, are represented by sketches of trees.

The proportions of the *Peutinger Table* are such that distances east-west are represented at a much larger scale than distances north-south; for example, Rome looks as though it were nearer to *Carthage* than Naples is to *Pompeii*. The archetype may well have been on a papyrus roll, designed for carrying around in a *capsa* [tool box]. As such, its width would be severely limited, whereas its length would not. In the extant map a north-south road tends to appear at only a slightly different angle from an east-west one, and distances are calculated not by the map's scale but by adding up the mileages of successive staging posts.

The date of the archtype is likely to have been between 335 CE and 366 CE. Such dating is suggested by the three personifications placed on Rome, Constantinople (labeled *Constantinoplis*, not *Byzantium*) and *Antioch*; and it fits in well enough with biblical references on the map. Sometime after the foundation of Constantinople in 330 CE as a new Rome on the site of Byzantium, Antioch was recognized as the important bastion against the Parthians. Put the suggestion that this fourth century archetype was based on a much earlier map would account for the inclusion of *Herculaneum, Oplontis*, and *Pompeii*, which had been destroyed in the eruption of Vesuvius in 79 CE and not rebuilt, except for parts of *Pompeii*. It is also perhaps easier, on this supposition, to see why certain roads are omitted, such as the major routes through the Parthian empire mentioned in the *Mansiones Parthicæ* [Parthian Stations] of Isidorus of Charax. This work is believed to have been compiled in the late first century CE.

Except for a very few instances, where the interpolation may be easily traced, there is nothing in the *Peutinger Table* which has any reference to a time later than Diocletian; and the greater number of the names it contains may be referred to an era earlier than the death of Augustus in 14 CE. The arrangement of the barbarian tribes on the frontiers of the Empire seems to agree pretty nearly with what we know of them in the reign of Marcus Aurelius; and the importance of the name of *Persia*, for instance, in the far East, perhaps points to a revision of this part of the *Table* as late as the third century, at some time subsequent to the great Persian revival of 226 CE - but these details leave the essential character of the plan strictly classical.

The *Peutinger Table* was primarily drawn to show main roads, totaling some 70,000 *Roman miles* (104,000 km), and to depict features such as towns, staging posts, spas, distances between stages, large rivers, and forests (represented as groups of trees). It is not a military map, though it could have been used for military purposes but the words of Vegetius give an indication of its possible function. They suggest that, whether or not the term *itinerarium pictum* [painted itinerary] was in current use, it is a convenient phrase for this unique map. The distances are normally recorded in *Roman miles*, but for *Gaul* they are in *leagues*, for Persian lands in *parasangs*, and for India evidently in *Indian miles*.

Around the personification of Rome - a female figure on a throne holding a globe, a spear, and a shield - are twelve main roads, each with its name attached, a practice not adopted elsewhere. The Tiber is correctly shown with 90 percent of the city on its left bank. But owing to the personification the city surround is formally shown as a circle, enlarged in proportion to the very narrow width of the Italian peninsula. The *Via Triumphalis* is indicated as leading to a church of Saint Peter; the words *ad scm [sanctum] Petrum* are given in large minuscules on the medieval copy.

The city of *Ostia* is shown with a harbor occupying about one-third of a circle, in a fashion similar to that of miniatures in the early manuscripts of Virgil's *Aeneid*. Constantinople is represented by a helmeted female figure seated on a throne and holding in her left hand a spear and a shield. Nearby is a high column (rather than a lighthouse) surmounted by the statue of a warrior, presumably Constantine the Great. Antioch has a similar female personification, perhaps originating in a statue of the *Tyche* [fortune] of the city, together with arches of an aqueduct or possibly of a bridge. Nearby is the park of Daphne, dedicated to Apollo and other gods and famous for its natural beauty and as a leisure center. Even though the temple of Apollo was burned down in 362 CE, there were many other temples, so that this is not necessarily a guide to the dating. It has been claimed that in 365-66 CE all three personified cities were important, since the pretender Procopius had his seat of power in Constantinople, Valentinian I in Rome and his brother Valens in Antioch. But in fact, although Valens set out for Antioch, he was diverted to fight Procopius and he cannot be correctly associated with the last-named city.

Depicting in topological consistency the road network and offering travel information to its users (by showing the road network, the settlements, the staging posts, the partial distances, the cities of various type, depending on their size and significance etc. - hundreds of functional place symbols, used with classified differentiation, are used for the depiction of all these features – *see Figures below*), the map proves its obvious utility value: showing to the traveler, in a schematic way, what lay ahead of him and how far. The deformations of the coastline course and of the geo-shapes in *Tabula* makes today its reading unfamiliar and complicated for the non-experts, but the thematic information contained is considered of great significance, mostly for the depiction and the semantics of the ancient road networks in late Roman antiquity. As discussed in the article by Dr. Dimitris Drakoulis, "The study of late antique cartography

through web base sources", *e-Perimetron,* Vol. 2, No. 3, Summer 2007 [16-0-172], the cities can be grouped/categorized as follows.



Constantinopolis is marked by two distinct symbols (column and enthroned figure) rather than just one. The only other such instance on the map seems to be the matching one of Chrisoppolis across the straits.



Samples of symbols used in Tabula Peutingeriana*: road, cities (commercial, administrative, military centers), mansiones, mutationes, baths, buildings, pharos, distance between stations, geographical characteristics (mountain, river, sea, gulf, forests)*

There exist three cities of the **First Level**, *Roma, Constantinopolis* and *Antiocheia*, represented as female incarnations, that constitute the three capitals – imperial residences of the Empire. A possible chronology is the simultaneous existence of three capitals, that corresponds to the period of the successors of the Constantinian Dynasty and more specifically the period that the three sons of Constantine the Great, (Constantine II - Constantius II and Constas 337-38 CE) co-ruled the empire for nine months.



The three Level 1 cities

There exist six **Second Level** cities, which are represented in the form of fortresses with walls, bastions and deferring number of towers. These are: *Aquila* (with 7 towers and a big residential complex), *Ravenna*

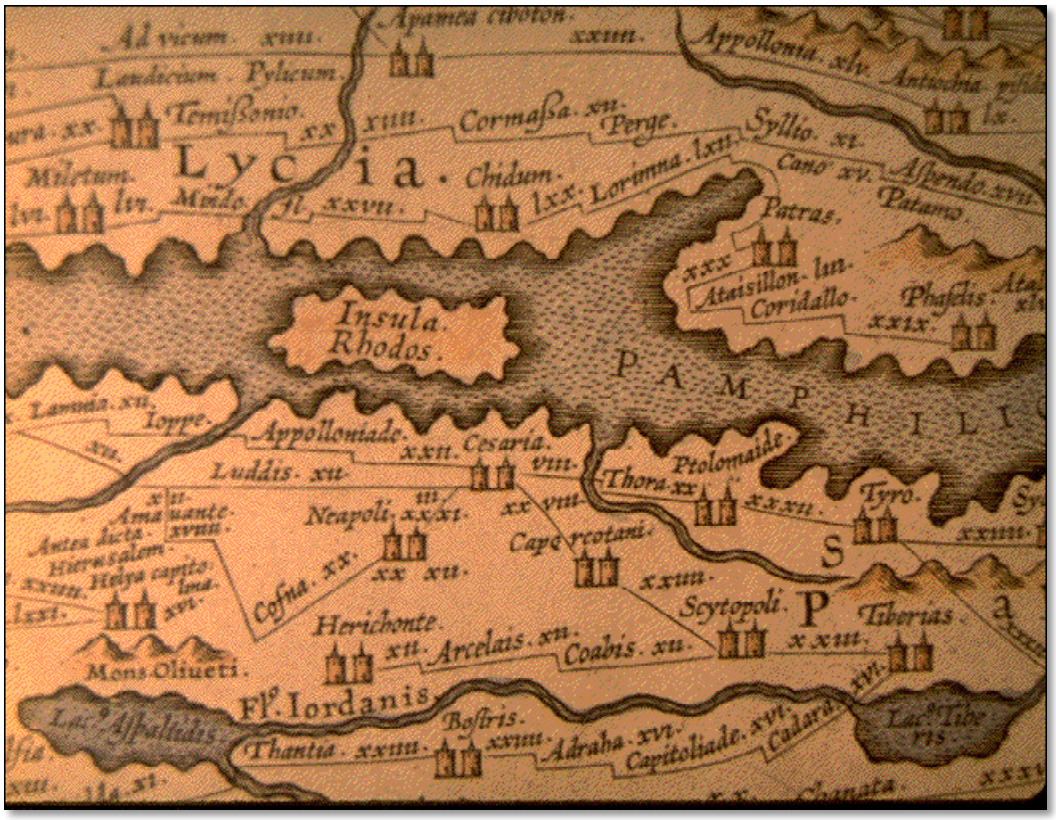
(5 towers), *Thessalonica* (5 towers), *Nikomedeia* (8 towers), *Nicaea* (6 towers and a temple or basilica) and *Ankara* (7 towers). We have to note the absence of Alexandria which is represented with the use of a big lighthouse as symbol, but without a name, fact that is considered a copyist's error.



The six Level 2 cities

Most of the pictures represent **Third Level** cities, provincial capitals *(metropoleis)* and important commercial centers (*see figure below*). They are portrayed with two towers, but there exist, between them, iconographic differences which can be categorized in two sub-classes: a) those with two towers with a cupola and knots, called *emporia*, e.g., important commercial turning-points and harbors on the basic communication roads e.g., *Megara* in Greece, an important passage, *Patras*, central harbor for ships and troops and *Elateja*, known for her importance in the fourth century CE (see example below). In Thrace, *Fons Co*l. close to *Neapolis* [Kavala] in the *Via Egnatia*, in the *Mysiae, Sardice* [Sofia], *Tomis* in the junction of Danube with *Pontus Euxeinus*, in Crete the important port city *Cydonia*, in Arabia *Petris* [Petra], in Asia Minor, *Amaseia*, in Syria, *Europus.* b) two towers with a circular environment, e.g. in Italy, *Lucca, Mediolanum, Placentia, Altino, Antium, Ostia Eterni, Castra Minervae*, in Dacia – *Sarmategte* and others (see example below).

Harbors are characterized in about 20 places *(Portus)*, however, depictions do not exist. Exceptions constitute the two harbors of Rome, the *Portus Claudius* and the *Portus Traiani*. The first, exterior harbor that later was used only as space of reception of boats they were separated from the interior with a peninsula with the imperial *Palatium*, the theater, the baths and the Forum. The interior harbor was delimited by the deposits of unloading of boats and a gallery *(porticus)*, which were renovated by Constantine the Great. With simpler representations are portrayed the passages between Europe and Asia, in present day Istanbul: *Sycas* in Europe), *Chrisoppolis*, in the Asiatic side.

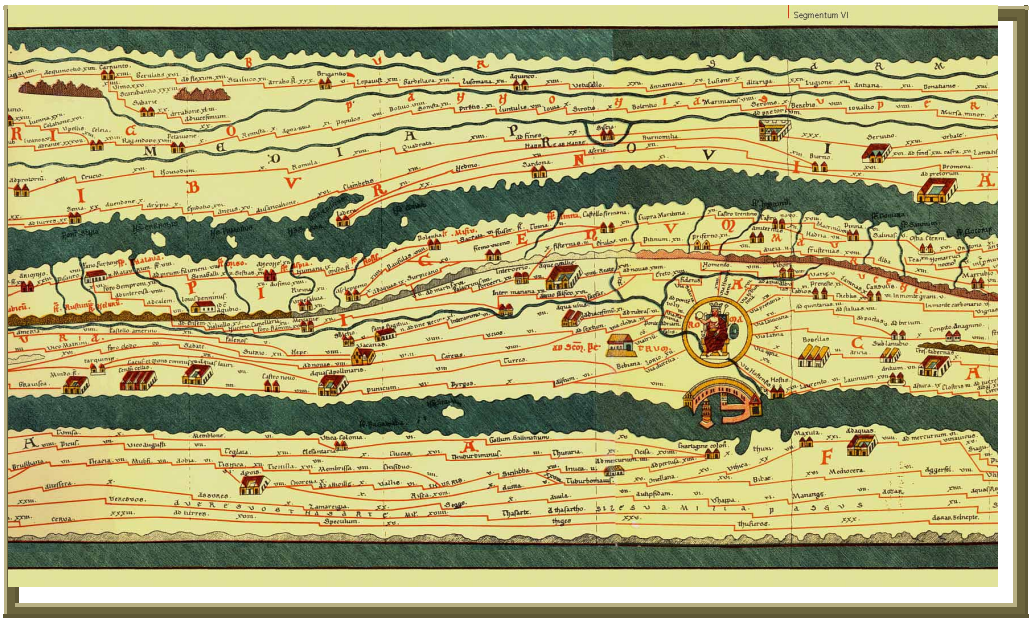


Detail of the Tabula Peutingeriana: Rhodes

The network of settlements is supplemented with the insertion of "stations" - *mansiones* and points of change of horses - *mutationes* that constitutes the intermediary turning-points between the various central places. They do not have graphic pictorial representations, but appear with the name and the distance between them. A number of settlements are represented according to particular uses and functions of space that are attributed with the particular characteristics of the shells that support the function. The basic functional uses, which incorporate corresponding social practices and are drawn with their shells are: 1) religious, 2) political, 3) defensive, 4) recreational and 5) remaining uses.

The iconographic system of the *Tabula Peutingeriana* is based upon a hierarchical structure that represents the settlements network, with a process of symbolic generalizations and personifications, in the period of the successors of Constantine the Great. At the top are found three First Level cities (*Rome, Constantinople, Antiocheia*) and then follow six Second Level cities (*Aquilla, Ravenna, Thessalonica, Nicomedeia, Nicaea, Ancara*). Third Level cities are numerous and constitute the provincial capitals, followed by groups of settlements with military, commercial, administrative, religious and recreational functions (walled cities, commercial centers, public administrative buildings, temples, thermal installations), while at the bottom of the hierarchy belong the towns *(mansio)* and villages *(mutatio).*


Segmentum VII


Segmentum VI



Examples of Level 3 cities



Examples of commercial centers on the Greek peninsula



Commercial centers of two different types

Qin Maps *(see **#111.1**).* Seven maps, known as the *Qin* maps, dated around 300 BCE, the Warring States period in China (475-221 BCE), were unearthed in 1986 from a tomb of the Qin Kingdom. It is located at today's Fangmatan, in Dangchuan Xiang (Dangchuan Township) under the administration of Tianshui city, Gansu Province. This is a significant discovery in the history of Chinese cartography because the maps antedate by some 130 years the three *Han* maps (pre-168 BCE), which were discovered in 1973 in Mawangdui, Hunan Province *(see **#112.1**).* To date, the Fangmatan *Qin* maps are the earliest Chinese maps extant. The *Qin* maps provide concrete graphic evidence of the earliest Chinese cartographic works relating to map content, symbolism, and cartographic execution. And, compared to any other surviving cartographic efforts from this period in history, demonstrate a well-established and sophisticated cartographic tradition by its use of conventional symbolism, accuracy and utility.

These ancient wooden maps discovered by Chinese archaeologists in northwest China's Gansu Province have been confirmed as the country's oldest one at an age of more than 2,200 years. The maps were drawn on four pine wooden plates, 23 cm long, 17 cm wide and 1.5 cm thick each, and include a drawing of Guixian County of the Qin Kingdom, one of the seven major warlords in the era of the Warring States.

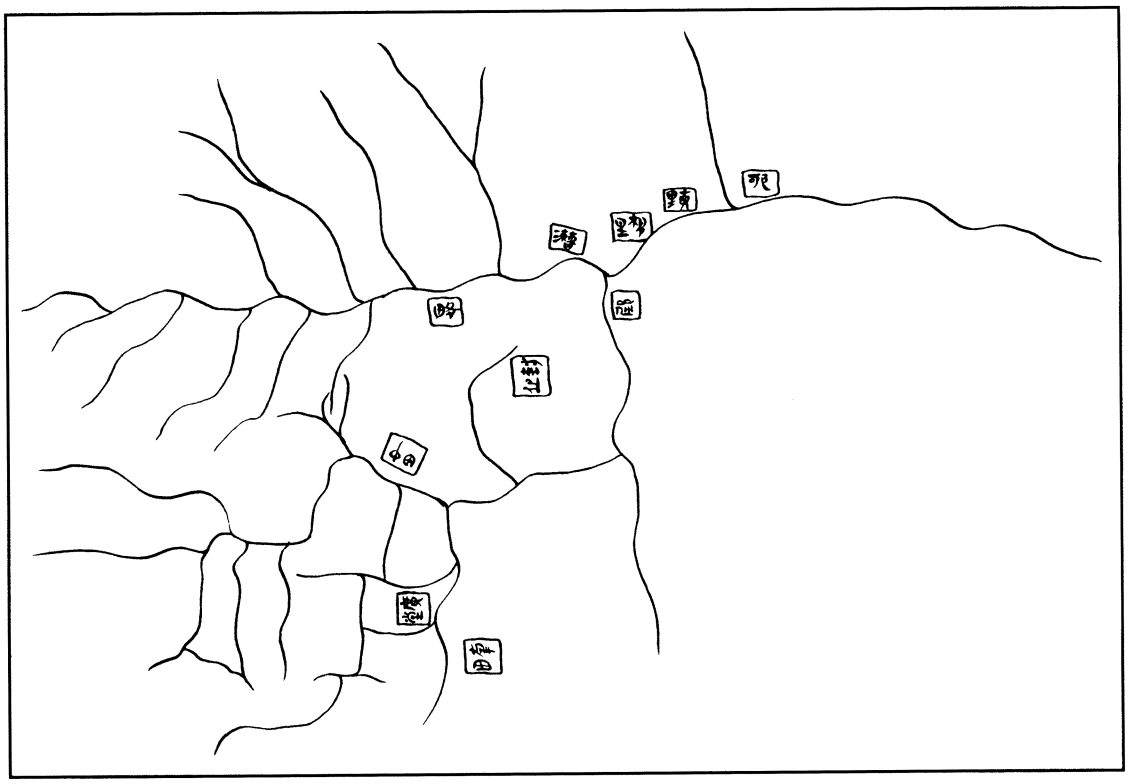
Each map has clear and complete graphics depicting the administrative division, a general picture of local geography and the economic situation in Guixian County in the Warring States era. Eighty-two places are marked with their respective names, locations of rivers, mountains and forested areas on the maps. Unlike modern maps, place names on these maps were written within big or small square frames, while the names of rivers, roads, major mountains, water systems and forested areas were marked directly with Chinese characters. The distances of some roadways were also marked clearly on the map. Experts said that graphics, symbols, scales, locations, longitude and latitude are key elements of a map.

The area coverage of the *Qin* maps partially overlap with one another, therefore it is possible to collate them to delineate the entire mapped area, as well as to note the relations among the maps. According to the historian Wanru Cao, the *Qin Map 1* covers the administrative area centered on the ancient *Gui Xian* (Gui County, named *Gui Qiu* on *Map 1*) in the Qin Kingdom; the other six maps represent sections of this same territory. *Gui Xian* is located in today's Tianshui city. Another settlement named *Di*, southeast of *Gui Xian*, is located near the confluence of the Yongning and Gaoqiao rivers.

Several types of map standardized symbols are employed on the *Qin* maps. However, the similar line symbols used to show rivers, roads and drainage divides may appear confusing. Square outlines with enclosed place names identify more important settlements such as county seats, whereas other settlements are named without the outline symbol. A symbol that looks like a *pass* denotes mountain passes, and sometimes the word *bi* (a pass or mountain pass) is placed nearby. Finally, there is a pavilion-like sign in *Qin Map 2* that symbolizes the site of Xi Xian (Xi County), in former Longxi Prefecture. It is located at today's Yangjiasi.

A total of sixty-six names are on the seven *Qin* maps. Of all settlements, only three can be firmly documented today - *Di, Gui Xian* and *Xi Xian*. The Chinese characters of river names usually are placed in the order following the direction of stream flow, a common practice observed in later Chinese maps.

The Han Maps *(#112.1).* The excavation of three Han Dynasty tombs in 1973 at Ma-wang-tui in Ch'ang-sha, capital of Hunan Province, is truly one of the most significant archaeological discoveries in modern China. On the one hand, the sophisticated tomb design and method of preserving the dead represented a level of technology unsurpassed by and eventually lost to posterity. On the other, the wealth of well-preserved artifacts, paintings and decorative designs, food, clothing, utensils, weapons, and ancient texts on philosophy, astronomy and medicine, provides living testimony to the life of Han China for both laymen and specialists in a variety of disciplines. To the geographer, however, there is nothing more spectacular and exciting than the three maps found in Tomb No. 3.

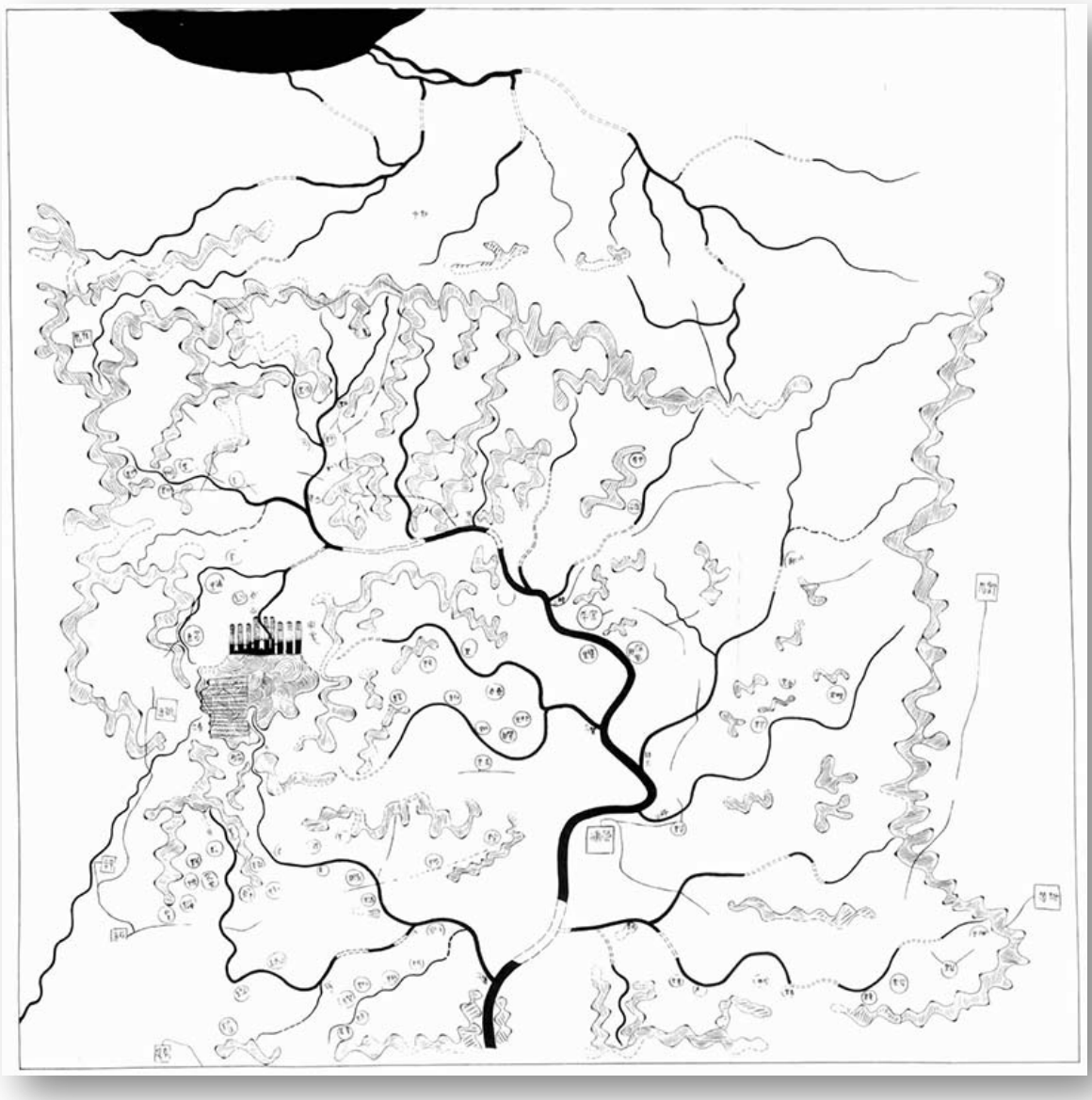


Qin Map 1 reconstruction covers the administrative area centered on the ancient Gui Xian (Gui County, named Gui Qiu here) in the Qin Kingdom. Gui Xian is located in today's Tianshui city.
Another settlement named Di, southeast of Gui Xian, is located near the confluence of the Yongning and Gaoqiao rivers. Cities are identified with only a text reference.

After more than two thousand years, the silk fabric upon which the *Han* maps were drawn was inevitably badly decomposed. Thanks to the painstaking effort and skilled work of a few specialists in the art of repairing old paintings, two maps have been successfully restored. To facilitate a better understanding of the restored maps, experts have reconstructed each in black and white on exactly the same scale. Facsimiles as well as interpretive studies have appeared in Chinese journals since 1975. At the time of its discovery, they were the oldest maps yet discovered in China, until 1986 when *Qin [Ch'in] State* maps ***(#111.1)*** dating to the fourth century BCE were found.

Preliminary studies thus far have established several significant historical facts. These maps were of early Han vintage and compiled before 168 BCE when they were entombed with the deceased young nobleman. As such, they can justly claim to be some of the oldest maps extant in the world. Moreover, they were in the custody of one of the most powerful families in the State of Ch'ang-sha; and, placed in the same grave with a variety of weapons, they constituted a set of important references vital to the military command. One is a map of towns and villages, another a Garrison map, and the third a Relief map. Theses restored maps merit serious investigation on the information they yield on China's cartographic skills and geographical concepts at such an early date, as well as on the strategic position of the State of Ch'ang-sha, the last surviving princely state in early Han China.

There are altogether ninety-three names of rivers, cities, towns and villages. Among the nine rivers, three actually carried the same names as they do today. Among the eight *hsien* capitals, all except one, Ch'ien Tao, which was abolished several decades later, have been well documented in official annals and frequently noted by geographers in succeeding dynasties. Out of fifty-seven villages bearing the term *li* [village], only a dozen cannot be deciphered. A more detailed analysis of all the villages on the map will undoubtedly yield valuable insight into the settlement pattern and processes in South China during this period.



A reconstruction of the Relief map of Southern Ch'ang-sha from the Han collection published in Wen-wu, *No. 2, 1975. Settlements are identified both graphically and in text*

Of special interest is the design of the Relief map. For obvious military reasons, the map is centered around Shen-p'ing which was the commanding headquarters of the southern Ch'angsha defense area and the leading garrison station of the Hsiao River basin. The roads and small rivers are easily distinguishable. Cities, towns and villages are marked by symbols of varying shapes and sizes. These symbols, though simple and limited in variety, are of better design than those produced in the Sung and Yuan periods in terms of visibility and size in proportion to the mapped area. In delineating the drainage basins, encircling mountains are drawn near the edges of the map, a method still in use at the turn of the twentieth century.

The Middle Ages: This very long period spans a rather vague time frame that begins around the third or fourth century of the Christian era, and continues until approximately the 15th century. In this millennium that links the ancient and modern worlds there developed in the West a genre of world maps or map-paintings originating in the classical tradition but adopted by the Christian church. One of the primary purposes of most of these *mappaemundi* [map of the world], as they are called in the West, was to instruct the faithful about the significant events in Christian history rather than to record their precise locations. They rarely had any scientific attributes such as a *graticule* or an expressed scale, and they were often schematic in character and geometric, usually circular or oval in shape. Although several maps fitting this description are also found in the medieval Arabic culture or the cosmographies of South and East Asia during this period, the European *mappaemundi* form a well-defined group. They provide a body of documents whose form, content and meaning reflect many aspects of Europe medieval life. Some scholars consider ancient Rome the largest city before the 19th century; London, in the 19th century, being the first to exceed a population of one million. However some others consider medieval Baghdad, with an estimated population of 1.2 million at its peak, the largest city before 19th century London and the first with a population of over one million. Others estimate that Baghdad's population may have been as large as two million in the ninth century. From the ninth through the end of the 12th century, the city of Constantinople, capital of the Byzantine Empire, was the largest and wealthiest city in Europe, with a population approaching one million. The city of Jerusalem was never the largest or the most important commercial city, but it was the most significant place in the eyes of the western medieval cartographers and their audience as evidenced by it prominence on European medieval maps.

During the European Middle Ages, a town was not so much a political entity as a collection of houses. City residence brought freedom from customary rural obligations to lord and community: *Stadtluft macht frei* [City air makes you free] was a saying in Germany. In continental Europe cities with a legislature of their own were not unheard of, the laws for towns as a rule other than for the countryside, the lord of a town often being nothing other than for surrounding land. In the Holy Roman Empire some cities had no other lord than the emperor. In Italy medieval communes had quite a state-like power. In exceptional cases like Venice, Genoa or Lübeck, cities themselves became powerful states, sometimes taking surrounding areas under their control or establishing extensive maritime empires. Similar phenomena existed elsewhere such as Asia, as in the case of Sakai, which enjoyed a considerable autonomy in late medieval Japan.

The most common maps that have survived from the early Middle Ages fall into a few general categories: "Hemisphereical Oceanic" Zonal or Macrobian maps (*see* ***#201***), "Triparte" T-O or Isidorean maps (*see* ***#205***) and "Beatus" maps *(see* ***#207****)*. The following are examples of those maps that actually attempted to identify any cities given their very limited display area.

Macrobius was a late Roman neoplatonic grammarian and philosopher who wrote several eclectic works that were much read in the Middle Ages ***(see #201).*** His *Expositio In Somnium Scipionis ex Cicerone* [Commentary on the Dream of Scipio by Cicero] is an extract from the sixth book of Cicero's *De Republica*. Macrobius' commentary on this work includes geographical theories that were to some extent based upon Ptolemy, but with certain differences. Macrobius preferred Eratosthenes' more accurate calculation for the circumference of the earth (252,000 *stadia* = 25,000 miles, vice Ptolemy's 180,000 *stadia* = 22,500 miles). With its postulate of a stationary round earth at the center of the universe and its contention that the environmental sea, variously called the *Atlantic,* the *Great Sea* and the *Ocean*, which 'in spite of these big names, is quite small', it is definitely in the Ptolemaic tradition. However, it departs from that tradition in making this ocean the boundary, in every direction, of the inhabited earth, giving it the shape of a lozenge, narrow at the extremes and wide in the middle, and in positing the existence of three other landmasses corresponding to the *oikoumene* [known inhabited world], in the remaining quarters of the earth. In his territorial division, Macrobius adopts the conventional five zones, and, while maintaining the existence of an Antipodean race of men, he also maintains that there is no way by which knowledge of them can be obtained.



15th century Macrobian world map, 14.3 cm diameter, displaying cities using generic castellated figure and, in some cases, the name in text: Babylon, Alexandria, Jerusalem, Constantinople, Rome and Carthage. ***(#201)***

Macrobius, like his near contemporary Martianus Capella, proposed that this inhabited world, which lay entirely north of the Equator, was surrounded by an ocean, which also filled the impassable equatorial zone, a theory which can in no way be reconciled with Ptolemy's catalogue of places in the Southern Hemisphere. The Macrobian map illustrated above is from ca. 1483 and shows the Northern Hemisphere (Europe, Africa and Asia) and the *Antipodes*. The only cities displayed include Jerusalem, Alexandria, Babylon, Rome, Babylon, Constantinople and Carthage. Each city is represented by a generic castellated figure and, in some cases, the name in text.

The next zone map shown below, derived from the Macrobian type, is found in the 10th century manuscript of the Venerable Bede's *De temporum ratione*, which was bound up with the *Periegesis* of Priscian and the *Cottoniana* or *Anglo-Saxon* map, in every important respect it may be assumed to reproduce Bede's original. Geographical detail is subordinate to structure. It is uncolored, except for a green border, circular in form, measures ten inches across, represents the *globus terraqueus*, and seems intended to show the movements of the oceans as well as the position of the zones or climates.

The geography is restricted to a sketchy but plausible rendition of the inhabited world in the northern temperate zone. It has a slight sketch of the Mediterranean Sea, with two city-pictures (two towered buildings, probably of Rome (or Constantinople) and Jerusalem) and showing the *Pillars of Hercules*. The continents are indicated by inscriptions: Africa, Asia, *Æuitania* (sic); but, curiously, no drawing of their outlines is given. In the middle of the sketch is an inscription, which gives an estimate of the four great divisions of the world's circuit, with special reference to the ebb and flow of the ocean, and a description of the equinoctial zone in strict

agreement with Macrobius (i.e., *Comment. Somn. Scip.*, ii, 6 each division measures 63,000 *stadia*), "*almost entirely washed above and below by the sea, which flows round about through the mist of the land, dividing the whole earth into four islands, as it were; which islands are inhabited . . .; and as through the mist of the land, so also round about the circuit of the same, runs the sea, which from heat or cold is untraversable*". Besides this inscription, there are only the five climates/zones labeled: *Arcticus, Æstivus, Æquinoctials, Hiemalis,* and *Antarcticus*. The inscription in the center describes how the globe is divided into four great islands with the ocean between, while that around the edge (beginning at the left: *Hinc refluit Oceanus ad septentrionem (or, austrum) per LXIII stadiorum*, twice repeated in each form, explains Macrobius' theory of tides, which was also accepted by Bede. This particular map is found in Chapter 34 of the *De temporum ratione*, the text of which is also based upon St. Isidore of Seville's treatise.



10th century Macrobian world map in Bede's De temporum ratione, 2.75 cm diameter ***(#201)***

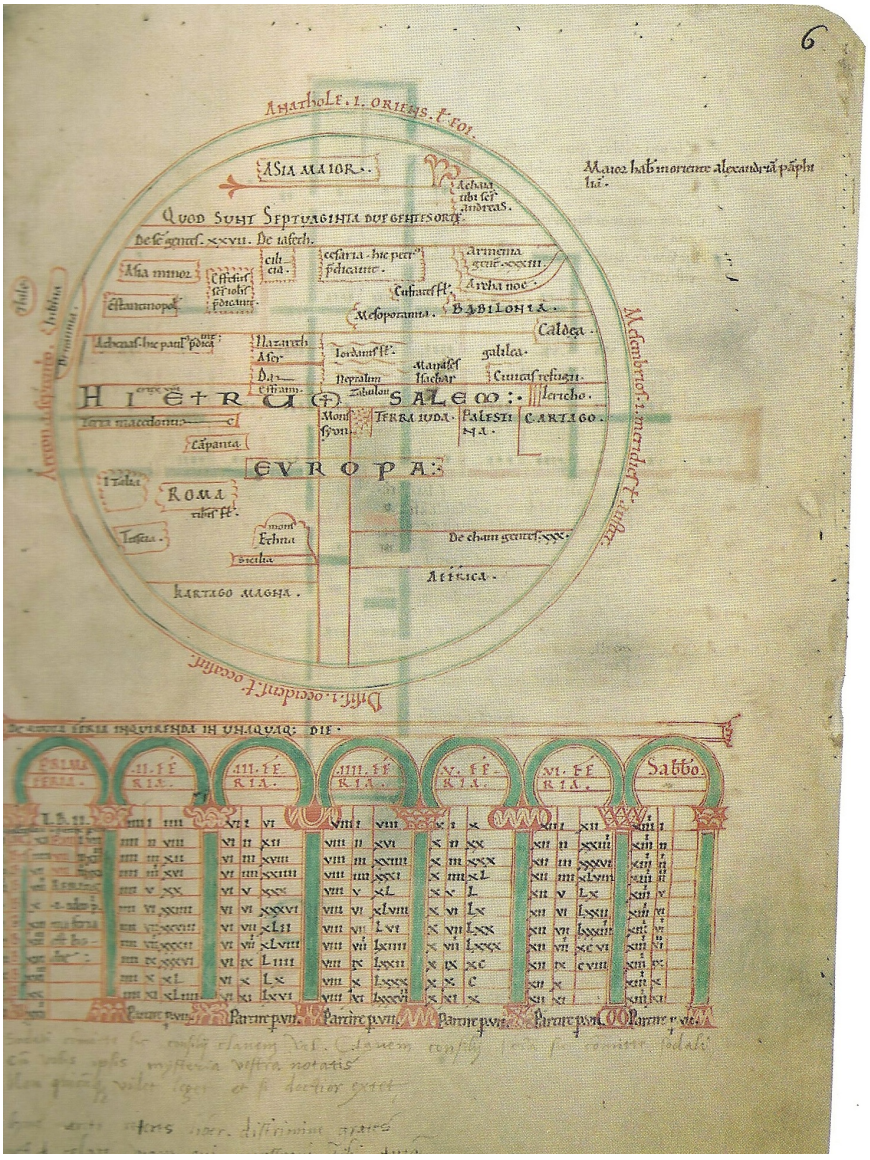
Another variation of the basic medieval map design was called the ***Byzantine-Oxford, or B-O T-O*** maps *(see* ***#205****)*. These designs differed from the traditional divisions by showing political boundaries. There is very little attempt to graphically display landmasses and very little symbology is employed at all. As portrayed in the map below, the domain of Europe is extended across the Mediterranean to the southern and eastern coasts where the Crusaders made inroads. Correspondingly, *Kartago Magna* [greater Carthage], an extension of Muslim North Africa, controls southern Spain.

More prominently than in any other example of the biblical school, the Holy Land dominates the center of the map. This area is divided first into the lands of Judea, Galilee, and Palestine, and further by the names of seven of the Twelve Tribes. The River Jordan flows southward, starting southwest of Nazareth and passing east of Jerusalem. The dividing line between Asia and Europe-Africa is replaced by Jerusalem. The Holy City is flanked on the south by Jericho, and the site of the Crucifixion is identified just north of center. Mt. Zion is in the exact center.

Inscriptions confirm the idea that the map was composed in the Byzantine world. The directions of the compass are given in Greek as well as Latin. Several notes identify the regions in which various

Disciples preached. Paul is located at *Athens*, John in *Ephesus*, Peter in *Caesarea*, and Andrew in *Achaia*. In Ephesus, the Byzantine emperor Justinian (482-565) built a temple to St. John the Divine, one of the seven wonders of the ancient world. At *Caesarea Philippi*, Peter received his commission and the "keys" of the Church. *Achaia* is the Roman and Byzantine name for the Greek province where Andrew is said to have preached.

The map was brought back to England or Ireland after the First Crusade, which conquered Jerusalem in 1099. The copyist or a later hand has added *Britannia, Hibernia*, and the northern island *Thule* in the margin, but the remainder is apparently a faithful Latin version, dating from 1110, of the Greek original. Above all, the map applies the Crusaders' guiding doctrinal notion of Jerusalem as the most important place on earth.



An example of a 12th century Byzantine-Oxford, or B-O T-O world map, oriented with East at the top. Cities are displayed only in text form.

The detailed world map has no introductory or accompanying text and no title. The page is composed with the map above and a week-day table arranged under the arches below. It looks like

nothing so much as a cathedral rose window with a row of lancets beneath. In this manuscript the artistry of layout seems almost to have subsumed meaning. Around the circle of the map the cardinal directions are ostentatiously given in Greek and glossed in Latin: for example, *Anathole vel oriens vel eoi,* in the east. A note to one side says, '*Maior habet in oriente alexandriam pamphiliam*', a reference to Asia Major at the top of the map. The whole is laid out with impressive regularity. It looks like a T-O map, but the continents are not in their usual places and the center bar, usually occupied by the Nile/Black Sea axis, is labeled *"Hierusalem"* in large letters with a cross in the center and an explanatory note *crux xpi* or cross of Christ. Below the cross is *Mons Syon*. The vertical bar of the "T", usually the Mediterranean, is also unlabeled. In fact, the only bodies of water to be named on this map are the rivers Jordan, Euphrates and Tiber.

The continents are arranged with Asia at the top, Europe apparently in the center and Africa in the southwest corner. Most puzzling is that the label for Europe crosses what would normally be the Mediterranean. Another oddity is that *Achaia, 'where St Andrew [preached]'* is in southeast Asia, far from Athens, the preaching site of Paul. Of the sons of Noah, Shem is found in Asia and Ham in Africa, as usual, but Japheth stands next to Shem in Asia, instead of Europe. This placement could reflect the scribe's loyalty to the Biblical text, '*May God make space for Japhet, and let him live in the tents of Shem*' (Genesis 9.7)

The numbers of "people" in the world are announced as seventy-two *('Quod sunt septuaginta due gentes orte')* but the total adds up to ninety: Shem, twenty-seven; Ham, thirty; and Armenia, thirty-three. The peoples descending from Japheth are not named. These are the usual numbers for the descendants of Shem and Ham, but the source of the numbers for Armenia and why this country is singled out are not clear.

The map is dedicated almost entirely to places of significance in the Bible. The division of the earth among the sons of Noah, Noah's ark, seven of the twelve tribal territories of the land of Israel, Jericho and the city of refuge (Joshua 20) for those guilty of involuntary manslaughter under Hebrew law, all come from Jewish history. *Paradise* is not shown. The life of Christ is illustrated by the river Jordan, Galilee, Nazareth and Jerusalem. Athens, Ephesus, Achaia, and Caesarea are mentioned specifically as sites where the apostles preached. The only places without a biblical link of some kind are in Italy (Sicily, Mount Etna, Tuscany, Campania), Constantinople and Britain, Ireland and Thule. These islands, the only ones represented, break the frame of the map, perhaps as a burst of patriotism on the part of the scribes. They are in the north, but so far east as to be immediately above Constantinople. *Kartago Magna*, which could be Cartagena in Spain as *Cartago* appears elsewhere on the map, is another non-biblical site.

Its heavily biblical content is also unusual: note *Hierusalem* on the central axis with the cross and Mt. Syon in the center. Place names are almost entirely omitted from Africa and Asia Major, and a note in the upper right adds *[Asia] Major has in the east Alexandria and Pamphilia*. Like the map within the *rota* of sunrises and sunsets, this is a T-O map with Asia in the top half, and Europe and Africa in the lower half. These divisions are treated rather casually, however, for the label "EVROPA" straddles the boundary between Europe and Africa; locations in the Holy Land are indifferently assigned to Asia and Africa, and Athens and Achaia are placed in Asia. There is no attempt at cartographic realism: this is a diagram containing a list of places.

A. **Asia** is divided by horizontal lines into three zones:
   1. *ASIA MAIOR*: glossed *QVOD SVNT SEPTVAGINTA DVE GENTES ORTE*, and beneath this *De Sem gentes XXVI. De iafeth <gentes XV> (see AFFRICA below for Ham)*. At the right hand edge *Achaia ubi santus andreas <predicauit>*
   2. *Asia minor*: containing roughly from left to right *constantinopolis, Effesus <ubi> sanctus iohannes predicauit, cilicia, cesaria. hic petrus predicauit, Armenia gentes XXXIII, Archa noe, Eufrates flumen, Mesopotamia, BABILONIA, Caldea.* Outside the map in the left margin is a note: *<Asia> Maior habet in oriente alexandriam pamphiliam.*
   3. A zone largely comprising sites in the Holy Land: *Athenas. hic paulus predicauit, Nazareth, Aser, Dan, Effraim, Iordanis flumen, Neptalim, Zebulon, Manases, Isachar, galilea, Ciuitas refugii, Iericho.*

B. Running horizontally across the middle of the map, and dividing Asia from Africa and Europe, is a band labeled *HIERVSALEM*. Between the E and R of *HIERVSALEM* is a cross, labeled above the E *crux christi*. In the center, at the juncture of the horizontal and vertical

dividing bands, is an omega-shape with a cross in the centre, labeled beneath *Mons syon*.

C. **Europe** in principle occupies the left hand side of the lower half of the map, but the label *EVROPA* actually straddles the vertical divider. In the Europe zone, reading from top to bottom and left to right are: *Terra macedonum, Campania, Italia, ROMA, tiberis flumen, Tuscia, mons Ethna, sicilia, KARTAGO MAGNA.*

D. **Africa** is labeled much more discretely at the foot of the Africa zone (*Affrica*). Above it is the statement corresponding to the one in the Asia zone: *De cham gentes XXX*. The only place names in the Africa zone are at the very top, and two of them, *TERRA IVDA*, and *PALESTINA*, may have been intended as part of the central band (B above). Only the final place name, *CARTAGO*, actually refers to an African location.

E. Great Britain, Ireland and Thule are represented at or over the edge of the *orbis* and in the northern rather than western quadrant. Britain is barely within the frame, and the other islands float outside.

At one extreme is the 11th century Isidore *mappamundi*, 26 cm diameter, shown below that depicts a large number of individual cities, and significant places, each with a somewhat individualized castellated graphic symbol and a place name for each place. Over 70 significant places are symbolized in this world map (oriented with East at the top), a very rare example from this time period. Not all of these represent "cities". Isidorean maps have a particular religious orientation and some of these graphically identified places are individual buildings such as significant temples, churches, etc.

Christian scholars adopted the T-O map for its simplicity, as had the classical writers who first employed it. The Byzantine-Oxford T-O map treats this expedient diagram as an emblem of conquest. Jerusalem was the focus of that conquest for more than two centuries of Crusaders, and it would remain the center of attention on maps until the invention of printing and the publication of Ptolemy in the 1470s.

These T-O maps, whether actually contained in the *Etymologiarum* of Isidore, in later editions of the same, as modified derivatives thereof *(Sallusts, B-O T-O),* or as maps that were merely influenced by the basic design format (*Hereford, Ebstorf*, et. al.), were all very popular and numerous during the Middle Ages in Europe. This can be evidenced by the relatively large survival rate. At least eighty manuscripts, reaching from the eighth to the 15th century with the first printed map being a T-O map, contain designs developed on the T-O pattern with surprisingly similar characteristics. In fact, so influential and popular was Isidore's treatise that it continued to be read right into the Renaissance period.

Again, these maps illustrate the important fact that maps are made by cartographers who have a specific purpose/objective in mind and therefore are selective about what and how various elements are displayed on their maps.

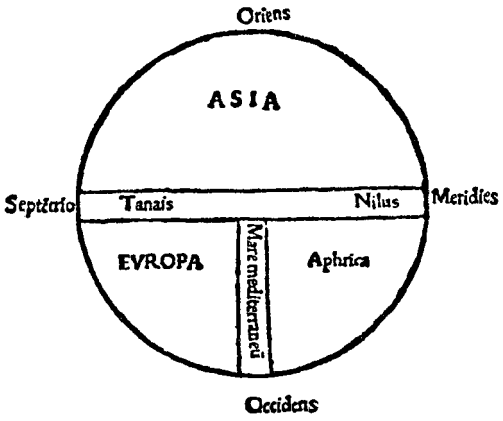


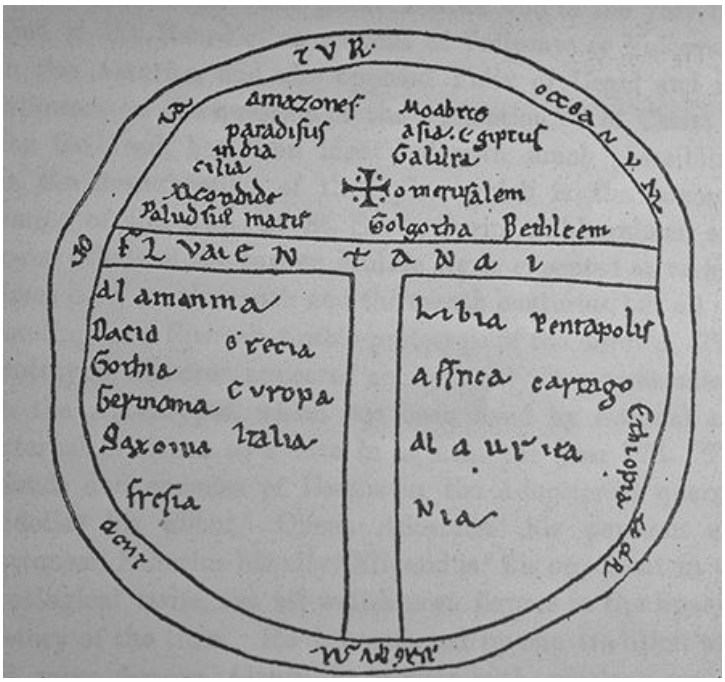
11th century Isidorean world map known as the "Munich" map, oriented with East at the top, 26 cm diameter (see ***#205****, p. 61). There are many cities are represented, mostly by castellated figures.*

The *Munich* map's model probably dates from Antiquity, the forms through which it was transmitted correspond, of course, to the cultural demands of the map's creator and intended audience. Consider "urban vignettes" (i.e., cities), a striking feature of the *Munich* map, which are given such prominence that the physical space of the world seems almost entirely urbanized. There can be no doubt about the antique origins of the vignettes, despite no model having survived to the present day. It is usually held that cities were represented in two basic forms: "stylized urban vignettes" and "picturesque representations" referring to 'real' cities, characterized by one or several of their monuments or topographical particularities." As *mappaemundi* were adapted to medieval realities, urban vignettes continued to be drawn, diverging from their antique model and assuming an abstract form, with no connection whatsoever to the urban reality they represented in the guise of fortified walls and towers. On the *Munich* map, the vignettes, which were designed using a limited number of geometric elements, including a border wall (sometimes in a quadrangular shape viewed from a semi-oblique perspective), round towers and gates (topped with domes or pediments, sometimes evoking church bell towers) are all different. Some elements, such as the dome, are reserved for eastern (i.e., mostly Islamic) cities; the most important cities are given the largest vignettes, in an attempt to establish a hierarchy. Although there can be no doubt about the decorative purpose of urban vignettes, they serve above all to illustrate the diversity of the urban world and how it has been

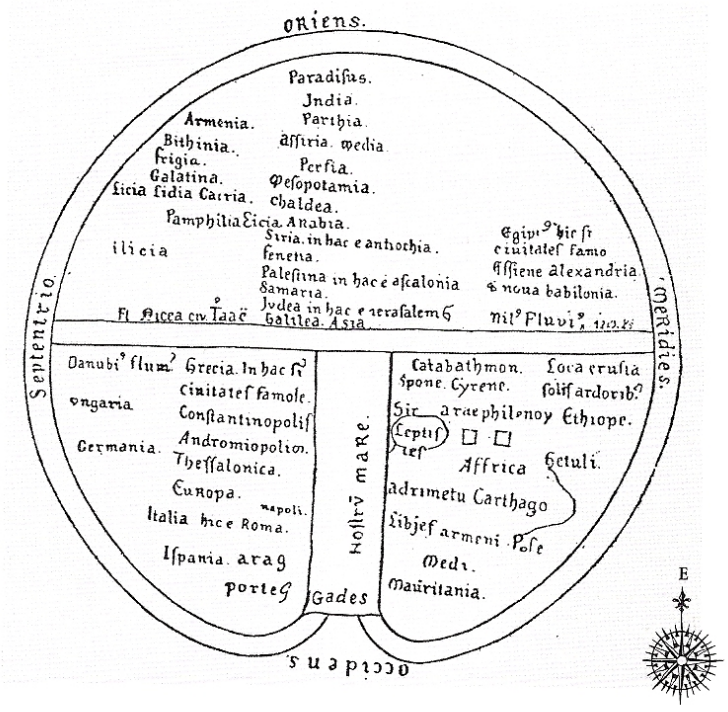
integrated into the physical space in which humanity lives. The 12th century is characterized by a striking revival of scholarly interest in physical space in all its forms. Urban topographies, as a digression, are from that point on quite common in historical and encyclopedic works. The *Munich* map, whose distant source model no doubt bore a large number of *civitates*, is perfectly adapted to this renewed interest in cities, centers of human activity and 'civilized' places par excellence. The lack of urban vignettes indicates, conversely, regions where human activity is less common: the south of Africa and the north of Asia.

At right is an example of the typical *Isidorean* T-O map of the known world, devoid of anything other that continental place names and the "T" made up of the Rivers Nile and *Tanais* [Don] and the Mediterranean Sea.



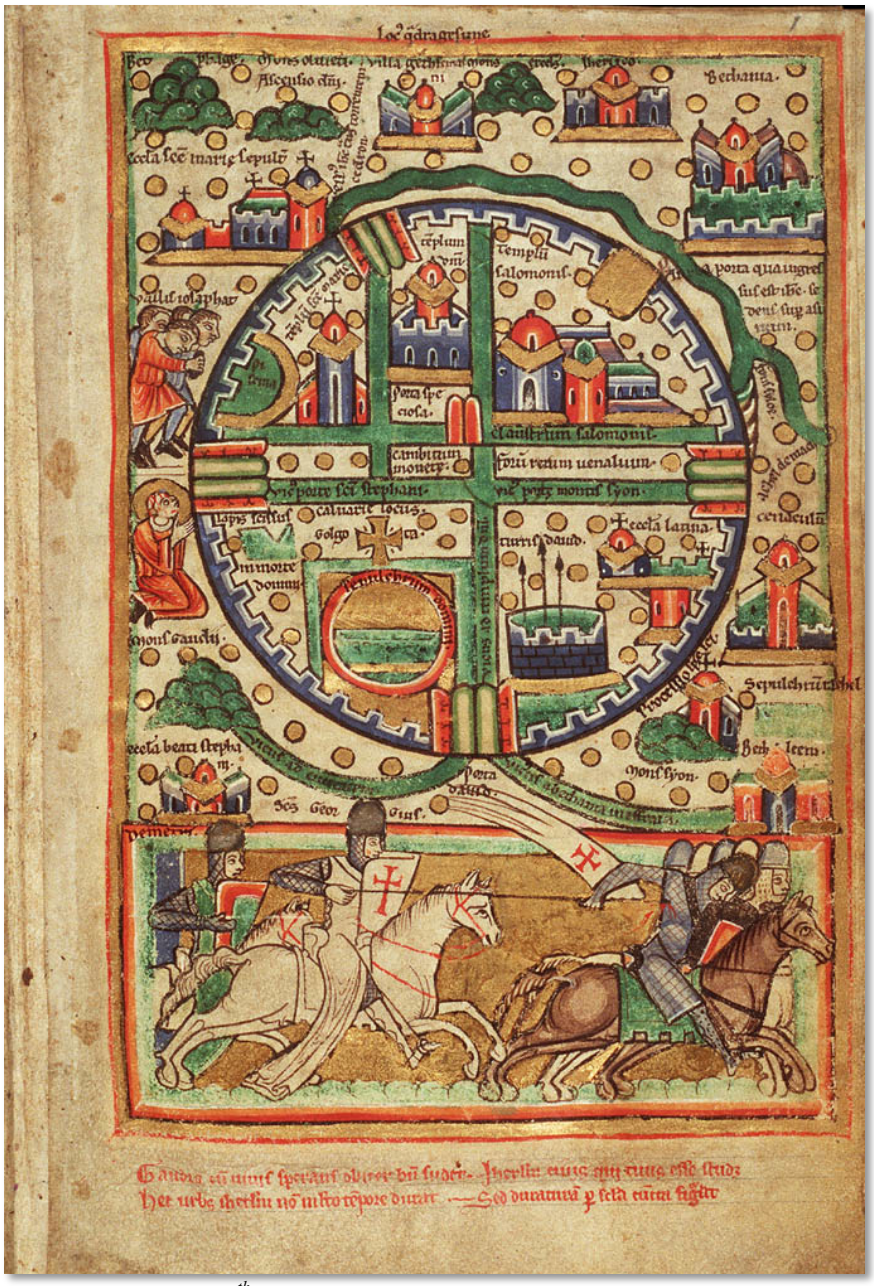


The ninth century T-O map (above) and the 13th century one below illustrate the concept of identifying the relative location of specific places, but without any attempt at identifying their specific location within the entire continent – no symbology, only a textual reference. Note the cities of Jerusalem, Bethlehem, Galilea. Areas like Saxon, Dacid, Grecia, Italia, Europa, Affrica, Libia, Asia, etc. were all treated the same in terms of type, size, etc., no attempt to differentiate cities, from countries, from continents; and, again, no special symbology employed.





Lambert of St. Omer, Liber floridus, T-O map, Ghent University Library, Ms. 92, fol.19r.
Place-names (countries and cities) are listed without regards to specific location exception within either, Asia (top), Europe (left) or Affrica (right)



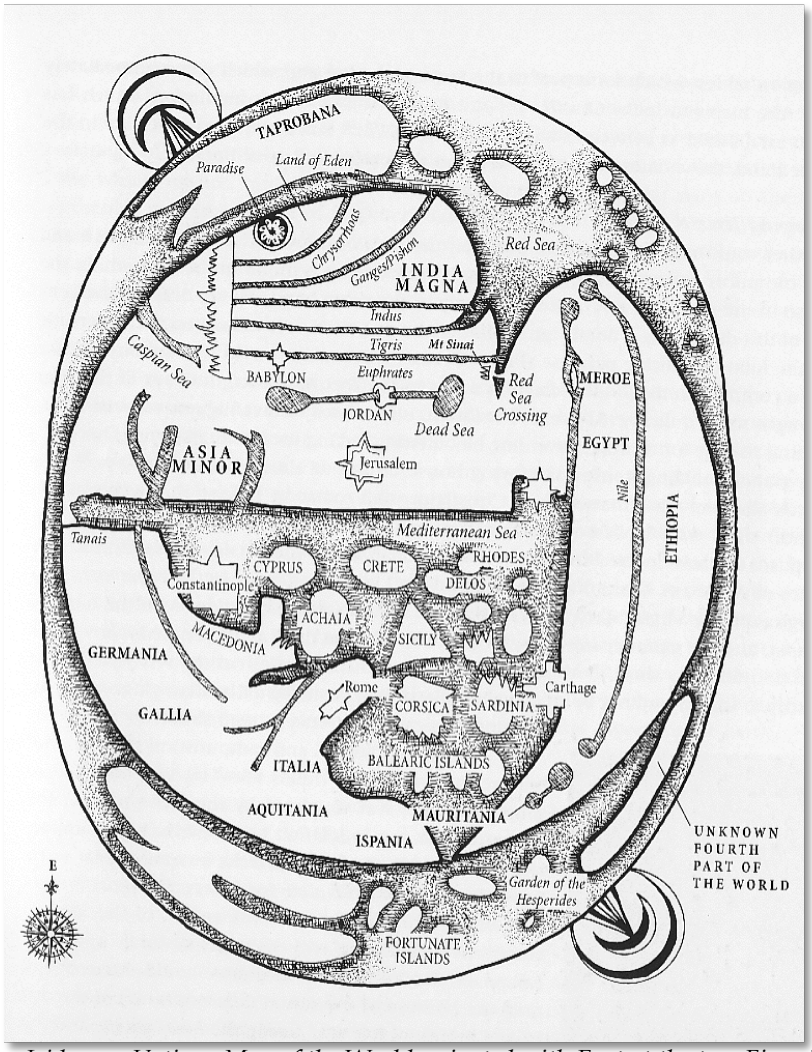
12th century Crusader map of Jerusalem

Frankish knights stormed the shores of the Middle East on the First Crusade and captured Jerusalem in 1099. The Crusaders brought back this map from their journey to spread news of the conquest. The map shown above and others like it drawn during those times, revolutionized dramatically the cartography of the Holy Land, moving Jerusalem to the very center of the world. Jerusalem is shown as a circular colonnade divided into four equal parts by two main thoroughfares; one connects the Gate of Damascus with the Gate of Mount Zion, and the other passes from the Tower of David to the opposite wall. The most prominent buildings are churches and shrines. During the early medieval period in western cartography Jerusalem was considered the "center of the known world".

The *Pseudo · Isidorean Vatican Map of the World,* shown below, is an eighth century T-O map from Isidore of Seville's *Etymologiarum*, 22 x 29 cm. This is one of the oldest detailed world maps, placed with a group of *computus* materials. It shows the inhabited continents as a circle surrounded by the Ocean. To the southwest of Africa is the island that has been interpreted as a vestigial fourth continent. *Paradise* is represented by a rosette in the Far East. Two apparent islands in the northwest are both labeled with the names of seas: *mare mortun* and *oceanus occiduus* [dead sea, or sea of the dead, and western ocean]. Oriented with East at the top. The Christian world-view has been superimposed on to a classical geographical description, the Holy Land has been given great emphasis, and *Paradise* is indicated in the farthest east. Following Orosius, the map maker has shown a lake in Mauritania at the head of the Nile; a second lake in Ethiopia, not far from the shore of the Red Sea, before the river sinks into the sands; and a third lake around the island of Meroe, where the Nile reappeared to continue its course to terminate in the Mediterranean Sea. The colors of the map and the ink of the writing have faded but they would have been brilliant when fresh. Its description of the earth has a distinctly classical imprint that has been modified by the inclusion of biblical material, which makes it an important early medieval cartographical document. It was drawn probably in Italy or southern France, and probably in the late eighth century, and is thus the earliest known non-diagrammatic world map from the Middle Ages. In comparison with most T-O maps of this period it is remarkably rich in geographical information, containing more than 130 inscriptions. However, there are only six cities identified by graphic symbols: Jerusalem, Rome, Babylon, Carthage, Constantinople, and Alexandria.



The Pseudo · Isidorean Vatican map of the world, oriented with East at the top



The Pseudo·Isidorean Vatican Map of the World, oriented with East at the top. Five cities are singled-out with a graphic symbol: Jerusalem, Rome, Alexandria, Carthage, Babylon and Constantinople.

On the 1050 *Beatus* map shown below, a derivative also known as the ***St. Sever*, or *Paris I* map *(#207.13)*,** city symbols crowd Western Europe, northern Africa and Asia Minor (over 90 building-like symbols in all), while the rest of the world is filled with lengthy quotations, mostly from Isidore, about the wonders to be found there. The scribe, hoping to please his patron, has drawn the humble church of Saint Sever as large as the city symbols of Rome and Constantinople. *Roma* is one city specifically named as well as represented by a symbol. Surprisingly, Jerusalem is not emphasized as on the *Ashburnham, London Beatus* map ***(#207.16)*** and most probably the original map. The rivers on the *St. Sever* map are strikingly modern in their presentation when compared with the other *Beatus* derivatives or other maps of the 11th century. Also there are more rivers depicted on the *St. Sever* than any of the other derivatives, though none of these rivers are specifically labeled. Another feature that this map has in common with most of the other *Beatus* copies is the vignette of Adam and Eve and the *Tree of Knowledge* which is placed at the top of the map (East). Again all of the significant "places" (not all are cities, some are significant buildings) are represented by generic castellated pictures.



St. Sever, or *Paris I Beatus derivative map ca. 1050, oriented with East at the top; cities are displayed using graphic symbols and text*

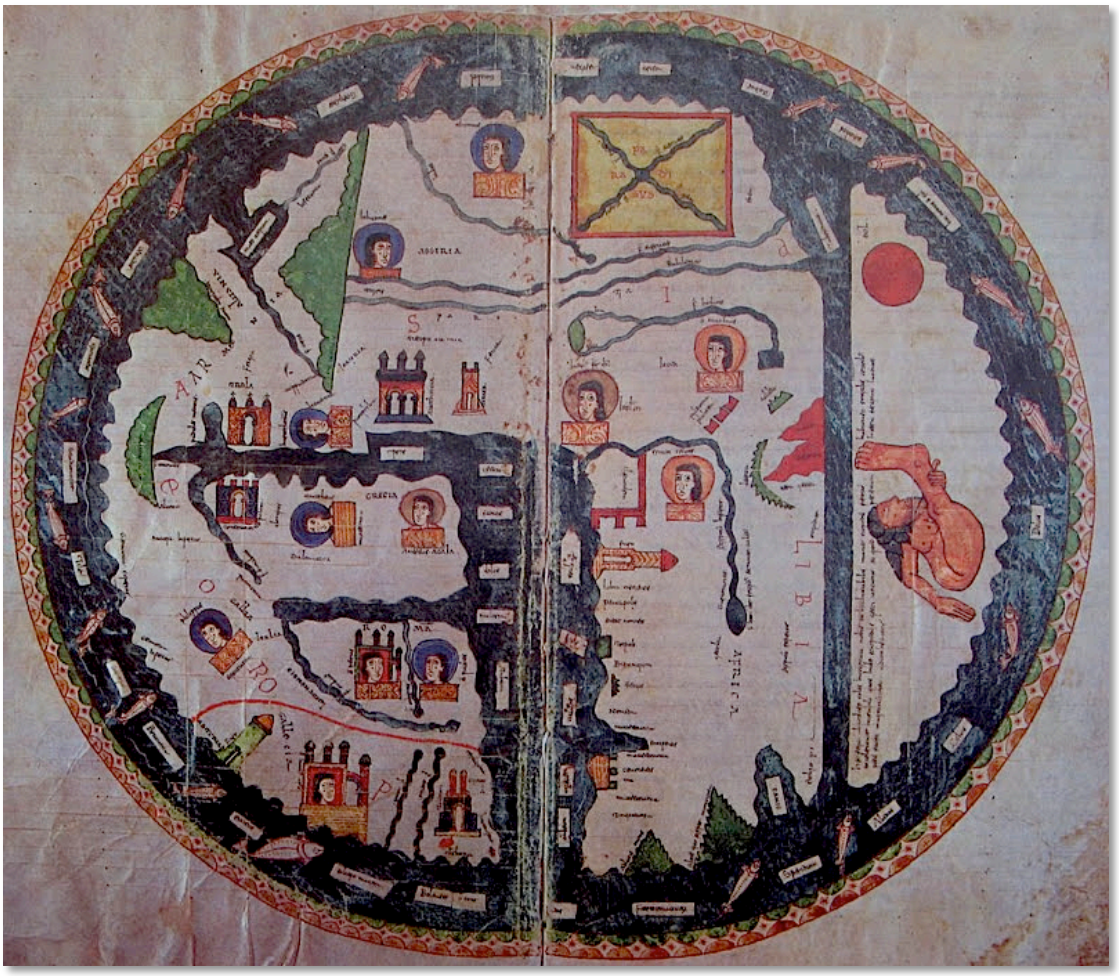
In another *Beatus* derivitive map, **t**he ***Osma*** map of 1086 ***(#207.14),*** named after the Spanish town of Osma (or Uxama) which is located 56 kilometers to the southwest of Soria, in the valley of the Douro, (this area was an ancient stronghold of Sertorius, and St. Dominic was once a canon of the Church) the cities are identified and represented in a rather unique method. The *Beatus* maps seem to have had a special objective of portraying the spread of the Christian Faith over the known world. Although the *Osma* map is devoid of the usually dominate illustration of Adam and Eve, in their place the cartographer has represented *Paradise* simply by a square with the 'springs' of the four sacred rivers.

The religious theme is explicitly expressed most clearly on the *Osma* map in a series of pictures of the Twelve Apostles; each apostle is located approximately in the locality where tradition fixed his preaching and his diocese. A note in the accompanying Latin *Commentary* of Beatus tells us plainly that these apostolic vignettes were an essential feature of the map from the beginning; that they illustrated the preaching or sowing of the Word *'in the field of this world'*; and, by implication, that the apostolic portraits were placed in certain definite cities or regions to which their work had special reference. Further, this distribution *(Divisio Apostolorum)* was conceived as follows: to Peter was given Rome; to Andrew, Greece or *Achaia*; to Thomas, India; to James, Spain; to John, Asia; to Matthew, Macedonia; to Philip, France, or *Gaul*; to Bartholemew, *Lycaonia*; to Simon *Zelotes* and Egypt; to Matthias, *Judea*; to James, the brother of the Lord, Jerusalem was assigned; while for Paul there was no such definite location, as his mission was to all the world. Peter is actually shown enclosed in a towered church in Rome, with Paul nearby. Paul's portrait, however, appears on the map along with that of St. Peter's at Rome, as co-founder of the Apostolic See. The apostle James gets an even larger church in Spain. The *Osma map* leaves out (in the pictures, though not in the text) both Thaddeus and Judas the brother of James, making up the full number with Paul and Matthias. As mentioned above, the accompanying *Commentary* of Beatus describes all of this in detail, but the pictures themselves have only survived in this one existing map of the Beatus derivatives. The portraits are all of one type, an intensely sacerdotal one.

Geographically, the *Osma* map of 1203 presents a frightful confusion of lands and seas, placing Palestine in the interior of Africa and southern Italy next to Jerusalem; but nevertheless it contains some valuable reminiscences of original matter not so prominent elsewhere. Again, the *Osma* map has much in common with the *St. Sever* map, especially in its general form, and, after the 'Aquitanian' copy, it is

generally considered the best example of this school or group of designs originated by Beatus. In some areas it indeed must take first place, as more directly representing the Beatus prototype. Thus, in its pictures of the Twelve Apostles, it is unique, and explains to us the very *fons et origo* of the Beatus scheme; it represents the *Skiapods*, or shadow-footed men, of the *Southern Continent*, an important feature of the primitive work; while none of the other Beatus derivatives gives so good of a delineation of the *Lighthouse-Towers* at Alexandria and *Brigantia* (Spain). Here, again, probably original Beatus material is reproduced. Other pictorial elements also include a fortification in Carthage and city symbols for Toledo, Tyre, Troy, Constantinople and Antioch.

The *Osma* map is especially valuable in its representation of the *Levant* or Eastern Mediterranean, of the Nile, of Mount Taurus and of the island *Taprobane* [Sri Lanka]. Only on the two 'best' examples, *St. Sever* and *Osma*, do we see displayed mountains, namely the Pyrenees, Alps, Riphaean Hills, Caucasus or Taurus, Sinai and Atlas. The *Osma* map marks four African Alps, two on the south coast, two towards the west (*Alps duo* as one mountain, *Atlas* as the other). A total of 36 islands are distributed throughout the encircling ocean and Mediterranean, with fish, but no boats, intermixed with the standardized islands.



The Burgo de Osma copy, 1086, Archivo Catedral Burgo de Osma, Soria, Spain, oriented with East at the top, many cities represented with apostolic portraits and buildings

The fourth continent is cut off from *Libia* [Africa] by water and has a red sun-disk on it to illustrate its torrid climate. The most unusual feature of this Beatus derivative is the presence in this continent of a *Sciopod*, a one-legged man, shielding himself from the sun with his single enormous foot. The inscription

tells us that: *This region remains uninhabitable and unknown to us on account of the heat of the sun. It is said that the Sciopods live there, who have single legs and [travel] with amazing speed. The Greeks call them Sciopods, because, lying supine on the ground during the summer, they are shaded by the great size of their feet.* A *Sciopod* appears on one other Beatus map, now in Paris, but without the text, and a text combining *Sciopods* and the *Antipodes* is also on the Lorvao manuscript in Lisbon.



(left) Constantinople and the Riphean Mountains and (right) Cappadocia and Chalcedony on the 13th century San Andrés de Arroyo Beatus map ***(#207.25)***

On the ***Psalter*** **map of 1250 *(#223),*** while centered precisely on the city of Jerusalem, *Paradise*, in the Far East, is conceived in a somewhat exceptional manner. The sun pours out of its mouth the flood waters that flow through the *Garden of Eden*, and supplies the five sacred rivers; for the author has entered both the *Ganges* and the *Phison* in this list. Usually tradition identifies four sacred rivers, using either the *Ganges* or *Phison*. The heads of Adam and Eve appear within the enclosure, which seems to be marked off with lofty and symmetrical mountains. The *Tree of Temptation* is roughly drawn between the two faces. (Bevan and Phillot, *Medieval Geography*, xlii, suggest the *Arbre Sec*, which they make identical with the *Tree of the Knowledge of Good and Evil*; and Yule, *Marco Polo*, II.397, refers us to legendary language about the *Dry Tree* which would perhaps support such an identification; - *'in the midst of Paradise was a fountain, whence flowed four rivers, and over the fountain a great Tree bare of bark and leaves'*). The trees of the *Sun and Moon* are here separately indicated, close to *Paradise* on the south; while the Tigris River flows direct from *Paradise* to the Indian Ocean, and the Euphrates River (or rather one of two rivers so named) enters a mountain chain west of *Paradise*, named *Orcatoten*, and thence flows to the Persian Gulf. Of the Nile River only the Egyptian portion is given. The *Arae Liberi et Colimae Herculi[s]* occurs near the Indus River, but the *Arae Alexandri* are near the border of Europe; Albania, in northeast Asia, recalls the *Anglo-Saxon* or *Cottoniana* map ***(#210);*** *Cyropolis*, near the Caspian, is perhaps for *Cyreschata* on the *Jaxartes*, famous for Alexander's siege; *Sclaveni occidentales*, near the Black Sea, are suggestive of much more modern times, like the island of *Norvegia*. The Arabian and Persian Gulfs appear to be melted into one by the draftsman of the *Psalter* map, and in the same great indent he has put the ocean, off the coast of India, filled with large islands. The Ganges River has an utterly false direction, flowing from the northern mountains, not into the sea, but to *Paradise*, like one of the two Euphrates rivers, here delineated. Northwest Africa is marked off, like the northeast of Asia, by a belt, which was perhaps intended for mountains, as in the other case, but remains as a mere linear mark with the legend, *Sandy and Desert Land*.



The Psalter Map of 1250, oriented with East at the top **(#223)** *Jerusalem is highlighted in the center, while other cities are displayed withbuildings*



Detail if the center of the Psalter map showing the prominent place of Jerusalem. All of the other cities are represented by various brown triangle, square or castle-like symbols, note "Roma", "Bethlehem", "Jerico", "Alexandria"

The draftsman's excessive regard for a literal interpretation of the Old and New Testaments explains the orbo-centric position of Jerusalem. In fact much the same reason may be used to account for the *Psalter's* eastern orientation. So many biblical references and place-names within Palestine and adjacent Bible lands are given that this area occupies more than a third of Asia. The *Ark of Noah* appears very clearly on a mountain of Armenia, and a large fish swims in the middle of the Sea of Galilee, perhaps as a reminiscence of the New Testament history. The *Barns of Joseph*, close to Babylon and Egypt, show us that our artist has heard of the Pyramids. The most famous cities of the ancient world, and the most famous sites of the Bible, are nearly all represented; while the immense and symmetrical Jerusalem, in the very middle of the world, forms a perfect center to an exact circle.

The *Ebstorf Mappamundi* (#224). One of the largest (3.57 meters in diameter), and elaborate world maps of the early medieval period is this 1234 map compiled by Gervase Tilbury. This map sums up a medieval European-Christian cartographic tradition that began with the illustrations by Cosmas Indiopleutes ***(#202)*** in the sixth century CE Its name stems from the fact that it was preserved in a Benedictine monastery in Ebstorf, Germany near Illzen on the Lüneburg Heath.



The Ebstorf mappamundi, 1234, oriented with East at the top, 12 feet in diameter ***(#224)***

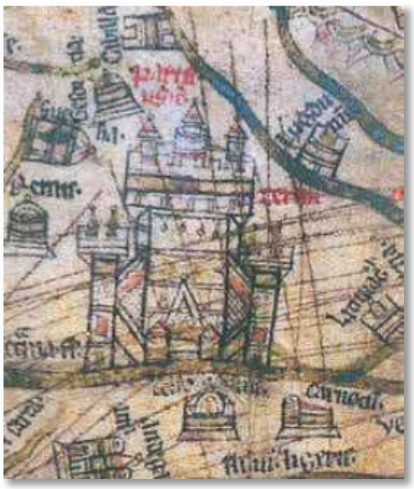
Because of its size, it has the "real estate" available to identify a larger number of significant places: cities, holy places, the Tower of Babel, Oracle of Amnmon, the Sepulchres of St Thomas and St Bartholomew, significant buildings, etc. And, of course, as the product of the European Christian cartographic tradition, Jerusalem is at the center.

The principal types of regional and local maps in the Middle Ages were "itinerary maps", maps of regions like England or Palestine, city plans, and, especially from the very late Middle Ages, maps of disputed lands or boundaries of properties. Most of these maps appear to have belonged to separate traditions, although the extensive corpus of maps in Matthew Paris' chronicles ***(#225),*** combining as it does multiple map types, suggests the degree to which a graphically inclined author might be familiar with and able to deploy images from all the known categories of maps, in addition to other types of drawings and diagrams.



Jerusalem is prominently displayed in the center of the Ebstorf mappamundi (gilded rounded square). To the upper right is Babylon and the large building directly above is the Tower of Babel, other "places" or towns/cities are indicated by drawings of buildings of varying sizes.

Written itineraries were well known in the Middle Ages and were apparently used both as travelers' aids and for armchair travel, often for the purpose of either actual or mental pilgrimage. Only two maps structured as itineraries survive, the more elaborate of which is the *Peutinger Table* map discussed above. A 12th or early 13th century copy of a Late Antique original, the map has usually been studied for what it can tell us of ancient cartography or of the interest in the ancient world on the part of the 15th century German humanists who rediscovered it. It is, however, extremely important to remember the commitment of time and resources involved in producing the medieval copy: the question then arises of what this map meant to the society that found the human and financial resources to copy it. It has been plausibly explained in the context of the strong interest in the classical world that we have already seen influencing the toponyms of later medieval world maps; however, more research should be done to elucidate the importance and the influence of this map.



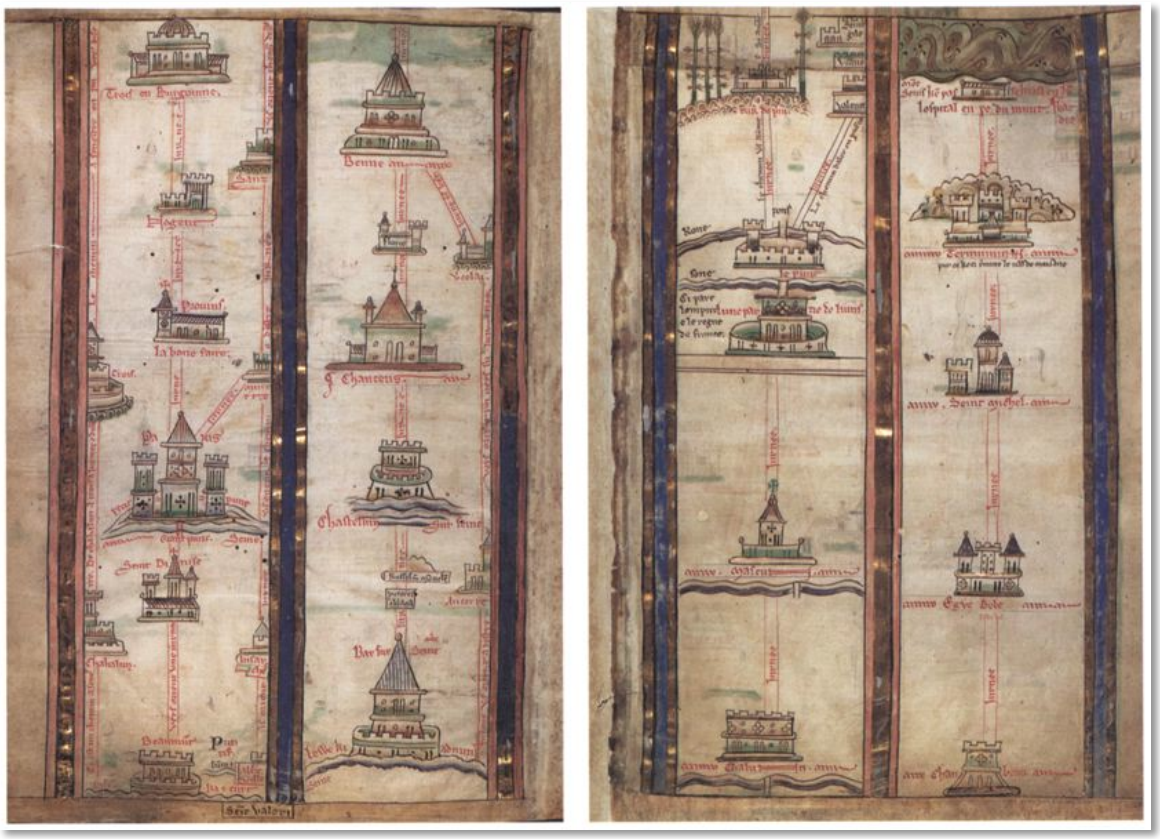
The city of Paris on the Hereford mappamundi **(#226)**



Rome is honored on the Hereford mappamundi ***(#226)*** *by a popular hexameter, Roma caput mundi tenet orbis frena rotundi [Rome, the head, holds the reins of the world].*

The other significant extant example of an itinerary map is the one that appears in various redactions in manuscripts of **Matthew Paris'** ***Chronica majora* (#225).** The map shows the route from England to Apulia, marking each day's journey and prominent topographic features like mountains and rivers. Suited to its location in a chronicle, the map serves a historical purpose in demonstrating the route of a well-known contemporary diplomatic expedition, Richard of Cornwall's expedition to Sicily in 1253 as the claimant to the crown, although the map contains information drawn from multiple journeys and routes.

In the 12th and early 13th century, the monastery of St. Albans in England possessed what may be called an historical school, or institute, which was then the chief center of English narrative history or chronicle, and with a different environment might have become the nucleus of a great university. Among the writers of this school, the greatest was a Benedictine monk Matthew Paris, whose three chief works contain various maps and plans unsurpassed in European medieval geography, before the rise of the *portolani* [nautical charts]. Thus, in the *Historia Major*, or *Cronica Majora*, we have the so-called *Itinerary to the Holy Land*, or *Stationes a Londinio ad Hierosolymam*, as well as a *mappamundi*, a map of Palestine, and the first of Matthew's four maps of England. Again, in the *Historia Minor*, or *Historia Anglorum*, there is another form of the *Palestine Itinerary*, the second and third maps of England, and the *Situs Britanniae*. Lastly, in the *History of St. Albans*, a portion of the supposed Pilgrim-road, as far as southern Italy, is given in another shape, together with the S*chema Britanniae*.



Matthew Paris' Itinerary from London to the Holy Land, c. 1250, delineating towns and principal topographic features, the chief stations or halting-places are indicated in sections of the route.

Matthew Paris was the author of six geographical designs; a world-map, in two slightly different forms; a map of England, in four variants; a purely conventional sketch of the *Heptarchy*, in the form of a *Rose des Vents*; a plan, or schema, of the Roman roads of the same country; a 'routier' to Apulia from the English Court; and a map of Palestine, which tradition has wrongly joined with the former, to make a Pilgrim Itinerary from London to Jerusalem.

Matthew's so-called *Itinerary from London to the Holy Land*, which has been reckoned with his map of Palestine, is not really a connected whole; it is the result of combining two different works, a pictorial representation of the route between London and Apulia (in southern Italy), and a sketch of the Holy Land. In the former, a pictorial itinerary of the route from London to southern Italy, with legends in old French and Latin, delineates vividly towns and principal topographic features, the chief stations or halting-places are indicated in sections of the route, beginning at the North, the chief rivers and mountains of the journey also appearing. In the sketch of the Holy Land, we have a map of Palestine, with the East at the top, in the ordinary ecclesiastical manner. The connection of the two is simply in the fact that both are by the same author, Matthew Paris; that they are of almost the same date; and that each is written in Old French intermixed with Latin. These *Itineraries* are a straight forward series of vertical strips showing the successive staging points by tiny thumbnail sketches, some based upon the places' actual appearance; between the staging points are notes of the distances in terms of day's journeys, and for part of the way alternative routes are shown.

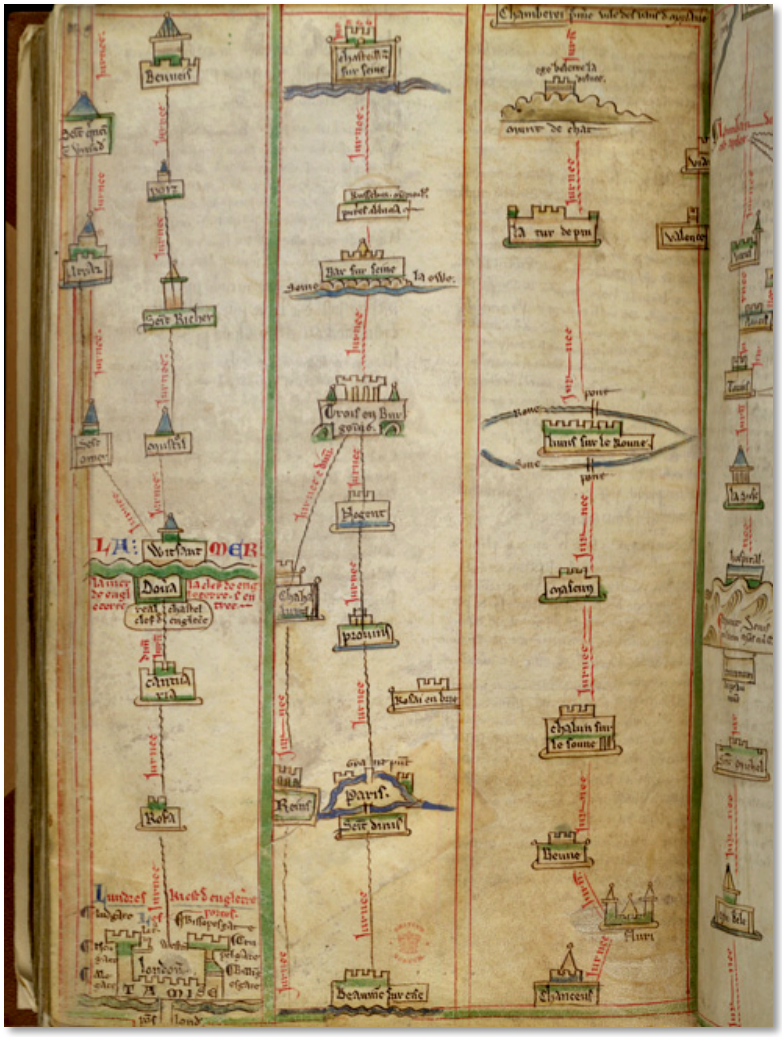
The *Itinerary to Apulia* is not part of a pilgrim's guide to the Holy Land; but rather appears to be a political sketch, with the following history (from Beazley). *"On St. Martin's Day, 1252, one Master Albert, a Papal notary, appeared at the English Court, and offered to Earl Richard of Cornwall the Kingdom of Apulia, on behalf of Pope Innocent IV, titular overlord of that realm. The Earl himself looked on the gift as a 'dominion in the moon'; but his brother, King Henry III, and the whole English Court party, were eager to accept the offer; and this Itinerary was probably composed during the abortive negotiations on the matter, with the view of informing and*

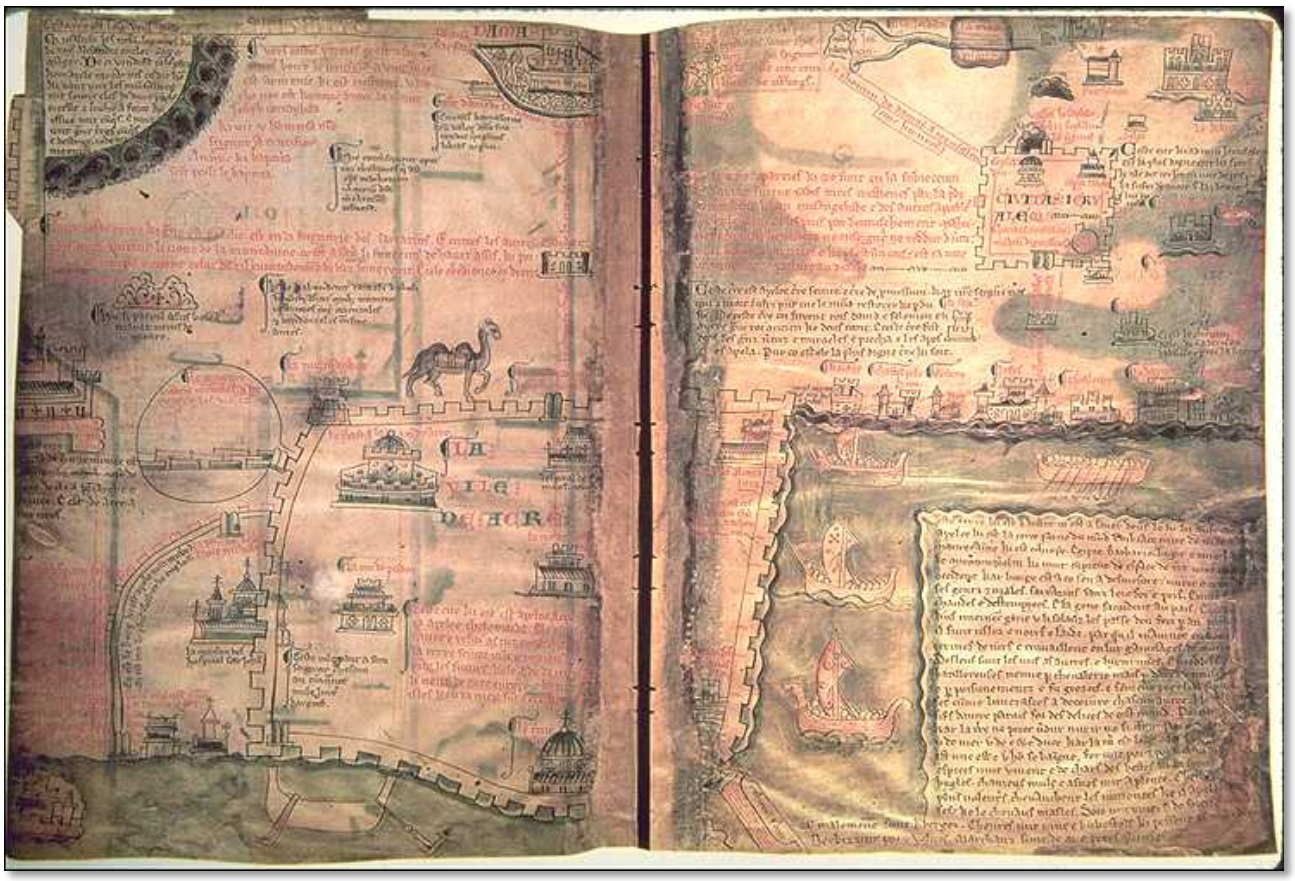
fomenting English ambitions as directed on southern Italy. This is confirmed by the fact that the Itinerary proper reaches only to Rome; at this point it assumes a new character, and portrays the Norman lands of Pouille, or Apulia, in considerable detail, enumerating all the greater towns."

The historical background is all recorded in the long inscription or legend over Pouille. Another inscription at *Trapes* or *Trapani* in Sicily tells how Earl Richard called here on his return from a Crusade. No list of stations is given from southern Italy to the Holy Land, and it is fairly clear that none was intended.

Matthew's sketch of Palestine, so often connected with the *Itinerary* just mentioned, is in some of its more general aspects parallel to the smaller *Jerome* map (i.e., both have the North at the top, Palestine in the middle, and Egypt on the right); but in their details there is a great difference. For *Jerome* uses ancient names throughout, while the English chronicler inserts many indications of 13th century nomenclature and history; such as the fortress enclosures of the Templars, the Teutonic Knights, the Pisan and Genoese merchants and other western corporations in Acre; or the dwelling of the Old Man of the Mountain, or Chief of the Assassins, 'far towards the north'. This is accompanied by some vague indications of roads, which, taken together with the camel picture, points to a commercial object in this design. In this last respect, both the *Palestine* and *Itinerary* stand as possible models for a later English cartographer and his road strip maps, John Ogilby, in the late 17th century.

The text of this map of Palestine is, in fact, closely related to various *Intineraries* of the period of Latin domination in Syria, such as *Les pelerinages pour aller en Jerusalem, Les chemins et les pelerinages de la Terre Sainte*, or *La deuice des chemins de Babiloine* (viz. Babylon of Egypt). The first of these is of 1231, the second of 1265, the third of 1289-1291, but it is probable that earlier redactions of the last two already existed in Matthew's time, and were used by him.



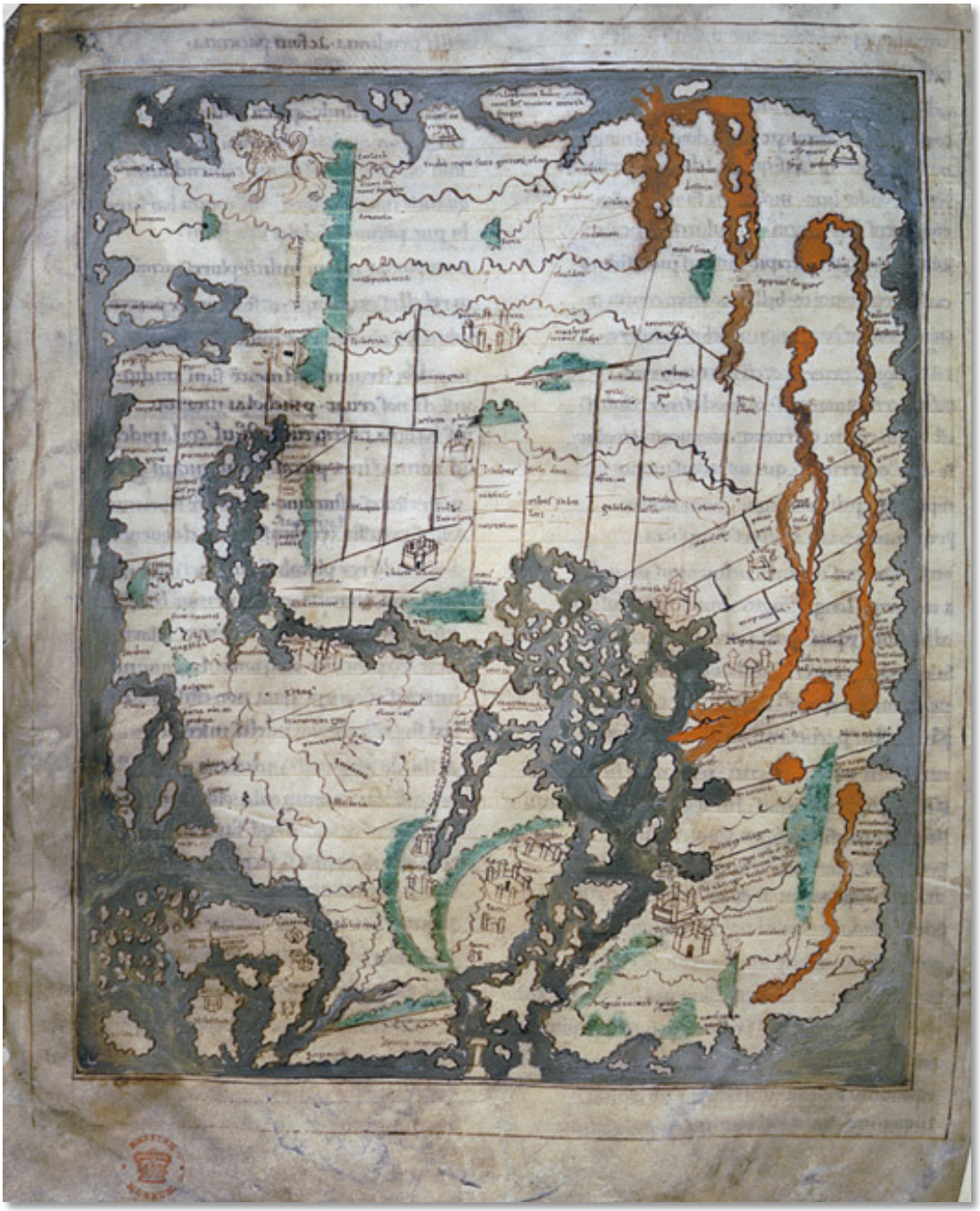


Matthew Paris' Map of Palestine, 1250

Cotton Tiberius is the richly illuminated 11th century manuscript in the *Cotton* collection of the British Library and contains one of the oldest and most excellent world maps. Called the ***Cottoniana* or *Anglo-Saxon* map *(#210)***, it dates from 995-1050, just before the Norman Conquest, and does not appear to belong to any one of the identifiable "families" of medieval maps, as described by M.C. Andrews or others. It is far removed from all of the members of the *Beatus* group ***(#207);*** it is equally far removed from the school to which the *Ebstorf, Psalter* and *Hereford* plans appear to belong ***(#223, #224, #226).*** Nor has it any relation with the various types of *Zone/Climate* maps that are known under the names of *Macrobius, Sallust,* or Isidore's *T-O* diagrams ***(#201, #205).*** The map itself occurs in a copy of Priscian's *Periegesis*, a fifth century manual of geography based upon an earlier treatise. The manuscript that contains the map (Cotton MSS, Tib. B. V.) is made up of various pieces, collected by Sir Robert Cotton in 1598. The manuscript is bilingual with writings in Latin and Anglo-Saxon, and its English provenance is reinforced by the use of an Anglo-Saxon letter in the term *Suo bryttas* [Brittany] on the map.

In geographical content, it does follow the medieval European convention of orientation with East at the top and somewhat centered on Jerusalem. The bulbous projection of land on the coast, north of Jerusalem, is perhaps meant for Carmel. Some idea, though exaggerated, of the *Syrtes* on the North African coast is evidently possessed by the cartographer. Its eastern limit is the Persian Gulf and Red Sea. Asia is shown at right angles to the coast of North Africa, an inferior representation when compared with such earlier, though uncirculated, renderings of Ptolemy. In Africa, the lakes east and west of the *Lacus Salinarum* near the north coast are noteworthy; like *Brigantia* (of Lighthouse fame) in the northwest of the Spanish peninsula. *Mons Clinax [-max]* in the middle of the South African coast, is perhaps a misty reference to the "Chariot of the Gods", as described by Hanno and the Greek and Latin geographers who

copied him; Gods", as described by Hanno and the Greek and Latin geographers who copied him; while the two small unnamed isles, west of Mount Atlas, are probably intended for the *Insulae Fortunatae.*



The Cottoniana or Anglo-Saxon Map, c. 995, 21.2 x 17.6 cm,
British Library, Cotton MS Tiberius BV, f.56v ***(#210)***
Cities are represented by graphic buildings in Camri or Cambria, and Marinus-portus in the northwest; Kent, London, and Winchester on the southern shore; and Arma or Armagh in Ireland; the Sud-Bryttas [South Bretons] in northern Gaul; Rome, Carthage, Jerusalem, Bethlehem, Alexandria, Babylon, Caesarea, Tarsus, and Constantinople

Of purely inland geography, unconnected with the coast, there is not much in the European region of this map: the *Huns, Dalmatia, Dardania, Histria,* and *Tracia*, all circling around *Pannonia.* What is now

European Russia is here contracted to a mere neck of land. The Caspian Sea, inaccurately opening into the *Northern Ocean*, is of unusual size.

This is one of the few medieval maps that shows divisions of provinces and countries, indicated by straight lines, though the general T-O shape is still preserved by the dominant body of the Mediterranean, here filled with a multitude of islands, complemented by the *Nilus* in Africa and *Tanais* [Don] at the center left of the map, with its source in the green mountain. The Nile is shown in two sections. Flowing eastward from Upper Egypt, it turns west and somehow disappears underground to emerge further down and continue its flow towards Alexandria and the Mediterranean Sea.

A lost Roman province map may have been the source of the divisions so clearly marked in Asia Minor, in Central and Southeastern Europe, and in North Africa. The Biblical loans may be traced in many names and also in certain aspects of the general plan. Indeed, it is obvious that here the design was not merely indebted to the *Scriptures* for details that almost all medieval maps exhibit, but it was also, to a large extent, devised for a special Biblical lesson - a picture of the settlement of the Twelve Tribes of Israel. Other Biblical connections, traceable especially in the center of the map, include (directly or indirectly) not only the nine of the twelve tribes of Israel and Jerusalem, but also *Bethlehem, Babylon, Tarsus, Caesarea Philippi*, and the *Ark of Noah* (among the vignettes), the Hebrews' passage through the Red Sea, the lands of the Philistines, Amonites and Moabites, Mount Pisgah (here *Fasga*), and Galilee. *Paradise*, uncharacteristically, is not shown. Most of the Biblical names found on the *Hereford, Lambert, Henry of Mainz*, the *Psalter*, and *Ebstorf* maps are perhaps, in many cases, borrowed directly from this earlier Anglo-Saxon work.

There are several names and features which show striking independence of any other known map authority of the earlier Middle Ages. Among these are five names in Britain: *Camri* or *Cambria*, and *Marinus-portus* in the northwest; *Kent, London*, and *Winchester* on the southern shore; and *Arma* or *Armagh* in Ireland; the *Sud-Bryttas* [South Bretons] in northern *Gaul*; the *Golden Mountain of the Far East* and the *Boreani* and *abundant lions* of the northeast of Asia. Selected "major" cities are represented by drawings of fortifications: Rome, Carthage, Jerusalem, Bethlehem, Alexandria, Babylon, *Caesarea, Tarsus*, Constantinople, Winchester, London and *Armagh* (Ireland). In addition, there are a number of unlabelled provinces, rivers and islands, leading one to surmise that this map was copied from a larger and more detailed map.



Jerusalem Bethlehem and Alexandria represented by castellated figures.

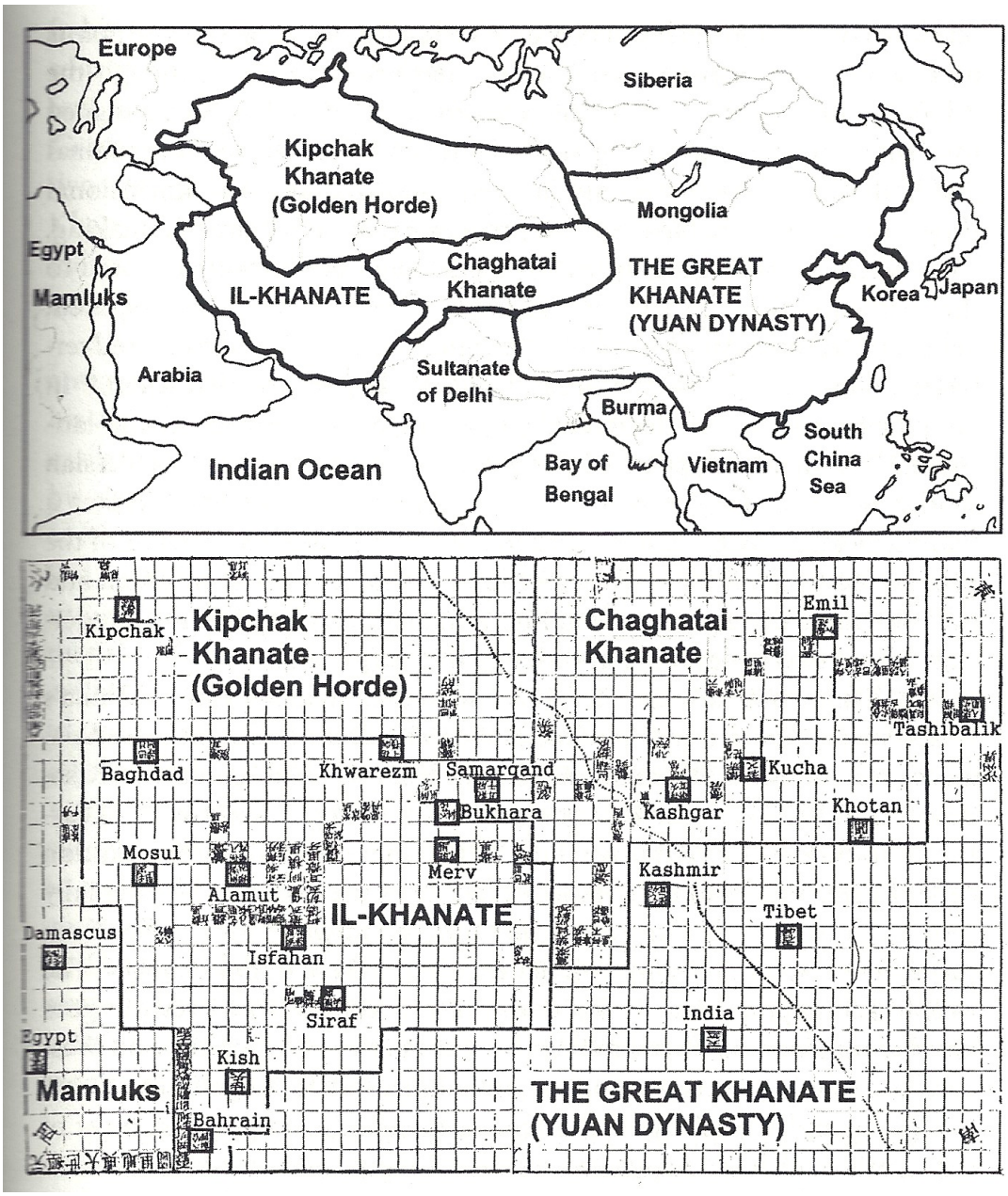


On the left: Roma, Taca, Luna and Salerna. On the right: Carthage and an unidentified city

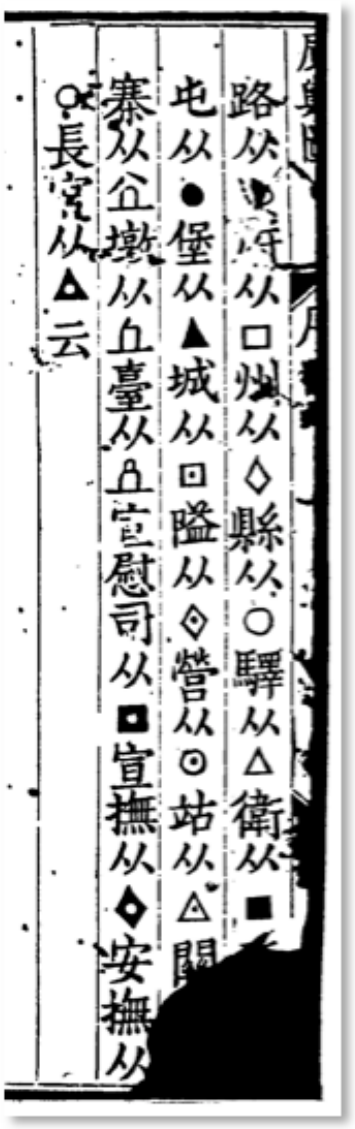
The Chinese, during the medieval period also began identifying cities on their maps. The famous P'ei Hsiu's established a cartographic tradition that is reflected in the *Hsi-Pei Pi Ti-Li T'u* grid map in the *Yuan Ching Shih Ta Tien* [History of Institutions of the Yuan Dynasty], 1329, **#227,** is shown below. Here the cities are represented simply as text with no graphical or symbolic illustrations.

The Chinese cartographer Chu Ssu-Pen [Zhu Siben] (1273-1337) built upon a scientific cartographic heritage that extended back to P'ei Hsiu (Chin Dynasty, third century CE) and the astronomer Chang Hêng (a contemporary of Ptolemy). Chu synthesized and collated the work of his predecessors with new knowledge acquired through both personal travel and the increased contact with the West to produce a large roll-map of China and the surrounding regions ca. 1311 - 1320.

It should be mentioned that, at least by the time of Chu Ssu-Pen, the Chinese cartographers knew the principles of geometry and possessed instruments that would greatly facilitate their mapping activities. The instruments included the *gnomon*, and a device similar to the *groma* of the Romans, with plumb lines attached. The Chinese also used sighting tubes and something akin to the European cross-staff for estimating height, as well as poles for leveling and chains and rope for ground measurement. The odometer or carriage-measuring instrument, by which distance is ascertained by the revolutions of the wheels, is referred to in China at least as early as in Europe. Compass bearings, implying the use of the magnetic needle, seems to have been made by the 11th century CE; it is assumed that the magnetic needle was transmitted westward to Europe shortly after this period.



Hsi-Pei Pi Ti-Li T'u (originally oriented with South at the top). The four Khanates of the Mongol Empire (top); a geographical map from The Encyclopedia of Yuan Dynasty Institutions [Yuan Jingshi dadian], ca. 1330 in Wei Yuan's Illustrated Treatise on the Sea Kingdoms [Haiguo tuzhi, 1842 re-oriented with North at the top with cities identified only by textual names without regard for size or significance. **(#227)**

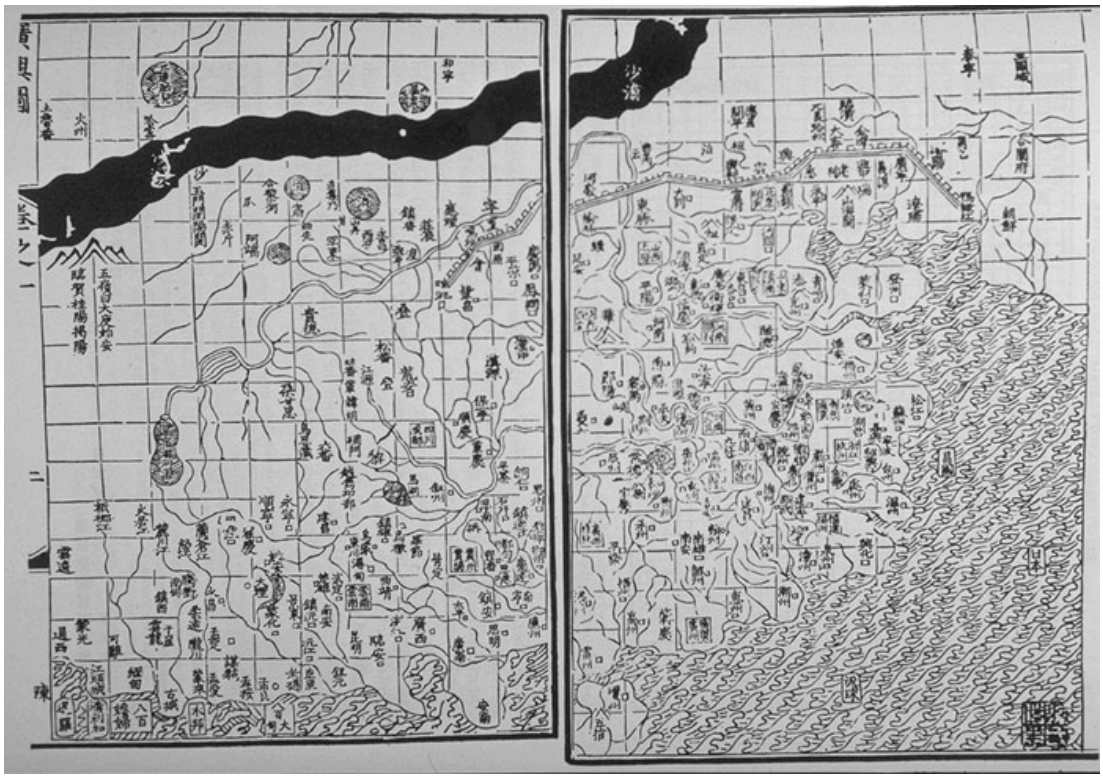


It may also be of some interest to note that Chu Ssu-Pen was himself a Taoist, and studied under famous Taoists such as Chang Jen-Ching and Wu Chhlian-Chieh. Chu says in his preface that among other sources he consulted the *Yü Chi T'u* [Map of the Tracks of Yü] of 1137 CE ***(#218.1)***. The reliability of the information on which his map was based was of the greatest concern to Chu, whose attitude was quite modern in this respect. Two pages or sheets from the *Kuang Yü T'u* form the general map of China on a grid scale of 400 *li* to the division or square. The large black band running from the northeast to the southwest, just above the Hwang Ho and Great Wall, represents the Gobi Desert This famous and influential map of China contains symbols that Lo Hung-hsien used for physical and cultural features. The treatment of the ocean with its 'angry lines', a common representation in Oriental cartography, perhaps suggests perceptions of the sea as a hostile environment. This may be further evidenced by the rather generalized nature of the coastlines as compared to the detail of the interior possibly reflecting greater familiarity and concern for the land.

As can be seen in the illustrations presented here, the 16th century printed edition of Chu's map employs quite modern symbolism to indicate physical features and sizes of settlements. Thus, as explained on the table shown on the right of this page, cities of the first order are indicated by a white square, those of the second rank by a white lozenge, and those of the third by a white circle; post-stages are represented by a white triangle and forts by a black square, etc. The use of colors to indicate areas and frontiers are known to have been employed in a military map as early as 1084 CE in China, this systematic use of symbolism, with an explanatory legend, is one of the earliest known employments of its kind. In short, Chu actually provided a "legend" for his maps *(shown on the right)*.

From what we know of the original map of Chu's, which was simply titled *Yü T'u* [Earth Vehicle (i.e., Terrestrial Map)], it was so large as to be difficult to handle, not dissected, and probably was in manuscript roll form. For about two centuries this great map remained only in manuscript or epigraphic form (rare copies in manuscript and *Kuang Yü T'u* inscribed on stone in a Taoist temple lasted until the 19th century). In 1541 the *Yü T'u* was enlarged, dissected and revised by the Ming scholar, Lo Hung-hsien (1504-1564) and published in the form of a printed atlas in about 1555, under the title *Kuang Yü T'u* [Enlarged Terrestrial Atlas]. This is the earliest copy, albeit derivative, of Chu Ssu-Pen's work to have survived. Lo Hung-hsien's preface to the atlas explains his reasons for the change in format and his respect for Chu Ssu-Pen:

> Chu Ssu-Pen's map was prepared by the method of indicating the distances by a network of squares, and thus the actual geographic picture was faithful. Hence, even if one divided [the map] and put it together again, [the individual parts] in the east and west fitted faultlessly together.... His map was seven feet long and therefore inconvenient to unroll; I have therefore now arranged it in book form on the basis of its network of squares.

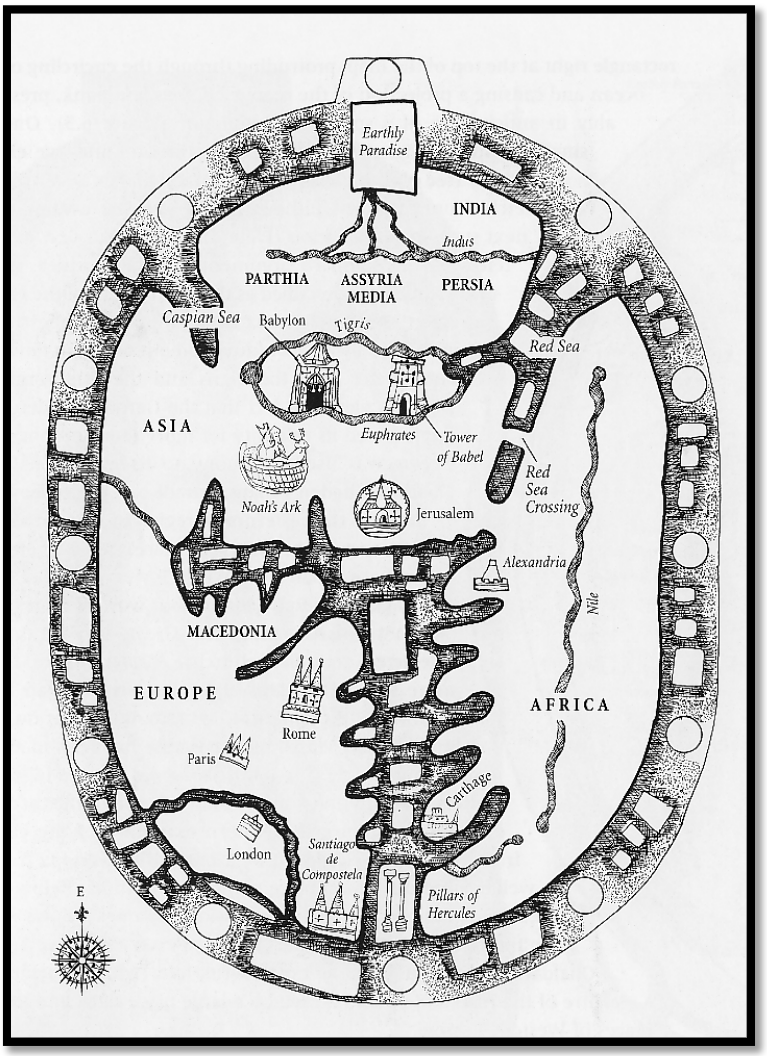


Chu Ssu-Pen's General Map of China, the Kuang Yü T'u as revised by Lo hung-hsien in 1555 as part of his printed edition of the Kuang Yü T'u. Again, the cities are identified merely by textual references without regard for size or importance **(#227)**

Ranulf Higden's *Ploychronicon* (#232) from ca, 1350 illustrates that the basic western tradition of placing cities on world maps continues to increase. On this late 14th century copy the world map occupies a double page, 46 x 34 cm. It is oriented with East at the top, Jerusalem near its center and the heads around the map represent the twelve winds. Not too surprising, in Britain (shown in the color red, lower left) there are more "town" symbols than are shown for all the rest of Europe. In fact, there are some 39 castellated towns throughout the entire world map, 14 of which are in England alone, while there are only four throughout all the continent of Africa. Not all of these town symbols are the same, for instance *Jerusalem, Rome, Babylon*, and *Compostella* (?) are quite unique, large cathedral-like drawings with considerable more detail than the other identified towns. Higden uses red lines to separate specified geographic areas. The few mountains that are displayed are colored green like the oceans. Higden was a monk of St. Werburgh's, Chester, England, from 1299 until his death in 1363/4. His *Polychronicon* became the most popular history book in medieval England and even today more than 120 manuscript copies survive. It traces the history of the world from the Creation down to Higden's own days. It consists of seven volumes. Book I is devoted to a geographical description of the world, while Books 2 to 5 encompass the history of the world. Only the list two volumes deal with English history.



Ranuld Higden's World Map in his Ploychronicon, ca 1342 *showing many cities including Jerusalem, Babylon, Athens, Rome, Paris, London, Alexandria, Carthage, and Biblical events such as the Tower of Babel and Noah's Ark* **#232**



In the later medieval period a style of map making emerged called the *portolan* tradition. These so-called nautical maps were often very elaborate, such as the 1375 ***Catalan Atlas* (#235).** In this mapping tradition the emphasis was on the coastal settlements and so we see a large number of place-names displayed along all of the coastal areas and a very few cities identified on the interior portions of the land masses. As on the *Catalan Atlas* the interior regions were often filled with eye-catching graphics of buildings, emperors, kings, etc.

This 'atlas' was the work of a family of Catalonian Jews who worked in Majorca at the end of the 14th century and was commissioned by Charles V of France at a time when the reputation of the Catalan chart makers was at its peak. King Charles requested this map from Peter of Aragon, patron of the best Majorcan mapmaker of the time: Abraham Cresques. The 'atlas' that resulted contained the latest information on Asia and China and has subsequently been called "the most complete picture of geographical knowledge as it stood in the later Middle Ages." The title of the *Atlas* shows clearly the spirit in which it was executed and its content: *Mappamundi, that is to say, image of the world and of the regions which are on the earth and of the various kinds of peoples which inhabit it*. Originally the *Catalan Atlas* consisted of six large wooden panels that were covered with parchment on one side. This form later was transformed into a block-book, in which each sheet formed a double page, the parchment itself serving as a hinge between each of the two wooden panels. Four half-sheets are occupied by cosmographical and navigational data, they describe the whole concept of the world, show astronomical and astrological representations, and provide information about the calendar, the sun, moon, planets, the signs of the zodiac and the tides. The remaining eight half-sheets form the body of the map itself. Each leaf is 69 x 49 cm, so that the whole is approximately 69 cm x 3.9 m. These proportions are of some significance, for they

have undoubtedly restricted the cartographer in his portrayal of the extreme northern and southern regions. This was perhaps to some extent deliberate, for two years before the composition of this map, we hear of the Infant John (son of Peter of Aragon) demanding a map "well executed and drawn with its East and West" and figuring "all that could be shown of the West and of the Strait [of Gibraltar] leading to the West". The Infant, in other words, was interested, not in northern Europe and Asia or in southern Africa, but in the Orient and the Western Ocean. The cartographer satisfied him by cutting out, as it were, an east-west rectangle from a circular world map that would cover the desired area. Later Catalan maps, i.e., the *Catalan-Este* map ***(#246)***, retained the circular form. The shape of the *Catalan Atlas*, therefore, must not be taken as evidence on questions such as the extent, form or knowledge of the African continent; nor does the change from a circular to a rectangular frame indicate specifically any change in ideas relating to the shape of the earth. As an astronomer, Cresques most assuredly accepted its sphericity.

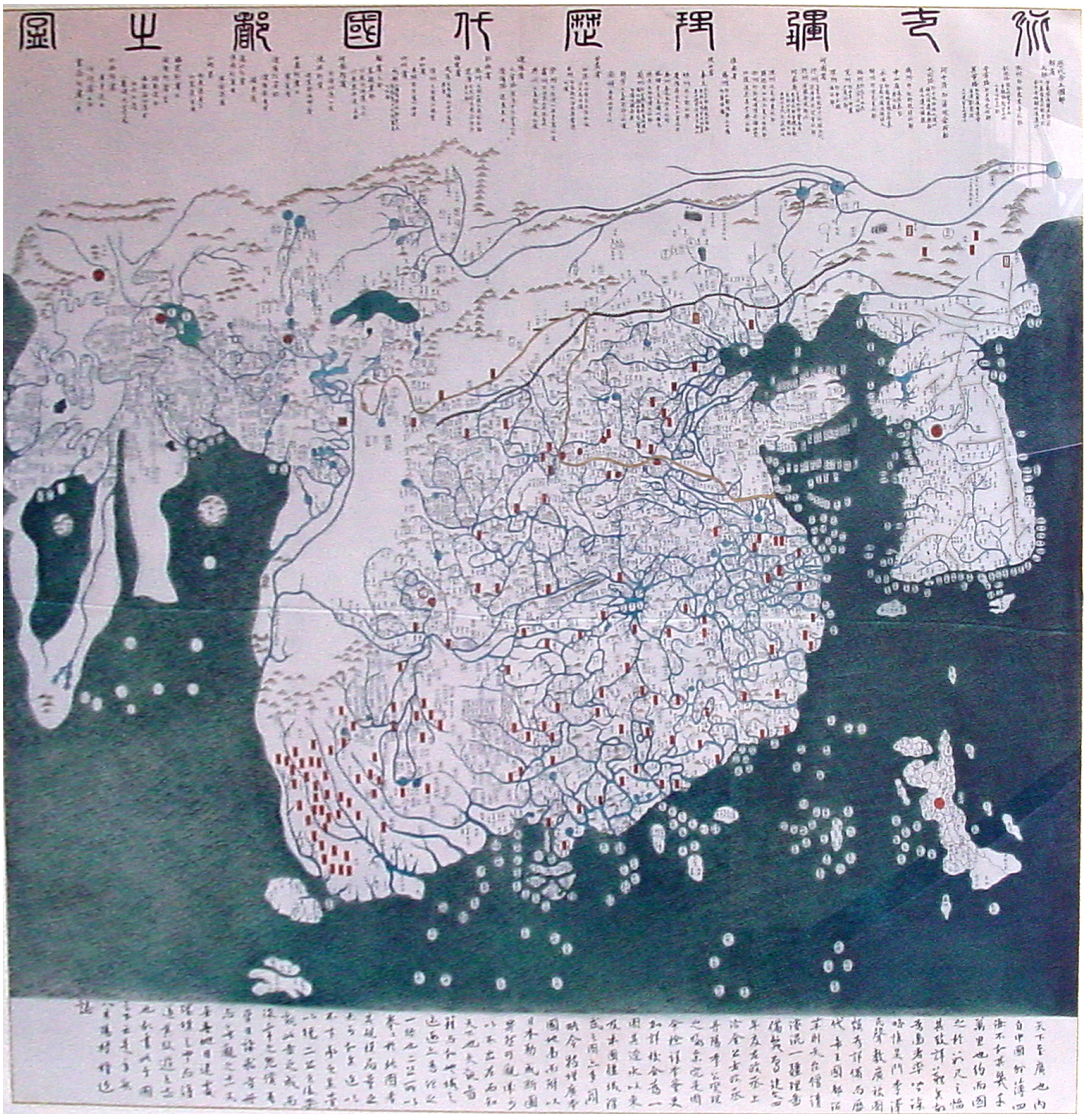
The *Catalan Atlas* is actually a world map built up around a *portolan* chart, thus combining aspects of the nautical chart by employing *loxodromes* and coastal detail with the medieval *mappaemundi* exemplified by its legends and illustrations. The result is that the *Atlas* represents a transitionary step towards the world maps developed later during the Renaissance, especially by its extensive application of contemporary geographical knowledge and ambitious scope. Within the means of cartographic representations on this *Atlas* there appears to be no specialties, those symbols and other graphics used by Cresques correspond to those commonly used in the Middle Ages. As can be seen on the same sheet above, the coastal areas are crowded with place-names that identify coastal cities, villages and ports (most typical on portolan charts), while interior cities are relatively ignored.

Today the original *Catalan Atlas* can be found in the Bibliotheque Nationale, Paris, and has now assumed the form of seven loose wooden panels of which five inside ones bear one half of a sheet of the *Atlas* on each side, while the two outer ones consist of one side that bears a half sheet of the *Atlas* and one half of the binding on the other side.

In the **1402 *Yoktae chewang honil kangnid*, or the *"Kangnido"*** [Map of Historical Emperors and Kings and of Integrated Borders and Terrain] ***(#236)*** created by Ch'¸an Chin and Li Hui, the treatment of the western regions is also very interesting in that it includes about 100 place-names for Europe and about 35 for Africa (unfortunately, though, it has not been possible for scholars to identify many of them). For those areas that are identifiable, in the northern part of Africa the Sahara is colored in, like the Gobi in so many Chinese maps (including the famous *Kuang Yu T'u*), and the position of Alexandria is indicated by the placement of a prominent pagoda-like object representing the famous Pharos. The interior of the continent is filled in by a body of water surrounding an island that is designated as *Huang-sha* [desert]. In contrast, the Mediterranean Sea is almost entirely shown as terra firma failing to darken it in as he has other water areas, perhaps because he was not quite sure that it was indeed an ordinary sea. Instead, its coastline is marked like the course of rivers. To the left of it lies Spain, and to the southeast Arabia is outlined as a long protruding peninsula. The large, round island east of Arabia is simply named *Hai-tao* [island], which apparently represents Sri Lanka (Ceylon). To the east of Sri Lanka, India betrays its triangular shape only by a river, obviously the Ganges. The long river emerging to the south is the *Hei-shui* [Salween], and the great lake in the upper center combines the Black and the Caspian Seas. In the utmost northwest, Germany and France are marked phonetically, *A-lu-mang-ni-a* and *Fa-li-si-na*; here, in the West, the Azores are also shown. This representation of the Atlantic island group is indeed remarkable, especially on



a map produced in the Far East at such an early time, when comparable detail of the Far East is scant on European maps of the same period. Of the two largest capitals in the world, as judged from the selection of symbols adopted by Chin, one is obviously Pyongyang in Korea, and the other is a European city of apparent equal importance, the position of which would suggest the city of Budapest. The cities are identified by both textual references and, for the "significant" cities, by red coloring (a rectangle or a circle), almost all exclusively in the Asian portion of the map (only two are located in the Northern European area).



Yoktae chewang honil kangnid, or the "Kangnido" [Map of Historical Emperors and Kings and of Integrated Borders and Terrain] created by Ch'¸an Chin and Li Hui, 1402 ***(#236)***

In the 1452 manuscript *mappamundi* created by **Giovanni Leardo** (**#242**, shown below) the introduction of a differentiation of major cities from minor settlements by the use of the traditional castellated graphic to denote significant places and a simple red dot to represent smaller settlements, along with their place-name in text.



The Giovanni Leardo World Map, 1452-3, oriented with East at the top, 73 x 60 cm **(#242)**



Exceprt from the Leardo map showing the Turkish peninsula and Jerusalem, Babylonia as castellated representations and "minor settlements" as red dots and place-names

The medieval period ends with the most elaborate and beautiful expression of cartography – the Fra Mauro world map of 1459 **(#249).** This very large circular planisphere (6 feet 4 inches in diameter), drawn on parchment and mounted on wood in a square frame, is preserved in the Biblioteca Nazionale Marciana, Venice. Unusual for medieval European maps, it is oriented with South at the top (Indian Ocean, top left; Mediterranean, right center) and so meticulously drawn and full of detail and legends that it has been described as a "*medieval cosmography of no small extent, a conspectus of 15th century geographical knowledge cast in medieval form.*" Though the coasts are drawn in a style recalling that of the *portolan* [nautical] charts, loxodromes and compass roses are absent, and the effect is definitely that of a *mappamundi*, not a nautical chart. The map contains over 3,000 inscriptions and thousands of place-names. Like all of the other medieval maps, and what is true of modern maps, the most prominently displayed cities are not necessarily the "capital" cities, nor the largest cities, but simply the ones with the most significance in the eyes of the cartographer.

Fra Mauro's map was in many ways a more up-to-date map than the printed versions of Claudius Ptolemy that succeeded it two decades later. Ptolemy's *Geographia* was 'rediscovered' in Western Europe and had been circulating in Latin manuscript form since 1406, coming to Italy fresh from the Byzantine conquests. It is clear from numerous legends on his map that Fra Mauro was very much aware of the great deference then paid to the cosmographical conceptions of Ptolemy, and the likelihood of severe criticism for any map that ignored them.

Fra Mauro's representation of the Far East is derived from Marco Polo. His illuminator has conceived the cities and places of *Cathay*, as described by Polo, in the architectural styles of the Venetian Renaissance. In spaces between rivers and place-names he drew cities with walls and towers, i.e., *Chambalech,* the capital city of *Cathay.* In a footnote Mauro says that he drew the cities of Asia so large because there was simply more room on the map there than in Europe.

The cities and towns, and the numerous annotations, are taken directly it would appear, from Polo's narrative. Most of those, for instance, which occur in his itinerary from *Chambalech* to *Zaiton*, are to be found on the map, though in no very comprehensible order, often accompanied by a drawing of a feature mentioned by Polo, or his comments, e.g., on the gold and silk of this city, or the porcelain of that; the sugar for which this district is noted or the gigantic reeds which grow in another.

Xandu is Polo's *Chandu*, the 'city of peace' of Kublai, and Coleridge's *Xanadu*. The mythical figures of *Gog and Magog* are represented behind *Alexander's Wall* in northeast Asia and *Termes* [Sarmatia] is shown as a town near *Bokhara*, on the Amu Dorya *[Iaxartes].* Mauro displays a critical spirit when he inserts in the northeast of Asia, near the enclosed tribes *I do not think it possible for Alexander to have reached so far* and expresses his doubts about these mountains being the Caspian range (this piece of Alexandrian romance was a common feature on many *mappamundi* from medieval Europe).



The Fra Mauro mappamundi, 1459, oriented with South at the top, 6.3 feet diameter



Detail from the Fra Mauro map: China, oriented with South at the top, showing elaborate graphics representing cities



Detail: Cities in the Middle East



Detail from the Fra Mauro map: large and small settlements in North Africa, oriented with South at the top



Detail from Fra Mauro map: cities in India oriented with South at the top



Detail from Fra Mauro map: cities in Europe, Russia



A portion of a modern copy of Al-Idrisi world map from the Nuzhat al-mushtāq fi'khtirāq al-āfāq, 1193, a.k.a Tabula Rogeriana ***(#219)*** *displaying major cities with a simple black dot.*

The Renaissance.

Valeria Manfre, in her article "Picturing North African Cities in the Sixteenth Century", states that the iconography of the city has a precise chronological development from the Renaissance to the Enlightenment, and it was in Italy and then in Germany that the first autonomous, accurate views of cities – that is to say, views of single cities – were produced. Florence was the epicenter of change, and the point from which a new language to represent cities was disseminated. The idea of representing the city as a single whole or entity stemmed from the rediscovery of Ptolemaic cartography, and was equated with a view of the city from on high, which made the city clearly legible in its form, internal distribution and architecture. Two of the earliest Renaissance perspectival cityscapes to offer a view of the full extension of a city are the 'della Catena' view of Florence (c. 1472) and the so-called *Tavola Strozzi* (c. 1472-1473) or Aragonese Fleet returning to the port of Naples attributed to Francesco Rosselli. This new typology of cityscapes provided a full, accurate and fine quality pictorial representation of the city viewed from an elevated position and from the sea.

The world was changing at the end of the 16th century. Spain, Portugal, and the Ottoman Empire controlled the most lucrative trade routes, but their holds were slipping. Overextended, they were increasingly vulnerable to attacks by rivals and natives in their trading areas. As capitalism flourished, northern European trading centers grew at the expense of those in the south. The Catholic Church in Rome was losing its hold on an exploding population streaming from the countryside to the cities.

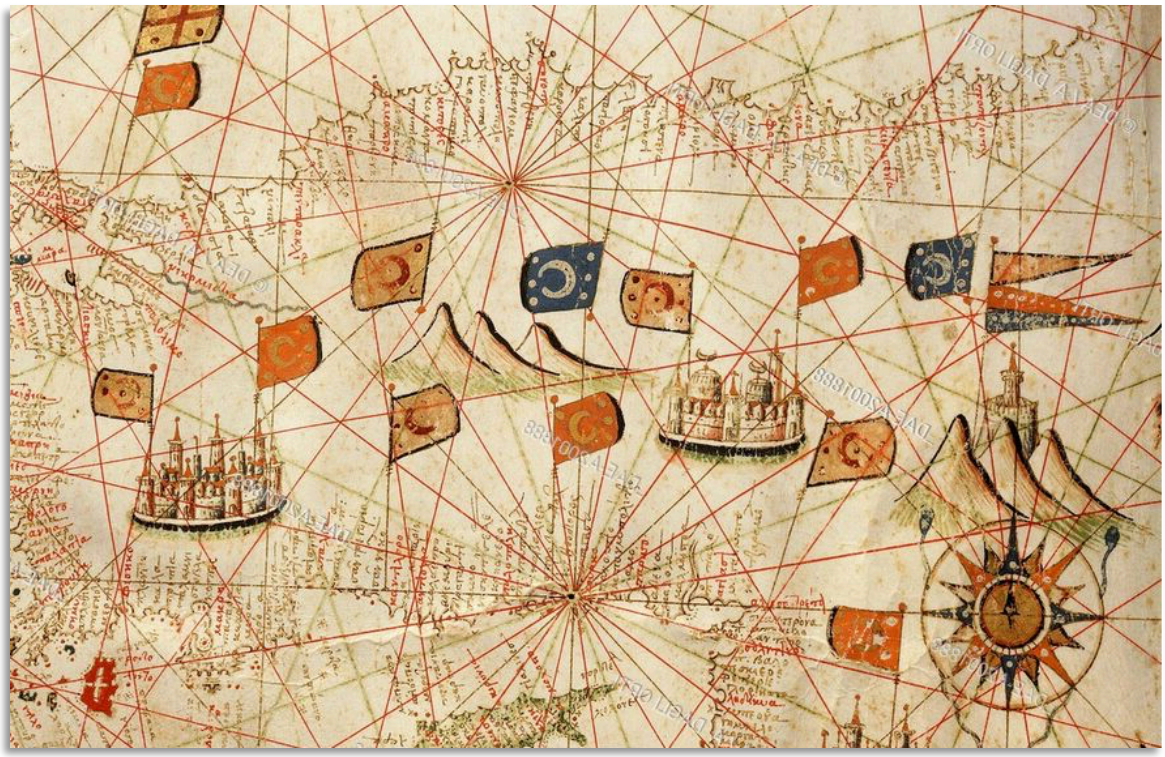
It was in this environment of international turmoil that Willem Janszoon Blaeu emerged as one of Holland's foremost cartographers and publishers. In an era of rising Dutch commercial power and growing Dutch mastery of mapmaking, Blaeu quickly expanded his globe and instrument business to include pilot guides and maps of the world, the continents, and individual European countries. Increasingly, these works reflected not only his knowledge, but his uniquely Dutch view of the world. Nowhere is this vision more apparent than in the city vignettes adorning the four continental maps included in every Blaeu atlas from the *Atlas* Appendix of 1630 to the *Atlas* Major of 1662.

The thirty-six cities illustrated across the top of the continental maps - *Europa recens descripta, Asia noviter delineata, Africae nova descriptio,* and *Americae nova tabula* - played important roles in world affairs during the late 16th and early 17th centuries. Each figured prominently as a source of trade goods, a way-station along major trade routes, or a political or financial center. In the limited space available for each vignette, Blaeu appears to have taken great care to produce views that reflected his understanding of each city and its significance in terms of Dutch commercial or political interests.

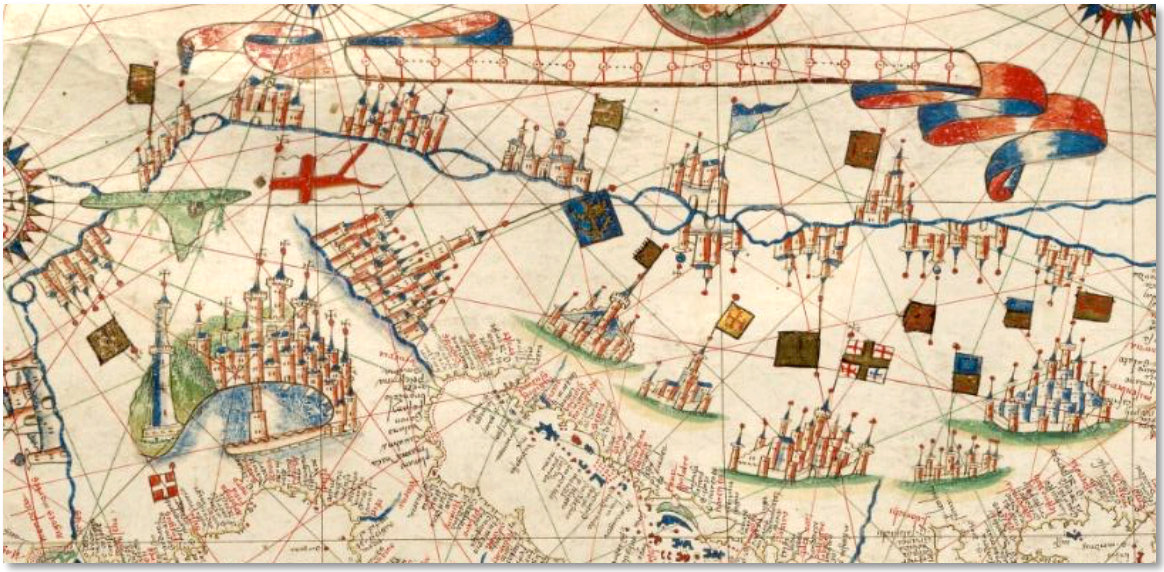
The continental maps were originally published individually in 1617 and 1618, and appear to be updated and slightly reformatted reductions of larger wall maps issued in 1608. All four conform to a uniform design: the continental map in the center, five ethnographic or costume studies down the right and left borders, and nine ovoid city vignettes across the top. Each of the city vignettes is approximately 4.2 centimeters high by 5.8 centimeters wide and each shows key elements of the city's situation — location, street layout, surroundings, and other details.

However, the scale and orientation of the vignettes varies significantly, apparently driven by the shape of each city and the need to fit it into a uniform space. In the Paris vignette, for example, the Seine flows from the top to the bottom of the vignette, not right to left as it would if north were at the top. Several of the vignettes lack perspective, others are bird's-eye views showing the city and the surrounding area as if from a high oblique angle, and yet others are profiles depicting the landscape and prominent buildings as seen from a low angle. The variation suggests that Blaeu created the vignettes less as authentic cartographic diagrams than to present the cities as symbolic representations of their importance — in his view.

On the map proper the cities are simply identified by text labels, without any attempt to differentiate their size or importance.



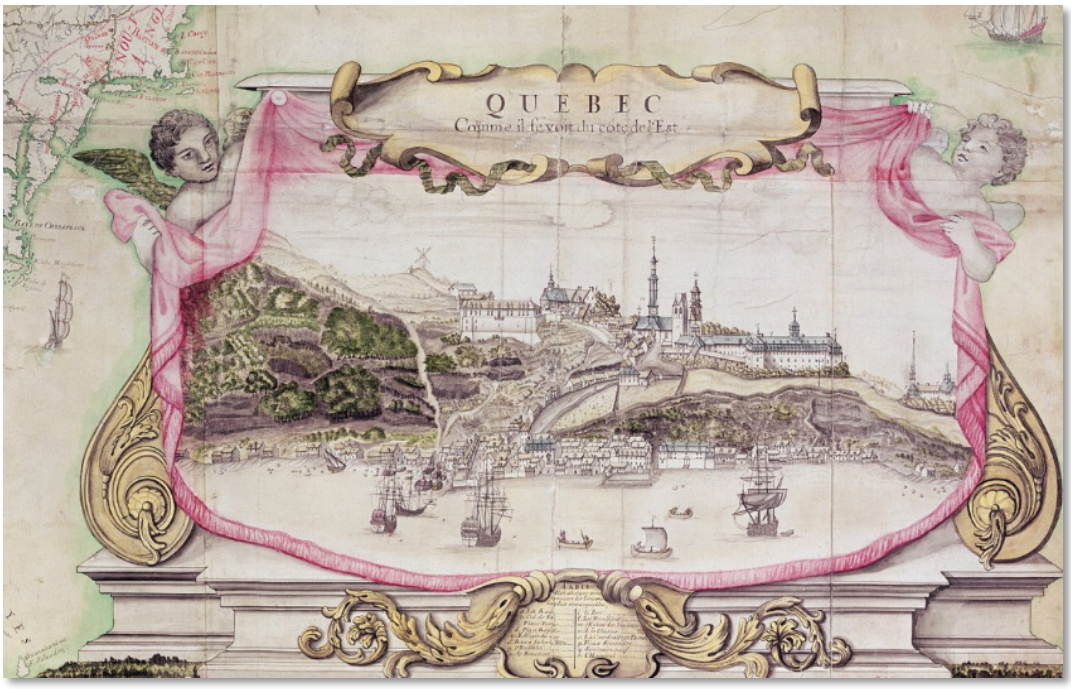
Cities in central Turkey on a 16th century nautical chart by Giogio Sideri, Callapoda

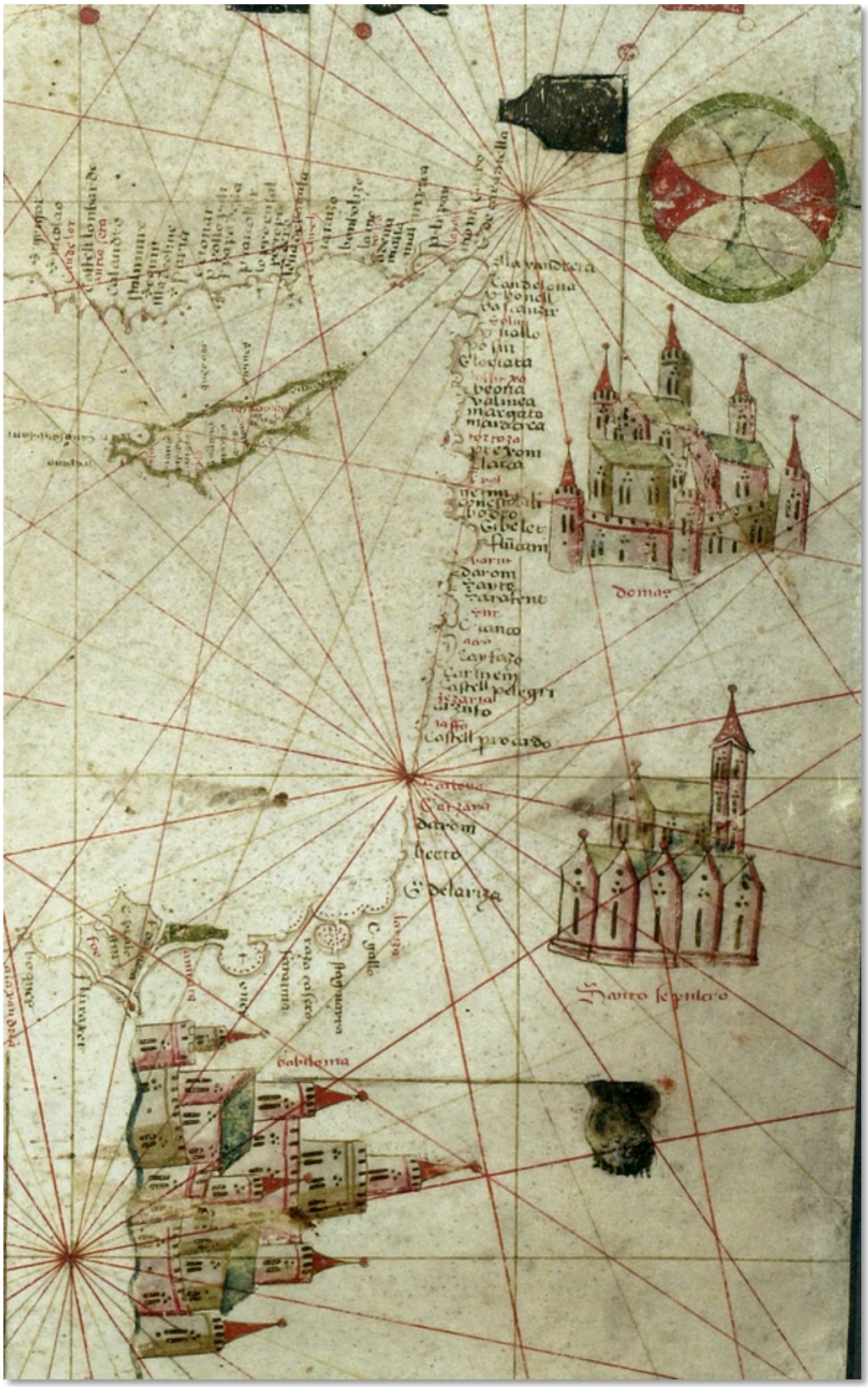


Genoa, Venice and cities along the Danube River on a portolan chart,Vesconte Maggiolo, 1451



Carte de :'Amerique Septentrionale… 1688, Jean Baptiste Louis Franquelin





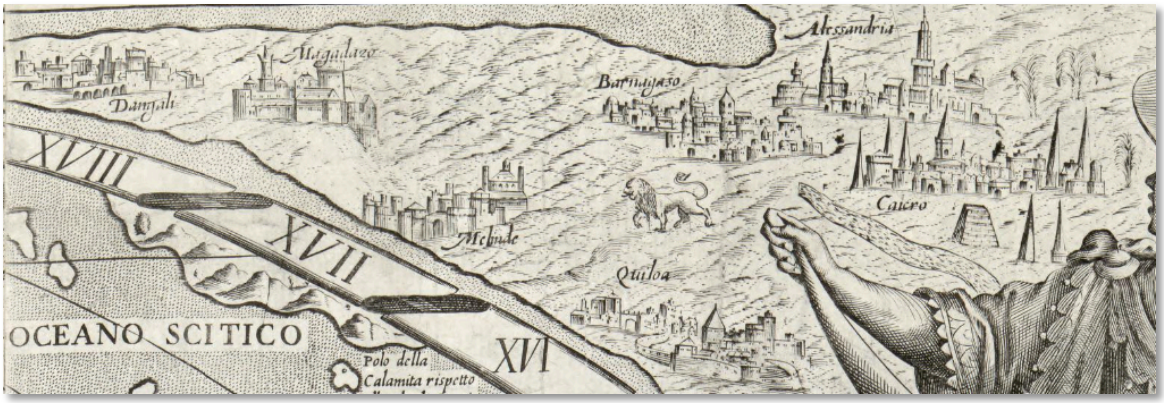
Cities in the Middle East: Damascus, Jerusalem and Babilonia [Cairo?]
On a portolan chart by Gabriel de Vallseca, 1447



Damascus, Jerusalem and Mount Sinai



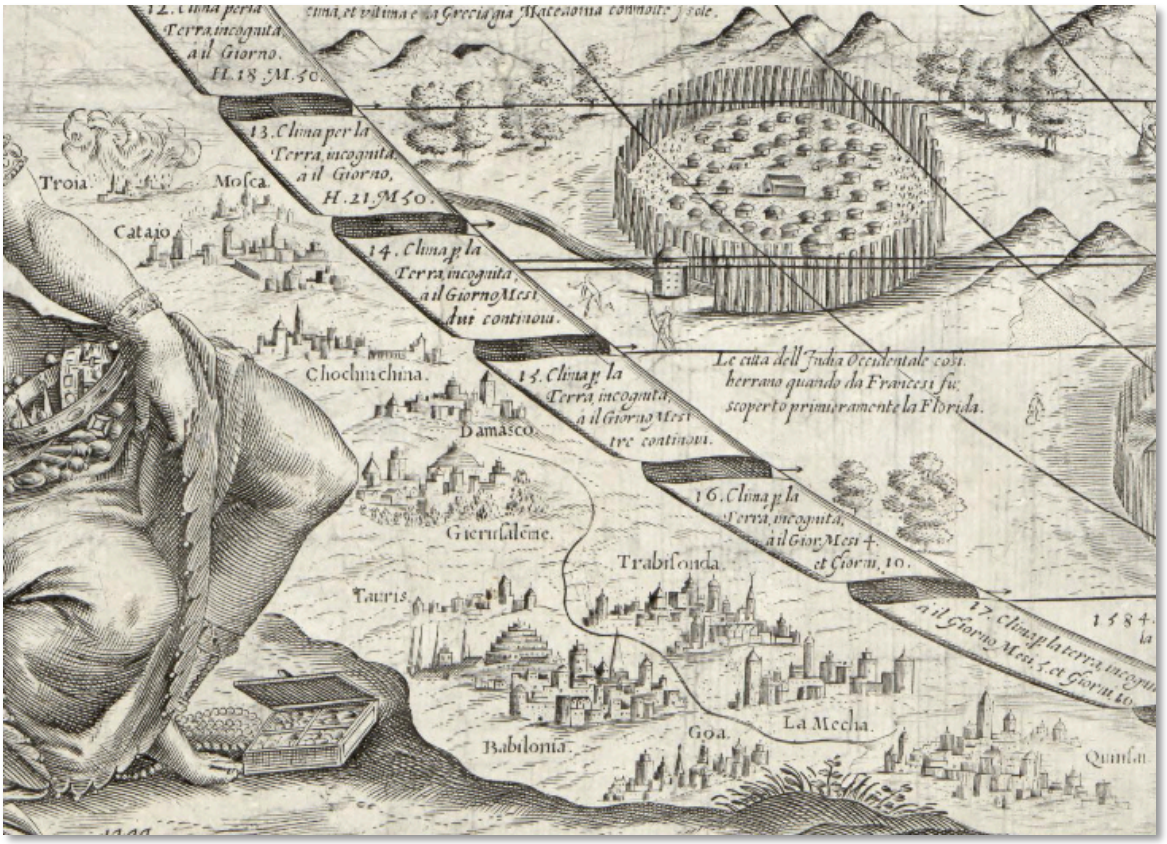
Cities in Spain on the 1600 nautical chart by Luis Teixeira



North African cities on Universale Descrittione di tutto il Mondo di Gioseppe Rosaceio Cosmographo...1642



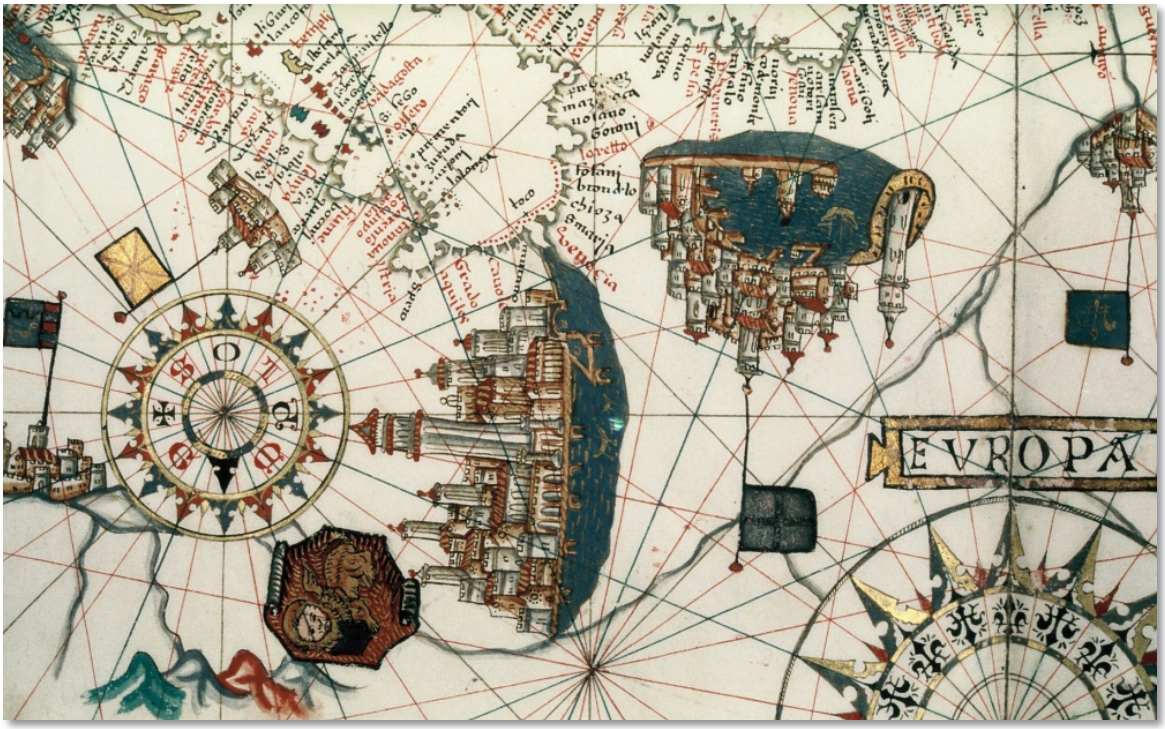
European cities on Universale Descrittione di tutto il Mondo di Gioseppe Rosaceio Cosmographo...1642



Asian cities on Universale Descrittione di tutto il Mondo di Gioseppe Rosaceio Cosmographo...



New world cities on Universale Descrittione di tutto il Mondo di Gioseppe Rosaceio Cosmographo...



Venice and Genoa on a 16th century nautical chart
Oriented with South at the top

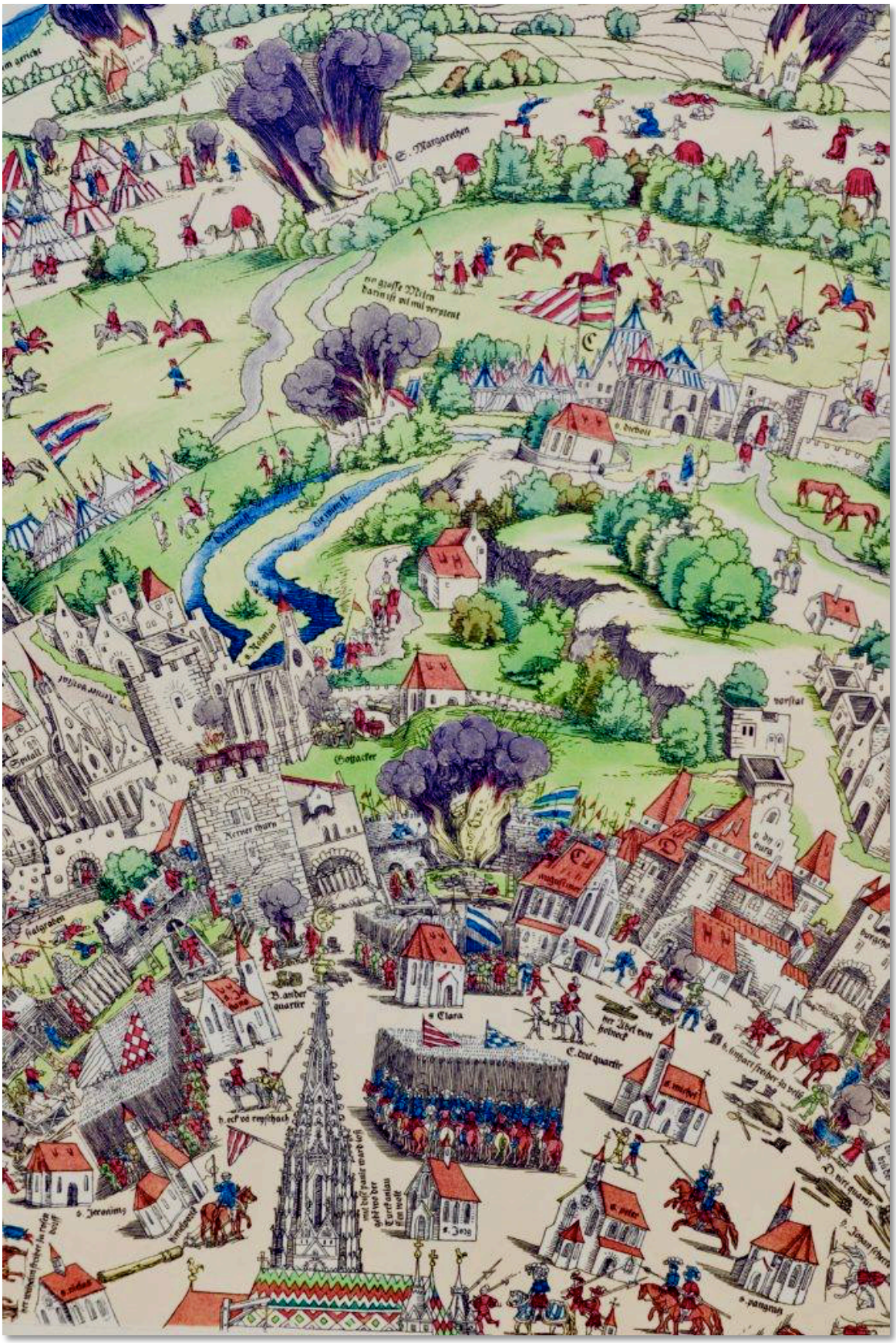


Genoa, Venice, Florence and Rome on a portolan chart from the Walters Sea Atlas ***(#407.2)***

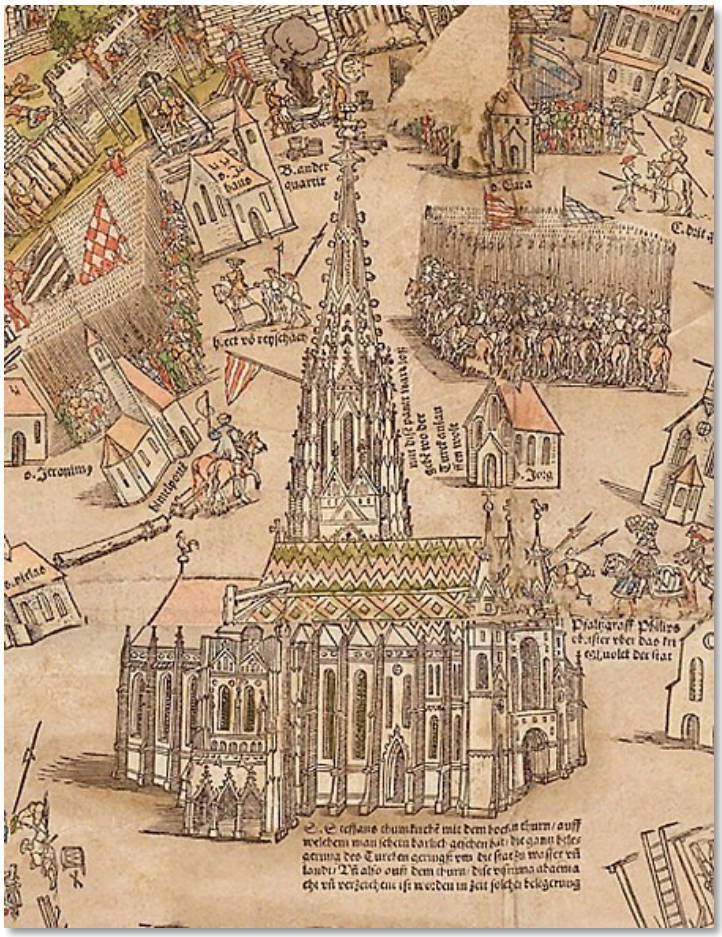


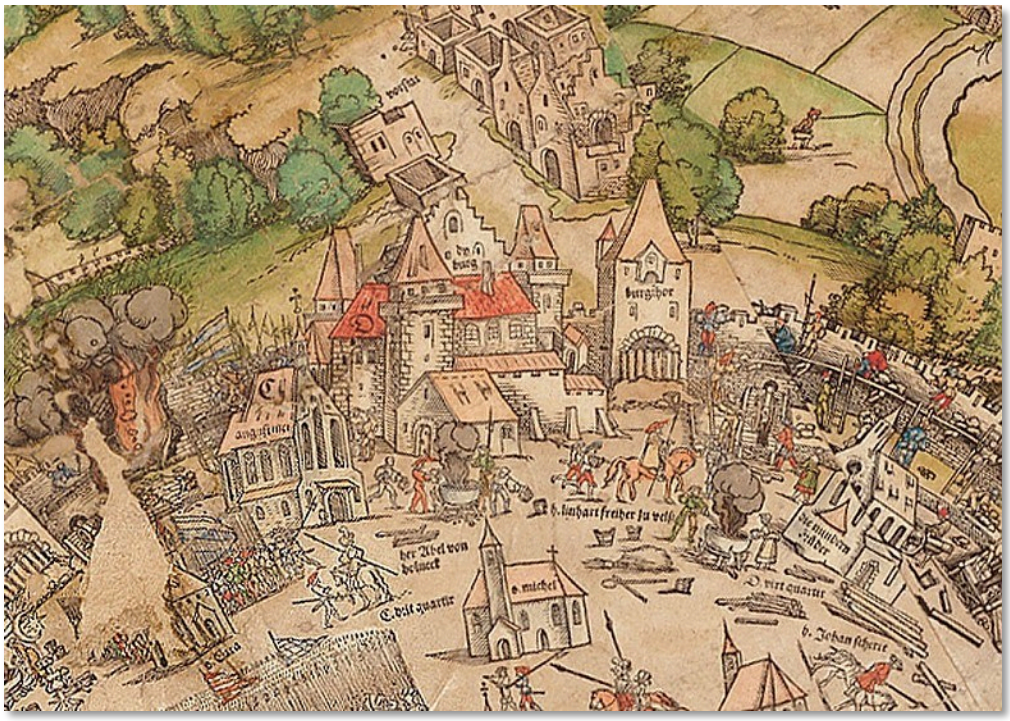
1529 circular map of Vienna

5.1


S. Margarethen
Gottacker
Nerver thurn
B. ander quartier
s. Clara
C. dritt quartier
s. Jeronimus
s. Jorg
s. pangratz

Detail below





Valeria Manfre states that the iconography of the city has a precise chronological development from the Renaissance to the Enlightenment, and it was in Italy and then in Germany that the first autonomous, accurate views of cities – that is to say, views of single cities – were produced. Florence was the epicenter of change, and the point from which a new language to represent cities was disseminated. The idea of representing the city as a single whole or entity stemmed from the rediscovery of Ptolemaic cartography, and was equated with a view of the city from on high, which made the city clearly legible in its form, internal distribution and architecture. This new typology of cityscapes provided a full, accurate and fine-quality pictorial representation of the city viewed from an elevated position and from the sea. She further observes that the year 1500 marked an important transition in the history of cityscapes, when the Venetian Senate granted Anton Kolb the privilege to publish and market the monumental woodcut of Jacopo de' Barbari's *View of Venice*. The publication and sale of this expensive print indicates that the search that had begun almost two centuries earlier for a new way to depict the city had now come to fruition, and demonstrates how these city portraits were becoming commercial products. What cities were represented, and from which position or point of view, as well as what cityscapes were considered important, and for what reasons (i.e. military, religious, antiquarian or aesthetic) were, like any publication, up to the author/publisher.



Jacopo de' Barbari's View of Venice

It is important to understand how authentic or accurate these pictorial representations are, and how their authors defend their authenticity or accuracy. In this regard, one question is whether for images of non-European cities, the European urban reality was recycled as an image frozen in time. What practices, techniques and modes of representation were used in the production of these cityscapes? Was there an on-site examination documented by textual notes or sketches? Does the visual representation of a building reflect the 'idea' of that building or does it offer an accurate portrayal? What parts of the cityscape are included? Are the city views the product of a philological and critical interpretation of classical geographical texts or descriptions of the period? A frequent means for contemporary Europeans to gather information for their works was to speak with well-traveled people (e.g., merchants, pilgrims, diplomatic agents), who would tell them about the settlements and topography of the areas they frequented. The information gleaned from these itineraries was then crosschecked with other sources.

One feature of Dutch cartography in the 17th century was the publication in Amsterdam of large panoramic views of towns. These included not only Dutch towns, but also other major European capitals and commercial centers. Amsterdam offered ideal conditions for producing town views since it was a meeting place for both art and commerce. Only here could one find the suppliers of the necessary

copperplates, the draughtsman, engravers and publishers, who could not only produce, but also distribute these monumental items. Only Amsterdam had the necessary links and contacts with the cities drawn on the illustrations that found their way to Amsterdam. On the other hand, Amsterdam's commercial links provided the means for exporting these engraved views throughout the world. The town views produced in Amsterdam are an indication of the artistic and technical achievements of this important commercial center. They are also of very great importance as topographical sources, representing peaks in the history of the illustration of Europe's major cities. The production of these large panoramic views always involved several persons; the draughtsman or painter, who made a picture of the city from life, the engraver or etcher, who engraved or etched the mirror image of the picture on the copperplate, and finally the publisher or bookseller, who was responsible for selling the product.

The most prominent publication of urban landscapes is contained in the six volumes *Civitates orbis terrarum*, the celebrated town book produced by Georg Braun (1541-1622), canon of the cathedral of Cologne, and the German publisher and engraver Franz Hogenberg (c.1540-c.1590), published between 1572 and 1617 with close to six hundred maps and city views of famous cities of the world. The Latin texts that accompanied the views in this monumental collection of urban landscapes were for the most part written and reworked by Georg Braun; they are descriptive in nature and make reference to the history and geography of each city as well as to certain social and economic aspects. The texts on the verso of the images also had to be compelling and solid in their scientific basis, and provide readers with reliable information on the origin of the city's name and its foundation, history, economic resources, commerce, architecture and urbanism, though clearly they were secondary in importance to the cityscapes, the real focus of the whole work.

The production of a map or view of a city with its major buildings is a large undertaking that often required the participation of more than one specialist (painters, measurers, architect-engineers) and was thus quite costly. This explains why an initial portrait of a city served as the basis for a generation of views of the same city. Prototypes and earlier collections such as Hartmann Schedel's *Liber chronicarum*, Ludovico Guicciardini's *Descrittione di tutti i Paesi Bassi* (1567), Antoine du Pinet's *Plantz, pourtraitz et descriptions de plusieurs villes et forteresses* (1564), Johannes Stump's *Schwyzer Chronik* (1548), some images of the United Provinces by Jacob van Deventer and, it would seem, even Sebastian Münster's *Cosmographia*, were the starting point for the preparation of the *Civitates*.

The fieldwork normally undertaken by travelers, draftsmen and topographers who visited different places in order to gather the most precise information first-hand was done by Hoefnagel between 1561 and 1569, the son of a well-to-do diamond merchant from Antwerp who toured France, Spain, Germany and England.

The images in the *Civitates*, a monumental literary-pictorial work, conform to a series of criteria that gave the volumes uniformity in terms of format, pagination, compositional structure, figures and ornament. The objective was to create views that allowed Italian, French, German, Dutch, Flemish and Spanish readers to 'enter into' the cities, stroll through their streets and admire the beauty of its buildings, squares and main churches in addition to reading the texts.

Europa

The cities strung across the top of the Bleau map of Europe - *Amsterdam, Prague, Constantinople, Venice, Rome, Paris, London, Toledo, and Lisbon* - were important in one fashion or another to major Dutch interests. All were national capitals, and most represented trading partners or rivals of Dutch economic and political ambitions. The Dutch War of Independence began in 1572 primarily to protect local traditions of economic control and upper-class liberties from increasingly overbearing Spanish overlords. In 1579 the Union of Utrecht created the United Provinces of the Netherlands, also known as the Dutch Republic or the States-General, out of the seven northernmost provinces. Two years later the republic renounced its allegiance to Philip II of Spain and Portugal. In 1588 the Dutch helped the English defeat the Spanish Armada.

Taking advantage of Spain's waning naval fortunes and their own experience in trading raw materials and finished goods, the Dutch rapidly expanded their seaborne trade into the Mediterranean, West Africa, and Indonesia. Fishing and trading grain with the Baltic Sea region led to the development of *fluits*, ships that were both economical to build and capable of transporting a large volume of bulky goods. Profits from the grain trade and the North Seas fisheries may have bankrolled some of the earliest Dutch trade expeditions to the East Indies. By the end of the 16th century more than a thousand Dutch ships carried grain from the Baltics, most

of it bound for Amsterdam.



City vignettes from Bleau: Constantinople, Amsterdam, Venice and Paris

This focus on trade is apparent in the Amsterdam vignette. The city appears in profile, as if from the deck of a ship or from the northern shore of the Nordzeekannaal - a view that emphasizes the system of pier without giving any indication of the city's street pattern. Amsterdam surpassed Antwerp as a major trading center in the late 16th century, after Antwerp was captured by the duke of Parma for the Spanish in 1585. Ironically, the occupation indirectly spurred Amsterdam's growth. The Spanish gave the citizens of Antwerp two years to renounce the Calvinist faith or face forced emigration. Many resettled in Amsterdam, bringing with them capital and skills in bookkeeping, banking, insurance, and a wide variety of crafts. These emigrants also had ties to Flemish and Walloon merchants in Mediterranean ports, connections that facilitated Dutch commercial forays into the Mediterranean market.

The Ottoman Empire welcomed trade with the Dutch when it served their interests against the Spanish. Blaeu's bird's-eye view of Constantinople looks west from the Asian shore of the Strait of Bosporus toward the older European section. The *Maiden's Tower* near the Asian shore is included. The Hagia Sophia and some of the large palaces can easily be picked out, as can a handful of minaret-like objects. The street pattern is very similar to the one in Sebastian Münster's *Cosmographie* from 1544.

Venice had long been nearly the sole intermediary between Europe and the Middle East and Asia, especially for the spice trade. At the time Blaeu made his maps, however, Venice had lost its monopoly, the victim of Dutch trade in the Mediterranean and the discovery of new routes to the East by other nation-states. Blaeu's depiction of the city suggests the delicate balance between land and sea, showing interwoven channels and the structures on the other archipelago islands within the lagoon, but no clear indication of the surrounding landforms. The vignette, oriented almost to the north, includes the Grand Canal, the Rialto Bridge, St. Mark's, St. Giorgio Maggiore, and the Teatro Verde. The Arsenal, a major shipbuilding site, is visible in the white area at the upper right.



The six vignettes shown above are from Frederick de Wit's map Nova Europae, 1680
Rome, Amsterdam, Paris, London, Seville, Prague

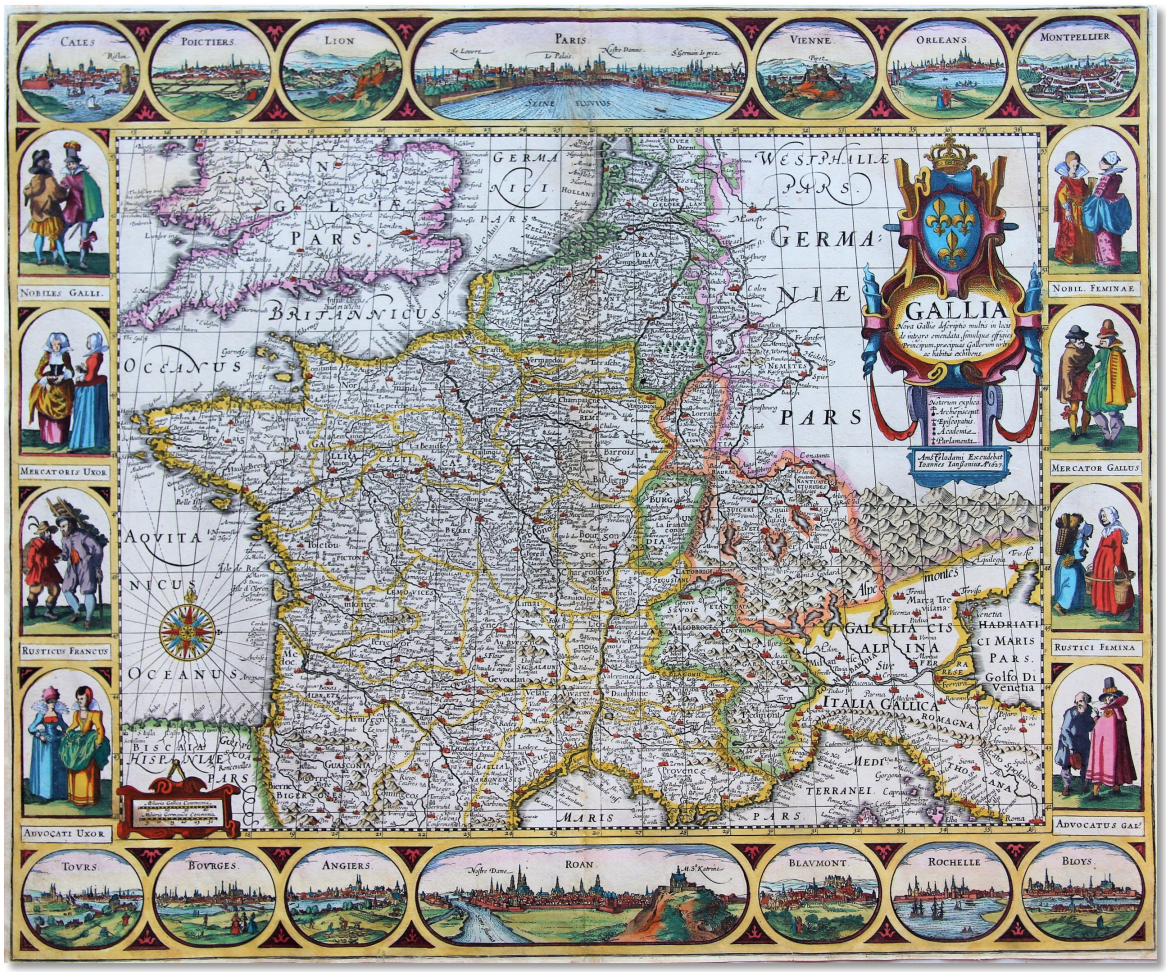

EVROPA
recens descripta
a Guilielmo Blaeuw.
OCEANVS SEPTENTRIONALIS
OCEANVS DEVCALEDONIVS
OCEANVS OCCIDENTALIS
MARE ATLANTICVM
BARBARIA
MARE MEDITERRANEVM
MARMARICA
AFRICÆ PARS
ASIÆ
PARS
PONTVS EVXINVS


NOVA EUROPA
GROENLANDIÆ PARS
HYPERBOREUS OCEANUS
EVROPA
recens descripta
DESCRIPTIO
AUCTORE
GERMANI
GALLI
ITALI
DANI
BELGÆ
HISPANI
ANGLI
POLONI
ASIÆ PARS
ASIA MINOR
AFRICÆ PARS



John Speed's Germany, 1651 with the cities of Heidelberg, Francfurt, Wien, Prag, Coln, Nurnberg, Strasburg and Augsburg

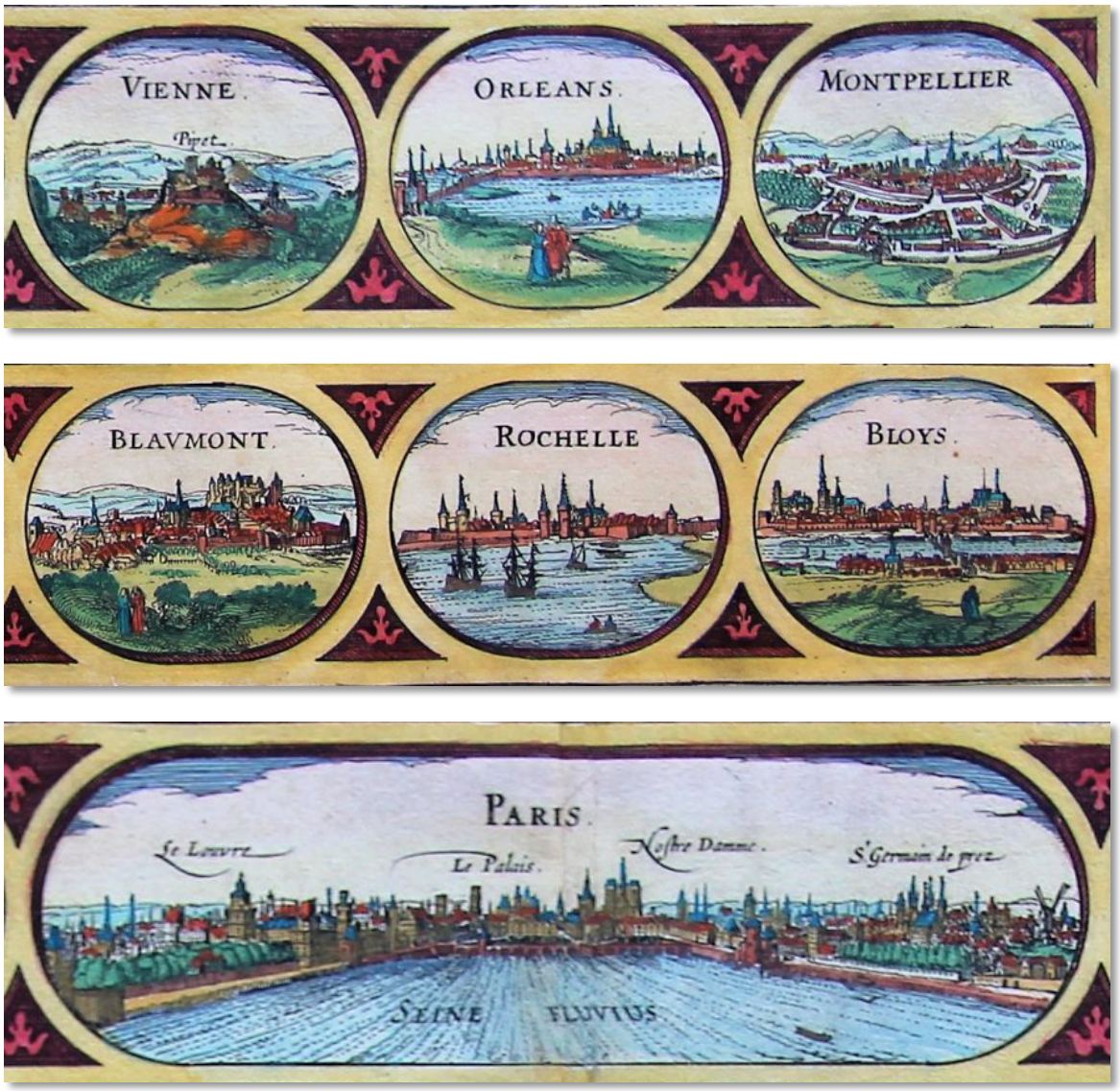
5.1

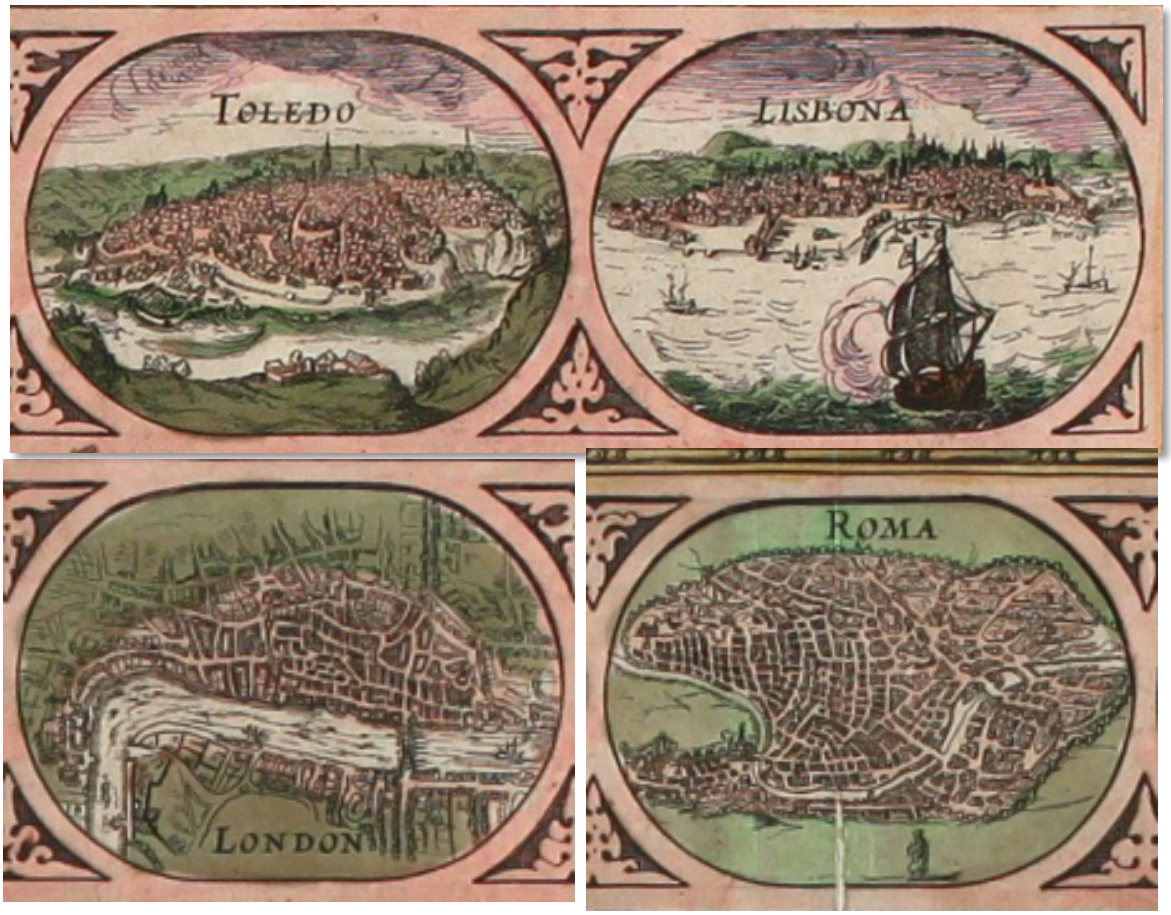

CALES
POICTIERS
LION
PARIS
VIENNE
ORLEANS
MONTPELLIER
NOBILES GALLI
MERCATORIS UXOR
RUSTICUS FRANCUS
ADVOCATI UXOR
NOBIL. FEMINAE
MERCATOR GALLUS
RUSTICI FEMINA
ADVOCATUS GAL
GALLIA
GERMANIÆ PARS
WESTPHALIÆ PARS
BRITANNICUS
OCEANUS
AQVITANICUS
OCEANUS
BISCAIA HISPANIÆ PARS
MARIS PARS
ITALIA GALLICA
HADRIATICI MARIS PARS
TOVRS
BOVRGES
ANGIERS
ROAN
BLAVMONT
ROCHELLE
BLOYS


BOVRGES
ANGIERS
Nostre Dame
ROAN
M.S.t Katrine


CALES
POICTIERS
LION

5.1


VIENNE.
Pyret.
ORLEANS.
MONTPELLIER
BLAVMONT.
ROCHELLE
BLOYS.
PARIS.
le Louvre
Le Palais.
Nostre Damme.
S'Germain de pres
SEINE FLUVIUS


TOLEDO
LISBONA
LONDON
ROMA



Nova Europae Descriptio Auctore I. Hondio. Pietro Todeschi Scul. 1670





Carte Nouvelle de la Mer Mediterranee ou sont Exactement Remarques Tous les Ports, Golfes, Rochers, Bancs de Sable &c. Amsterdam: Pierre Mortier, 1694. Three sheets conjoined, total 585 x 1390mm.

A monumental chart of the Mediterranean Sea, with 38 insets of harbors. Throughout the seas are numerous galleons and galleys, while allegorical figures and sea monsters adorn the insets. The chart appeared in one part of Mortier's '*Neptune François*', titled '*Cartes Marines a l'Usage des Armées du Roy de la Grande Bretagne*'. The nine charts of this section, all engraved by Romeyn de Hooghe, one of the foremost artist/etchers of the period, was described by Koeman as the 'most spectacular type of maritime cartography ever produced in 17th century Amsterdam'; the Mediterranean is the largest and most intricately decorated of the nine. Mortier's motives in the production of this atlas was to flatter the Dutch king on the British throne since the Glorious Revolution of 1688, William III, to whom it is dedicated. The unprecedented size of the atlas and the use of artists such as de Hooghe were not cheap: Koeman calls it the 'most expensive sea atlas' of the period, 'intended more as a show-piece than something to be used by the pilots at sea'. The cities displayed here include:

- Cadix
- Lisbone
- Bilboa
- S. Sebastien
- Marseille
- Genes
- Naples
- Venise
- Tripoli
- Smyrna
- Negrepont
- Constantinople
- Galata
- Gibraltar
- Messine
- Dardanelles
- Asden
- Malte
- Thunis
- Alger
- Marocco
- Candia
- Paleo

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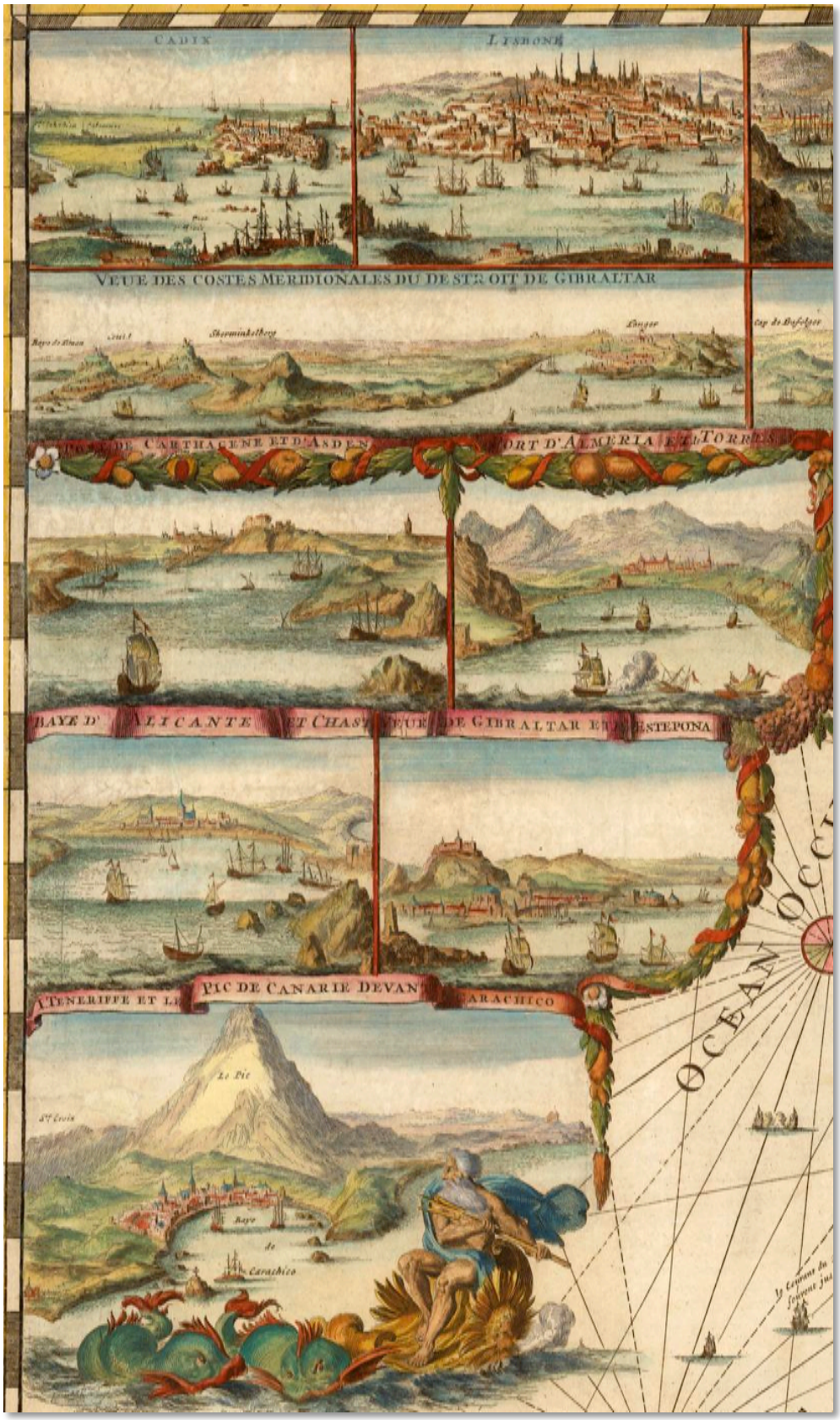
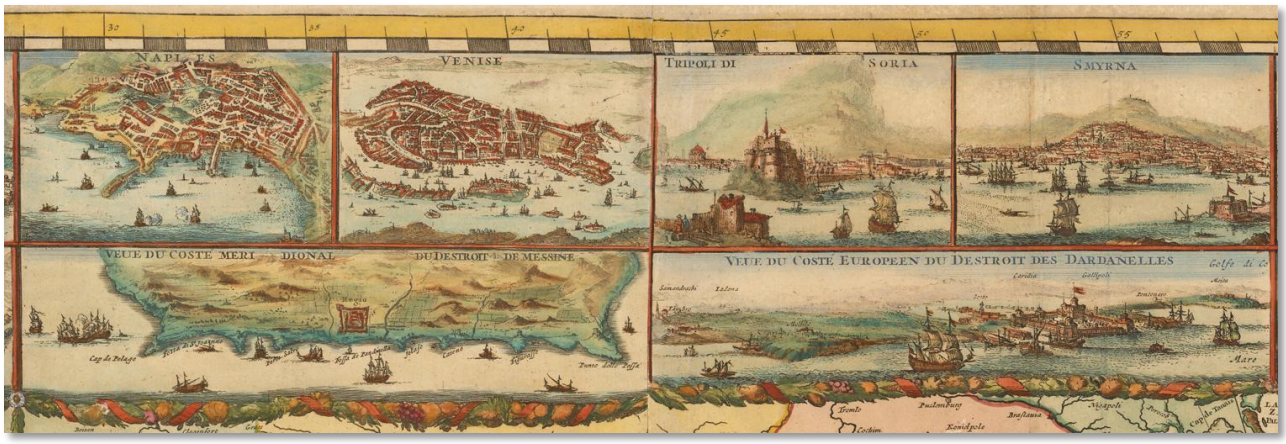

CADIX
LISBONE
VEUE DES COSTES MERIDIONALES DU DESTROIT DE GIBRALTAR
Sherminkelberg
Langer
Cap de Bafolger
PORT D'ALMERIA
BAYE D'
ALICANTE
DE GIBRALTAR
ESTEPONA
PIC DE CANARIE DEVAN
ARACHICO
Le Pic
Baye
de
Carachico
OCEAN


BILBOA
S. SEBASTIEN
MARSEILLE
GENES
VEUE DES COSTES SEPTENTRIONALIS DU DESTROIT DE GIBRALTAR
VEUE DU COSTE OCCIDENTAL DU DESTROIT DE MESSINE

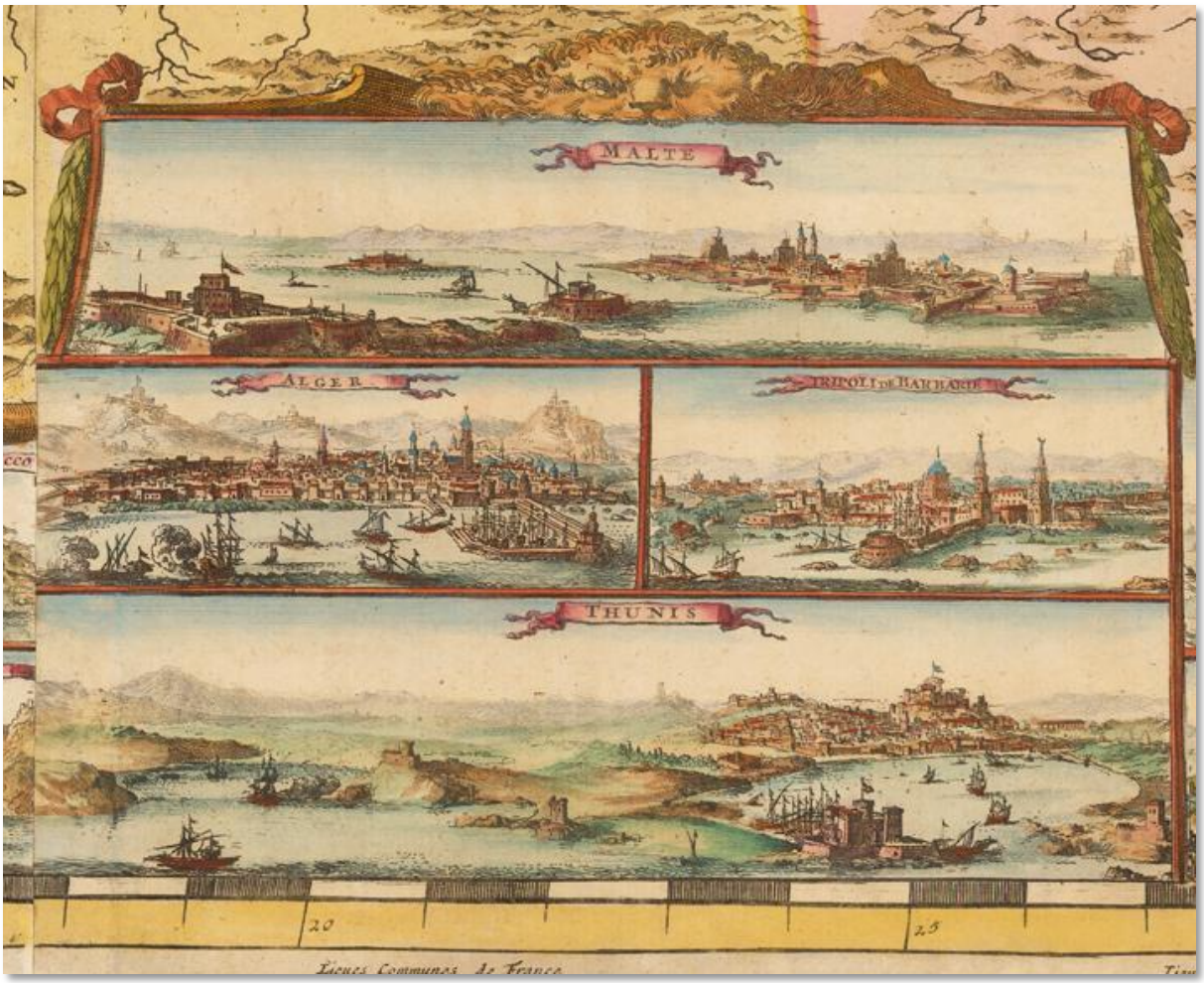

NAPLES
VENISE
TRIPOLI DI SORIA
SMYRNA
VEUE DU COSTE MERIDIONAL DU DESTROIT DE MESSINE
VEUE DU COSTE EUROPEEN DU DESTROIT DES DARDANELLES


CONSTANTINOPLE et
GALATA
Scutari
VEUE DU COSTE ASIATIQ: DU DESTROIT DES DARDANELLES
Marmora
Lampsaco
Avido
Bianco
Molim
LA MER DE

5.1


NAPOLI DI ROMANIA
NAPOLI DI MALVASIA
NEGREPONT
CANDIA
SUDA ET PALEO
IRCASSES
MENGRELIS
EUXIN
Cap de Caba ou Cubas
Saratopoli
Goro
Cantina
Trapesunde
Zahaspa
Nimordon
Chepeon
Cataurope
Cap Georgien
Larena
Mesandaran
ASIE
Monte Gatibo
Scandron ou Alexandretta
45
40

5.1


MALTE
ALGER
TRIPOLI DE BARBARIE
THUNIS
20
25
Lieues Communes de France


Tafletana
Agnice
Guada
Atlas
Majeur
SALLA IN MAROCCO
ADA DE SALÉ et Chas
PENON DE VELEZ



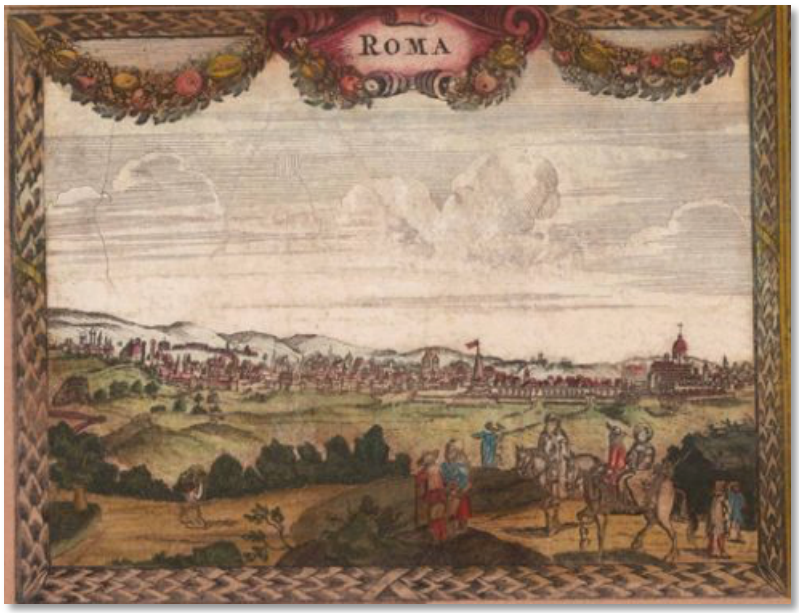


Nova Totius Europae Tabula, Petrus Schenk, 1706, 84 X 96 cm (33¼ X 37¾ inches)

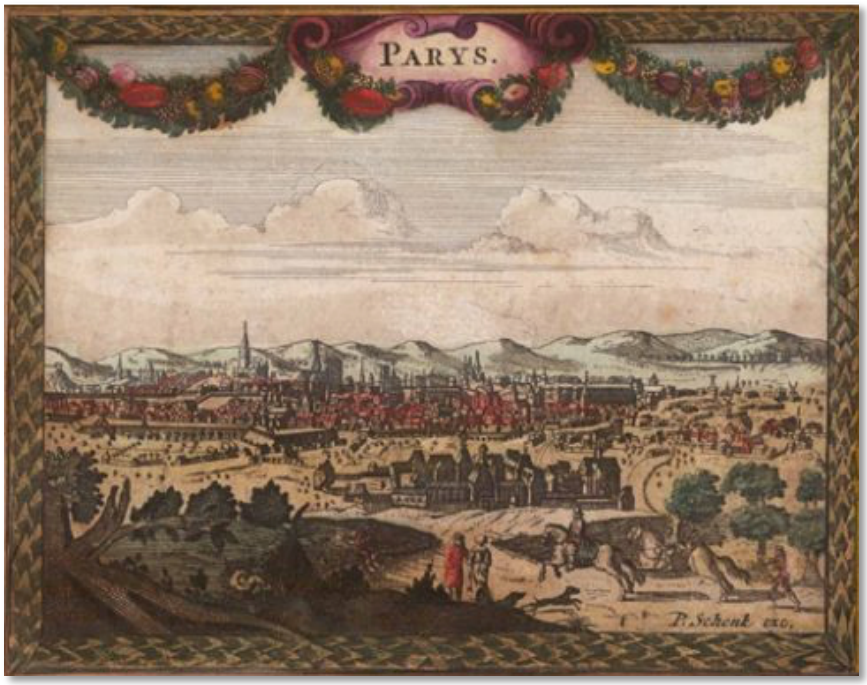
A large wall map of Europe by the famous Dutch cartographer and map publisher Petrus Schenk. The map was printed from nine plates and joint together and then originally mounted on linen. City views of Roma, Paris, London, Sevillia. The title is on a banner held aloft by *putti* with garlands of fruit. One cartouche in the upper right corner "*Gedrukt by Pet: Schenk Const en Caart Verkoper Op de Vygendam Tot Amsterdam Met Privilegie*".






ROMA


AMSTERDAM





Tabula Russiae, Visscher, 1651

Asia

In 1594-95 a group of Dutch merchants formed the *Compagnie van Verre* in Amsterdam and sent a small fleet of ships to Indonesia to obtain spices. The expedition was a success - and the rush to the Spice Islands was on. Other companies soon emerged, spawning heated competition between the regions and municipalities that financed them. In 1602 the States-General merged the rival companies into the *Verenig de Oostindische Compagnie (VOC)*, the Dutch East India Company. It could be considered the world's first "modern" company, with shares and shareholders, or subscribers. Its charter gave it a trading monopoly for twenty-one years in the area east of the Cape of Good Hope and west of the Strait of Magellan. The VOC was authorized to sign treaties with native rulers, build forts, and appoint governors. These powers ran counter to Portugal, which claimed control of the region by virtue of a grant by Pope Alexander VI in 1494 through the *Treaty of Tordesillas*.

The VOC fiercely defended its monopoly and waged an energetic trade war against the combined Portuguese-Spanish empire. The Dutch generally eschewed Spanish-style continental conquest; there was a definite emphasis on commercial rather than territorial control. The company preferred to control local trade but not necessarily the mechanics of producing or acquiring the trade goods. Nor was there a concentrated or overt effort to convert natives to Protestantism, although the company eventually sent Calvinist ministers and teachers to the East Indies. Over time the Dutch drove the Portuguese, English, Spanish, Chinese, and locally-based Indonesian traders out of trade centers in much of the region.



The cities included on the Asia map - *Kandy, Calecuth, Goa, Damascis, Jerusalem, Hormoz, Bantam, Aden, Macao* - highlight the Dutch foothold in the East as well as the advantage still held by the Portuguese early in the 17th century. Bantam, where the Dutch had landed during the trading expedition of 1594-95, was established as the VOC's first East Indies headquarters in 1609. The early Dutch traders may have assisted a local king against the Portuguese and as a reward were allowed to build a fort. They used similar tactics to make trade inroads in Kandy. The British had previously established a factory in Bantam in 1602 or 1603, but the Dutch drove them from the island in 1621.

From Bantam the Dutch were able to establish control of the pepper trade. It was also a jumping-off point for Dutch exploration of the rest of the East Indies, New Guinea, and Australia. On Blaeu's vignette of Bantam there appear to be three distinct groups of structures: the palisaded area on the right, the large walled area in the center, and the unwalled area on the left. The palisaded area could very well be the Dutch fort. The complex in the upper half of the center area is most likely a church or a palace, complete with trees. The area on the left could be housing for natives. Bantam is low-lying and described as marshy, with very little relief evident in the surrounding landscape. The background reveals cultivation patterns.

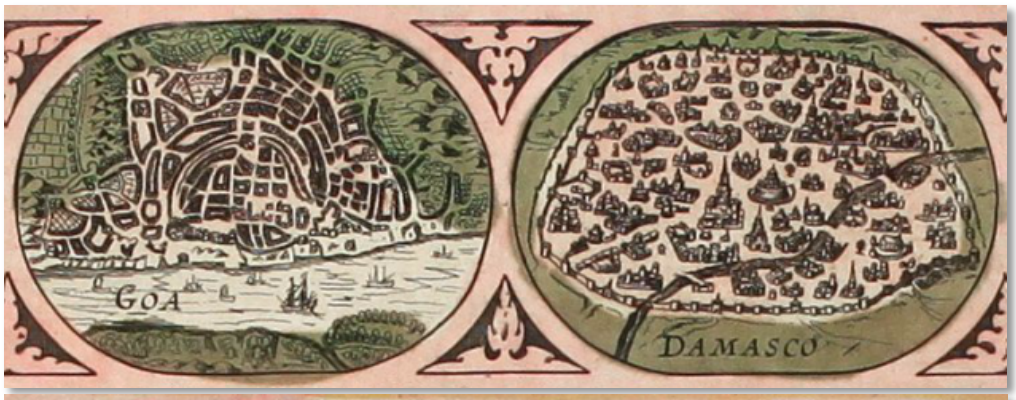
Goa, capital of Portuguese India, played a central role in Portugal's control of the spice trade. Alfonso de Albuquerque captured it from the Muslims in 1510, Francis Xavier followed in 1542, and in 1557 it was made an archbishopric seat. The city reached its commercial height between 1575 and 1600. Jan Huygen van Linschoten, the Dutch bookkeeper for the archbishop, arrived in 1583 and stayed for five years. He later wrote about Goa in his *Itineraro*, which was published in four languages, reprinted many times, and stimulated Dutch interest in the area. Linschoten's history also included Portuguese maps of the area that had not been previously available to the Dutch.

The Dutch blockaded Goa in 1603 in an attempt to drive the Portuguese out, but failed to capture the city. The vignette of Goa on the Asia map is oriented with north at the bottom and includes a strongly delineated street plan but no clear building details. This is surprising, because the city boasts a number of important churches, including the Basilica of Bom Jesus, built in 1586, where St. Xavier is entombed. Nor is there a clear "Great Square," where the cathedral was located and where the Inquisition was conducted in a large building.



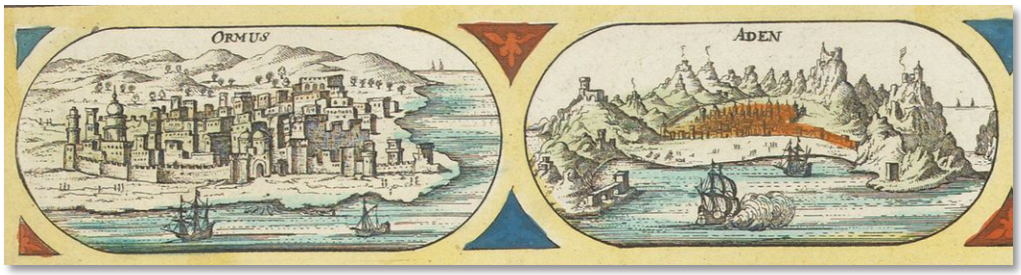
Albuquerque also captured Hormoz as part of his effort to establish Portugal as the major trading power in the Indian Ocean. Construction of a fort began in 1507, which may explain its very "European" appearance on Blaeu's vignette of the city, but an uprising of natives and Portuguese captains forced Albuquerque to leave early the next year. The location of the Island of Hormuz near the entrance of the Persian Gulf made it a natural trading link between the East and the West, and Portuguese control may have slowed Dutch penetration of the Persian market. Note the palm trees in the background on the right near the shore; Blaeu shows vegetation appropriate to the locale on a number of his vignettes.

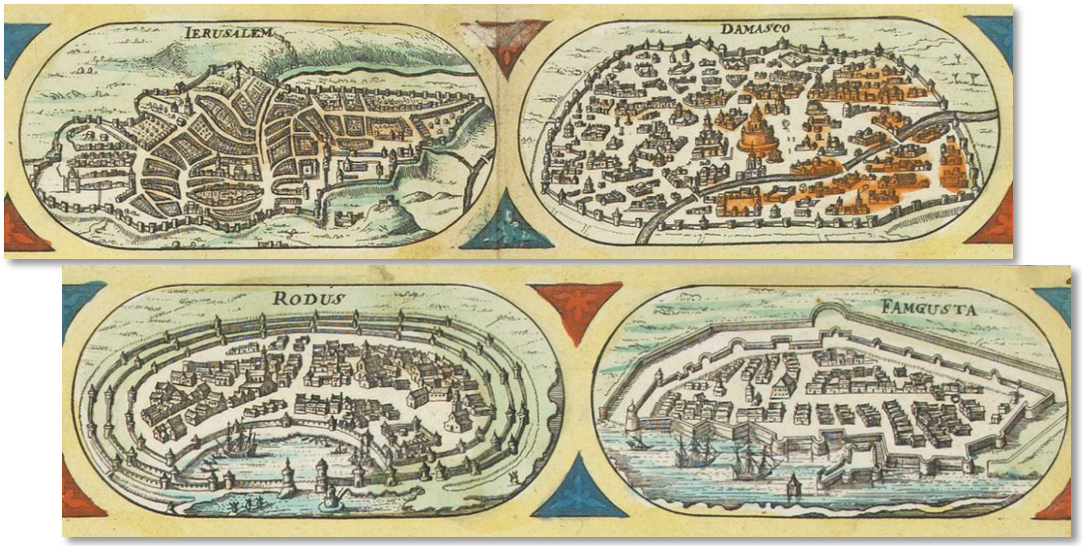
Blaeu also includes a profile of Aden, historically a chief trading center for the Arabian Peninsula and virtually the only source of fresh water for ships traveling along the Arabian coast. Portugal competed with the Ottoman Empire for control of the port city, and the Ottomans were in command early in the 17th century. The Dutch ship Nassau attempted to land at Aden in 1614, but was refused because the merchants did not have appropriate permissions from the sultan. Not until 1618 did the sultan grant the necessary permissions allowing the VOC full movement and trade in Aden and the rest of Yemen. The profile of Aden clearly shows some of the ancient volcano that surrounds the city. On the right is a shadowy cleft, probably the north pass. The southern pass out of the crater cannot be seen.


GOA
DAMASCO


IERVSALEM
ORMVS


ADEN
BANTAM


ORMUS
ADEN



The six vignettes above are on Asiae Nova Descriptio, 1680, by Frederick de Wit



A New Plaine and Exact Map of Asia, by Nicholas Visscher, John Overton 1668


ADEN
K. OF TARTARIA
IERUSALEM
GOA
MACAO
K. OF CHI
NA
RODUS
AROSBAY
K. OF CEYLAND
CALICUT
K. OF PERSIA
ORMUS
K. OF TURCK
BANTAN
K. OF MOLUCCA
GAMMALAMMA

Africae

The urban landscapes often represented in maps of Africa include: Tangier, Ceuta, Algiers, Tunis, Alexandria, Mozambique, the Stadt Minae (the Fort at El Mina), Tripoli, Fort Dauphin (Madagascar), and Fort Nassau on the Guinea Coast. The Dutch coveted Africa for both its markets and its marketable resources. Overall, in the evolving image of North-African cities, we find a mixture of Mediterranean and Northern European architectural typologies, making it sometimes difficult to clearly identify some of the cities that are depicted. This 'hybridization', however, was not unique to the depiction of North African cities, as some images of cities were recycled, such as the more symbolic and less descriptive images from the *Liber chronicarum* (1493) by Hartmann Schedel (1440- 1514). The earliest images of North-African cities are primarily symbolic in nature, and provide scant documentary evidence of the cities represented. An analysis of the representation of the cities shows that these birds-eye views and city outlines visually stress the importance of the height of some of the more representative buildings, such as religious and civil structures that rise above the town, and towers on their walls from which the approaching enemy could be seen at a great distance. In iconographic terms, height became a symbol of city.

Blaeu's Africa map includes vignettes of *Tangier, Ceuta, Alger, Tunis, Alexandria, Cairo, Mozambique, St. George del Mina, and the Canaries*. No image of Fort Nassau, established by the Dutch in 1611 as a rendezvous point for Dutch ships involved in West African trade is included; Nassau did not achieve local prominence until the 1620s.

Arab merchants had used Mozambique for trade long before Vasco de Gama claimed it for Portugal in 1498. A century later Mozambique, at the nexus of the flourishing gold and ivory trades and crucial to trade routes with India and the East Indies, remained firmly under Portuguese control. In Blaeu's vignette of Mozambique the fort on the right end of the island is probably St. Sebastian, which was built in the early 1500s. The Dutch attacked it in 1607, but failed to seize it. The Dutch also tried to take control of El Mina in 1606 and 1607. The small structure in the foreground of the El Mina vignette is probably the St. George church. There also appear to be two other distinct sets of buildings: Sao Jorge, the fortified castle on the center right, constructed by the Portuguese in 1482, and the dwellings on the left, which may have been occupied by natives.

Alexandria had experienced a significant economic decline by the time Blaeu made his African map. The city suffered from a decrease in eastbound Mediterranean traffic as more European traders chose to round the Cape of Good Hope to reach the Indies instead of negotiating with the Ottoman Empire for safe passage along the traditional eastern routes.

Blaeu's vignette of Alexandria is somewhat confusing. It shows channalization of part of the Nile River, but does not appear to show Alexandria's actual location between the Mediterranean Sea and Lake Mareotis. The *Pharos Lighthouse* is in the foreground, and *Cleopatra's Needles* are close behind the city wall on the left. *Pompey's Pillar*, although perhaps shown too close to the shore, is on the far right. The harbor facilities appear to be fortified.

The difficulty of representing the city's shape provides an overview of the authors' strategies used to recreate the "best" representation of the city's design. At the same time, these images also suggest the way in which the artists conceived their works. The descriptive capacity of the figurative and textual language is often subjected to a Eurocentric mental scheme that could be based on topographical details recorded in words and images. This process does not exclude a personal elaboration of the author with the aim of creating an image of cities that is not entirely faithful, but which makes then easy identifiable, overcoming the symbolic-celebratory representations.

Nevertheless, they still betray what Craig Harbison has called the 'model-book mentality'. Their image of the city is no longer an imaginary collage or mix of fictitious elements, but is not an entirely accurate depiction either. These cityscapes of North Africa are notable for their increased accuracy, based as they are on on-site topographic surveys and reliable, even topographically exact information with perfectly recognizable outlines. On the other hand, some of their iconographic elements relate them to more conventional representations, and suggest that such compositions were based on notes taken during travel by artists who were familiar with the city represented. They include buildings that belong to the city's imaginary, chosen by the artist, and mix conventional elements with more accurate ones.

5.1


MARE ATLAN
MARE MEDITERRANEUM
AFRICÆ
nova descriptio.
ASIAE
PARS
ARABIA
OCEANI
ORIEN
TALIS
PARS
TROPICUS CANCRI
TICUM
BARBARIA
BILE
DULGERI
DIA
LIBYA INTERIOR
SARRA appella
Insulæ de Cabo verde dus
Hesperides sive Gorgades
ÆQUATOR
LINEA ÆQUINOCTIALIS
OCEANUS
AETHIOPICUS
TROPICUS CAPRICORNI
MADAGASCAR
S LAURENTII INSula dicitur


TANGER
CEVTA
ALGER


TANGER
CEVTA
ALGER


TVNIS
Goleta
nunc diſtructa
ALEXANDRIA
ALCAIR
TVNIS
Goleta
nunc diſtructa
ALEXANDRIA
ALCAIR
MOZAMBIQVE
S. GEORGIVS della MINA
CANARIA
MOZAMBIQVE
S. GEORGIVS della MINA
CANARIA
Alger
Tunis
Goleta
nunc diſtructa
Tanger
Ceuta



The six vignettes displayed above are from Frederick de Wit's 1660 Nova Africa Descriptio . . .

Americae

Exploration and trade were much further advanced in the Eastern Hemisphere than in the Western. Not surprisingly, given that the initial publication of the continental maps predated the formation, in 1621, of the Dutch West India Company, none of Blaeu's cities on the Americas map is located in North America. The significant economic activities, particularly gold and silver mining, along with the necessary supporting infrastructure, took place in Central and South America. When Blaeu made his map, *Havana, St. Domingo, Cartagena*, and *Mexico* were all rendezvous sites, staging areas, and government centers. *Cuzco, Rio de Janeiro*, and *Olinda* in Pharnambucco were centers of sugarcane production, and *Potosi* was the most important silver mining area in the world.

The reason Blaeu included *Ila Mocha* in Chili is less obvious. Two hundred years after the map was published, *Ila Mocha*, fourteen miles off the Chilean shore, was described as fertile, well suited for cultivation, and formerly populous. Considering the Chilean coastline, the island may have been included because it was an easy source of fresh water and had been visited by a number of European explorers.

In contrast to *Ila Mocha*, *Potosi* was an extraordinarily vital city. Europeans had "discovered" the largest silver deposit in the world in the Cerro Rico in 1545, although it had been previously unearthed by native inhabitants. The high point of mining activity occurred between 1585 and 1606, and Potosi became the largest city in New World, with at least 100,000 inhabitants by 1600, rivaling Amsterdam and London. The indigenous population shouldered much of the work in the mines through a system of conscripted labor called *mita*.

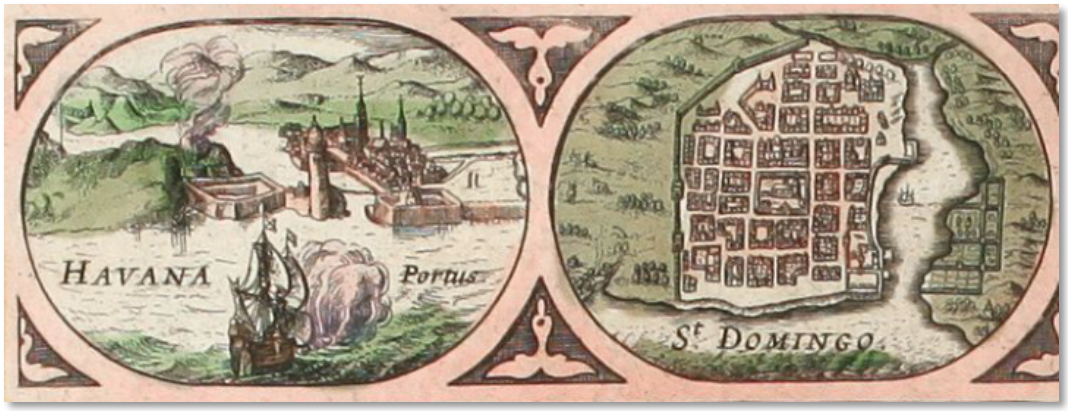
There would have been a cathedral, government buildings, and a very large mint built in the 1570s for producing bullion to be shipped to Spain. These structures are not obvious on Blaeu's vignette. He may have used incomplete or outdated sources, because the vignette does not show enough buildings to reflect how active the city must have been.

Some of the silver mined and minted at Potosi may have passed through Cartagena. Early in the 17th century Cartagena was the first and last port of call for many ships sailing to and from Spain. It was considered Spain's American treasure house; New World gold was sent here for loading onto ships bound for Spain. Prior to 1617 it had been invaded or sacked at least three times by French and English pirates. The king of Spain commissioned Juan Baustista Antonelli to design and build Cartagena's defenses, but the project took more than two centuries to complete.

The fort at the top of the Cartagena vignette is *El Boqueron*; it was replaced by *San Sebastian del Pastelillo* and no longer exists. Two additional forts were constructed later, farther to the south, and would have been toward the right. The most essential city fortifications can be seen in Blaeu's image, walls that cut the Bocagrande Peninsula off from the city and fortified a low-lying beach; both were potentially easy approaches for invaders to land and proceed to the city on foot.

5.1


AMERICA SEPTENTRIONALIS
MAR DEL ZUR
MAR DEL NORT
OCEANUS ATLANTICUS
EUROPÆ
AFRICÆ PARS
Tropicus Cancri
CIRCULUS ÆQUINOCTIALIS
OCEANUS PERUVIANUS
Tropicus Capricorni
MARE PACIFICUM
TERRA AUSTRALIS INCOGNITA.
AMERICÆ nova Tabula.


HAVANA Portus
St DOMINGO


CARTAGENA
MEXICO


POTOSI
CUSCO.


I. LA MOCHA in Chili.
RIO IANEI
RO.


OLI NDA in
Pharnambucco


S.AUGUSTIN
HAVANA Portus


CARTAGENA



The six uncolored vignettes above are from Jodocius Hondius' map of America

The distribution of cities on the four continental maps reflects the world's dominant territorial and commercial centers of the early 17th century. Of the thirty-six cities, nineteen were Spanish or Portuguese possessions and eight belonged to the Ottoman Empire when the maps were engraved 1617-18, although some had become Dutch strongholds by the time the *Atlas Major* was published in 1662.

It is worth noting that, despite the geographical exploration and political and commercial changes that took place in the first half of the 17th century, the continental maps and the city vignettes arranged across their tops were never changed. Willem Blaeu's ambition to publish a comprehensive atlas, exhibiting the most up-to-date cartography, was only partially complete when he died in 1638. Nevertheless, the body of work that culminated in the *Atlas Major* endures as among the most magnificent cartography ever produced. In the fine engraving and coloring, the elaborate cartouches, and the pictorial vignettes, Blaeu offered a singular vision of the world.



America noviter delineata Auct. Judoco Hondio, 1632

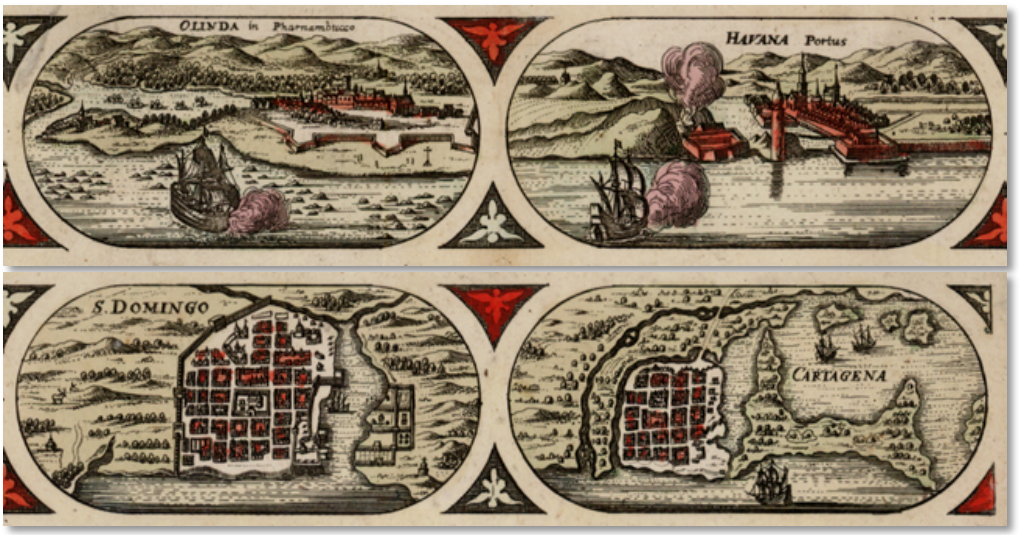






Nova Totius Americae Descriptio Auct. F. De Wit, 1666







Nova Africa Descriptio . . . 1660, Frederick De Wit


Alcair
Alexandria

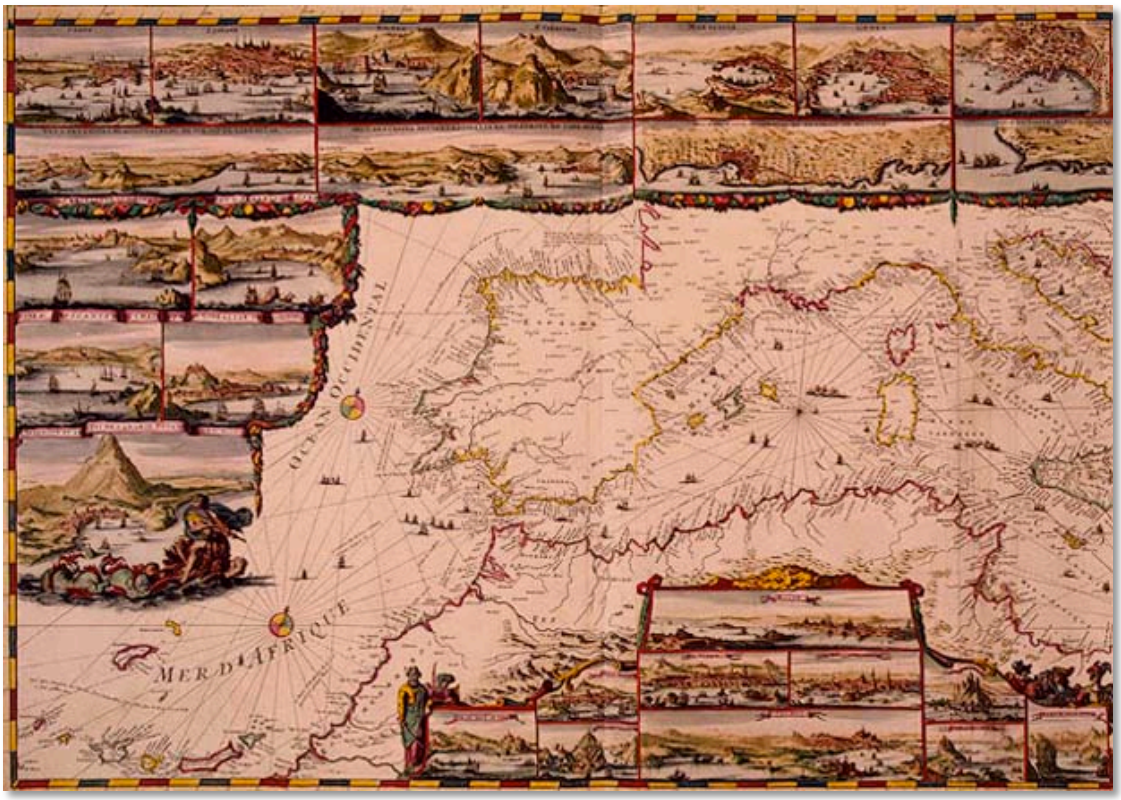

Alger
Tunis
Goleta
nunc diſtructa


Tanger
Ceuta


OLMUTS
BRIN


TUNIS


TVNES VRBS
STAG
NVM.


OCEAN OCCIDENTAL
MER D'AFRICQUE



5.1

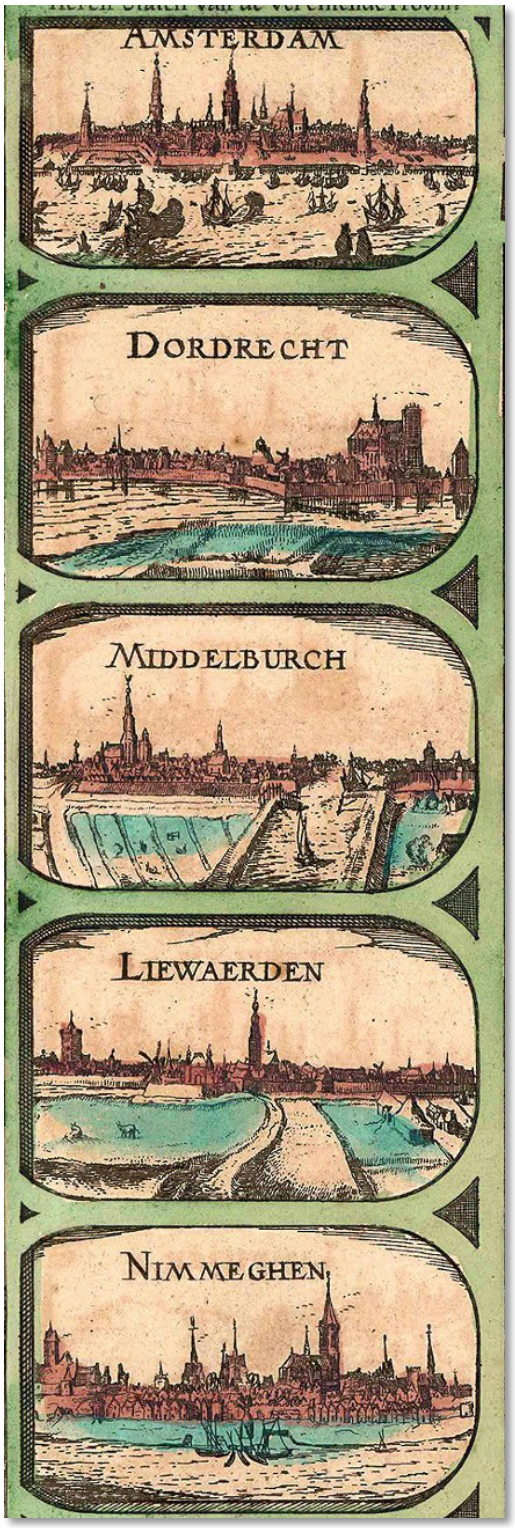

't Graefschap
Hollandt
COMITATUS
HOLLANDIA
LEONIS
DORDRECHT
DELFT
AMSTERDAM
ROTTERDAM
ALCKMAER
ENCKHUYSEN
HAERLEM
LEYDEN
DERGOU
DEN BRILL
HOORN
Edita a Nicolao Iohannis Vischer


DORDRECHT
DELFT
AMSTERDAM
ROTTERDAM
ALCKMAER
ENCKHUYSEN

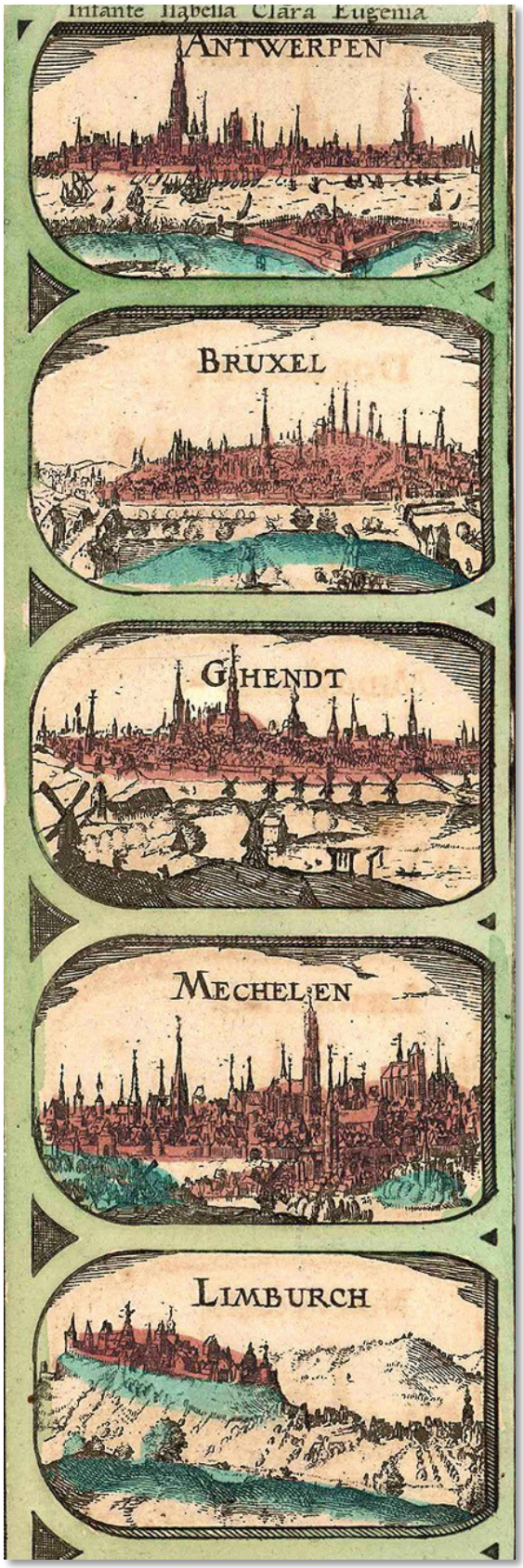

AGRICOLÆ HOLLANDIÆ BOREALIS
HAERLEM
LEYDEN
DERGOU
DEN BRIEL
HOORN
T'HOF van HOLLAN

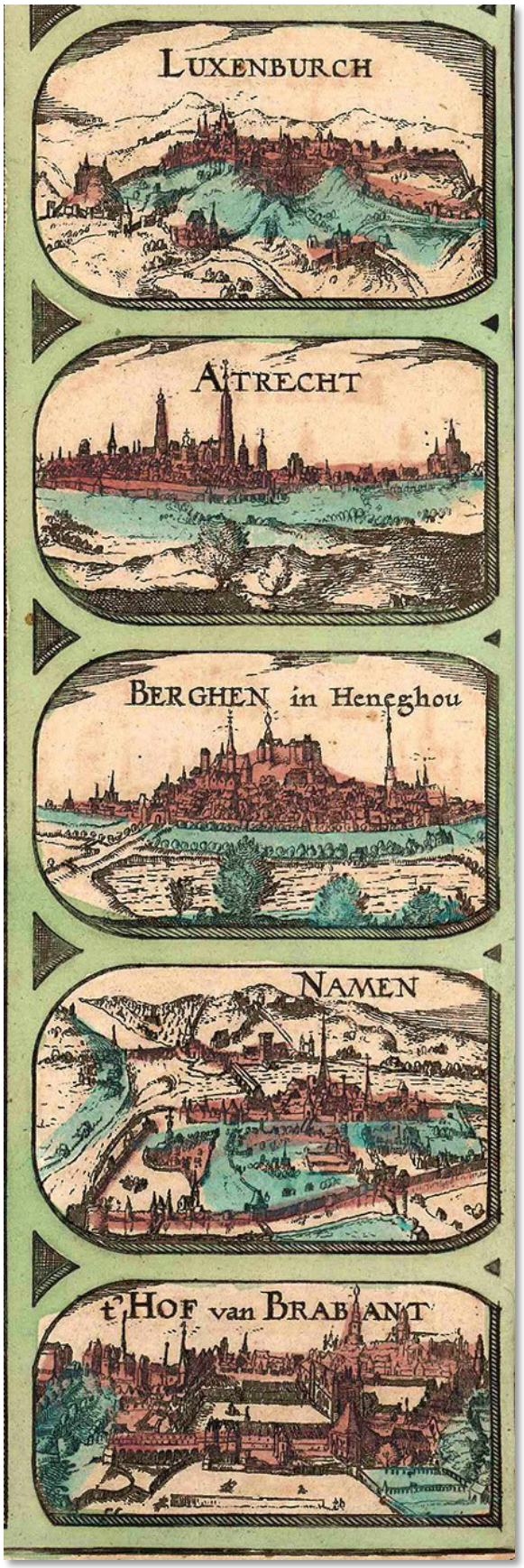
5.1


NOVISSIMA, ET ACCURATISSIMA LEONIS BELGICI, SEU SEPTEMDECIM REGIONUM DESCRIPTIO.
AMSTERDAM
DORDRECHT
MIDDELBURCH
LIEWAERDEN
NIMMEGHEN
UTRECHT
DEVENTER
ZUTPHEN
GROENINGHEN
f HOF van HOLLANT
ANTWERPEN
BRUXEL
GHENDT
MECHELEN
LIMBURCH
LUXENBURCH
ATRECHT
BERGHEN in Heneghou
NAMEN
f HOF van BRABANT
Gedruckt f Amsterdam by Claes Jansz Visscher
Slaponde Oorlogh


AMSTERDAM
DORDRECHT
MIDDELBURCH
LIEWAERDEN
NIMMEGHEN


UTRECHT
DEVENTER
ZUTPHEN
GROENINGHEN
't HOF van HOLLANT


Infante Isabella Clara Eugenia
ANTWERPEN
BRUXEL
GHENDT
MECHELEN
LIMBURCH


LUXENBURCH
ATRECHT
BERGHEN in Heneghou
NAMEN
t' HOF van BRABANT


THE KINGDOME OF DENMARKE
THE GER: MAINE OCEAN.
THE NORTH SEA.
THE BAL:
THE EAST SEA.
SEA COM MONLY
TICHE
PART OF POMER
ZEELAND.
Iutland
Fuhnen
Bornholm
Coman. German miles


COPPENHAGEN
ELSENOR
LANTSKROON
RIPEN
SLESWYCK
HAMBURGH


COPPENHAGEN
ELSENOR


LANTSKROON
RIPEN
SLESWYCK
HAMBURGH
LUBECK

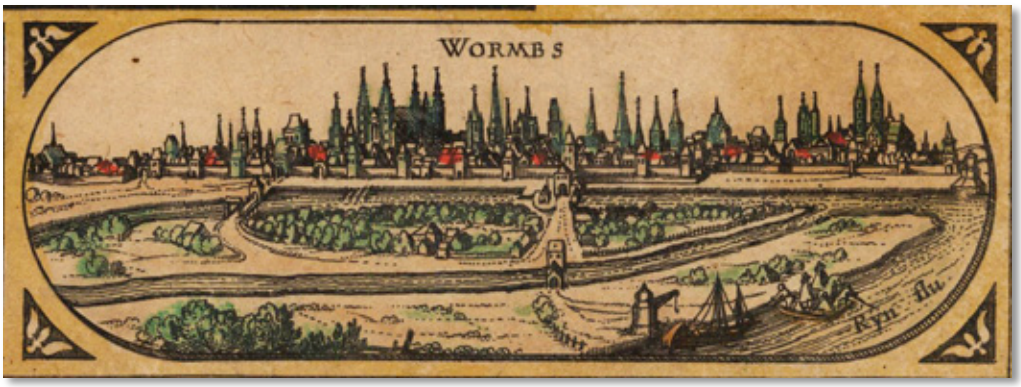

OCEANUS DEUCALEDONIUS
MAGNÆ BRITANNIÆ ET HIBERNIÆ TABVLA
Hebrides Insulæ
Orcades Insulæ
OCEANVS
GERMANICV S
De Noordt
See.
MARE
HIBER
NICVM.
Mare Britannicum.

5.1


NEWCASTLE
CAMBRIDGE
LONDON
OXFORD
GALWAYE
DVKLINE
NORWICHE
BRISTOW
CHESTER


PALATINATUS RHENI NOVA ET ACCURATA DESCRIPTIO
NOBILIS PALATINUS
DOMINA PALATINA
CIVES PALATINI
RUSTICI PALATINI
Hanaw
Comit:
Alsatiæ pars.


MENTZ
Rÿn
Flu
Main
FRANCFURT am MAIN
de Main flu
SPIER
Rÿn
flu
HEYDELBER
Necker
Flu


WORMBS
Rynflu


Arcis Electoralis Palatinæ
delineatio.


Neuberg
Closter


Heÿligenberg

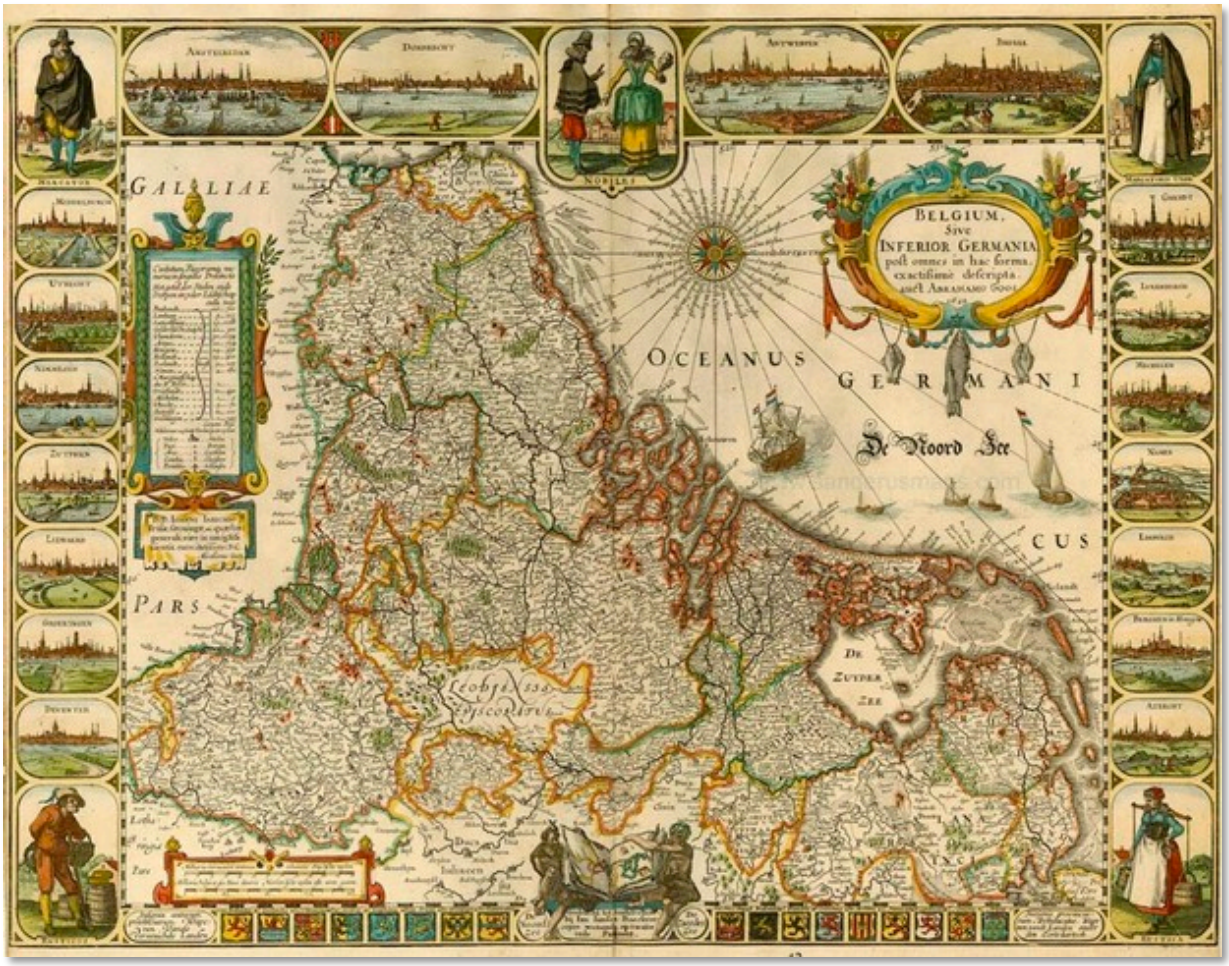

Wolfs Brunnen


MEXICO

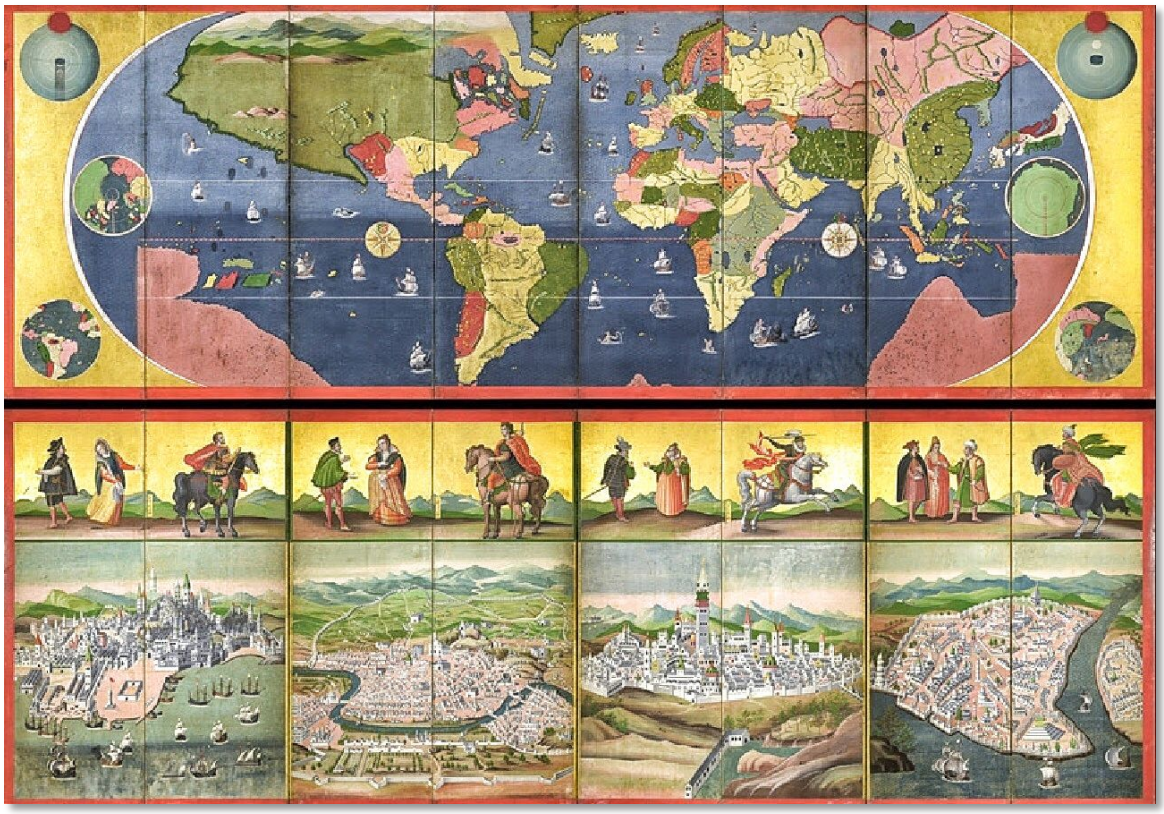

HAVANA


PARNAMBUCO
't Recif

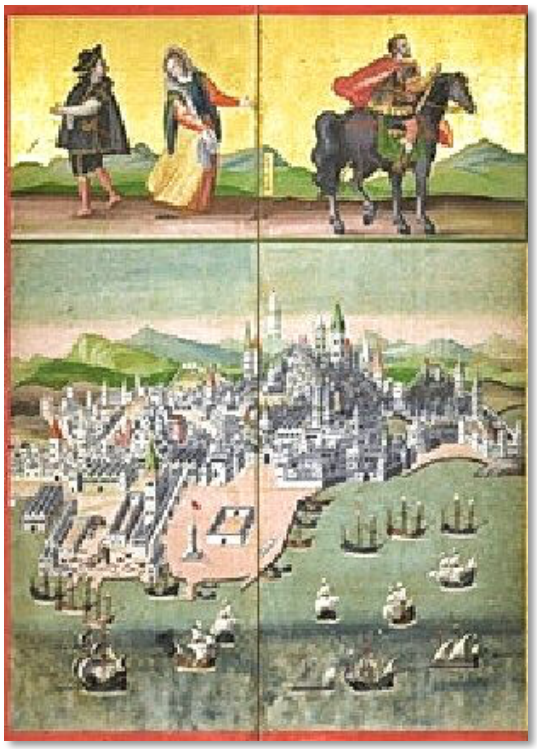

B. DE TODOS SANTOS
S. Salvador


GALLIAE
BELGIUM,
Sive
INFERIOR GERMANIA,
OCEANUS
GERMANI
De Noord See
PARS
CUS
De
Zuyder
Zee

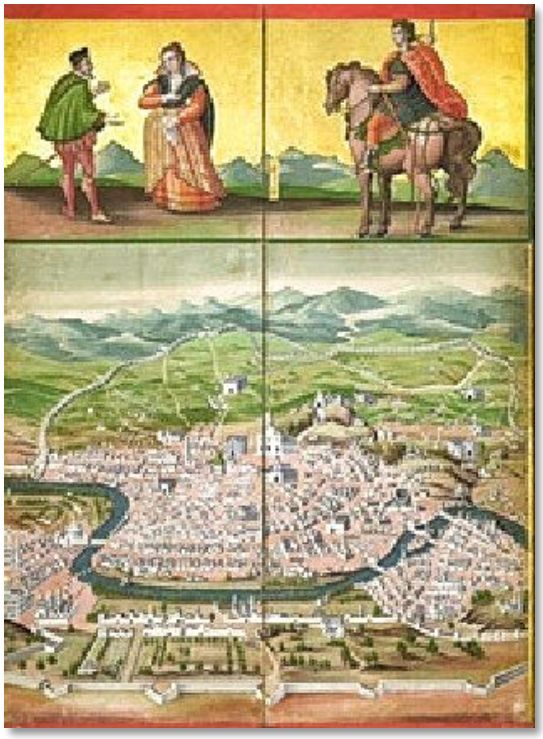

BRUXEL
AMS TERDAM
LUTZENBURG
MIDDELBURG
UTRECHT



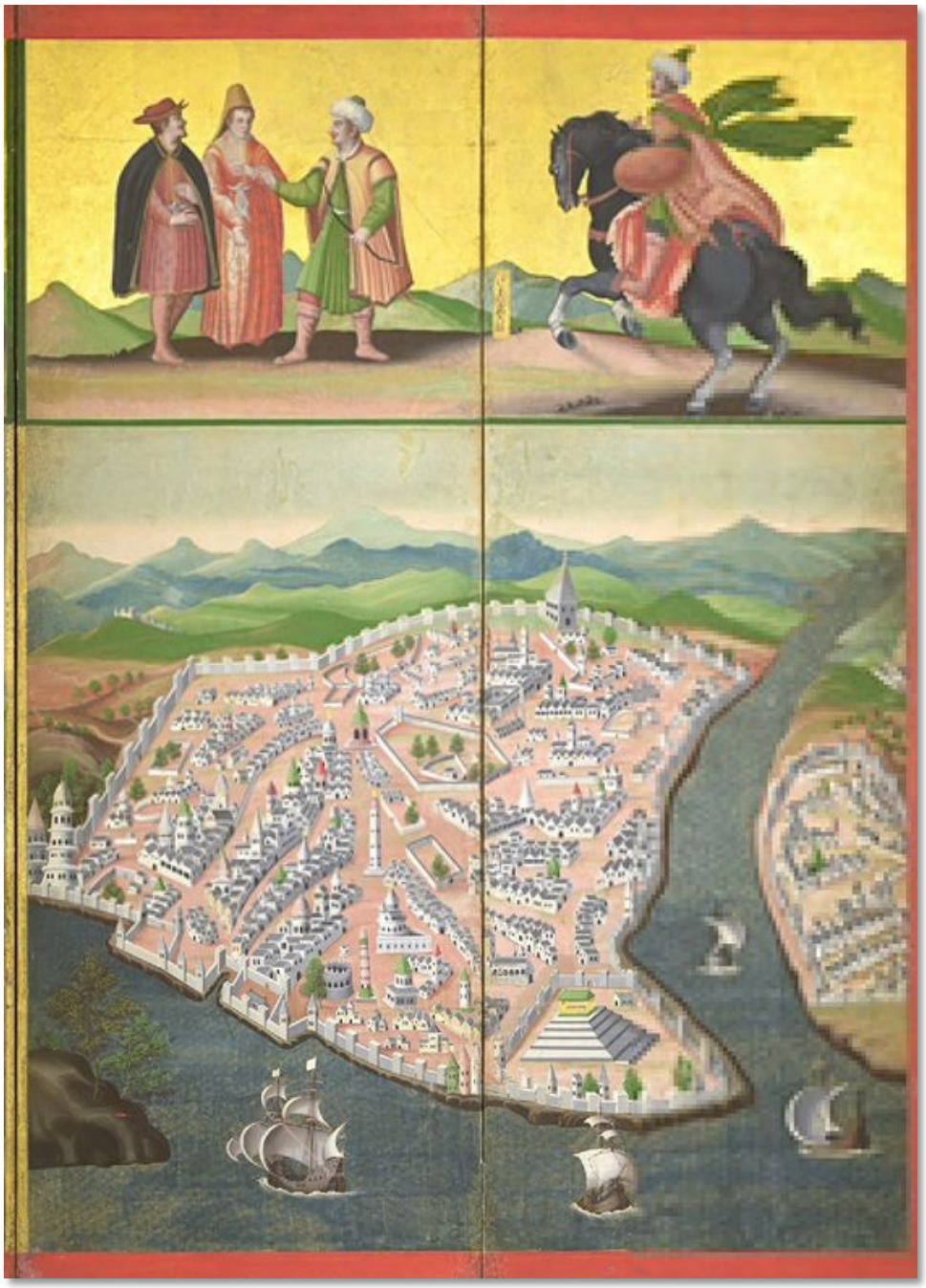
These eight-panel screens, which depict the world map and Four European cities (Lisbon, Seville, Rome, and Constantinople), were painted in Japan in the beginning years of the Edo period (early 17th century). They are thought that the world map was borrowed from a large decorative map of the world revised from a 1607 map by the Dutch chart maker Willem Janszoon Blaeu, and published in 1609 by the Dutch engraver Petrus Kaerius (Pieter van den Keere). Another screen that depicts four cities was probably based on illustrations in some European books like "Civitates Orbis Terrarum" first published by Georg Braun and Franz Hogenberg in 1572, which carries many plates of cityscapes in Europe, and in "Vita Beati Patris Iganatii Loyolae (the biography of Sent Ignatius of Loyola)" published in Antwerp in 1610.



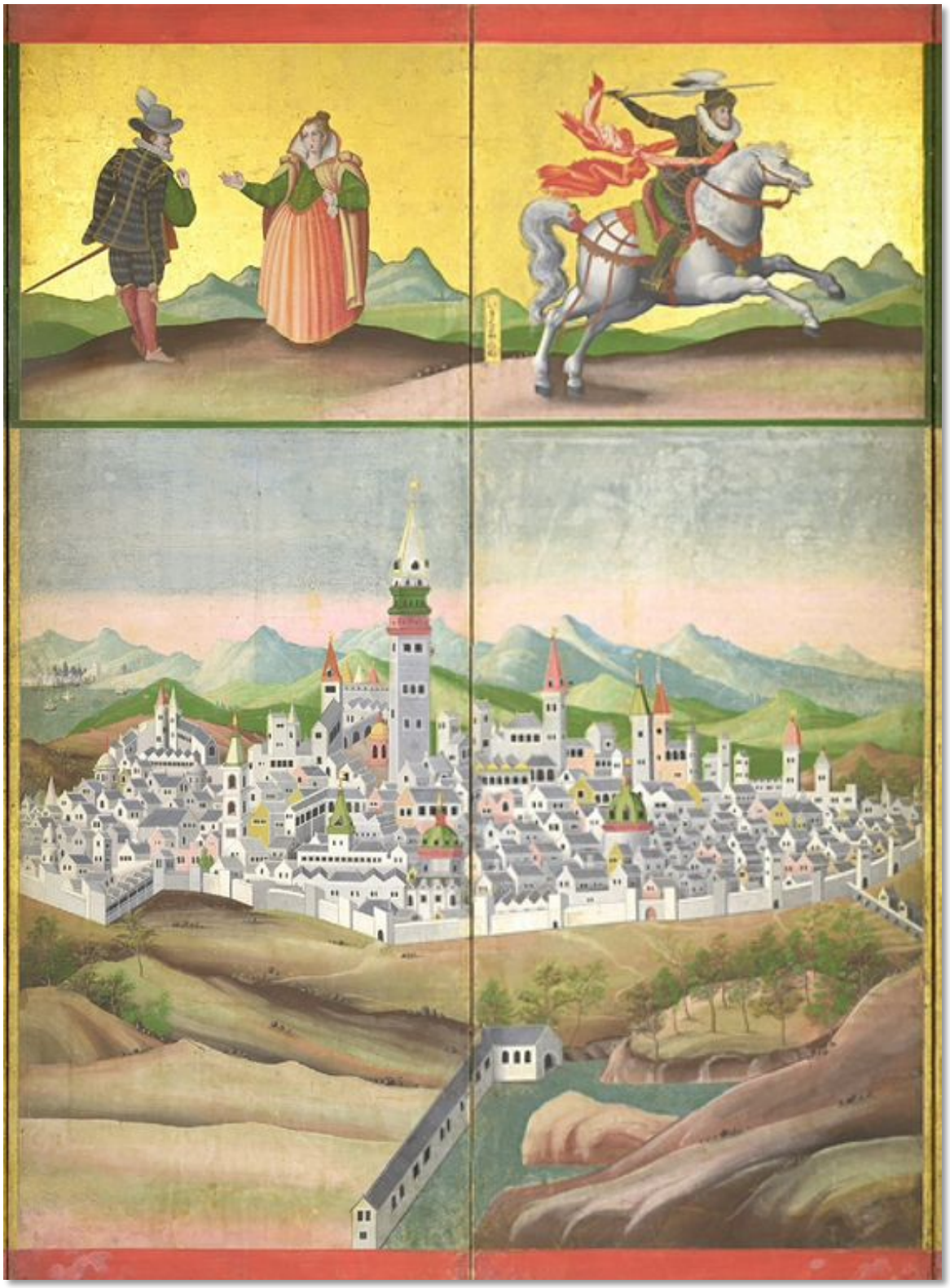
Lisbon



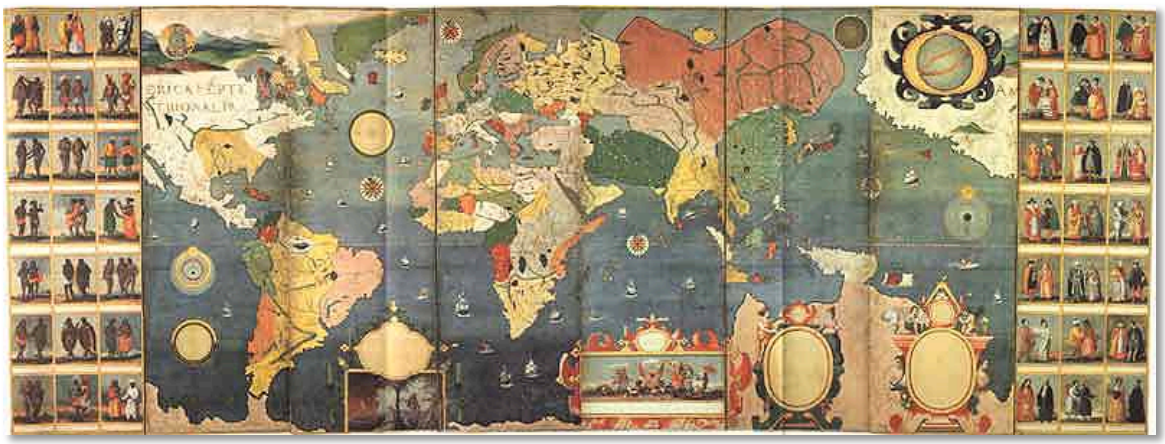
Seville



Constantinople



Rome



Japanese World Map, unknown author. Bankoku Ezu: Sekai zu *[Map of the World and Twenty-eight Famous Cities], Momoyama to Edo period, 17th century. Manuscript – a pair of eight-fold screens, 178 x 465 cm*



Japanese World Map and Rulers on Horseback with Twenty-eight Cityscapes: Pair of 8-panel screens, c. 1590–1614, ink, color, and gold leaf on paper, 177.0 x 483.0 cm each. Twenty of the twenty-eight cities



A section of the Pair of 8-panel screens, c. 1590–1614, ink, color, and gold leaf on paper, 177.0 x 483.0 cm each. Twenty of the twenty-eight cities - Panel 3: Venice, Amsterdam, Cologne, and Cuzco; Panel 4: Mexico City, Aden (Yemen), Frankfurt am Main, and Sofala (Somalia)



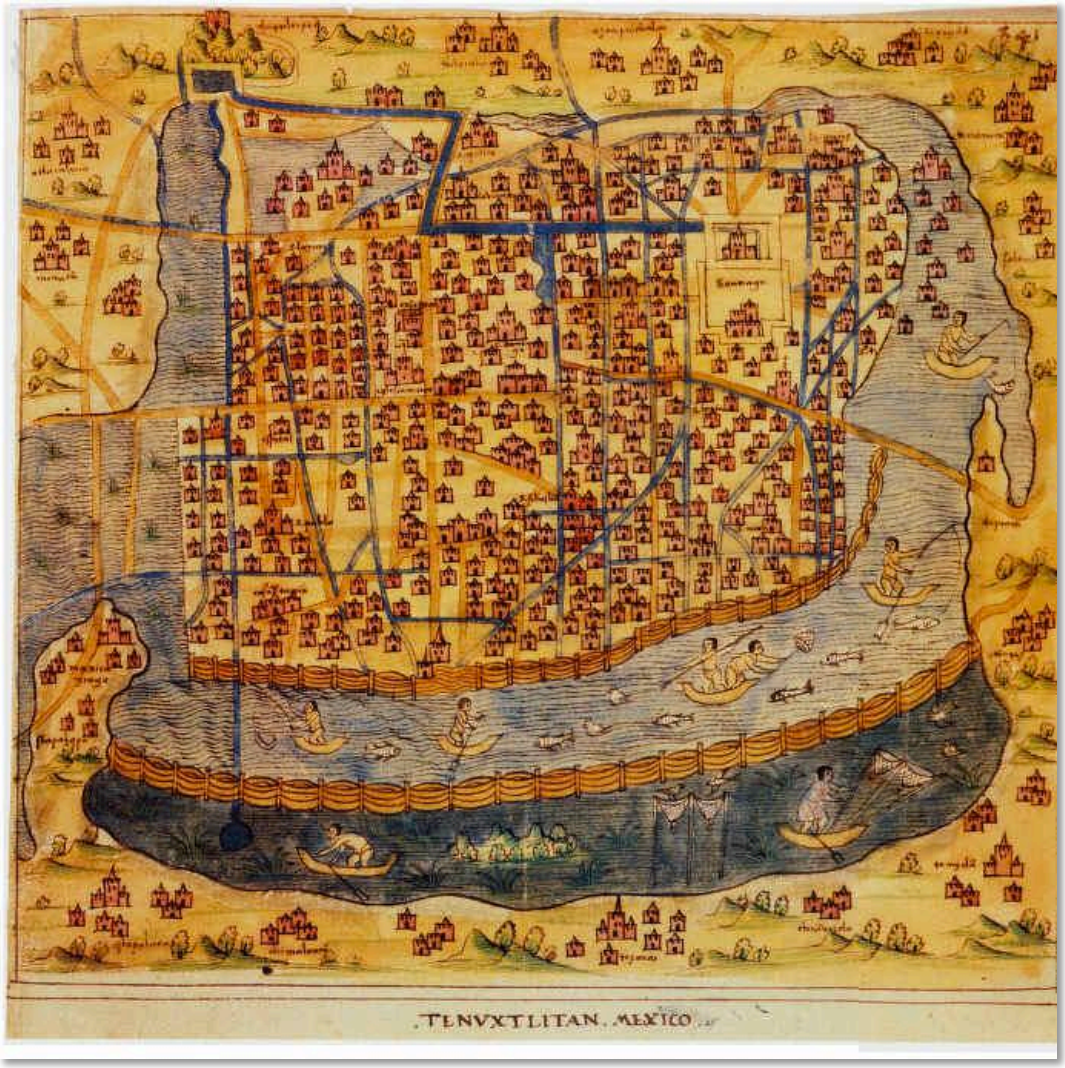
Panel 5: Constantinople, London, Genoa, and Antwerp; Panel 6: Rome, Hormuz (Iran), Bantam (Indonesia), and Mozambique

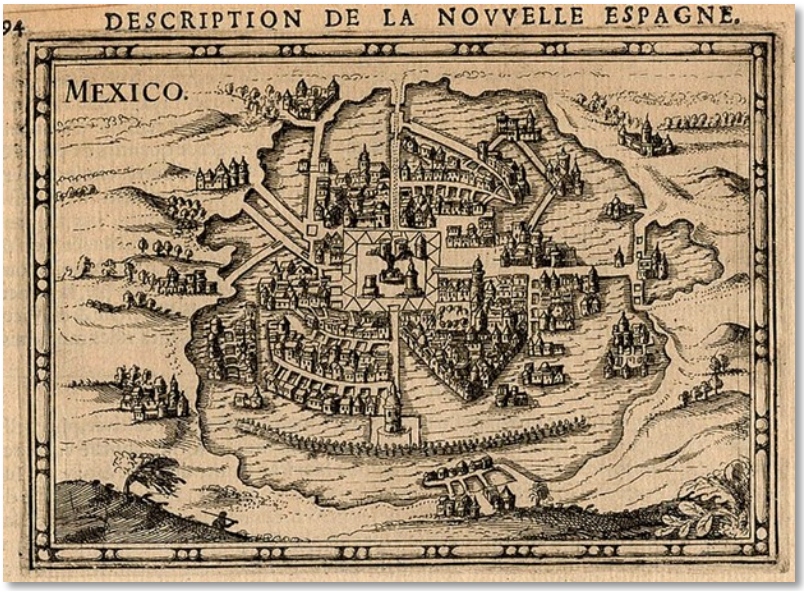


Panel 7: Prague and Kozhikode (Calicut); and Panel 8: Goa and Paris – these six panels come from Georg Braun's Civitates orbis terrarum.

The remaining eight cities originated in Sebastian Münster's *Cosmographia* (Basel, 1548), a book that reached Japan in 1556; Willem Jansz. Blaeu's world map of 1605; Jan Huygen van Linschoten's *Itinerario* (Amsterdam, 1596); and Willem Lodewijcksz's *Historie van Indien* (Amsterdam, 1598). Riders across the top of the *World Map's* pendant screen, *Rulers on Horseback with Twenty-eight Cityscapes,* migrated from the Blaeu maps, as well as from the *Portraits of Emperors Augustus, Domitian, Nero and Otho* in Adriaen Collaert's (after Jan van der Straet) *Twelve Roman Emperors on Horseback* series (c. 1587–1598, London, British Museum).

It is striking that there is no depiction of Japanese cities or even port towns well known to the Jesuits, like Nagasaki, from which it can be surmised that this was a global perspective carefully constructed to facilitate maximum exposure to the European networks the Jesuits chose to present to Ieyasu. Despite using primarily Dutch and German sources, maps that originated with Protestant (notably Dutch Reformed) overtones in Europe arrived in Japan filtered through a Catholic lens. Golden churches were marked throughout the *World Map*, with the largest for Rome, and a Roman cityscape was substituted on the pendant screen for Gamalama, the Portuguese center for spice-trading on Ternate Island. This was characteristic of Jesuit artistic production, both for other Western-source World Map and City View screens attributed to the Niccolo school.

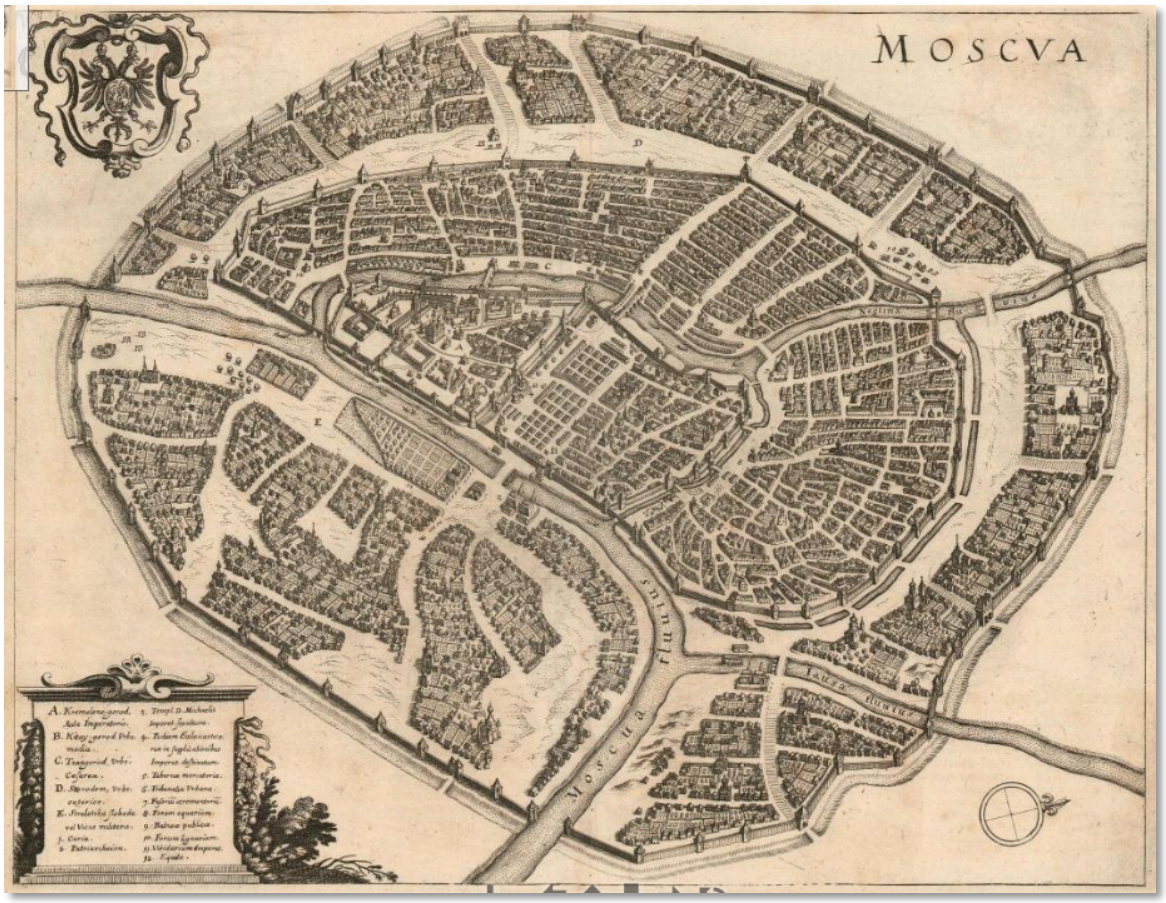

TENVXTLITAN. MEXICO


94 DESCRIPTION DE LA NOVVELLE ESPAGNE.
MEXICO.



Hernando Cortes' 1524 map of Mexico City


MEXICO.
MEXICO, REGIA
ET CELEBRIS
HISPANIÆ NO-
VÆ CIVITAS.
Cum Privilegio



Moscva, 1638

This is a 1638 Matthais Merian city plan or map of Moscow. Apart from the Braun and Hogenberg, this is the earliest full-sheet edition of the plan, which pre-dates by more than 20 years the version included by Joan Blaeu in his *Atlas Maior*. Though an intermediary source may have been Hessel Gerritz, the map is believed to have been ultimately derived from a Russian survey prepared at the orders of the Czar of Muscovy, Boris Godunov. Iterations of this plan first appear in the final, 1617, edition of the Braun and Hogenberg city book. A reduced version was included as an inset in Hessel Gerritz's *Tabula Russiae*, the plate for which would later be purchased by Blaeu for inclusion in his atlas. Although this map's information dates to the end of the 16th century, the onset of the *Time of Troubles* following the death of Boris Godunov would curtail much reliable contact with this part of the world, and so well into the 17th century this plan would remain the most up-to-date mapping of Moscow available. An inset of this plan would even adorn the 1676 map engraved by Francis Lamb for inclusion in the last editions of the Speed atlas.

The plan is oriented to the west-north-west and shows the concentric city walls of the Kremlin, Kitai Gorod and the old city at the junction of the Moscow and Neglinnaya rivers. A legend with a letter-and-number key labels city features. In addition the map also notes the Kremlin and Kitai Gorod, the Streltsy encampment, churches, courts and other public buildings.



Peiping, China



Lhasa, Tibet

References:

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The Travellers, or a Tour through Europe, 1842, William Spooner

A pictorial map of Europe used as a game board. Up to five players, playing as European travelers, start from designated cities in Africa or on the shore of the Mediterranean and return to the capital of their home country. A totum marked with N, E, S and W is spun and a player moves along the lines of latitude and longitude in the direction indicated. Players earn and lose tokens while traveling. The first player to reach their home capital wins the game. Includes vignettes of European cities, towns, life and fauna.

5.1

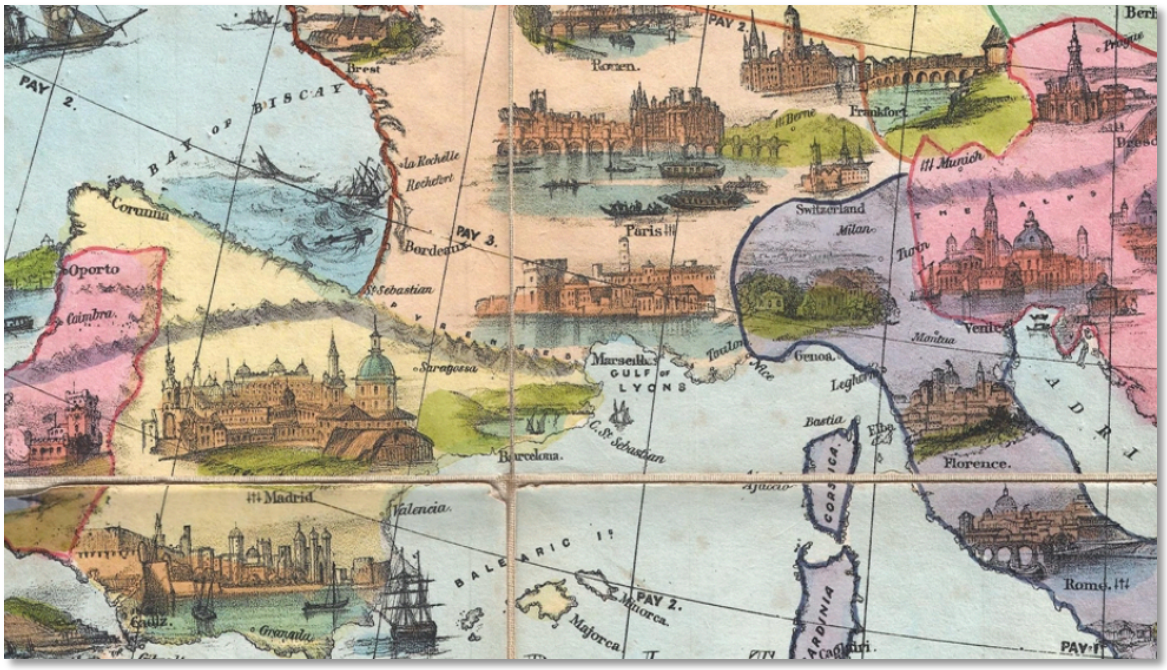

Ship Frozen in
Iceland.
Mount Hecla
Laplander in his Canoe.
Perils of the Whale Fishery
Ferroe Isles.
Shetland Isles.
Orkney I.
Bergen.
Christiania.
Western Isles
Giant's Causeway.
Dublin.
Liverpool
York
St George's Channel
Bristol Channel
London.
Amsterdam
Rotterdam
Lands End
Eddystone Lighth.
English Channel
Calais
Harre
Boulogne
Brussels
Elbe
Elsineur
Hanover
Gibraltar.
Algiers.
Tunis.
Malta.
Morocco.
Tripoli.
Sicily.
Naples
Messina
Mt Etna
Cagliari
Pay 1.
Pay 2.
Pay 3.
Take 2.
Arc
Northern Ocean
North Atlantic Ocean
North Sea
Mediterranean

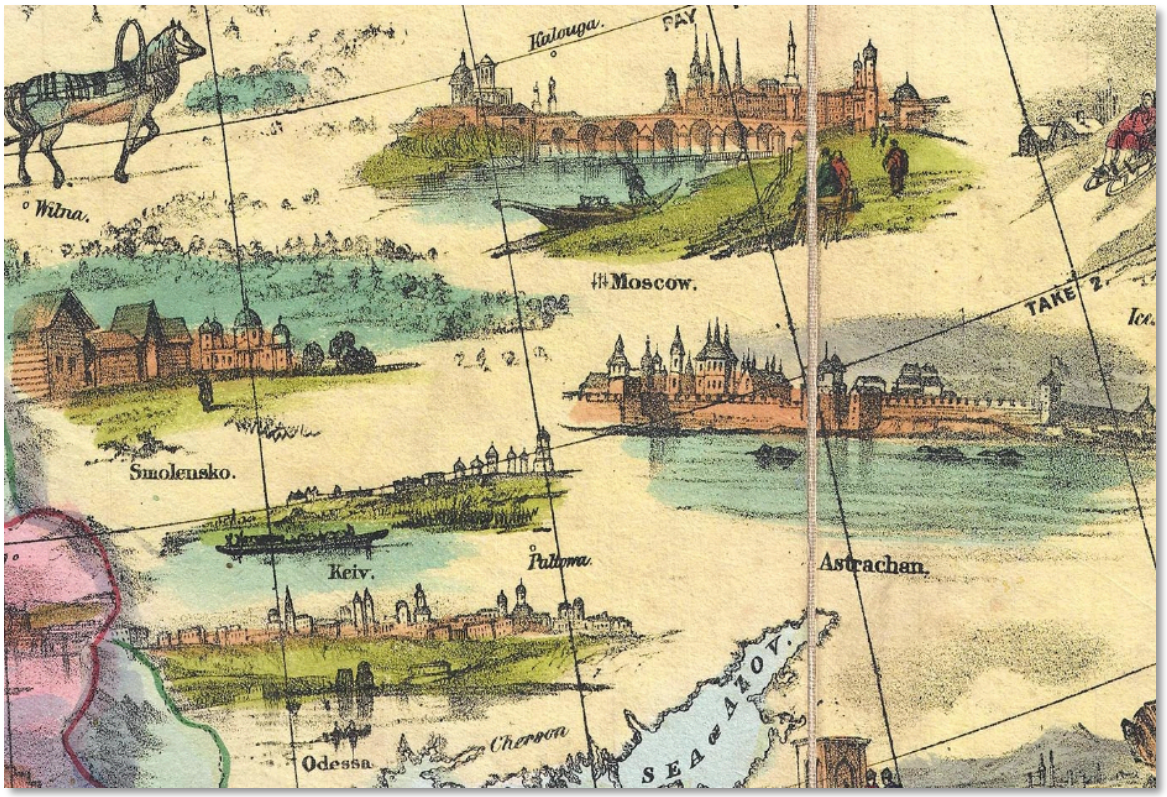

Gibraltar.
Algiers.
Tunis.
Malta.
Morocco.
Tripoli.
Sicily.
Naples
Messina
Mt Etna
Cagliari
Pay 1.

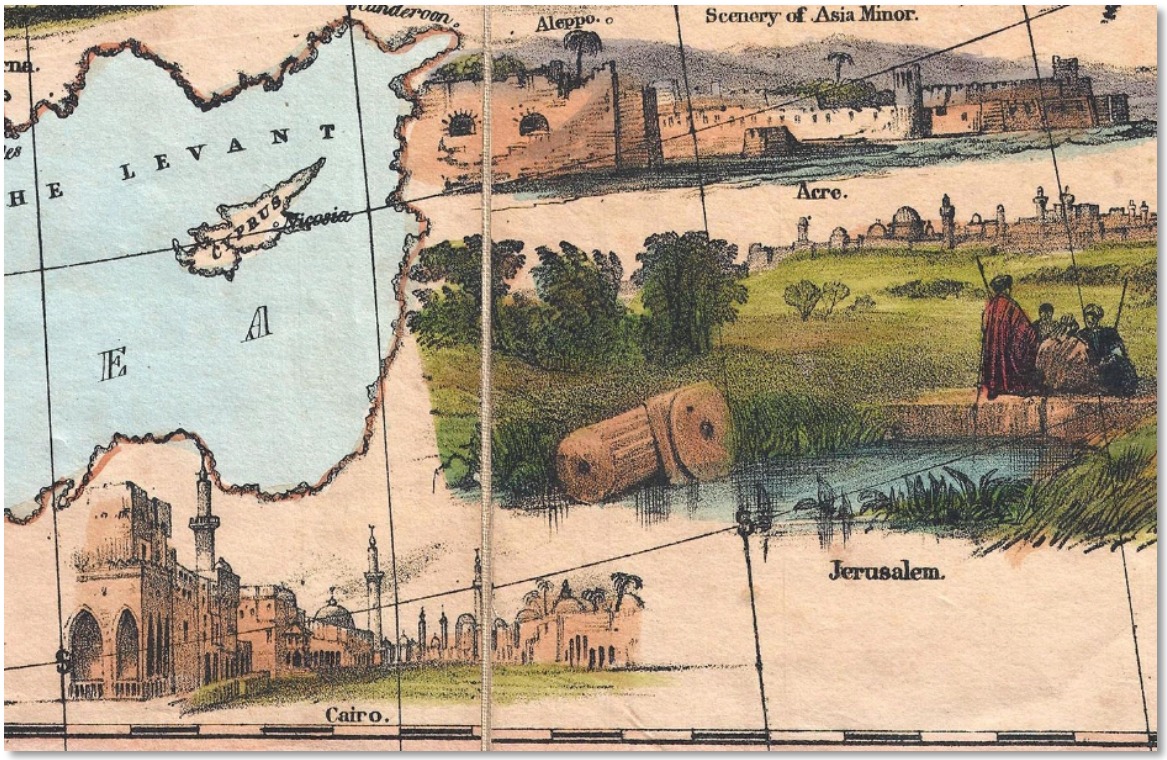
5.1

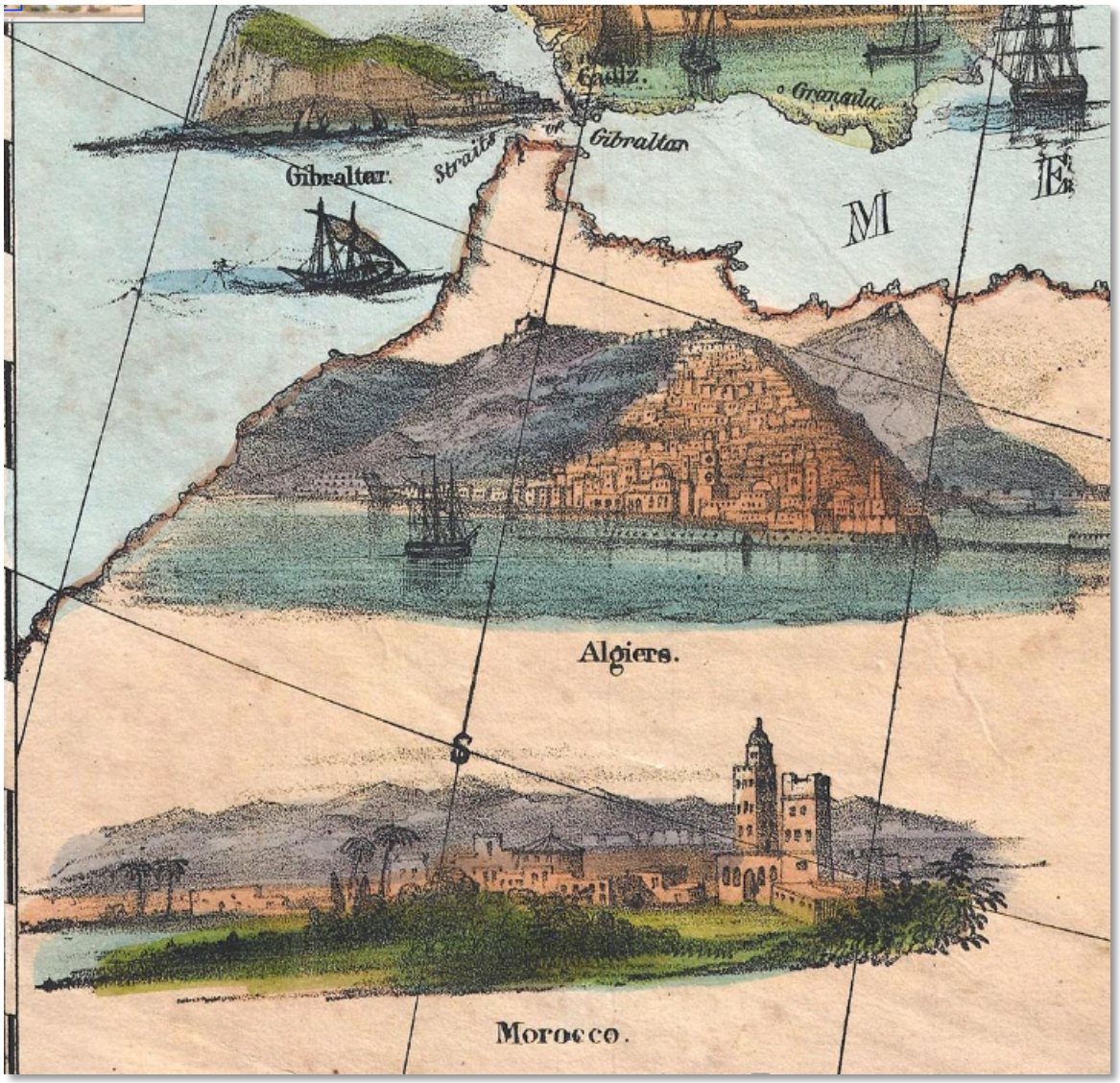

WHITE SEA
PAY 3.
Archangel.
Laplanders Hut
TAKE 2.
Finlander attacking a Bear
Vologda
FINLAND
Novogorod
Jaroslov
Kazan.
St Petersburg.
PAY 1.
Kaluga
Wilna.
Moscow.
TAKE 2.
Ice Mountains
Smolensko.
Keiv.
Astrachan.
Odessa
Cherson
SEA of AZOV.

5.1


PAY 2.
BAY OF BISCAY
Brest
Rouen.
PAY 2.
Frankfort
Munich
Corunna
Oporto
Coimbra.
la Rochelle
Rochefort
Bordeaux
PAY 3.
Paris
Switzerland
Milan
Turin
St. Sebastian
Saragossa
Marseilles
GULF OF LYONS
Toulon
Nice
Genoa.
Leghorn
Venice
Mantua
Bastia
Elba
Barcelona.
C. St. Sebastian
Florence.
Madrid
Valencia.
BALEARIC IS
PAY 2.
Minorca.
Majorca
Rome.
Granada
CORSICA
SARDINIA
PAY 1


Kalouga.
PAY
Wilna.
Moscow.
TAKE 2.
Smolensko.
Keiv.
Poltowa.
Astrachan.
Odessa.
Cherson
SEA OF AZOV.


Aleppo.
Scenery of Asia Minor.
Acre.
Jerusalem.
Cairo.
HE LEVANT
CYPRUS
Nicosia


Cadiz.
Granada.
Gibraltar
Straits of Gibraltar.
M
Algiers.
Morocco.