The definitions of "continents" are both physical and cultural constructs dating back centuries, long before the advent or even knowledge of plate tectonics; i.e., defining a "continent" falls into the realm of physical and cultural geography, while continental plate definitions fall under plate tectonics in the realm of geology. The word "continents" derives from the Latin "continens" (cf. Greek ηπειρος); in classical and medieval usage, Latin derivations infrequently designate a 'mainland' as opposed to an island, but do not develop a clear concept that resembles the modern acceptation of "continent". In English or French, the word "continent" appears (in the geographical sense) in the 16th century. In English, the first known example is 1559, where it designates "a portion of the Earth, which is not parted by the Seas asounder".

The very concept of "continents" figures among the most common and widespread geographical categories that serve to organize the picture of the world. However, the idea that the surface of the earth is divided into several parts has a long history that has seen much controversy and debate. Not only the exact number of continents is unclear—opinions vary between five and seven—but close scrutiny also reveals a lack of conceptual definition. The evolution of the concept of continents takes different paths among the three pre-modern cultures that also had an established cartographic tradition: the European Latin-Christian culture, the Arabic-Islamic culture and the Chinese culture.

A very well developed discussion of this topic can be found in "Mapping Continents, Inhabited Quarters and The Four Seas. Divisions of the World and the Ordering of Spaces in Latin-Christian, Arabic-Islamic and Chinese Cartography in the Twelfth to Sixteenth Centuries. A Critical Survey and Analysis" by Christoph Mauntel, Klaus Oschema, Jean-Charles Ducène and Martin Hofmann in the *Journal of Transcultural Medieval Studies,* Volume 5 Issue 2. By comparing pre-modern maps from European Latin Christendom, the Arabic-Islamic world, and China, this article demonstrates multiple ways in which pre-modern map-makers constructed the 'world' on a global scale as well as the diversity of distinct sub-units in different cartographic traditions. While the analyzed Chinese material concentrates on a geographical space that was perceived to form an ideal political and cultural unity without representing the entire physical world, European Latin-Christian and Arabic-Islamic traditions share the focus on the whole *oikoumene* [known inhabited world] that they both inherited from ancient Greek models. However, only the European Latin-Christian maps consistently and explicitly present a tripartite world (Europe, Africa and Asia) that resonates with Trinitarian structures in Christian thought. Christianity and Islam shared, in many respects, a common cultural heritage. As a consequence, thinkers in both religious and cultural spheres were influenced by the geographical and cosmological traditions of ancient Greece and Rome. But although medieval Latin Christians and Muslims adopted the originally Greek idea that the known world, the *oikoumene*, could be divided into two or three parts, they developed and used it in different ways. The distinct developments on the basis of a common heritage can then be contrasted with the complex Chinese cartographical tradition in order to demonstrate the scope of possibilities that existed in the pre-modern period. Chinese scholars developed quite distinct cosmological and

geographical ideas and concepts before (and even after) they came into contact with the notion of "continents" through Jesuit missionaries in the 16th and 17th centuries.

The Greek Concepts. In the larger context of what might be referred to as the circum-Mediterranean cultural sphere and its heirs, the idea that the surface of the earth consists of separate landmasses that can (and indeed should) be distinguished from one another, is of Greek origin. According to this idea, which emerged and came to dominate from the 5th century BCE onwards, the Mediterranean occupied a dominant position as a central sea surrounded by distinguishable landmasses. The question of how many parts existed and where to draw the boundaries between them remained, however, open to (sometimes controversial) discussion. The first distinction between continents was made by ancient Greek mariners who gave the names "Europe" and "Asia" to the lands on either side of the waterways of the Aegean Sea, the Dardanelles Strait, the Sea of Marmara, the Bosporus Strait and the Black Sea. The names were first applied just to lands near the coast and only later extended to include the hinterlands. But the division was only carried through to the end of navigable waterways and "... beyond that point the Hellenic geographers never succeeded in laying their finger on any inland feature in the physical landscape that could offer any convincing line for partitioning an indivisible Eurasia ..." (Toynbee, Arnold J. (1954), *A Study of History*, London: Oxford University Press, v. 8, pp. 711-12.)

Although the existence of separate landmasses has thus become a widely accepted idea, these continents could take on different shapes. In fact, even their number remained uncertain: Herodotus (d. 424 BCE) discussed whether there were two or three continents, namely Africa (often called *Libya*), Asia, and Europe (in alphabetical order) The tripartite model ultimately became the most commonly recognized, even if Herodotus himself had also raised the yet more fundamental question of the continents' very existence, explaining that he did not know who had come up with this concept in the first place and why. Once they accepted the idea, however, nearly all authors agreed on identifying the borders with water bodies, such as seas or rivers. Herodotus *(#109),* for example, described *Libya*/Africa as being surrounded by water. Nevertheless, he considered its border towards Asia to be unclear, explaining that the Nile was a poor border choice, as it ran straight through Egypt, which he saw as a unit. Even though he was unsure whether Europe was fully surrounded by water or not, he finally settled for either the River Don or the *Phasis* (Rioni, in modern Georgia) as the natural border between Asia and Europe. Polybius (d. 120 BCE), for his part, strongly argued for the Don, while suggesting the Nile as the natural boundary between Africa and Asia. In the long run, these two delineations became largely canonical for scholars in the Latin-Christian Middle Ages.

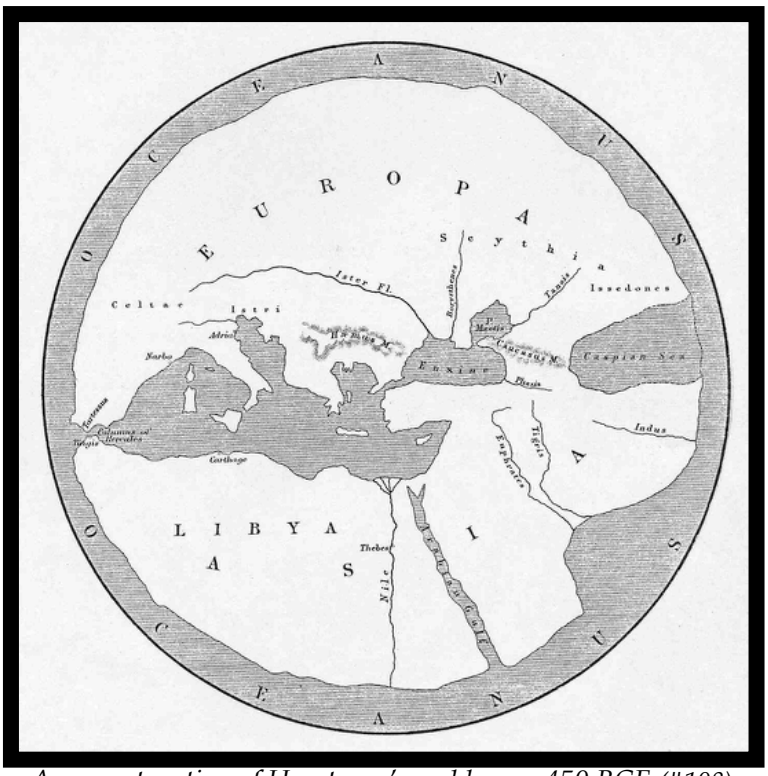
In addition to the controversial debates about the number of continents and their boundaries, Greek and Roman authors also discussed their dimensions. Herodotus, for example, mocked the apparently widespread opinion (held e.g. by Hecataeus) that Asia and Europe were of equal size. As geographical dimensions were frequently linked to ideas of civilization, Herodotus may have been trying to argue for the importance of Asia by emphasizing its size in comparison with Europe in order to accentuate the continent to which his birthplace in present-day Turkey belonged.

The Greek historian Hecataeus of Miletus (5th century BCE *see monograph #108*) distinguished between two continents, Asia and Europe, considering *Libya* (i.e. Africa) to be a part of Asia. He might have called these units η πειρος ("epeiros"), even though the

word itself is not attested for in the existing fragments of his work: the notion could designate a region on the Balkan Peninsula, but referred more generally to the "mainland" – in the more general sense of "continent" it first appears in Aeschylus' play "The Persians". In the (later) Roman context, this structure is still reflected in the works of Sallust (d. 35 BCE) or of the Roman scholar Marcus Terentius Varro (d. 27 BCE).

The calculations of Pliny, on the other hand, who estimated that Europe occupied five-twelfths of the world's surface, clearly intended to underline Europe's superiority. Greek geographers and historians were thus looking for an adequate description of the world 'as it really was': they argued about the names and boundaries of the continents, but rarely questioned the category they used in order to divide and describe the *oikoumene*. The very existence of these debates illustrates that the idea of a world that can be separated into a limited number of significant parts is culturally determined. In addition to discussions about the landmasses and their borders, more abstract descriptions of the world's structure were connected with a model that distinguished several parallel zones, or climates, into which the spherical body of Earth could be subdivided. In the cartographic traditions of medieval Latin Europe, this model became the basis of the so-called "Macrobian" or "zonal" maps (*see monograph #201*), which accentuate the importance of the climates and often represent the landmasses of the *oikoumene* in the Northern temperate zone between a hot equatorial climate and a cold Arctic zone.

Greek and Roman traditions did not only live on in the early Middle Ages, but they actually became canonical: all the authors who explicitly discussed the geographical order of the *oikoumene* accepted the existence of the three traditional parts of the earth [*partes mundi*] as a received truth. While a number of late antique and early medieval works by Orosius, Martianus Capella, or Isidore of Seville still reflected the controversies between ancient authorities, the model became largely homogenized later on and references to its origin tended to disappear altogether, as can be seen in Honorius Augustodunensis' successful, encyclopaedic *Imago mundi* (c.1110/1120). The only element that could still vary, though it rarely did, was the identification of the borders between the *partes mundi* and the attribution of certain regions to a specific part of the earth.



A reconstruction of Hecataeus' world map. 450 BCE (#108)

The earliest Greek maps of the world depicted the *oikoumene* [known inhabited world] as divided up into continents. By early in the fifth century BCE, the theory of continents was well established.' Aeschylus uses the word for continent (ἠ□πεηξνο) to describe Asia, while Pindar refers to the third' continent, namely *Libya*. Note that in the Hippocratic treatise *Airs, Waters, Places* the bipartite continental system is still advanced. Although the existence of separate landmasses has thus become a widely accepted idea, these continents could take on different shapes. Not everybody shared this view. Herodotus (d. 424 BCE, *see #109*) grumbled at the ridiculous nicknames adopted to these extensive regions and at their arbitrary boundaries; these toponyms were no more than empty titles designed not to glorify heroic men but to praise some down-to-earth women, though of noble origin. Mercilessly slamming the continental conception, the "father of history" wondered who coined these preposterous labels and why: "I cannot understand why three different women's names have been given to a single tract, nor why [above mentioned rivers] have been fixed upon for their boundaries." In fact, even their number remained uncertain: Herodotus discussed whether there were two or three continents, namely Africa, Asia, and Europe. This tripartite model ultimately became the most commonly recognized, even if Herodotus himself had also raised the yet more fundamental question of the continents' very existence, explaining that he did not know who had come up with this concept in the first place and why.

As mentioned above, the Ionian philosopher Hecataeus *(#108)* believed the *oikoumene* to be bisected by two continents, with Europe in the north and Asia (including *Libya*) in the south. This bipartite continental system was challenged by Herodotus: *I laugh seeing many people already having drawn maps of the world and not one of them has*

conceived of it reasonably; they draw the Ocean flowing around the [inhabited] earth which is circular as if [shaped] by means of a compass, while also they make Asia proportionate with Europe'. Scholars argue that initially Europe and Asia were place names used to denote limited areas of land on either side of the Aegean Sea. The term *Asia* was localized in western *Anatolia*, with Homer describing a productive *Asian Meadow* in this region. The Homeric *Hymn to Apollo*, written ca. 600 BCE, designated *Europe* as a tract of land situated in the vicinity of northern Greece or Thrace. The toponyms *Europe* and *Asia* eventually came to incorporate all of the land that the Greeks knew to extend outward from the adjacent shores of the Aegean, culminating in Hecataeus' bipartite continental system.

It appears that during the fifth century BCE, a tripartite continental system began to gain prominence, superseding Hecataeus' schema. The term *Libya*, which originally denoted a region in North Africa west of Egypt, expanded to include the whole of the landmass known to the Greeks south of the Mediterranean Sea and west of Arabia. Thus, *Libya* became the third continent of the *oikoumene*, no longer subsumed into Asia. As he did with the bipartite continental system, Herodotus questioned whether the division of the *oikoumene* into Europe, Asia and *Libya* was an accurate representation of world geography. In the fourth book of his *Histories*, he criticizes the naming of the three continents and the natural features chosen to comprise the continental boundary lines: *I am not able to guess the reason why three names, all names of women, are laid upon the one earth, and why the boundary lines established for it are the Egyptian river Nile and the Colchian river Phasis [but some say the Maeotian river Tanais and the Cimmerian Ferries], nor do I know the names of those who divided the earth, and from where they derived the names which they placed upon it.*

This passage demonstrates that Herodotus was cynical of the validity of continents as topographical entities. It is evident that from a scientific perspective he saw the concept of continents as problematic, misrepresenting the *oikoumene* as divided into distinct, discrete landmasses when in truth it was one contiguous whole. Herodotus' criticisms were unique. However, throughout his narrative, for the sake of clarity, he reverted to the conventional doctrine and terminology of the tripartite continental system and even gave his own opinion on specific continental boundary lines. The theory of continental division maintained currency throughout the fifth and fourth centuries BCE, and was canonical by the time of Eratosthenes. Eratosthenes' approach to the continents, however, was clearly influenced, at least in part, by the skepticism of Herodotus. Strabo *(see #115)* quotes Eratosthenes *(see #112)* on the matter:

Next, after saying that there has been much deliberation about the continents, and that some divide them by the rivers, the Nile and the Tanais, describing them as islands, but that some divide them by isthmuses, both the isthmus between the Caspian Sea and the Pontic Sea and the isthmus between the Red Sea and the Ecregma, and that the latter call the continents peninsulas, he [Eratosthenes] says that he does not see how this inquiry can result in anything of consequence.

Eratosthenes' comments had much in common with Herodotean continental theory. He discussed the tripartite system of continental division, noting that the continents were commonly divided either by rivers, or by isthmuses lying between bodies of water. Then, like Herodotus, he suggested that continental divisions and boundary lines in general were arbitrary, with limited geographic significance.

Nonetheless, Eratosthenes appears to have believed that if it was necessary to divide the *oikoumene* into continents, then it was better for these continents to be separated by rivers, rather than by isthmuses. Strabo cites Eratosthenes as defending those mapmakers who divide the continents by rivers, making light of the idea that rivers, namely the Nile and *Tanais*, poorly define the continents because they do not flow all the way to the Ocean.

With regard to this passage, D. W. Roller suggests the statement that the continents are not islands (made twice), but merely part of the island of the inhabited world, reflects some unknown early theory. McPhail argues that this theory perhaps derives, at least in part, from Herodotus, who, as mentioned earlier, was uncertain as to why the "one earth" had been given three names and divided into continents. Herodotus did not, however, believe the *oikoumene* to be surrounded entirely by water.

Eratosthenes did not think it necessary to dwell on whether the Nile and *Tanais* were the most suitable natural features to form the boundaries between Asia and Libya, and Asia and Europe respectively. This contrasts with Herodotus, who disparaged the decision of Ionian mapmakers to divide Asia and *Libya* at the Nile and believed that the river *Phasis* [Rioni] was a more valid boundary line between Europe and Asia than the river *Tanais*.

Eratosthenes' perspective on the river *Tanais* [i.e., the Don] is an issue of some interest. The notion of the river *Tanais* as a boundary line between Europe and Asia was complicated by the campaigns of Alexander the Great. The extant sources indicate that Alexander came to believe that the river *Tanais* in *Scythia* had a branch which flowed east into *Bactria* and *Sogdiana*, where the natives called it the *Jaxartes* [i.e., the Syr-Darya river]. Strabo, following Eratosthenes, records how some of Alexander's followers postulated that *Lake Maeotis*, into which the *Scythian Tanais* flowed, was connected with the Caspian Sea, into which they erroneously believed the *Jaxartes* flowed, with its source in the *Paropamisus Mountains* [i.e., the Hindu Kush]. This theory supported the notion that the *Jaxartes* was a tributary of the river *Tanais*, branching off from it and flowing into the same body of water at a separate locality. Therefore, the boundary line between Europe and Asia was greatly extended to the east, dividing the *Scythians* and other European peoples in the north from the *Bactrians, Sogdians* and other peoples of Asia in the south.

P. M. Fraser, regarding continental boundaries, states that Eratosthenes denied the usefulness and validity of these divisions which, he maintained, in the absence of delineated boundaries, represented the ever-expanding frontier of geographical knowledge and had no place in an ecumenical conception of the earth, and merely provided fuel for learned disputes.

In addition to the controversial debates about the number of continents and their boundaries, Greek and Roman authors also discussed their dimensions. Herodotus, for example, mocked the apparently widespread opinion (held by Hecataeus) that Asia and Europe were of equal size. As geographical dimensions were frequently linked to ideas of civilization, Herodotus may have been trying to argue for the importance of Asia by emphasizing its size in comparison with Europe in order to accentuate the continent to which his birthplace in current-day Turkey belonged. The calculations of Pliny, on the other hand, who estimated that Europe occupied five-twelfths of the world's surface, clearly intended to underline Europe's superiority. The very existence of these debates illustrates that the idea of a world that can be separated into a limited number of significant parts is culturally determined.

Ancient Greek thinkers subsequently debated whether Africa (then called *Libya*) should be considered part of Asia or a third part of the world. The construct of dividing the known world into three parts eventually came to predominate. From the Greek viewpoint, the Aegean Sea was the center of the world; Asia lay to the east, Europe to the north and west, and Africa to the south. The boundaries between the continents were not fixed. Early on, the Europe–Asia boundary was taken to run from the Black Sea along the *Phasis* [Rioni] River in Georgia. Later it was viewed as running from the Black Sea through Kerch Strait, the Sea of Azov and along the *Tanais River* [Don] in Russia. The boundary between Asia and Africa was generally taken to be the Nile River. Herodotus in the 5th century BC, however, objected to the unity of Egypt being split into Asia and Africa and took the boundary to lie along the western border of Egypt, regarding Egypt as part of Asia. He also questioned the division into three of what is really a single landmass, a debate that continues nearly two and a half millennia later.

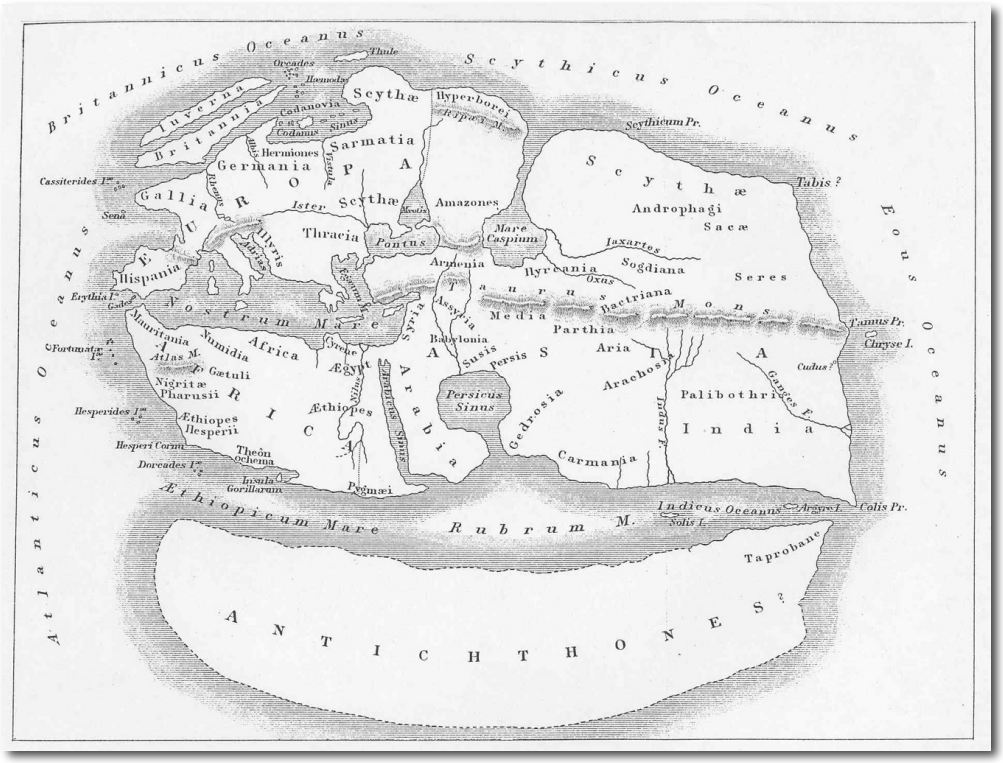
Anaximander *(see #107)* placed the boundary between Asia and Europe along the *Phasis* [Rioni] River in the Caucasus (from its mouth by Poti on the Black Sea coast, through the Surami Pass and along the Kura River to the Caspian Sea), a convention still followed by Herodotus in the 5th century BCE. As geographic knowledge of the Greeks

increased during the Hellenistic period, this archaic convention was revised, and the boundary between Europe and Asia was now considered to be the *Tanais*. This is the convention used by Roman era authors such as Posidonius, Strabo and Ptolemy. It should be noted that the earliest authors tend to discuss the concept controversially: Herodotus, for instance, declares the division of the *oikoumene* into several parts to be nonsensical, but discusses the established distinction between Asia, Europe, and *Libya* (Africa).

Eratosthenes, in the 3rd century BCE *(see #112)*, noted that some geographers divided the continents by rivers (the Nile and the *Tanais*), thus considering them "islands". Others divided the continents by isthmuses, calling the continents "peninsulas". These latter geographers set the border between Europe and Asia at the isthmus between the Black Sea and the Caspian Sea, and the border between Asia and Africa at the isthmus between the Red Sea and the mouth of Lake Bardawil on the Mediterranean Sea.

The original three-fold division of the *Old World* into Europe, Asia and Africa, therefore, has been in use since the sixth century BCE, due to Greek geographers such as Anaximander and Hecataeus. The boundary between Europe and Asia is somewhat unique among continental boundaries because of its largely mountain-and-river-based characteristics north and east of the Black Sea. Europe can be considered more of a subcontinent within Eurasia in de facto terms, and it has sometimes been referred to as such.

An early Roman geographer, Pomponius Mela (37 CE, #*116*), although of Spanish birth, wrote a brief work entitled *Chorographia* that agrees in most of its views with the great Greek writers from Eratosthenes to Strabo (*see monographs #114 and #115*). However, Mela departs from the traditional ancient concept by asserting that in the southern Temperate Zone dwelt inhabitants who were inaccessible to Europeans because of the Torrid Zone that intervened. According to Mela the world can be divided east and west into what he calls "two hemispheres". This is not a scientific definition, but a rough division of the known world approximating to Asia on the east and Europe and Africa on the west. From north to south he divided it into five climate zones: two cold, two temperate and one hot. This is a different approach from that offered by Strabo who chose to ignore, as virtually uninhabitable, everything south of the latitude of southern India. It does correspond, however, to the division in Eratosthenes' lost poem *Hermes*, paraphrased by Virgil, which regards the equatorial zone as 'altogether burnt up', but says that *Antipodes* live in the southern temperate zone.

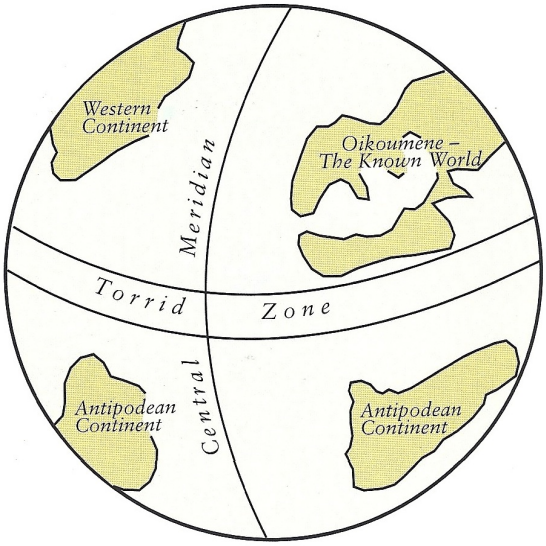


Reconstruction of Pomponius Mela's first century world view displaying his concept of the Antipodes (#114)

It appears to have been the grammarian Crates of Mallos *(#113)*, a contemporary of Hipparchus, and a member of the Stoic School of Philosophers, who made the first attempt to construct a terrestrial globe, and that he exhibited the same in Pergamum, not far from the year 150 BCE. It seems to have been Crates' idea that the earth's surface, when represented on a sphere, should appear as divided into four island-like habitable regions. On the one hemisphere, which is formed by a meridional plane cutting the sphere, lies our own *oikoumene*, or known habitable world, and that of the *Antoecians* in corresponding longitude and in opposite latitude; on the other hemisphere lies the *oikoumene* of the *Perioecians* in our latitude and in opposite longitude, and that of the *Antipodes* in latitude and longitude opposite to us. Through the formulation and expression of such a theory the idea of the existence of an antipodal people was put forth as a speculative problem, an idea frequently discussed in the Middle Ages (see #*201* and #*207*), and settled only by the actual discovery of antipodal regions and antipodal peoples in the day of great transoceanic discoveries.

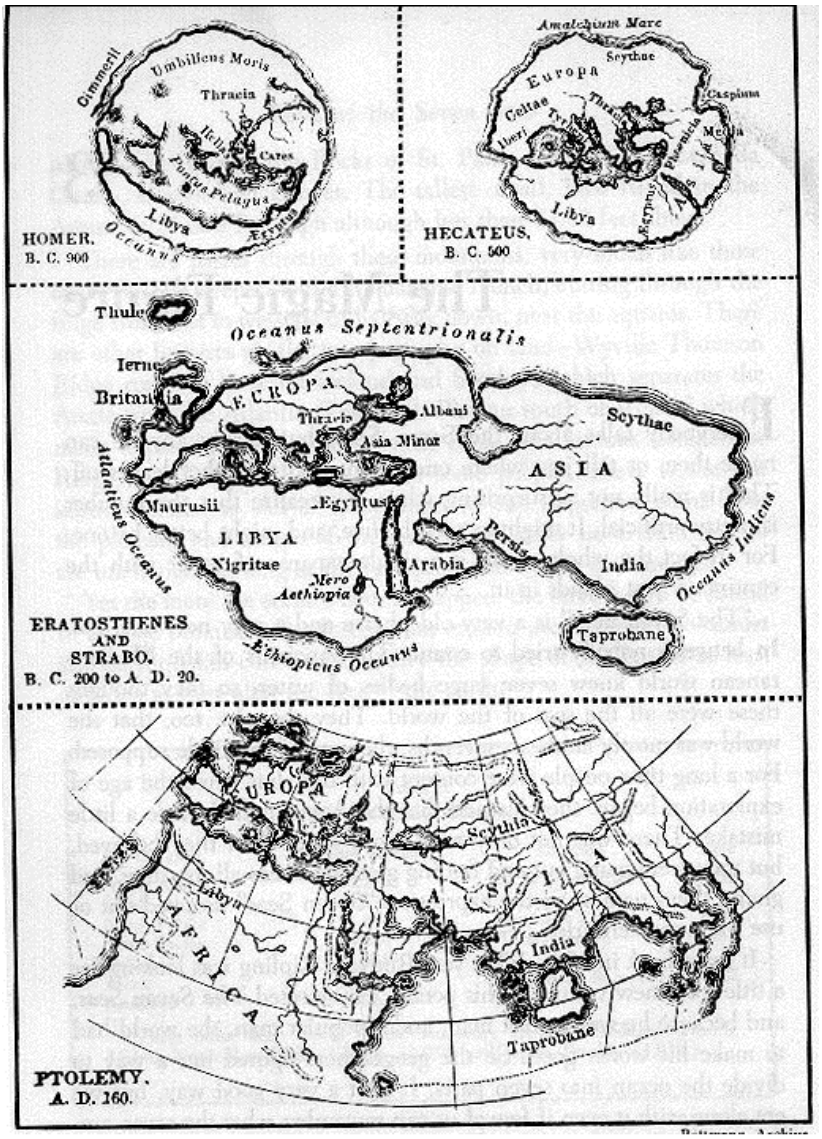
However, the various measurements of the earth's size by Eratosthenes raised a curious problem because the known dimensions of the *oikoumene* were too small relative to the estimated size of the earth sphere, the *oikoumene* occupied only one quadrant of the sphere. Such an imbalance in a spherical object was contrary to the Greek sense of symmetry. Crates, therefore, solved the problem on his globe by drawing three other "continents" (an anticipation/prediction of the existence of the Americas, all of Africa, Antarctica and Australia) to provide the necessary "balance" and symmetry. Here was

born the concept of the *Antipodes*, or the great southern continent, the *Terra Australis*, that would be conjured up in medieval and renaissance period maps.



Greek and Roman traditions did not only live on in the early European Lat-n-Christian Middle Ages, but they actually became canonical: all the authors who explicitly discussed the geographical order of the *oikoumene* accepted the existence of the three traditional parts of the earth (*partes mundi*) as a received truth. While a number of late antique and early medieval works by Orosius, Martianus Capella, or Isidore of Seville still reflected the controversies between ancient authorities, the model became largely homogenized later on and references to its origin tended to disappear altogether, as can be seen in Honorius Augustodunensis' successful, encyclopedic *Imgao mundi* (c.1110/1120). The only element that could still vary, though it rarely did, was the identification of the borders between the *partes mundi* and the attribution of certain regions to a specific part of the earth. In the 13th century, Gossouin of Metz identified the Alps as the border separating Europe from Africa, thus making all of Italy, Spain, and Greece part of Africa.

Arabic-Islamic Thought. The Arabic-Islamic geographers, in contrast, primarily sought to determine the boundaries of habitable space, which they described as the "inhabited quarter", or *rub' al-ma'mur* (the Latin authors' *zona habitabilis*). In their models, which were largely based on the Greek idea of 'climates', the landmasses are enclosed by the *Surrounding Ocean* (*al-bahr al-muhit* or *Uqiyanus*) and extend over 180 degrees of longitude from the *Eternal Islands* [Canaries] to the borders of China. The sphere that represents the entire world is divided into four quarters by the equator and a meridian. Because the landmasses extend over 180 degrees at the equator, only one of the two northern quarters is inhabited (the *rub' al-ma'mur*). This quarter is then further divided into seven climates—the longitudinal bands mentioned above. Arabic-Islamic geography is thus partly based on Hellenistic concepts, but the geographic idea of a division into continents that represented individual parts of the whole *oikoumene* was not entirely appropriated by the Muslim world: Hellenistic continental divisions did appear in some works, but they were usually explicitly identified as being of Greek origin, while the Muslim authors themselves seemed to prefer a different system.



Greek world views (#106)

Whereas in medieval Latin Christianity the triad of the "parts of the earth" [*partes mundi*] played an important role, the Arabic-Islamic tradition did not put much of an accent on this inherited concept. Chinese cartographic practices, finally, were marked by a plurality of concepts that existed simultaneously, without any single idea becoming exclusively dominate.

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Arabic-Islamic geography is thus partly based on Hellenistic concepts, but the geographic idea of a division into continents that represented individual parts of the whole *oikoumene* was not entirely appropriated by the Muslim world: Hellenistic continental divisions did appear in some works, but they were usually explicitly identified as being of Greek origin, while the Muslim authors themselves seemed to prefer a different system. Ibn Huradadbih (ca. 820–912), for example, divided his map into four sections: *Urufi*, representing Europe and North Africa as far as the Egyptian border; *Lubiya*, representing Egypt, Ethiopia, and the Indian Ocean; *Ityüfiya* [Ethiopia], representing Arabia, Yemen, India, and China; and *Usqütiya* [*Scythia*], representing Asia. Even if this structure does not reflect the continental scheme, it is not free from Hellenistic influence, since it partially resembles ideas that can be found in Ptolemy's *Tetrabiblos*. In the not infrequent cases in which the continental scheme appeared, it took on the form of an external reference.

Al-Biruni (d. 1048, *see #214.3*), copied by Yaqut (d. 1229), states that the Greek scholars divided the land mass into three segments: *Libya* [*Lubiya*], *Europa* [*Awrafi*], and Asia [*Asiya*]. In Arabic geographical literature Europe was also designated as "Little Earth" from the 10th century onwards. This spatial expression, which is meant to convey a factual idea rather than to construct an 'identity' of any kind, only makes sense if we consider it to be based on the use of a map: In this context, "Europe" can indeed look like an island that is separated from "Asia" by a large river. This effect results from the visualization of a water stream coming from the North that is, however, not meant to constitute a natural border, since the texts explicitly stipulate that Slavs dwell on both sides of this river.

واختلفوا في سبب ملوحة ما البحر فزعم قوم انه لما طال مكثه واجتث الشمس عليه بالاحراق صار مرا ملحا واجتذب الهوا ما لطف من اجزايه فهو تقبيه ما صعفته الارض من الرطوبة فغلظ وزعم اخرون ان في البحر عروقا تنبع ما البحر فلذلك صار مرا زعافا وزعم بعضهم ان المار من الاستحالات فطعم كل

A Yaqut world map, a variation of the Biruni model, 827/1424 (#214.3)
9.5 cm diameter, Topkapi Saray Museum, Istanbul, Ahmet 2700, fol. 16b

World map of al-Biruni, Distribution of Land & Sea, oriented with South at the top (#214.3)

Ibn Hawqal's world map, Arabic, 980 CE oriented with South at the top, 35 x 43 cm (#213)

A rather rare model, which appears later in the 12th century in the Arabic-Islamic Ibn Hawqal's epitome represents the *oikoumene* in elliptical shape, with the Indian Ocean being enclosed by the extension of Africa to the east. From the 12th century onwards, the *oikoumene* could also be represented as a semicircle, that shows Africa extended to the east. Graphically, the equator forms a semi-circular diameter to represent the northern hemisphere.

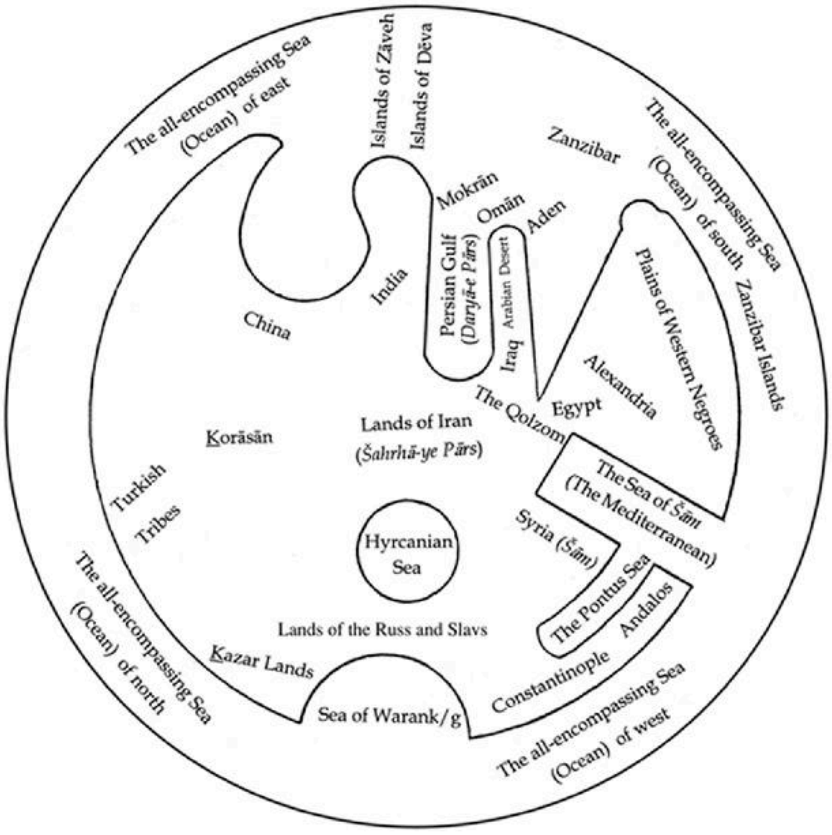
The iconography on these Arabic-Islamic maps is quite simplified, as for example in the writings and maps of al-Istahri *(#211)* and Ibn Hawqal *(#213)*, and it is noteworthy that no territories or regions are named on the maps themselves, including the continents. In the accompanying commentaries, the *oikoumene* is divided by the names of the seas and the populations. These circular world maps are the product of two different authors – i.e. the aforementioned al-Istahri and Ibn Hawqal – who both represent the 'school of geography and cartography'. In contrast to representatives of the more abstract mathematical geography, they proceed in a highly descriptive manner and focus mainly on Muslim territories, which they illustrate in their work with around twenty maps, mentioning their names according to regional traditions. The individual regional maps depict the different provinces of the Muslim world in the 10th century according to traditional geographic divisions.

At the beginning of the 11th century, this classic model was competing with another type of Arabic-Islamic world map that originated with al-Biruni (d. 1048, #*214.3*), who examined the possibility of circumnavigating Africa by the south in several of his works. He concluded that such a voyage was indeed possible and consequently drew a

smaller African continent on a circular map of the seas in his *Kitab tafhim li-awa□'il al-tangim*. He also named the seas, calling the Mediterranean the "Sea of Syria" (*Bahr al-Sam*) and mentioning the "Surrounding Ocean", the *Uqiyanus al-muhit*. The only new appellation he introduced is the "Varangian Sea" (*bahr al-Warank*) for the Baltic, which is reminiscent of the Βαραγοι (*Baragoi*) from Greek sources.

Both models influenced map design until the 16th century. Owing to its widespread influence in the Persian world, al-Istahri's model became the most widely copied. Al-Biruni's model appeared in the works of Yaqu□t90 (d. 1229), al-Qazwini (d. 1283, #222), and Hamd Allah al-Mustawfi (d. after 1340). From the 13th century onwards, it was represented almost as a semicircle in the works of oriental authors, both Muslim and Christian. In al-Qazwini, for example, the southern part of the circle representing the southern hemisphere was left empty as if the equator was an actual boundary. This graphic tradition also appeared in the work of Ibn al-'Ibri (Bar Hebraeus) where this southern part disappeared and the shape became semi-circular.

Many world maps tried to reconcile the two models by depicting the African continent as foreshortened and thus navigable by the south. However, they also show a large continental land mass located further to the south that is attached to the European continent to the west and somewhere in the north of the Atlantic.



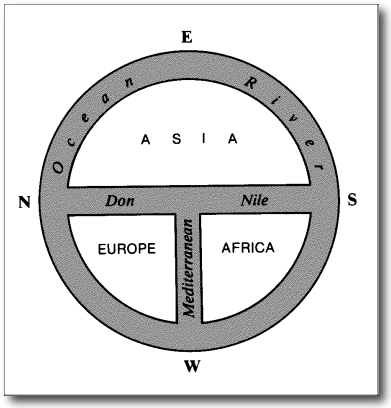
Translation of a world map of al-Biruni, Distribution of Land & Sea

al-Istakhri's manuscript copy of Kitab al-masalik wa-al-mamalik MS copy dated 1325, Iran Bastan Museum, Tehran. Ref. MS.3515, ff. 3a-2b. Oriented with South at the top (#211)

World map from Bar Hebraeus/Ibn al-'Ibri, Menareth qudse.
Berlin, Staatsbibliothek Preußischer Kulturbesitz, Ms. Sachau 81, fol. 37v, copied before 1304.

The pre-modern chronological focus on the period between (roughly) the 10th and the 15th (for China the 16th) centuries allows us to consider different approaches to the depiction of the world in the medium of cartography before the onset of more prominent mutual influences that characterized the early modern period. In medieval European Latin Christianity the triad of the "parts of the earth" (*partes mundi*) played an important role, the Arabic-Islamic tradition did not put much of an accent on this inherited concept. Chinese cartographic practices, finally, were marked by a plurality of concepts that existed simultaneously, without any single idea becoming exclusively dominating. While the focus on God's creation led medieval European Christian and Arabic Muslim cartographers to cultivate a tradition of world-maps, for example, Chinese map-makers did not hesitate to cut off their maps at points where further representation did no longer seem to be of interest, as they focused on the Chinese Empire as the assumed center of culture and civilization. On the other hand, European Latin-Christian and Arabic-Islamic maps differed quite profoundly in their reliance and staging of the tripartite continental structure: the former tended to accentuate the presence of continents, while the latter mostly played them down.

The European Tradition. European medieval cartography developed several distinct traditions, which have been classified as tripartite (schematic and non-schematic), zonal, quadripartite, and transitional. The core of our Latin-Christian sample is thus constituted by a specific tradition of the *mappaemundi*, the most influential model of which can be condensed into a graphical formula that lends itself to a reduction of extremely small dimensions: a considerable number of manuscripts (and later, printed editions) of Isidore of Seville's *Etymologies (see #205)* contain a small circular diagram that illustrates Isidore's paragraph on the division of the earth—the famous "T-O-scheme", which furnished the underlying model for the majority of medieval world maps. The European medieval T within the O maps produced a world image divided into half (by the cross of the T) and two quarters. The half segment (east) at the top of the map represents Asia, the lower left Europe, and the lower right Africa. These segments also represented, according to Isidore of Seville, the divisions of the earth apportioned to the three sons of Noah: Shem, Japhet and Ham, respectively (hence the term *Noachic* maps). The T separating the boundaries between the three continents also represented three of the principal waterways of the world. The upright stem of the letter T running east and west, to the center of the world was the Mediterranean Sea. The northern (left) half of the cross bar represented the river *Tanais*, and the southern (right) half of the cross bar represented the river Nile. By the middle of the 18th century, the fashion of dividing Asia and Africa at the Nile, or at the Great Catabathmus [the boundary between Egypt and Libya] farther west, had even then scarcely passed away. According to a tradition that became dominant from St. Augustine (d. 430) onwards, Asia was believed to be twice as large as Europe or Africa. On T-O-maps it frequently occupied the upper (eastern) half of the circle, while Europe and Africa shared the lower half, each representing a quarter of the world. In many small or simple specimens the few inscriptions were mostly limited to the continents'



names and sometimes complemented by the names of the separating waterways and the four cardinal directions. This tripartite continental scheme became central to medieval Latin-Christian cartography and the parts of the world—continents—were seen to form a unit that, in turn, rendered their place meaningful. In other words, the world was divided into three parts and these parts were only relevant when represented together.

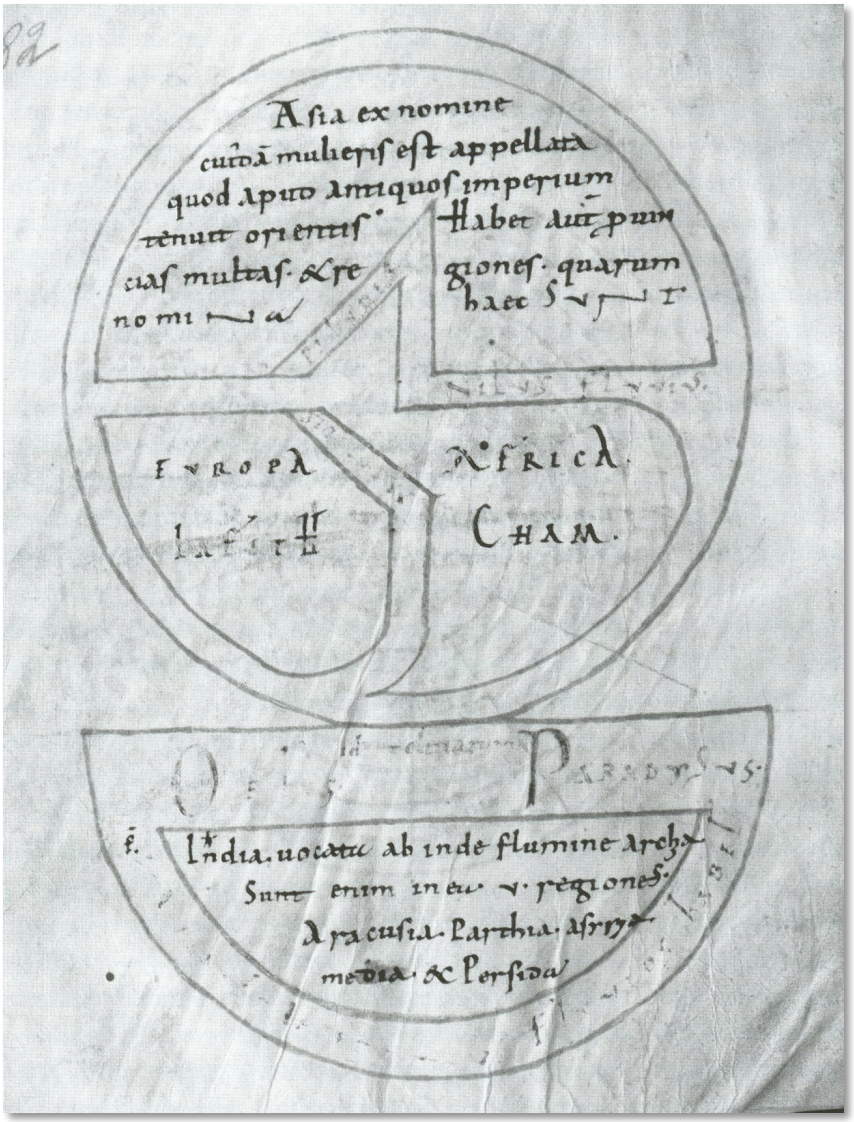
Modified T-O Map, 12th century, 9 cm diameter
From Book XIV.2 of Isidore's Etymologies. The surrounding ocean and the divisions between the continents are added to this map (the Nile, the Mediterranean and the Tanais [Don] with the additional refinement of the Sea of Azov [Meotites Palus, here: the lake or swamp of Maeotis]. This feature is mentioned by Isidore in XIV.4, and in the diagram forms an elbow or Y-shape. The scribe also included the cardinal directions and the names of Noah's three sons (Sem, Japhet, Cham), as well as a small cross in the East. This diagram appears for the first time in a pair of Spanish manuscripts from the ninth century. British Library MS Harl. 2660, fol.123v (#205WW)

For a professed theologian, Isidore shows a noteworthy breadth of general ideas, even admitting the possible existence of *Antipodean* lands (roughly translated):

> Moreover beyond [these] three parts of the world, on the other side of the ocean, is a fourth inland part in the south, which is unknown to us because of the heat of the sun, within the bounds of which the *Antipodes* are fabulously said to dwell.

This concession by Isidore as expressed in the brief quote above indicated that he more than half believed in the sphericity of the earth and quite fully in the doctrine of the *Antipodes*. While Isidore was not consistent in the affirmation of his adherence to the theory, this particular passage was repeated so often by his successors that it became the

formula through which those of the Middle Ages who accepted the existence of the *Antipodes* or *Antichthon* expressed their belief. As can be seen in the many examples of Isidorean, or T-O, maps, I could but find only one attempt to depict this "fourth continent" graphically, which is definitely attempting to emphasize its location outside the tripartite *oikoumene*.



T-O map showing a "fourth continent" lying west of Europe and Africa; the continent is identified as India and as the site of the Earthly Paradise, 10th century, 11 cm diameter (#205)

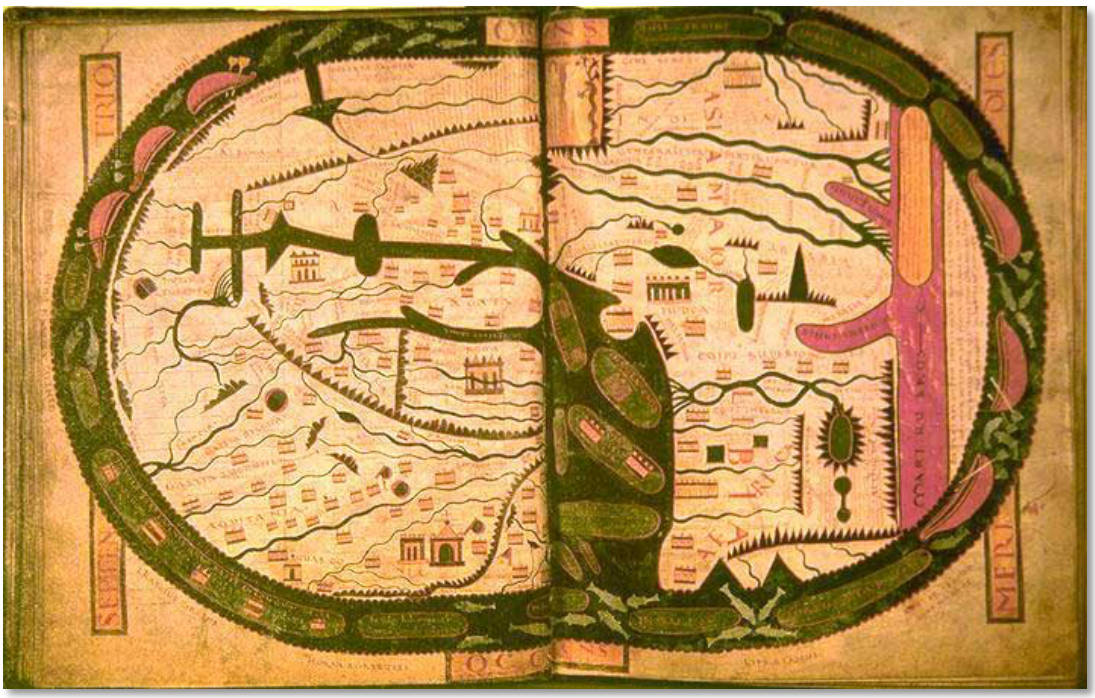
Isidore summarized thinking about this southern continent, asserting the existence of a fourth continent in addition to Europe, Africa, and Asia, a continent beyond the ocean to the south, unknown to us because of the heat of the equatorial regions, in which continent the fabulous race called the antipodes was said to dwell, along with Orbis Paradisus (14.5.17). In another passage (11.3.24) Isidore says that the antipodes are a race in Africa with their feet pointing backwards, each with eight toes – curiously converting the antipodes into a monstrous race.

The European maps that are based on the writings of Ambrosius Aurelius Theodosius Macrobius (400 CE, #*201*) illustrate the European medieval belief in the Greek concepts of climate zones and the *Antipodes*. Macrobius was a late Roman neoplatonic grammarian and philosopher who wrote several eclectic works that were much read in the Middle Ages. Macrobius' commentary on Cicero's work includes geographical theories that were to some extent based upon Claudius Ptolemy *(#119),* but with certain differences. The world map that illustrates Macrobius' *Commentarii* exists in many different states, in thirty-five manuscripts prior to 1I00, and around 150 manuscripts overall, up to and including the 15th century. Below is an example of a Macrobian world map from a 16th century edition of *In Somnium Scripionis, Lib II, Saturnaliorum, Lib. VII. Venetis: Ioan Gryphius Exudebat,* ca. 1560. It contains a map of the world similar to one that appeared in manuscripts and printed works for 1,200 years, the book contains the text of Cicero's *Dream of Scipio*, with Macrobius' commentary. This is one of the more detailed Macrobian *mappamundi,* showing the five climate zones and placing the *Antipodes* in the southern Temperate Zone.

Shown below is the *Girona Beatus mappamundi (#207.6),* ca. 975, Museo de la Catedral, MS. 10, Girona, Spain oriented with East at the top, displaying the Garden of Eden, Adam and Eve, and on the right-hand side, "fourth part of the world", the *Antipodean* region, south of the African region and separated from the other three by the Red Sea and another east-west body of water that runs parallel. Here there is the long caption derived literally from the *Etymologiae* of St. Isidore: *Apart from these three parts of the world there exists a fourth part, beyond the Ocean, further inland toward the south, which is unknown to us because of the burning heat of the sun; within its borders are said to live the legendary Antipodes.*

The Beatus map of *Saint-Sever (#207.13)*, for example, has two inscriptions at the source of the Don, reading "this is the end of Asia" (*hic finis asiae*) and "this is the head of Europe" (*hic capud europae*), as if to make sure to mark the geographic function of this river.

Macrobian world map, 1560, by Ioan Gryphius Excudebat (#201)



The Beatus Saint- Sever mappamundi third quarter of the 11th century (#207.13)

The Girona Beatus mappamundi, ca. 975, Museo de la Catedral, MS. 10, Girona, Spain (#207.6)

While containing a less detailed Europe, both the *Wolfenbüttel* and *Paris* manuscripts from Lambert of St. Omer's *Liber Floridus* possess a complete *mappamundi*, together with a special and interesting addition *(#217)*. Nowhere else in medieval cartography do we find greater prominence assigned to the unknown southern continent - the Australian land of the fabled *Antipodes* (termed *Antichthon* by the ancients). On the *Paris* manuscript, where this land occupies half of the circle of the earth, a long inscription defines this '*region of the south*' in terms not unlike those used on the *Beatus* map shown above:

> . . . temperate in climate, but unknown to the sons of Adam, having nothing that belongs to our race. The Equatorial Sea [Mediterranean] which here divided the [great land masses or continents of the] world, was not visible to the human eye; for the full strength of the sun always heated it, and permitted no passage to, or from, this southern zone. In the latter, however, was a race of Antipodes (as some philosophers believed), wholly different from man, through the difference of regions and climates. For when we are scorched with heat, they are chilled with cold; and the northern stars, which we are permitted to discern, are entirely hidden from them . . . Days and nights they have one length; but the haste of the sun in the ending of the winter solstice causes them to suffer winter twice over.

To the south of this temperate 'Australia', Lambert places a zone of extreme cold, uninhabitable by living creatures.

Zonal world map from Lambert of St. Omer's Liber Floridus
(Herzog-August Bibliothek, Wolfenbüttel, Cod. Gud. Lat I, folios 69v-70r),
12th century, 41.3 cm diameter, oriented with East at the top. (#217)

On the *Sawley* map *(#215)*, which accompanies a late 12th century copy of Honorius of Autun's *Imago Mundi*, most inscriptions on this map are written in black ink, there are a few in red. Some of them refer to region names, such as *Italia* or *Asia minor*, and the cardinal directions are also labeled in red. Most of the red inscriptions, however, refer to the boundaries of the continents, which themselves are not named. Indeed, the map refers to the boundaries with astonishing completeness: the Don is marked by an inscription on each side, as are the Nile and the strait of Gibraltar.

The Sawley mappamundi, 1110, #215

Both the *Ebstorf* and *Hereford* maps *(#224 and #226)* mark the boundary zones with inscriptions. On the *Ebstorf* map, the source of the Don is lettered with an inscription about the boundary function and etymology of the *Tanais*, and a bit westward follows another inscription about the name of Europe. The boundary between Africa and Asia is marked as well. However, it is not the Nile that is emphasized here, but *Catabathmos*, an ancient name for the Gulf of Aqaba as well as for the town of the same name in modern day Jordan. It was Sallust who defined *Catabathmos* as the boundary between the two continents in his *Jugurthine War*. Directly next to this inscription, Africa is written in red capital letters. Next to a small depiction of a temple, there is an etymological explanation of the name of Africa. At Gibraltar, however, no inscription refers to the continents. In comparison to the *Ebstorf* Map, the *Hereford* map covers the relevant spots a bit more consistently. At the source of the Don, an inscription tells us about the extent of Europe, at the source of the Nile two inscriptions inform us about the boundary function of the river and the extent of Africa and the strait of Gibraltar is also marked on both sides as the continental boundary.

The Ebstorf mappamundi, 1234, oriented with East at the top (#224)

To sum up, the boundaries of the continents seemed to be of major interest to makers of medieval *mappaemundi*: besides legends with the continents' names, most of the longer inscriptions naming the parts of the world refer to their boundaries and are located accordingly on the maps. As for the concept of continents, one could say that it was self- referential, as mentions of the parts of the earth and their boundaries rarely related to something other than themselves. In the sample of bigger *mappaemundi* studied in this paper, the continents were neither used to explain or locate natural or cultural phenomena, nor were they linked to the division of the world among the sons of Noah, to name just one possibility often found on smaller T-O maps.

The late medieval Venetian cartographer Fra Mauro (d. 1459, #*249*) considered the question of the division of the world into continents to be *materia tediosa*, a boring topic to dwell on. In a way, the Camaldolese Monk was right. There seems not to have been much discussion of the continents in the Middle Ages. Since the early European Middle Ages, the question seemed to be settled, if there was a question at all. The vast majority of medieval texts agree without any variation that there were three parts, with Asia being twice the size of Africa or Europe. Although the term "continent" is probably not medieval, it is used here as a synonym for the medieval construction, "part of the earth" (*pars mundi*), for reasons of convenience. In Christoph Mauntel's other article he analyzes Fra Mauro's interest in the question and his unique conclusion, namely that the Volga River should be considered the boundary between Asia and Europe, not, as traditionally stated, the river Don. Fra Mauro does so, on the one hand, by explaining his reasons in several legends and, on the other hand, by the choice of where he places these legends on the map.

As mentioned above, building on Greek and Roman sources, early European medieval authors developed a Christianized worldview. It was, for example, a new and specific Christian characteristic to consider the east to be the first of all cardinal directions and thus to orient maps towards the east or begin descriptions of the world in the east. The division of the earth into three parts, however, was a heritage of antiquity. According to this idea, which emerged and came to dominate from the fifth century BCE, onwards, the Mediterranean occupied a dominant position as a central sea surrounded by distinguishable landmasses. The question of how many different landmasses existed and where the boundaries between them had to be drawn, however, remained open to (at times controversial) discussion. By the end of Antiquity, the basic traits of these discussions, as well as the most common solution, were transmitted to the Middle Ages by authors like Strabon (d. 24), Pomponius Mela (c. 43/44), and Pliny (d. 79).

Some early medieval authors still reflected this tradition. For example, in his History Against the Pagans (c. 416/17), Paulus Orosius, a fifth-century historian and theologian, and student of Augustine of Hippo, wrote that "our elders made a threefold division of the world (...), its three parts they named Asia, Europe, and Africa." He even mentioned an alternative that counted only two parts by considering Africa and Europe as one continent. Over a century later, Jordanes (d. 552) echoed this phrasing with direct reference to Orosius, skipping the sentence on the alternative division into just two parts. Isidore of Seville *(#205)* then took up this discussion and wrote that the earth was divided into three parts; he added that "the elders" did not divide those three parts equally. His recourse to elder authorities thus hinted at the difference in size of the continents, not in their number.

Whereas the Venerable Bede (c. 703) simplified the matter by leaving out any references to ancient authorities, the Irish monk Dicuil attributed the threefold division to emperor Augustus, who was said to have commissioned a detailed report of the extent of the Roman Empire. In the early 12th century, Honorius of Autun again omitted any reference to older sources, as would later encyclopedias.

The knowledge of the parts of the world, of their number and the location of their boundaries, had become a received truth that no longer had to be supported by the authority of ancient authors. There were three continents, divided by the Mediterranean (between Africa and Europe), the Don (between Asia and Europe), and the Nile

(between Africa and Asia) – this is the basic geographical knowledge shown in hundreds of T-O maps and presented by countless encyclopedias and other texts. The continental division seemed to have been considered a natural fact; it had become essentialized.

The degree to which this knowledge was widespread as well as not really debated is astonishing. One of the rare texts that deviate from the established mode of description is the *Image of the World* (*Image du monde*) of the French priest Gossouin of Metz, written in 1245. In his encyclopedia, Gossouin describes the Alps as the southern border of Europe. Coherently, Greece, Italy, Gascony, and Spain were therefore considered parts of Africa. The reasons why Goussin chose this decisively particular approach are not yet clear. However, he is one of the very few medieval authors who did not just accept the established pattern.

Fra Mauro approached the topic of continents in several inscriptions on his famous *mappamundi*, the longest of which shows his skeptical attitude. As has been shown, since the early Middle Ages it had become quite uncommon to reflect on the discussion of ancient authors concerning the number of the continents or their boundaries. Fra Mauro's skeptical approach is deeply linked to his repeated reference to ancient sources, as the first lines of this inscription demonstrate:

> Regarding the divisions of the world – that is, of Asia from Africa and of Europe from Asia – cosmographers and historiographers give various opinions. Of these one could discuss at length, but because it is boring to dwell on this controversy, I will make a brief note of their opinions and leave the prudent to decide which one they should hold as best. Some follow the Ancients – for example, Messala, the orator who wrote of the family of Octavian Augustus, and Pomponius Mela and those who followed him.

Concerning the continents, the point of interest for the monk was their boundaries. In the inscription cited above, he went on to write that the ancient authorities considered the Nile River as the boundary between Asia and Africa and the river Don as the boundary between Asia and Europe. Modern writers, in contrast, argued, according to Fra Mauro, that such a division made Africa far too small and that the Red Sea or the Arabian Gulf would be a better choice. Concerning Europe, the moderns argued "that the river *Edil* [i.e. the Volga], which flows into the Caspian Sea, runs from further northwards than the river *Thanai*, [Don] [and] they say that it is this river *Edil* which better divides Europe from Asia." Fra Mauro then presents his own opinion on the matter, favoring the latter variant, which "seems clearer and more evident; and there is less need for the sort of imaginary line that seems to be required by those who adopt the other divisions." Then again, he back-pedals:

> However, I advise those who are looking at this work not to worry themselves too much about discussing this division, given that it is not very important. Let them opt for that which seems to them most reasonable and probable, both to the eye and to the intellect. None the less, I remind them that it is a praiseworthy thing to follow the authority of the most veracious.

The discussion of the continents' boundaries is as old as the idea of the concept itself. By the fifth century BCE, Herodotus made much the same arguments as Fra Mauro would in the 15th century: The Nile as a boundary was a bad choice, as it would divide Egypt, which clearly was a unit. For Asia and Europe, Herodotus presented two alternatives to the Don as boundary, the rivers *Rioni* (in modern day Georgia) or *Aras* (Caucasus).

As has already been stated, such discussions had ceased in late Antiquity and were hardly ever revived in the Middle Ages. William of Rubruck, for example, a Franciscan who undertook one of the first voyages to the Mongol court in the mid-13th century, casually named the Don as the boundary between *Europa* and Asia, while at the same time asserting that the Volga was far bigger. This observation, however, did not make him question the traditional geographical division. It seems rather that William intended to show his erudition by this short geographical digression. Alexander of Roes, a German canon based in Cologne, seemed more skeptical. In his *Noticia seculi* (written before 1288), he refused to name the boundaries of the continents, because this would have no practical use and just served curiosity. In any case, he did not question the traditional boundaries as such, but rather the usefulness of the whole topic. These few and necessarily cursory statements may show how unusually and at the same time (with regard to ancient sources) well-informed the reflections of Fra Mauro were. Almost every other author (including, as cited above, Orosius, Isidore, Bede, and Honorius of Autun) as well as many high medieval encyclopedias agreed on the canonical boundaries of the continents.

Fra Mauro addresses this question in several other inscriptions on his map. One discusses the opinion of Ptolemy concerning the Nile, as the boundary of Africa.

> Because there was not space in Europe to give the full verdict of Ptolemy with regard to the division of Africa and Asia, I will observe here that he practically makes two divisions: the first begins at the tip of Ethiopia and runs down the coasts of the Gulf of Arabia. [But then] he says that, in order not to divide Egypt, he places the limit of Africa at the Nile–and I agree with him here.

Two other inscriptions refer to the boundary between Asia and Europe, one focuses on the river Don, the other on the Volga. Both take up the former argument of the cartographer that the Volga would be a better choice as the boundary. Concerning the Don, he stated that

> one could say that this river does not mark a very good division between Europe and Asia. Firstly, because it would cut off a large part of Europe; secondly, because of its twisting form, which is like a series of five Vs; and thirdly, because it does not arise where it is written that it does.

The inscription is placed directly east of the river Don and just next to the longer inscription cited above, elaborating on the question in more general terms. In short, Fra Mauro rejected the Don as a boundary on the basis of three arguments: it cut off a part of Europe, it had a meandering course, and its source was disputed.

In another legend, the cartographer offered complementary information on the river Volga, addressing the same arguments in an inscription located at the source of the Volga:

> The river Edil or Volga arises in the Ripheian Mountains, flows into the lake called Nepro and then continues to the Caspian or Hyrcanian Sea. It would seem that this river is better suited to mark the division between Asia and Europe because it runs straighter and with a better form; and it arises in the place which gives origin to this division. From the lake called Nepro arises also the river Oxuch [i.e. the Dnieper], which then runs into the Black Sea.

Indeed, Fra Mauro argued with the course of both rivers: in order to be a reasonable boundary, a river should have a regular, straight course with a source that can be clearly located. In such a case, there was no need to draw "imaginary lines," which means to

imagine a straighter course. One could argue that these reflections belong to the sphere of opinion and that accordingly Mauro chose his words carefully (*questa opinion sia aperta et piu manifesta; chi volesse contradir; se acosti meio*). Whereas Fra Mauro's interest in the question of continents has been noted, a key element of his map has mostly been left disregarded: the inscriptions referring to the continents' names themselves.

Like most of the larger medieval *mappaemundi*, Fra Mauro's map names the three known continents with distinct inscriptions. However, in contrast to, for example, the *Hereford* map *(#226)*, the continents' names are written down several times, in golden capital letters. There are five inscriptions for Asia, four for Europe and two for Africa. Mostly, these are distributed over the extent of the respective continents. For this discussion, however, one inscription is of primary interest: One lettering of *Europa* is located just beside the longer inscriptions already cited – claiming the region east of the Don and west of the Volga for Europe. With this inscription, Fra Mauro left his caution behind and made his case clear, clearer than in his still uncertain inscriptions: he considered the Volga the only rational choice for the boundary between Asia and Europe. As noted above, Fra Mauro offered three arguments for this choice, two of which were of purely geographical nature (the straighter course and the better-known source of the Volga). The other argument, however, is more difficult to explain. Fra Mauro stated that the Don as the boundary would cut off a large part of Europe. This of course raises the question of why the region west of the Don and east of the Volga should belong to Europe. Sadly, Fra Mauro does not tell us why. His choice indeed enlarges the space imagined as "Europe." One could argue that the cartographer tried to keep the traditional proportions of the parts of the earth, namely Asia representing the eastern half of the *oikoumene*, Africa and Europe each a quarter of the western half. But obviously, this was not Fra Mauro's intention: even if we accept the Volga as the boundary between Asia and Europe, Asia covers more than half the space of Fra Mauro's *oikoumene* – and our cartographer was well aware of this. In a legend on Jerusalem, traditionally imagined as being the center of the world, but shifted westwards on his map, Fra Mauro stated that Jerusalem was indeed the center of the world, not in terms of geography, but in terms of population (as Europe was thought of as being more densely populated than Asia).

Fra Mauro Mappamundi 1459 (#249)

Detail: the rivers Edil (Volga), Thanai (Tanais/Don) and Oxuch (Dnieper), *orient with South at the top*

Redrawing of a portion of Europe on the Fra Mauro Map (oriented with South at the top)

The Chinese Tradition. While the focus on God's creation led medieval Christian and Muslim cartographers to cultivate a tradition of world-maps, for example, Chinese mapmakers did not hesitate to cut off their maps at points where further representation did no longer seem to be of interest, as they focused on the Chinese Empire as the assumed centre of culture and civilization. On the other hand, Latin-Christian and Arabic-Islamic maps differed quite profoundly in their reliance and staging of the tripartite continental structure: the former tended to accentuate the presence of continents, while the latter mostly played them down. Even though these observations might seem relative inconspicuous at first glance, rendering them explicit helps us to analyze the underlying cultural traits and attitudes adequately.

In contrast to the mapmakers of both the pre-modern European Latin-Christian and the Arabic-Islamic traditions, Chinese pre-modern cartographers showed no interest in depicting the world in its entirety. Instead their maps display the Chinese Empire in both a narrow as well as in a very broad sense, and it seems more appropriate to call them 'empire maps' rather than "world maps" or *mappaemundi*, even though this term is also an inadequate description of the different spatial concepts and their rendering on maps. Chinese cartographers did not cultivate any exact equivalent to the idea of continents before the notion was introduced via the maps of the Jesuit missionary Matteo Ricci (1552–1610, #*441*) in the late 16th century. As John B. Henderson has noted, "Chinese cosmographical thought of pre-modern times was not as concerned as its counterparts in Western civilizations with the overall shape of the world or structure of the cosmos". However, several spatial concepts bore striking similarities to the notion of a 'continent'.

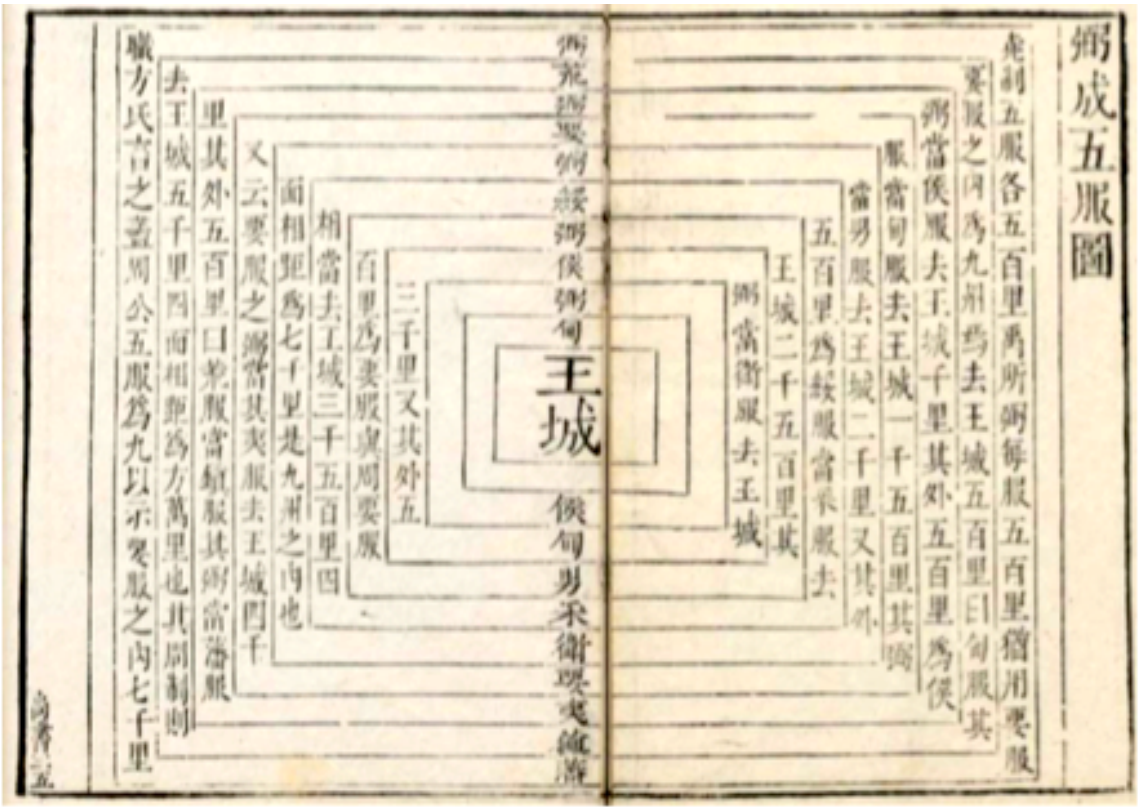
First of all, the spatial notion of *tianxia*, which means "below heaven" but is often translated as "All under Heaven", indicates the Chinese ruler's claim for supremacy. As the "Son of Heaven" (*tianzi*), he nominally ruled over the entire known territory. In this sense, the notion of "All under Heaven" was inclusive and essentially limitless, even encompassing all foreign peoples that were not under the direct control of the Chinese ruler but acknowledged his authority by delivering tribute (in many cases theoretically rather than in actual practice, though). The concept thus resembles the Greek idea of *oikoumene* as the entire inhabited world, and it is sometimes actually translated accordingly. But it was also used in a narrower sense, referring to the spatial sphere in which Chinese culture and morality prevailed, thereby being closer to the Roman notion of *oikoumene* as the 'civilized' world.

Second, the term *zhongguo* is widely known as the contemporary name for China. However, in early Chinese texts it occurred in various contexts and denoted (among other meanings) the Central Plain in today's north China, the Central State of the ruler as distinguished from the states of the vassals, or an undefined number of Central or Middle States, largely in the region of the Yellow River valley. It did thus not necessarily suggest actual geographic centrality, but generally implied a claim for political legitimacy or cultural superiority, indicating a difference between the lands inhabited by Chinese (often denoted as *Hua* and/or *Xia*) and the lands inhabited by non-Chinese (often subsumed as *Yi*) that surrounded them.

Third, the concept of "Four Seas" (*sihai*) suggested that seas in the four cardinal directions surrounded a central landmass. Their identification was difficult, though: while seas in the south and east of the Chinese territory were easy to find, Chinese scholars have debated whether real seas existed in the north and the west—and if so,

where exactly they were located. The *Western Sea*, for example, has been identified with different large seas, ranging from the Qinghai Lake via the Red Sea and the Indian Ocean to the Persian Gulf and the Atlantic. "Four Seas" in this sense thus designated a cultural boundary between the Chinese at the center and the non-Chinese at the periphery.

Fourth, the schematic spatial system of the "Five Domains" (*wufu*) provided an even more detailed hierarchical order. It is part of the '*locus classicus*' of Chinese geographical knowledge, the "Tribute of Yu" (*Yugong*) chapter in the *Book of Documents* (*Shangshu*). The "Five Domains" were commonly understood as an administrative and political order consisting of five concentric squares representing the domains, with the ruler's capital at the center. Towards the outside, the commonality of cultural values and commitment toward the ruler gradually decreased. Another Confucian Classic, the *Rites of Zhou* (*Zhouli*), described a very similar system––the "Nine Domains" (*jiufu*). While the number and naming of the domains in the two texts diverge, both convey the ideas of a square-shaped world, of the centrality of the Chinese ruler, and of remote areas that were inhabited by less cultured, non-Chinese people.



: 'Map on the Five Domains, Accomplished with the Assistance (of Yu)' ("Bicheng wufu tu"), in Illustrations of the Six Classics (Liujing tu), originally carved into stone steles during the Shaoxing era (1131–1162) under the commission of Yang Jia (jinshi 1166), 1662 reprint of the printed edition of 1165. Harvard-Yenching Library: http://nrs.harvard. edu/urn-3:FHCL:4263680, sequence 110 sq. (Shangshu 35a–b).

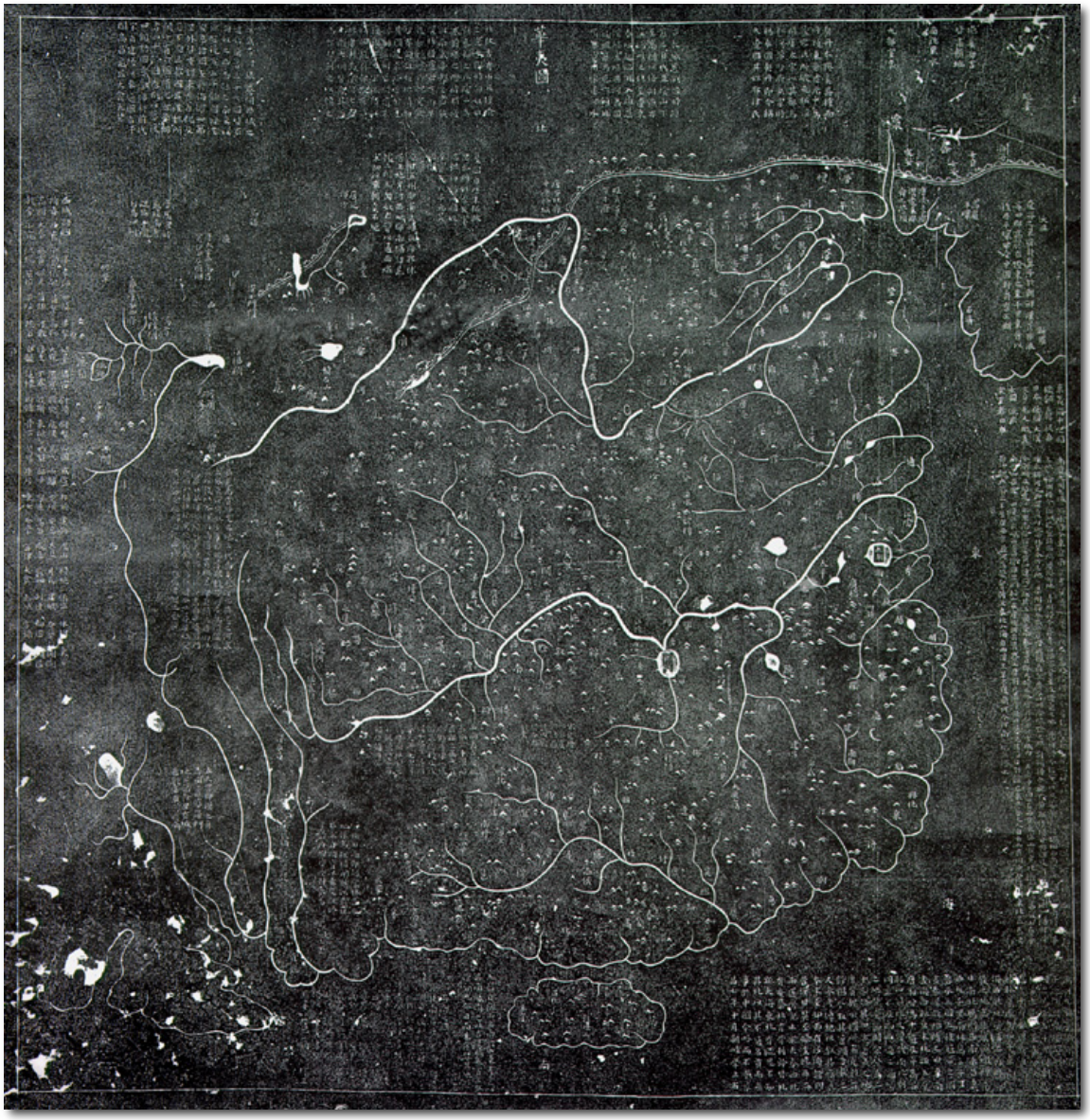
Finally, fifth, the core section of the "Tribute of Yu" was the description of the "Nine Provinces" (*jiuzhou)* allegedly established by the legendary sage king Yu when he drained floods and created an ideal spatial and administrative order. In contrast to the more schematic "Five Domains", the boundaries of the "Nine Provinces" were defined by distinct geographic features–– that is, by mountains and rivers. Yet, as the text did not specify boundaries for all provinces in all directions, and since the locations of some of these natural landmarks were controversial, the extent of the "Nine Provinces" remained a matter of considerable debate among Chinese scholars throughout the imperial period.

In addition, more schematic geographical systems incorporated the concept of "Nine Provinces". The idea of a grid that separated a given territory into nine squares of equal size, with one square at the centre and eight outer squares, informed many cosmological and spatial concepts. The Classic Mencius (Mengzi famously referred to the Chinese character for "well" (*jing*) in order to elucidate his "well-field"-system as an ideal for agriculture and taxation. The text also stated that "within the seas, there are nine territories of 1.000 *li* square (The size of the measuring unit *li* changed several times throughout history, ranging from approximately 300 to 650 meters), a notion that figures in nearly identical form in the *Book of Rites* (*Liji*). An amplification of the concept is attributed to Zou Yan (c.305–240 BCE), who allegedly suggested that the "Nine Provinces" of the "Tribute of Yu" (which he equated with *zhongguo*) actually formed just one "province" (*zhou*), the "Divine Province of the Red District" (*Chixian shenzhou*). This was only one of nine provinces that together formed a larger province surrounded by seas, which was, in turn, also just one of nine. In this model, the "Nine Provinces" from the "Tribute of Yu" constituted just a 1/81 of the entire world. Remarkably, they were not described as being situated at the center but rather in the southeast of the larger province.

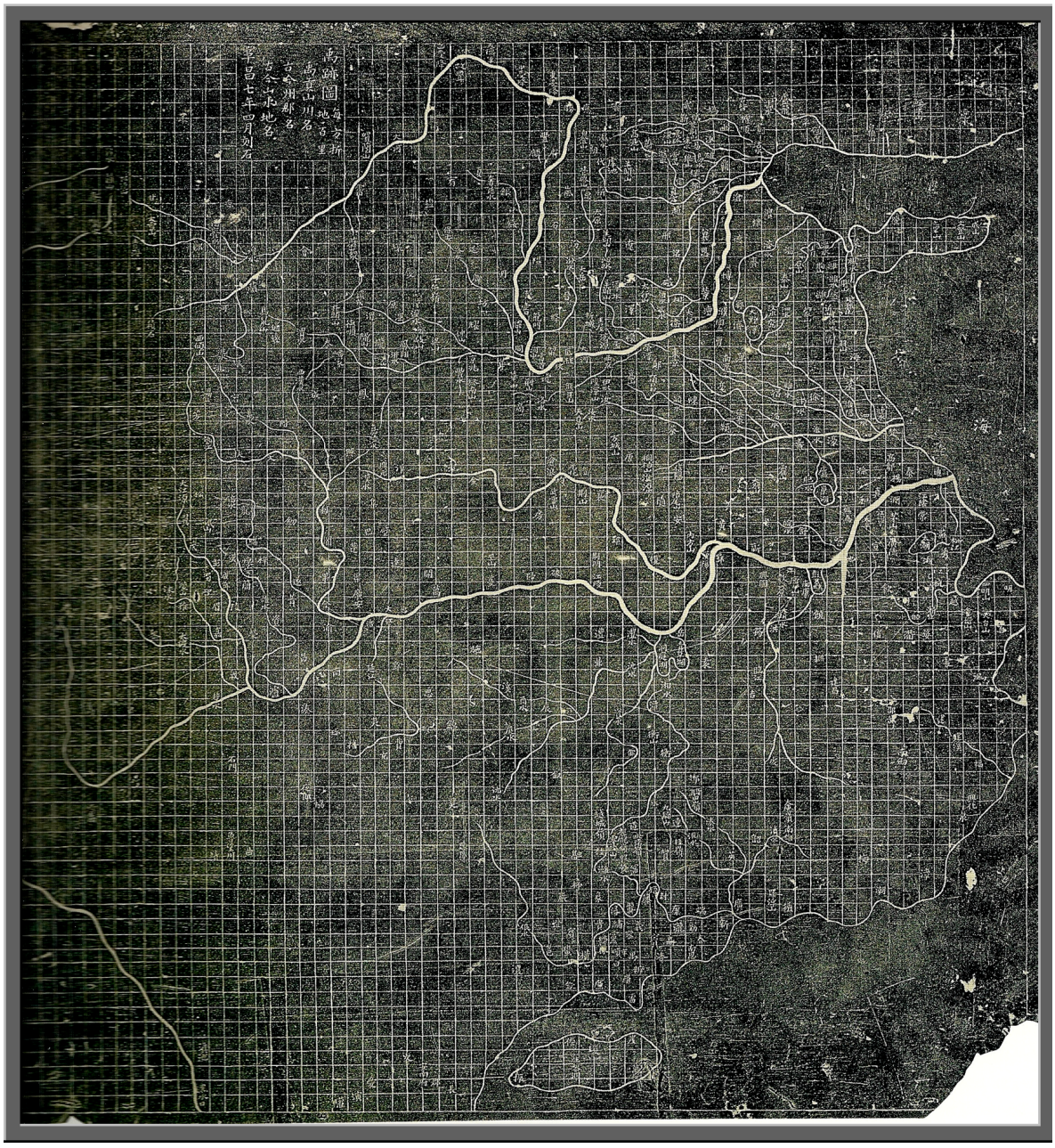
Since the idea of large landmasses that were divided by seas resembles the notion of continents, some modern scholars have translated Zou Yan's term "*zhou*" as "continents" or "supercontinents". Yet his spatial model never became as fundamental a notion as that of continents in the Western tradition. It was adopted in some Daoist works, but Confucian scholars generally dismissed it, and it lost influence after the Han dynasty, finally having little impact on cartography.

Arguably the most famous pair of pre-modern Chinese maps is a characteristic example: carved into a single monumental stone in 1136, one side features the "Map of Chinese and Non-Chinese Territories" (*Hua Yi tu*, #*218*), which in the middle displays the Chinese territory with its major rivers and tributaries, about 500 place names, and the Great Wall. On the edges it provides several text blocks containing information on past and present non-Chinese peoples. The reverse side of the stone includes the "Map of the Tracks of Yu" (*Yuji tu*, #*218.1* ca. 1080), which combines the contemporary administrative and geographical order of the Chinese empire with the mountains and rivers given in the "Tribute of Yu". The map owes its renown to two remarkable features: it shows the earliest extant application of a cartographic grid in China, which consists of a latticework of squares with each side of a square representing a length of 100 *li*, and it reveals astonishing accuracy in its depiction of the coastline and some major rivers, in particular in the regions of the lower Yangzi River and the lower Yellow River.

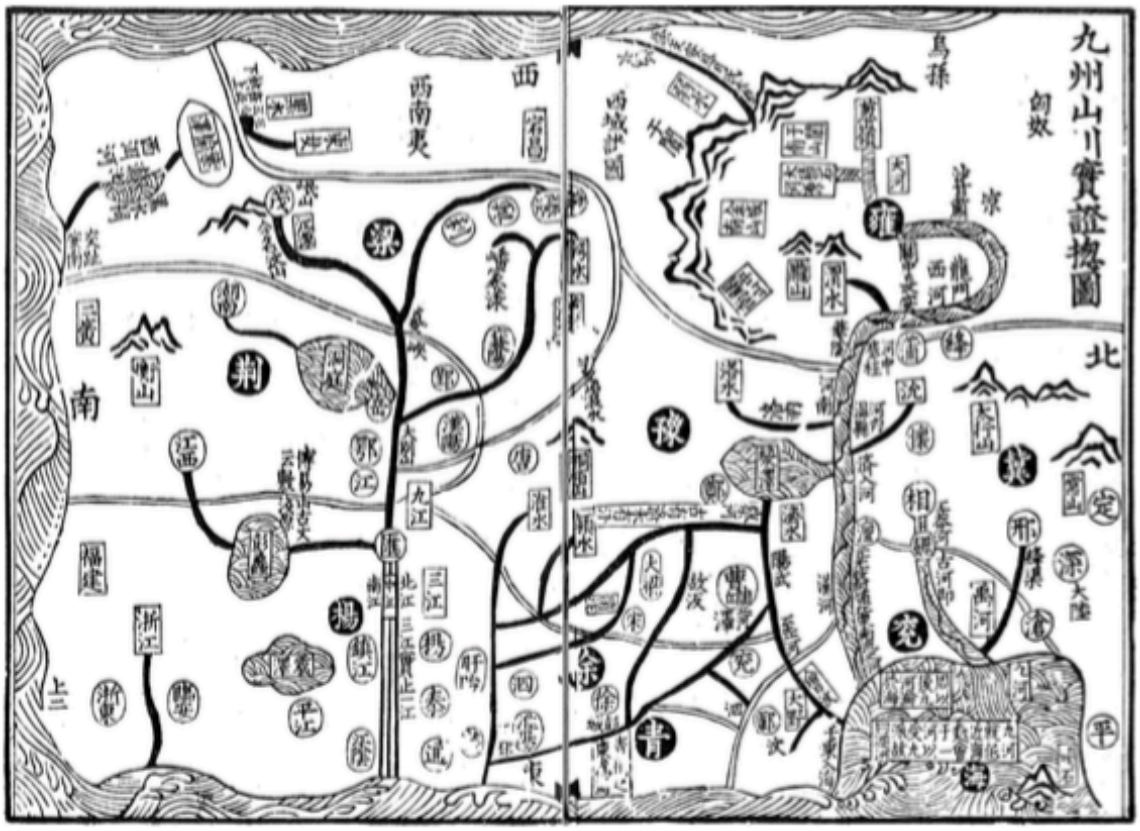
Based on this prominent pair of maps, Hilde De Weerdt has suggested a typology of empire maps in the 12th century. She has pointed out that Song dynasty scholars had by this time developed a "skeletal history of the cartography of the empire" comprising two map types––the maps on the "Tribute of Yu" (*Yugong tu*), and maps of the Chinese and non-Chinese (*Hua Yi tu*). While the first type depicts the empire by way of its administrative subdivisions (i.e. the "Nine Provinces"), the second type integrates the administrative order of the Chinese Empire into a larger picture that includes the foreign peoples and territories at its edges. In many maps we can indeed observe a thematic focus either on the territories under administration of the Chinese ruler, or on the juxtaposition of Chinese and foreign lands. Yet this simple two-tier typology cannot fully encompass the diversity of empire maps, not even those from the 12th century. There is some overlap between the two types, because maps on the "Tribute of Yu" often also include references to non-Chinese territories. Even if the "Map of the Tracks of Yu" and the "Map of Chinese and non-Chinese Territories" should not be understood as paragons for distinct cartographic traditions as seen in the medieval Christian tradition, they shed light on some general characteristics and the organization of Chinese empire maps. While the presence of two maps on a single monumental stone is exceptional, different spatial concepts and modes of representation did coexist and can sometimes be found next to each other in books, occasionally even drawn by a single author. Moreover, the combination of geographical information from antiquity and that of the present day on a single map was very common.



A rubbing from the Hua I T'u [Map of China and the Barbarian Countries], ca.1137 A.D. actual size is about three feet square (#218)



A "rubbing" of Yü Chi T'u (#218.1)
[Map of the Tracks of Yü the Great], 1136 A.D.
a rubbing from map carved in stone, actual size is about 3 feet square
Each square on the grid represents 100 li, or about 50 kilometers



'Truthful and Verified Survey Map of the Mountains and Rivers of the Nine Provinces' ("Jiuzhou shanchuan shizheng zongtu"), in Maps on the Geography of the Mountains and Rivers of the Tribute of Yu (Yugong shanchuan dili tu) by Cheng Dachang (1123–1195), reproduction of the first printed edition of 1181.
Guyi congshu sanpian 13, Beijing 1985, juan 1, 2a–b

The Ryukoku Kangnido: Honil kangni yoktae kukyo chi to 混一疆理歷 代國都之圖
[Map of Integrated Lands and Regions of Historical Countries and Capitals]
Painted on silk, 164 x 171.8 cm, 1402 (#236)
The title is written across the top, above a summary list of historical Chinese capitals and administrative centers in Yuan China, and a commemoration fills most of the bottom margin, all to be read right-to-left. Preserved in the Omiya Library, Ryukoku University Academic Information Center, Kyoto, Japan

The Kangnido represented a cosmography designed in Chinese on the basis of Chinese and Persian 14th century sources which were updated twice in Korea in the course of the 15th century and later on in Korea and Japan at the end of the 16th century. This case shows that it was absolutely not the case that technologies of space representation were monopolized by Western culture; on the contrary, the Kangnido instead shows clearly that China, Korea and Japan had solid traditions of space representation that resulted from connections between several civilizations in the vast Eurasian continent within a multi-centric world: from the Mediterranean to Persia, Africa, the Indian Ocean.

Complete Map of the Nine Border Towns of the Great Ming and of the Human Presence and Travel Routes of the Ten Thousand Countries. (#236)

Dàmíng jiǔ biān wànguó rén jì lùchéng quán tú. 1663 / 1680 (dated), 54 x 49 in (137.16 x 124.46 cm)

A rare and extraordinary 1663 (Kangxi 2) xylographic map of Ming China, and indeed the entire world, by Wáng Jūnfǔ issued during the reign of the Kangxi Emperor (1661 – 1722). This massively proportioned map focuses on China, which, bounded on the north by the Great Wall of China, on the west by the Yellow River, and on the east and south by oceans, occupies some three fourths of the map. As is characteristic of most Chinese world maps, the less detailed surrounding regions illustrate the rest of the world, but on a much reduced and often hard to interpret scale. This world map's focus on China to the diminishment of all other lands is neatly summed up by the 17th century Chinese cartographer Chen Zushou,

All the barbarian people within the Four Seas should come to pay tribute to the Chinese emperor. Although they [the Jesuits] might describe the world as comprising Five Continents, yet four of them should surround the nucleus of China.

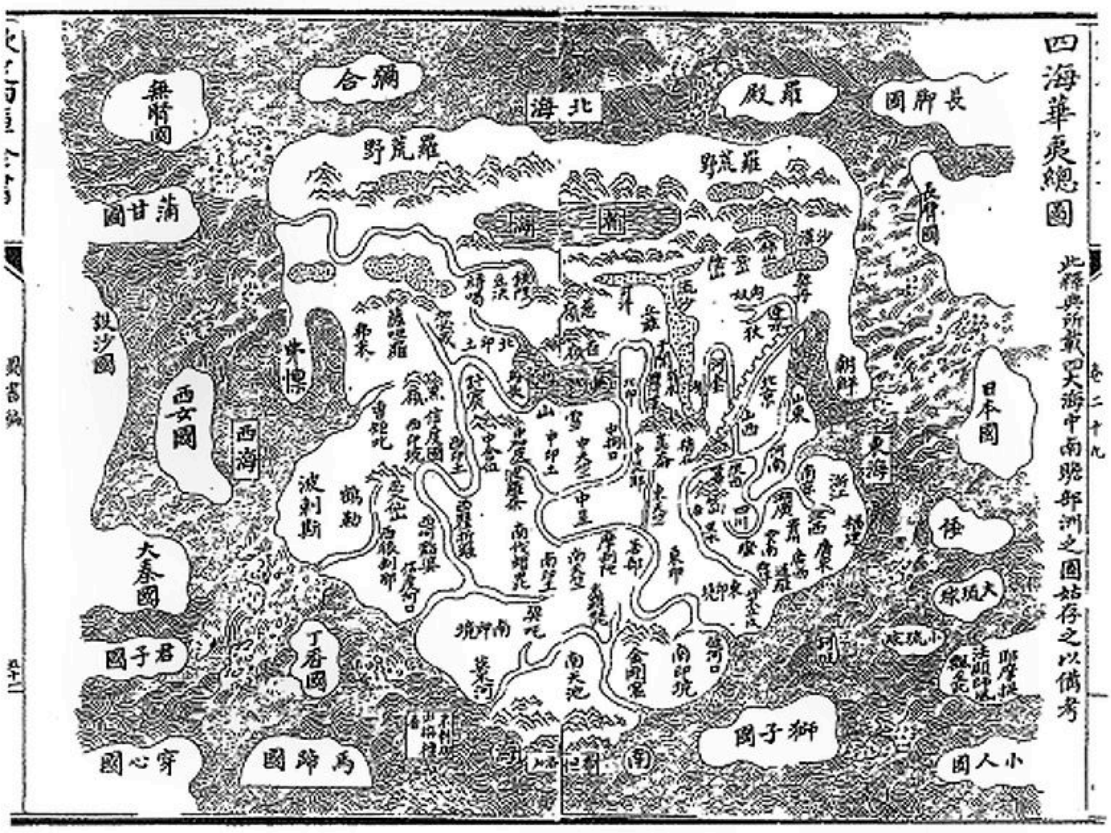
The strategies used to structure the world and to divide it into parts in pre-modern European Latin-Christian, Arabic-Islamic, and Chinese cartography has led to the identification of a series of remarkable differences. The most obvious of these relates to fundamental spatial notions: Chinese cartographers did not have one single, dominating concept that they used to represent the known world but rather a plurality of options that were not easily reconciled, even by contemporary experts in geographical questions. The comparison between Arabic-Islamic and Latin-Christian sources has revealed that the "parts of the world" (*partes mundi*) or 'continents' were of fundamental importance only to a European Latin-Christian geographic way of thinking. With hindsight, one might even be tempted to say that this tradition paved the way for the modern, western conviction (or perhaps misconception?) that continents constitute a natural element of geographical order.

The continents' prominent role in European Latin-Christian medieval maps can be explained in several ways: on the one hand, the tripartite structure represents an element inherited from ancient geography, but as the comparison with the Arabic-Islamic world reveals, the role of tradition alone cannot entirely explain this particularity. As a consequence, we must allow for the influence of later cultural determinants such as the symbolic link between the geographical order of the world and the history of salvation. In this context a tripartite model of the *oikoumene* served not only to mirror the biblical account of Noah's sons and their role as the fathers of peoples populating the world, it also reflected the structure of the divine trinity.

It thus becomes obvious that the relation between religion and cartography was particularly close in the European Latin-Christian tradition. In the Chinese tradition, on the other hand, where cultural and administrative hierarchies dominated, religious considerations played only a minor role. Even though maps that were based on Buddhist notions of the world, like the *General Map of Chinese and Non- Chinese Territories within the Four Seas*, constitute an exception to this general rule, it has to be underlined that extant copies are extremely rare, while existing material either pertains to the genre of cosmographic diagrams or to distinct traditions (e.g. Tibetan). Finally, the maps of the Arabic-Islamic tradition developed without closer references to the Arabic-Islamic world-view; instead, their features were dominated by the influence of Ptolemy and by genuinely geographical reflections. Thus, a genuine 'Muslim' aspect as an element of the construction of a specific identity is absent in this cartographical tradition that does not seek to provide any kind of 'cultural' or 'religious' mapping. 'Ethnical' categories, on the other hand, have been used and developed in other genres of geographical literature.

Seen from a modern perspective, the European Christian T-O-maps––which regularly represented the body of the known world as a circular shape that was separated by water bodies (the Mediterranean, the Don and the Nile) into three landmasses or 'continents'––stand out. The most prominent inscriptions found on abstract T-O-maps frequently identify the parts of the earth, and these are sometimes completed by the names of the separating water bodies and the sons of Noah. This scheme can also be found on more complex maps, which use the available space to create a more detailed image of the earth and attribute cultural and historic features, among others, in uneven distribution to the different parts of the world, thereby constructing these parts as veritable 'continents'. In spite of the continents' fundamental role in medieval European cartography and the tendency to construe them as cultural units, the maps' authors did not systematically perceive these units as belonging to

categories that merited a distinct set of graphic or iconic signs. Nevertheless, we can conclude (as set out in our introductory remarks) that in the medieval Latin- Christian tradition--and only there--the continents do appear as 'natural units' of the *oikoumene*. Indeed, it was this particular tradition that provided a foundation for the modern success of the concept on a global level.



A 1532 Chinese map, the Sihai huayi zongtu (四海華夷總圖/四海华夷总图, *[General Map of Chinese and Barbarian [Lands] within the Four Seas]. The map displays the various locations of China, Korea* (朝鮮) *and Japan* (日本國) *in the East, Siberia in the North* (羅荒野), *Nepal* (天竺) *and a vast India* (印度) *in the South, Persia in the West* (波剌斯, *modern* 波斯), *and Rome* (*Daqin,* 大秦) *beyond the Western Sea* (西海) *#231.1.*

Throughout the Middle Ages and into the 18th century, the traditional division of the landmass of Eurasia into two continents, Europe and Asia, followed Claudius Ptolemy (first century CE), with the boundary following the Aegean Sea, the Dardanelles, the Sea of Marmara, the Bosphorus, the Black Sea, the Kerch Strait, the Sea of Azov and the Don (ancient *Tanais*). But maps produced during the 16th to 18th centuries tended to differ in how to continue the boundary beyond the Don bend at Kalach-na-Donu (where it is closest to the Volga, now joined with it by the Volga–Don Canal), into territory not described in any detail by the ancient geographers.

It was this original three-fold division of the world from Antiquity to the Renaissance that made it difficult for people to accept that the new discoveries of the 16th century and beyond substantiated the fact that the world was larger and actually would add four more "continents" by the end of the 19th century. For over 250 years geographers and cartographers tried to force these new discoveries into the old paradigm of just three continents.

From the 16th century the English noun "continent" was derived from the term *continent land*, meaning continuous or connected land and translated from the Latin *terra continens* (*The Concise Oxford English Dictionary,* 11th edition revised). The noun was used to mean "a connected or continuous tract of land" or mainland. It was not applied only to very large areas of land—in the 17th century, references were made to the continents (or mainlands) of Isle of Man, Ireland and Wales and in 1745 to Sumatra. The word "continent" was used in translating Greek and Latin writings about the three "parts" of the world, although in the original languages no word of exactly the same meaning as continent was used.

While the word "continent" was used on the one hand for relatively small areas of continuous land, on the other hand geographers again raised Herodotus' query about why a single large landmass should be divided into separate continents. In the mid 17th century Peter Heylin wrote in his *Cosmographie* that "A Continent is a great quantity of Land, not separated by any Sea from the rest of the World, as the whole Continent of Europe, Asia, Africa." In 1727 Ephraim Chambers wrote in his *Cyclopædia*, "The world is ordinarily divided into two grand continents: the old and the new." And in his 1752 atlas, Emanuel Bowen defined a continent as "a large space of dry land comprehending many countries all joined together, without any separation by water. Thus Europe, Asia, and Africa is one great continent, as America (i.e., Western Hemisphere) is another." However, the old idea of Europe, Asia and Africa as "parts" of the world ultimately persisted with these being regarded as separate continents.

From the late 18th century some geographers started to regard North America and South America as two parts of the world, making five parts in total. Overall though the four-fold division prevailed well into the 19th century.

Europeans discovered Australia in 1606 but for some time it was taken as part of Asia. By the late 18th century some geographers considered it a continent in its own right, making it the sixth (or fifth for those still taking America as a single continent, or Eurasia as one continent). In 1813 Samuel Butler wrote of Australia as "New Holland, an immense island, which some geographers dignify with the appellation of another continent" and the *Oxford English Dictionary* was just as equivocal some decades later.

Antarctica was sighted in 1820 and described as a continent by Charles Wilkes on the United States Exploring Expedition in 1838, the last continent identified, although a great "Antarctic" (antipodean) landmass had been anticipated for millennia. An 1849 atlas labeled Antarctica as a continent but few atlases did so until after World War II.

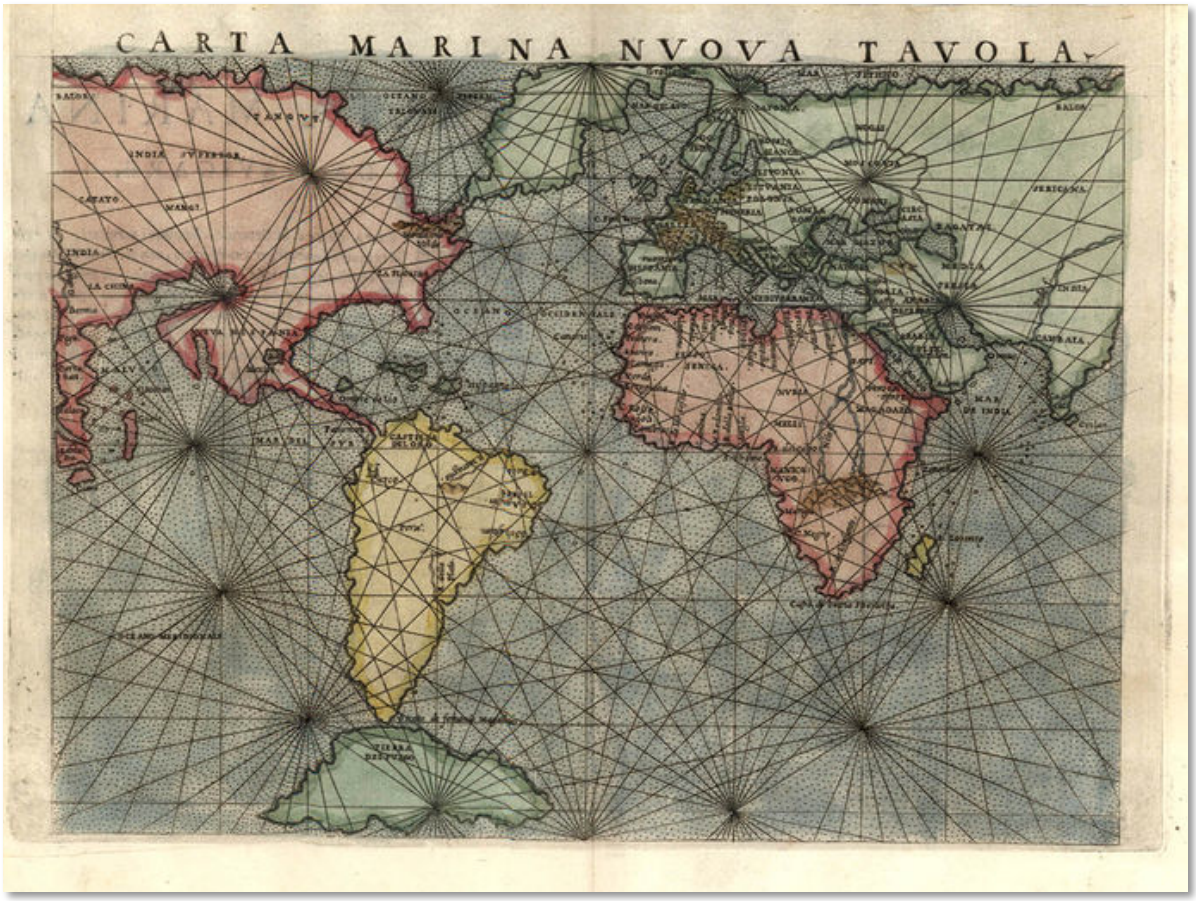
From the mid-19th century, atlases published in the United States more commonly treated North and South America as separate continents, while atlases published in Europe usually considered them one continent. However, it was still not uncommon for American atlases to treat them as one continent up until the 1940's.

According to Eviatar Zerubavel in his 2003 book *Terra Cognita, the Mental Discovery of America*, Vespucci's, Pacheco's, and Waldseemüller's formidable display of intellectual risk taking is even more remarkable when contrasted with the much more

common response of their contemporaries to the totally unexpected discovery of a previously unknown continent beyond the Atlantic— namely denial. The antithesis of intellectual courage, denial is a way of resisting the unfamiliar by forcing it into familiar mental niches, thereby practically denying its novelty or unusualness.

The practical annihilation of classical cosmography by ideas such as Vespucci's and Waldseemüller's clearly threatened many Europeans, as it left them without the security offered by familiar structures. The best way to avoid that, of course, was to deny the idea that the newly discovered lands beyond the Atlantic could possibly be anything other than Asia. And indeed, long after 1492 many Europeans still kept insisting that the New World was either totally identical with, or at least somehow attached to, the Orient.

Atlas Miller: Planisphere World by António de Holanda and Lopo Homem, 1519
This curious and most strange mappamundi (of obviously Ptolemaic influence) serves as the frontispiece - and which displays the curious geographical conception that, on the planet Earth, the land is larger than the sea, and totally envelops the water, as if transforming the sea into one big pond, or "stagnon" (instead of the sea enveloping the land). The Ptolemaic influence is clearly displayed by the land bridge that connects the new discoveries in the West with the Asian continent and an undiscovered Antactica. Ptolemy used a similar land bridge to connect Africa to Asia creating an inland sea out of the Indian Ocean.



Carta Marina Nuova Tauola by Girolomo Ruscelli, 1561, 18.5 x 24.0 cm
This is a slightly enlarged version of the map that appeared in Gastaldi's edition of Ptolemy thirteen years earlier. Gastaldi's Carta Marina *includes the earliest obtainable depictions of the California peninsula. It shows the commonly held belief that the new discoveries were ultimately connected to the continent of Asia.*

According to Zerubavel, the discovery of the Bering Strait was thus the final rupture of the symbolic umbilical cord that still connected the New World to the Old in Europe's fantasies. The mythical land bridge joining Asia and North America was only one expression of 16th century Europe's general uncertainties about the cosmographic status of the newly discovered lands beyond the Atlantic. Given the rather sketchy picture of America that was actually available to them throughout the 16th century, it was only natural that many Europeans would indeed feel somewhat uncertain about its actual cosmographic status relative to Asia. And not even those who were ready to examine honestly the new evidence coming from across the Atlantic, rather than simply deny it, were necessarily always ready to give up totally their traditional image of a tri-continental world right away.

Since the actual geography of the North Pacific was still virtually unknown at the time these maps and globes were made, their very depictions of this purely fictional strait tell us quite a lot about Europe's deep fantasies about America during the late 16th and early 17th centuries. At the same time that its appearance seems to express Europe's

basic acceptance of America's separateness from Asia, its extreme narrowness also expresses its fundamental ambivalence about this separateness. On the maps and globes featuring the mythical *Strait of Anian* the Old World and the New World are essentially portrayed as both detached from, and attached to each other—a perfect visual expression of Europeans' deep cosmographic ambivalence about their actual status relative to each other.

Many of the maps made during the 16th century thus embody the various efforts by Europe to reconcile the extremes of innovation and denial in its overall response to the understandably traumatic discovery of America. Consider also the narrow strait that separates North America from Asia on most late-16th and early 17th century maps and globes. A prophetic anticipation of Bering's historic discovery 167 years later, this purely mythical strait made its cartographic debut on a 1561 world map by Gastaldi, who named it the *Strait of Anian*. Fellow Venetian cartographers Bolognino Zaltieri (1566) and Giovanni Francesco Camocio (1567) soon incorporated it into their own maps and it was not long before it appeared even on Mercator's famous 1569 world map. By the late 16th century, Gastaldi's fabled *Strait of Anian* was a common feature on almost every major European globe and world map, and it remained extremely popular throughout the early 17th century. In fact, it was featured as late as 1772 on Didier Robert de Vaugondy's map of North America, which was also included in the 1780 edition of Denis Diderot's *Encyclopidie*.

World map by Francesco Rosselli, 1508, (#315) showing an ambiguous Asian/new discoveries relationship and a yet-to-be-discovered southern continent that is pure speculation

With regards to defining Europe and Asia boundaries, Philip Johan von Strahlenberg in 1725 was the first to depart from the classical River Don boundary by drawing the line along the Volga River, following the Volga north until the Samara Bend, along Obshchy Syrt (the drainage divide between Volga and Ural) and then north along Ural Mountains. The mapmakers continued to differ on the boundary between the lower Don and Samara well into the 19th century. The 1745 atlas published by the

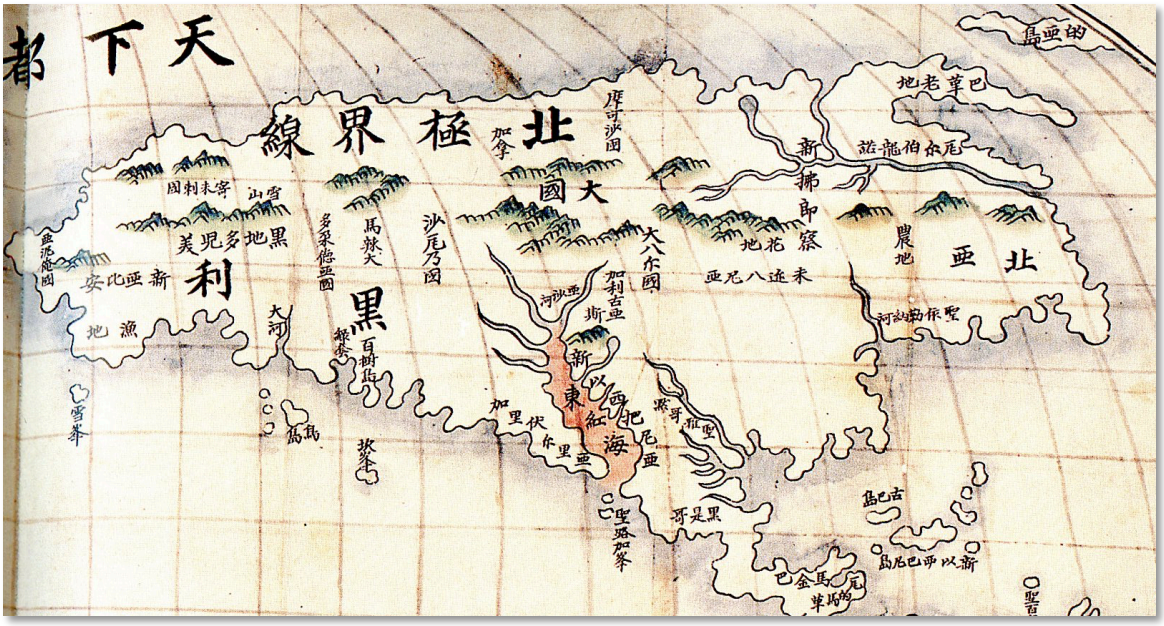
Russian Academy of Sciences has the boundary following the Don beyond Kalach as far as Serafimovich before cutting north towards Arkhangelsk, while other 18th to 19th century mapmakers such as John Cary followed Strahlenberg's prescription. To the south, the Kuma–Manych Depression was identified circa 1773 by a German naturalist Peter Simon Pallas as a valley that, once upon a time, connected the Black Sea and the Caspian Sea, and subsequently was proposed as a natural boundary between continents.

By the mid-19th century, there were three main conventions, one following the Don, the Volga–Don Canal and the Volga, the other following the Kuma–Manych Depression to the Caspian and then the Ural River, and the third abandoning the Don altogether, following the Greater Caucasus watershed to the Caspian. The question was still treated as a "controversy" in geographical literature of the 1860s, with Douglas Freshfield advocating the Caucasus crest boundary as the "best possible", citing support from various "modern geographers".

In Russia and the Soviet Union, the boundary along the Kuma–Manych Depression was the most commonly used as early as 1906. In 1958, the Soviet Geographical Society formally recommended that the boundary between the Europe and Asia be drawn in textbooks from Baydaratskaya Bay, on the Kara Sea, along the eastern foot of Ural Mountains, then following the Ural River until the Mugodzhar Hills, and then the Emba River; and Kuma–Manych Depression, thus placing the Caucasus entirely in Asia and the Urals entirely in Europe. However, most geographers in the Soviet Union favored the boundary along the Caucasus crest and this became the standard convention in the latter 20th century, although the Kuma–Manych boundary remained in use in some 20th century maps.

The modern border between Asia and Europe remains a historical and cultural construct, defined only by convention. The modern border follows the Aegean Sea, the Dardanelles-Sea of Marmara-Bosphorus, the Black Sea, along the watershed of the Greater Caucasus, the northwestern portion of the Caspian Sea and along the Ural River and Ural Mountains to the Arctic Ocean, as mapped and listed in most atlases including that of the National Geographic Society and as described in the *World Factbook*. According to this definition, Georgia and Azerbaijan both have most of their territory in Asia, although each has small parts of their northern borderlands north of the Greater Caucasus watershed and thus in Europe.

Ch'onhado [Map All Under Heaven], ca. 1860, 45 x 45 cm, British Library, London (#231). a Korean manuscript wheel-map in the Buddhist tradition centered on Kunlun Shan (equivalent of Mt. Meru) and taken from the 18th century Thien-ha-tchong-do [mappamundi] in Korean Atlas (I), north of the central plain of Chung Yuan [China] the Great Wall can be seen crossing the Yellow River. Oriented with North at the top



The North America in the Ch'onha do chido, a 1770 copy of Giulio Aleni's Wanguo quantu, 1623

Europe has traditionally been designated a "continent" that comprises the westernmost peninsula of the landmass of Eurasia. It is generally, but vaguely, divided from the "continent" of Asia by the watershed divides of the Ural and Caucasus Mountains, the Ural River, the Caspian and Black Seas, and the waterways connecting the Black and Aegean Seas.

Europe is bordered by the Arctic Ocean to the north, the Atlantic Ocean to the west, the Mediterranean Sea to the south, and the Black Sea and connected waterways to the southeast. Yet the borders of Europe, a concept dating back to classical antiquity, are obviously arbitrary, as the primarily physiographic term "continent" also incorporates cultural and political elements.

The use of the term "Europe" has developed gradually throughout history. In antiquity, the Greek historian Herodotus mentioned that the world had been divided by unknown persons into three parts, Europe, Asia, and *Libya* [Africa], with the Nile and the *River Phasis* forming their boundaries—though he also states that some considered the *River Tanais* [Don], rather than the *Phasis,* as the boundary between Europe and Asia. Europe's eastern frontier was defined in the 1st century by geographer Strabo at the *River Tanais*. The *Book of Jubilees* described the continents as the lands given by Noah to his three sons; Europe was defined as stretching from the *Pillars of Hercules* at the Strait of Gibraltar, separating it from North Africa, to the Don, separating it from Asia.

A cultural definition of Europe as the lands of European Latin Christendom coalesced in the 8th century, signifying the new cultural condominium created through the confluence of Germanic traditions and Christian-Latin culture, defined partly in contrast with Byzantium and Islam, and limited to northern Iberia, the British Isles, France, Christianized western Germany, the Alpine regions and northern and central Italy. The concept is one of the lasting legacies of the Carolingian Renaissance: "Europa" often figures in the letters of Charlemagne's court scholar, Alcuin. This division, as

much cultural as geographical, was used until the Late Middle Ages, when it was challenged by the explorations during the Age of Discovery. The problem of redefining Europe was finally resolved in 1730 when, instead of waterways, the Swedish geographer and cartographer von Strahlenberg proposed the Ural Mountains as the most significant eastern boundary, a suggestion that found favor in Russia and throughout Europe.

Europe is now generally defined by geographers as the westernmost peninsula of Eurasia, with its boundaries marked by large bodies of water to the north, west and south; Europe's limits to the far east are usually taken to be the Urals, the Ural River, and the Caspian Sea; to the southeast, including the Caucasus Mountains, the Black Sea and the waterways connecting the Black Sea to the Mediterranean Sea.

Islands are generally grouped with the nearest continental landmass, hence Iceland is generally considered to be part of Europe, while the nearby island of Greenland is usually assigned to North America. Nevertheless, there are some exceptions based on sociopolitical and cultural differences. Cyprus is closest to Anatolia (or Asia Minor), but is usually considered part of Europe both culturally and politically and currently is a member state of the European Union (EU). Malta was considered an island of North Africa for centuries.

Though most geographic sources assign the area south of the Caucasus Mountain crest to Southwest or West Asia, no definition is entirely satisfactory, with it often becoming a matter of self-identification. Cultural influences in the area originate from both Asia and Europe. While geographers rarely define continents primarily politically, Georgia and to a lesser extent Armenia and Azerbaijan are increasingly in the 21st century politically oriented towards Europe, but Armenia has a great cultural diaspora to the south, and Azerbaijan shares a cultural affinity with the Turkic countries of Central Asia.

The Turkish city Istanbul lies in on both sides of the Bosporus, making it a transcontinental city. Russia and Turkey are transcontinental countries with territory in both Europe and Asia by any definition. While Russia is historically a European country with a history of imperial conquests in Asia, the situation for Turkey is inverse, as that of an Asian country with imperial conquests in Europe. Kazakhstan is also a transcontinental country by this definition, its West Kazakhstan and Atyrau provinces extending on either side of the Ural River.

This Ural River delineation is the only segment not to follow a major mountain range or wide water body, both of which often truly separate populations. However, the Ural River is the most common division used by authorities, is the most prominent natural feature in the region, and is the "most satisfactory of those (options) proposed" which include the Emba River, a much smaller stream cutting further into Central Asian Kazakhstan. The Ural River bridge in Orenburg is even labeled with permanent monuments carved with the word "Europe" on one side, "Asia" on the other.

The Kuma–Manych Depression (more precisely, the Manych River, the Kuma–Manych Canal and the Kuma River) remains cited less commonly as one possible natural boundary in contemporary sources. This definition peaked in prominence in the 1800s, however, as it places traditionally European areas of Russia such as Stavropol, Krasnodar, and even areas just south of Rostov-on-Don in Asia.

There are other definitions for Europe and Asia limits, such as political definitions. The United Nations Statistics Division lists transcontinental countries under the continent in which they have the majority of their population:

- listed as part of Eastern Europe: Russian Federation
- listed as part of Central Asia: Kazakhstan
- listed as part of Western Asia: Azerbaijan, Georgia, and Turkey

The Council of Europe includes the countries of Armenia, Azerbaijan, Cyprus, Georgia, Russia and Turkey. It states that "two Council of Europe member States, Turkey and Russia, belong geographically to both Europe and Asia and are therefore Eurasian. Strictly speaking, the three South Caucasus States, Armenia, Azerbaijan and Georgia are located in Asia, yet their membership (in) political Europe is no longer in doubt." Although not a member, Eurasian Kazakhstan is granted the right to request membership.

In the past decade, two novel approaches have moved the idea of Europe in new directions. First, with the rise and consolidation of the European Union and the recent uncertainties besetting it, the history of the concept has assumed new urgency. Second, with intensifying interest in the non-west, stimulated by contemporary politics as well as by postcolonial and subaltern theory, scholars have made strides towards balancing European ideas about itself with those of its neighbors, victims, partners, and competitors in the world. (see Valerie Kivelson's *The Cartographic Emergence of Europe?* Oxford Handbooks Online, July 2015)

Islands

The geographical notion of a continent stands in opposition to islands and archipelagos. Nevertheless, there are some islands that are considered part of Europe in a political sense. This most notably includes the British Isles (part of the European continental shelf and during the Ice Age of the continent itself), besides the islands of the North Sea, the Baltic Sea and the Mediterranean which are part of the territory of a country situated on the European mainland, and usually also the island states of Iceland and Malta.

Cyprus is an island of the Mediterranean located close to Asia Minor, so that it is usually associated with Asia and/or the Middle East, as in the *World Factbook*, but it was nevertheless admitted to the Council of Europe in 1961 and joined the EU in 2004, except for the northern part which is politically and culturally connected to Turkey, Asia.

The Greek North Aegean Islands and the Dodecanese lie on the coast of the Asian part of Turkey (on the Asian continental shelf).

Europe and North America are separated by the North Atlantic. In terms of associating islands with either continent, the boundary is usually drawn between Greenland and Iceland. The Norwegian islands of Jan Mayen and Svalbard in the Arctic Ocean are usually associated with Europe. Iceland and the Azores are protrusions of the Mid-Atlantic Ridge and are associated with and peopled from Europe, even though they have areas on the North American Plate.

Russia's Vaygach Island and Novaya Zemlya extend northward from the northern end of the Ural Mountains and are a continuation of that chain into the Arctic Ocean. While Novaya Zemlya was variously grouped with Europe or with Asia in 19th century maps, it is now usually grouped with Europe, the continental boundary considered to join the Arctic Ocean along the southern shore of the Kara Sea. The

Russian Arctic archipelago of Franz Josef Land farther north is also associated with Europe.

Europe ends in the west at the Atlantic Ocean, although Iceland and the Azores archipelago (in the Atlantic, between Europe and North America) are usually considered European, as is the Norwegian Svalbard archipelago in the Arctic Ocean. Greenland is geographically part of North America, but politically associated with Europe as it is part of the Kingdom of Denmark, although it has extensive home rule and EU law no longer applies there.

Europe is the world's second-smallest continent by surface area, covering about 10,180,000 square kilometers (3,930,000 sq mi) or 2% of the Earth's surface and about 6.8% of its land area. Of Europe's approximately 50 countries, Russia is by far the largest by both area and population, taking up 40% of the continent (although the country has territory in both Europe and Asia), while Vatican City is the smallest. Europe is the third-most populous continent after Asia and Africa, with a population of 739-743 million or about 11% of the world's population. The most commonly used currency is the euro.

Europe, in particular ancient Greece, is the birthplace of Western culture. It played a predominant role in global affairs from the 15th century onwards, especially after the beginning of colonialism. Between the 16th and 20th centuries, European nations controlled at various times the Americas, most of Africa, Oceania, and the overwhelming majority of Asia. The Industrial Revolution, which began in Great Britain around the end of the 18th century, gave rise to radical economic, cultural, and social change in Western Europe, and eventually the wider world. Demographic growth meant that, by 1900, Europe's share of the world's population was 25%.

Both world wars were largely focused upon Europe, greatly contributing to a decline in Western European dominance in world affairs by the mid-20th century as the United States and Soviet Union took prominence. During the Cold War, Europe was divided along the Iron Curtain between NATO in the west and the Warsaw Pact in the east. European integration led to the formation of the Council of Europe and the European Union in Western Europe, both of which have been expanding eastward since the revolutions of 1989 and the fall of the Soviet Union in 1991. The European Union nowadays has growing influence over its member countries. Many European countries are members of the Schengen Area, which abolishes border and immigration controls among its members.

Sometimes, the word "Europe" is used in a geopolitically limiting way to refer only to the European Union or, even more exclusively, a culturally defined core. On the other hand, the Council of Europe has 47 member countries, and only 28 member states are in the EU. In addition, people in the British Isles may refer to "continental" or "mainland" Europe as Europe.

Africa and Asia

Historically, in Greco-Roman geography, Africa (*Libya*) was taken to begin in *Marmarica*, at the *Catabathmus Magnus*, placing Egypt in Asia entirely. The idea of Egypt being an "African" country seems to develop in around the mid 19th century; the term Africa was classically reserved for what is now known as the *Maghreb*, to the explicit exclusion of Egypt, but with the exploration of Africa the shape of the African landmass

(and Egypt's "natural" inclusion in that landmass) became apparent. In 1806, William George Browne still titled his travelogue *Travels in Africa, Egypt, and Syria.* Similarly, James Bruce in 1835 published *Travels through part of Africa, Syria, Egypt, and Arabia*. On the other hand, as early as 1670 John Ogilby under the title *Africa* published "an accurate Description of the Regions of Egypt, Barbary, Libya, and Billedulgerid, the Land of Negroes, Guinea, Æthiopia, and the Abyssines, with all the adjacent Islands, either in the Mediterranean, Atlantic, Southern, or Oriental Seas, belonging thereunto".

The usual line taken to divide Africa from Asia today is at the Isthmus of Suez, the narrowest gap between the Mediterranean and Gulf of Suez, the route today followed by the Suez Canal. This makes the Sinai Peninsula geographically Asian, and Egypt a transcontinental country.

Less than 2% of the Egyptian population live in the Sinai, and hence Egypt even though technically transcontinental is usually considered an African country. But when discussing the geopolitical region of the Middle East and North Africa, Egypt is usually grouped with the Asian countries as part of the Middle East, while Egypt's western neighbor Libya is grouped with the remaining North African countries as the Maghreb.

The Seychelles, Mauritius, and Comoros are island nations in the Indian Ocean associated with Africa. The island of Socotra may be considered African as it lies on this continent's shelf, but is part of Yemen, an Asian country.

North and South America

The border between North America and South America is at some point on the Isthmus of Panama. The most common demarcation in atlases and other sources follows the Darién Mountains watershed divide along the Colombia-Panama border where the isthmus meets the South American continent. Virtually all atlases list Panama as a state falling entirely within North America and/or Central America.

Often most of the Caribbean islands are considered part of North America, but Aruba, Bonaire, Curaçao and Trinidad and Tobago lie on the continental shelf of South America. On the other hand, the Venezuelan Isla Aves and the Colombian San Andrés and Providencia lie on the North American shelf.

The Bering Strait and Bering Sea separate the landmasses of Asia and North America, as well as forming the international boundary between Russia and the United States. This national and continental boundary separates the Diomede Islands in the Bering Strait, with Big Diomede in Russia and Little Diomede in the US. The Aleutian Islands are an island chain extending westward from the Alaska Peninsula toward Russia's Komandorski Islands and Kamchatka Peninsula. Most of them are always associated with North America, except for the westernmost Near Islands group, which is on Asia's continental shelf beyond the North Aleutians Basin and on rare occasions could be associated with Asia, which could then allow the U.S. state of Alaska to be considered a transcontinental state.[citation needed]

St. Lawrence Island in the northern Bering Sea belongs to Alaska and may be associated with either continent but are almost always considered part of North America, as with the Rat Islands in the Aleutian chain.

However, the division of the Americas (North and South) never appealed to Latin Americans, who saw their region spanning an America as a single landmass, and there the conception of six continents remains, as it does in scattered other countries.

Oceania

The Galápagos Islands and Malpelo Island in the eastern Pacific Ocean are possessions of Ecuador and Colombia, respectively, and associated with South America. The uninhabited French possession of Clipperton Island 600 miles (970 km) off the Mexican coast is associated with North America.

Easter Island, a territory of Chile, is considered to be in Oceania, though politically it is associated with South America.

The United States controls numerous territories in Oceania, including the state of Hawaii.

Indonesia is today more commonly referred to as one of the Southeast Asian countries, and thus simply Asian. However, the Malay Archipelago is sometimes divided between Asia and Australasia, usually along the anthropologic Melanesian line or Weber's Line. Indonesia controls the western half of New Guinea, geographically part of Australasia. The eastern half of the island is part of Papua New Guinea which is considered to be part of the Pacific. East Timor, an independent state that was formerly a territory of Indonesia, which is geographically part of Asia, is classified by the United Nations as part of the "South-Eastern Asia" block. It is expected to join the Association of Southeast Asian Nations, having been involved as an ASEAN Regional Forum member since independence, and has participated in the Southeast Asian Games since 2003. Occasionally, all of the Malay Archipelago is included in Oceania, although this is extremely rare, especially as most of the archipelago lies on the Asian continental shelf.

The Commonwealth of Australia includes island possessions in Oceania and closer to Indonesia than the Australian mainland.

Antarctica

Antarctica along with its outlying islands have no permanent population. All land claims south of 60°S latitude are held in abeyance by the Antarctic Treaty System.

The South Georgia and the South Sandwich Islands are closer to Antarctica than to any other continent. However, they are politically associated with the inhabited Falkland Islands which are closer to South America. Furthermore, Argentina, a South American country, maintains its irredentist claims on the islands. The continental shelf boundary separates the two island groups.

The Prince Edward Islands are located between Africa and Antarctica, and are the territory of South Africa, an African country. The Australian Macquarie Island and the New Zealand Antipodes Islands, Auckland Islands, and Campbell Islands, are all located between the Oceanian countries of Australia and New Zealand and Antarctica.

Australia's Heard Island and McDonald Islands and the French Kerguelen Islands are located on the Kerguelen Plateau, on the Antarctic continental plate. The French Crozet Islands, Île Amsterdam, Île Saint-Paul, and the Norwegian Bouvet Island are also located on the Antarctic continental plate, and are not often associated with other continents.

Continental Names.

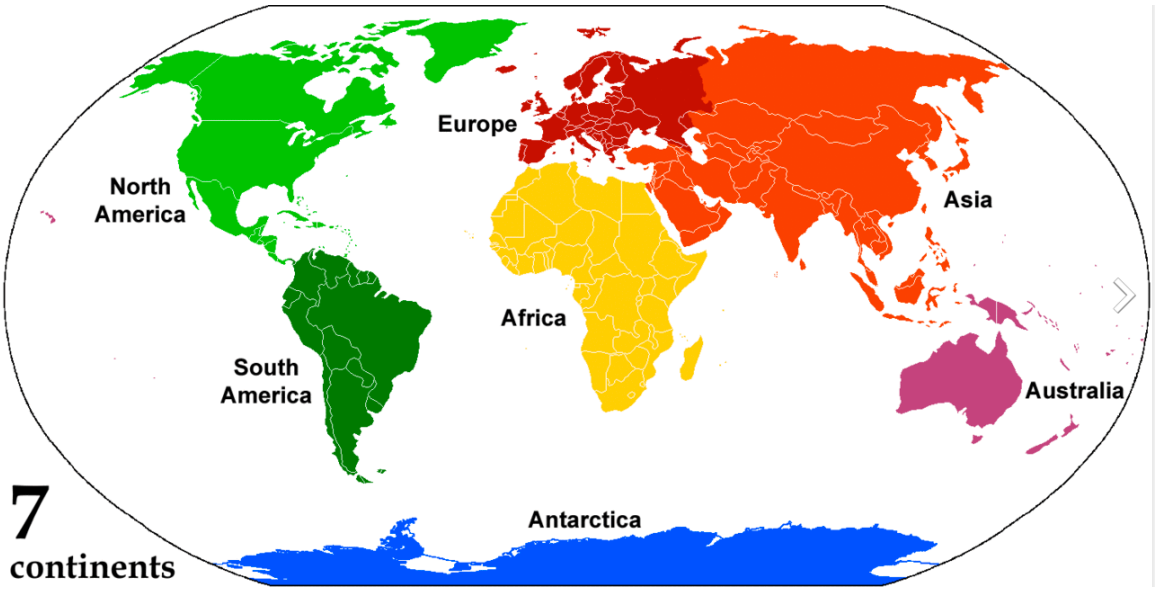
In a Latin preface to the *Cosmographia lntroductio* Martin Waldseemüller, creator of the 1507 world map that introduced the name "America" (on South America only) indulged his name-coining propensity *(#310)*:

> Toward the South Pole are situated the southern part of Africa, recently discovered, and the islands of Zanzibar, Java Minor, and Seula. These regions [Europe, Asia, Africa] have been more extensively explored, and another or fourth part has been seen by the attached charts; in virtue of which I believe it very just that it should be named *Amerige* ["ge" in Greek meaning "land of"], after its discoverer, Americus, a man of sagacious mind; or let it be named *America*, since both *Europa* and *Asia* bear names of feminine form.

Asia was a name derived from *Asu*, which meant "rising sun" or "land of light"; while *Europa* was a name that came from *ereb* or *irib*, which meant "setting sun" or "land of darkness". *Africa* came from a local Carthaginian place name. The name *America* was a variant of the German *Amalrich*, derived from *amal*. In Greek it was *Aimulos*, in Latin *Aemelius*. In all its forms the underlying meaning was that of work; as for example, the word for work in Hebrew is *amal*, and in old Norse *aml*, the consonant sounds of which were retained in the verb *moil*. *Amalrich*, which literally meant "work ruler", or "designator of tasks", might be freely translated as "master workman". A Frenchman said that *Emeric* meant "rich through work".

The name appeared in *Halmal*, a semi-divine mythical forefather or ancestor of the *Amelungen*, or royal tribe of the Ostrogoths, which was called *Ömlunger*. German forms of the name were *Amalrich, Almerich, Emmerich*; the Spanish form was *Almerigo*; the French, *Amalrie* or *Amaury*; in England it was *Almerick*, or *Merica* in old families in Yorkshire. It appeared in feminine forms in *Amelia, Emilia, Emily*; its masculine forms were *Amery, Aymar, Emeric, Emerique, Emery* or *Emmery*. But as Charlotte Mary Yonge wrote in her History of Christian Names, it was

> . . . the Italian form, *Amerigo*, which was destined to the most noted use . . . which should hold fast that most fortuitous title, whence thousands of miles, and millions of men, bear the appellation of the forgotten forefather of a tribe of Goths - *Amalrich*, the work ruler; a curiously appropriate title for the new world of labor and progress, on the other side of the Atlantic.



Martin Lewis and Karen Wigen's *The Myth of Continents* sets out to prove that the modern understanding of continents is just as the title implies: a myth. However, as Kevin Belting states, continents are far more than just great masses of land arbitrarily organized into convenient categories. It is human nature to view the world this way, humanity has a natural inclination to divide the world into organized, digestible categories. As with classifying pretty much anything, we find it easier to learn when things are broken down into categories and subcategories. As such, it does not seem wise to do away with the concept of continents entirely, but rather to strongly reevaluate the way the world is viewed and the way history is taught. Belting argues that educators must find a way to convey metageographical knowledge in a nonpartisan, nonjudgmental way.

In the *Myth of Continents*, Lewis and Wigen assert that the notion of the continents as we see them is flawed, and that an alternate viewpoint should be sought. They open their book by stating: "In contemporary usage, continents are understood to be large, continuous, discrete masses of land, ideally separated by expanses of water... this convention is both historically unstable and surprisingly unexamined." This opening sentence sums up the greatest reason for the restructuring of metageography: because we have not done so yet.

For millennia, as Lewis and Wigen point out, humanity has largely accepted the way the world is arranged without question. Dating back to Herodotus, the current geographical system has been taken as gospel, as Lewis and Wigen point out:

> For almost two millennia after Herodotus, the threefold division of the earth continued to guide the European scholarly imagination. The continental scheme was reinforced in late antiquity when early Christian writers mapped onto it the story of Noah's successors. According to St. Jerome, translator of the Vulgate Bible, 'Noah gave each of his three sons, Shem, Ham, and Japeth, one of the three

> parts of the world for their inheritance, and these were Asia, Africa, and Europe, respectively.

Since the ancient Greeks we have divided our world this way, constantly reinforcing the arbitrary division of continents time and again. But why? Why continue doing what we have always done when so many other scientific fields have been reexamined and revamped in the past dozen centuries? The answer, as many historians have pointed out, is *Eurocentrism.* According to Belting our continent system has remained in tact because it, whether implicitly or explicitly, benefited the European powers. Here he uses "European" to mean "Western Christian".

Since roughly the 15th century, the "west" and the "east" were divided by arbitrary political lines, the exact location of the boundary changing as empires rose and fell. Yet over the years, from early Christian writers to the modern day, this distinction between eastern and western lands has come to mean much more than simply which side of the sea you stood on. As chronicled in books such as Edward Said's *Orientalism*, people and Europeans in particular have ascribed deeper meanings to the distinctions of "east" and "west". Europeans, belonging to the "west", began to attach all the best traits of civilization to themselves. To be "western" meant to support the ideals of freedom, knowledge, righteousness, and a whole host of values that have shifted over time. To be "eastern" or to hail from "the orient" meant you were perhaps wise, but also shifty, cowardly, or any other negative trait you could name, depending on who you asked. No matter where or when you hailed from, the distinction always led to the same conclusion: to be Western was to be superior.

These stereotypes persist even today, with the most pervasive topic relating to the region known as "the Middle East". Humanity has learned much more about the way the world is shaped since Herodotus first penned his *History*, yet still terms like this are used regardless of where the listener or speaker is physically located. Joseph Rahme points out the problem with such a distinction, and in doing so hints at the dangers of the *Eurocentrism* we so often see. He posits that "middle east" has come to become synonymous with "Islamic", and in doing so has painted broad negative stereotypes about Muslims in the media, particularly the Western media. Rahme writes: "*'Islam' and 'Islamic fundamentalism' have been depicted in the media... as the inheritors of the totalitarian mantle and/or global challenge formerly presented by communism...focus on the usage of the following five concepts: the Middle East, the bipolar concepts of East and West, the Judaic-Christian heritage, Islamic fundamentalism, and jihad*."

Rahme hits on the same points that Lewis, Wigen, and Said have, pointing out how disingenuous and, indeed, dangerous it is to so broadly split the world in half like that. Delicate, complicated issues are boiled down to "happenings in the Middle East", regardless of the country or people.

Similar to the division of "east" and "west", it has become common to divide the world into "first-world" and "third-world" countries. Originally this was a Cold War construction, referring to capitalist countries as "first-world" and communist countries as "third-world". Today, the terms have come to reflect "industrialized" nations versus "developing" countries. However, such a distinction is, as many have pointed out, an arbitrary one.

Much of North America and Europe (conveniently also "the west", as we've seen) are considered to be "first-world" nations, while most of Asia is considered "third-world". Further, European colonies that were once subjugated are referred to as the

"third-world", regardless of economic development. As Lewis and Wigen point out: "The former Soviet central Asia... was subjected to brutal European colonial subjugation, yet it has never, to our knowledge, been mapped within the Third World." Belting asks "What use are these distinctions when their categorization seems based on arbitrary political bias?'

Once again we see that this binary view of the world is traced back to *Eurocentrism* and questions of dividing the world. Colonialism in particular is a hard geographical concept to deal with, as we see in the first-world/third-world distinction. Little regard is paid to former colonial occupation on a metageographical level.

Tied into this *Eurocentrism* is the idea of *environmental determinism*, the idea that one's geographical location garners a predictable outcome on civilization. Environmental determinism is often used to reinforce existing *Eurocentrism*, as Europe is typically seen with the "best" available environment.

Belting sums the discussion up by stating no matter how the world is divided, it will seem arbitrary. We can do our best to categorize regions and delineate them, but ultimately we are placing man-made distinctions onto natural landscapes. No system will ever be perfect, no matter how many centuries are spent in research or debate. This does not, however, mean that our current geographical system is not in need of change. Indeed, it means that educators must be constantly reassessing and re-evaluating the map of the world, searching for new and better ways to integrate regions.

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The Display of Sovereign Countries on Early maps

You will notice on the maps/reconstructions from the ancient and medieval periods that country boundaries (and even continental boundaries) were displayed differently than today, even conflicting or confusing as to what area is being defined. As today, but even more so in the distant past, country boundaries were "flexible" and constantly changing. To establish and maintain the sovereign boundaries of countries, the ruling power was required to "enforce" the integrity of those boundaries by force. The idea of establishing, recognizing and honoring the integrity of "sovereignty" is a relatively recent concept. Therefore, if country (or continental) boundaries were displayed on these early maps, they were rather vague and/or not universally accepted by all cartographers. Obviously in ancient times there were no "countries" or "nation-states"as we define them today, only various size settlements that eventually grew into city-states, controlled territories, empires, etc. Examples include Babylon, Troy, Thrace, Sparta, Phoenicia, Egypt, Bactria, Hyrcania, Sogdiana; the Persia, Byzantine, Ottoman, Holy Roman, and British Empires, and Chinese Dynasties, etc. On the ancient and medieval maps place-names are given for general geographical areas/regions, without any explicitly defined borders/ boundaries, such as Gallia, Germania, Hispania, Seres, Scythia, Assyria, Syria, Persia, Ethiopia, Macedonia, Arabia, Albania, Armenia, Phyrgia, and India. On the maps, these areas were not much differentiated from the labels given to the "continents" of *Europa*, Asia and *Libya* [Africa], especially on the medieval *Macrobian (#201)* and *Isidorean* T-O maps (#205). Some cities received the same emphasis as these larger entities, such as Rome, Babylon, Constantinople, Jerusalem, Ravenna and Antioch. Many of these became known as "empires" encompassing large, vaguely defined areas. Some maps were merely trying to identify the race or group of people that occupied a particular area, such as the Celts and Ethiopeans. Also the very fact that country boundaries were constantly changing with shifts in political/military power. Other areas, such as *Taprobana*, are not identified as "countries", "continents" or cities. Note the tremendous changes after the dissolution of the Roman Empire, the Ottoman Empire, Mongolian invasion, the British Empire, the European Colonization period, World War II, and the fall of the Soviet Union. During the decline of the Roman Empire, Europe entered a long period of change arising from what historians call the "Age of Migrations". There were numerous invasions and migrations amongst the Ostrogoths, Visigoths, Goths, Vandals, Huns, Franks, Angles, Saxons, Slavs, Avars, Bulgars and, later on, the Vikings, Pechenegs, Cumans and Magyars.

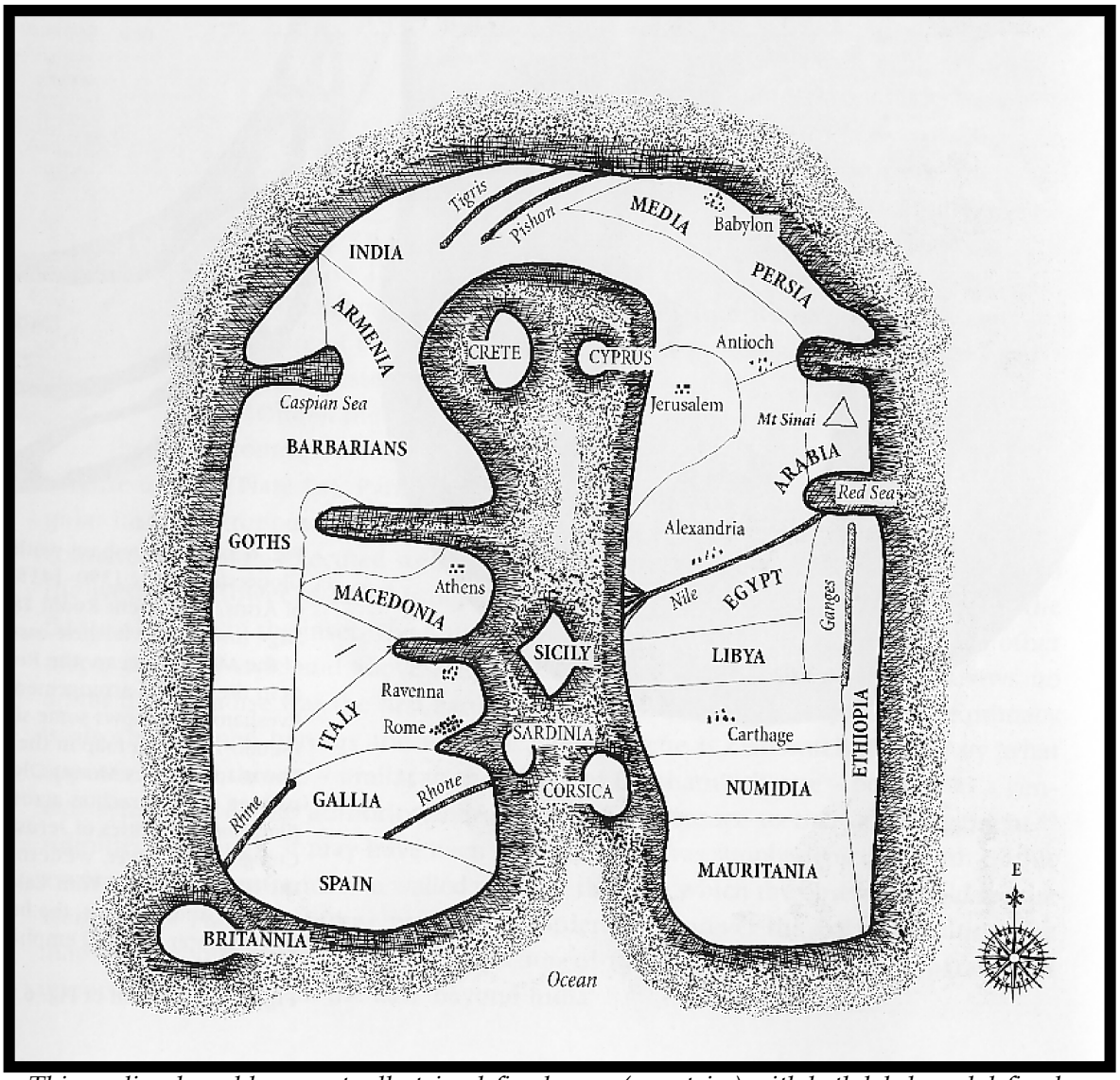
From the seventh century, Byzantine history was greatly affected by the rise of Islam and the Caliphates. Muslim Arabs first invaded historically Roman territory under Abū Bakr, first Caliph of the Rashidun Caliphate, who entered Roman Syria and Roman Mesopotamia. Under Umar, the second Caliph, the Muslims decisively conquered Syria and Mesopotamia, as well as Roman Palestine, Roman Egypt, and parts of Asia Minor and Roman North Africa. This trend continued under Umar's successors and under the Umayyad Caliphate, which conquered the rest of Mediterranean North Africa and most of the Iberian Peninsula. Over the next centuries Muslim forces were able to take further European territory, including Cyprus, Malta, Crete, Sicily and parts of southern Italy. In the East, Volga Bulgaria became an Islamic state in the 10th century.

In medieval times, due to lack of border demarcations and the rule of force, few borders were fixed for long, or could be even approximately determined. Consequently,

most medieval maps lack bordering lines between countries which are shown just by mentioning their names somewhere in the area they occupied.

Macrobian world map, 1560, by Ioan Gryphius Excudebat (#201)
This map indicates vague areas with the labels Aethiopia [Ethiopia], Persusta [Persia], Gal [France], Hispa [Spain], Britania, Armenhnd [Armenia]

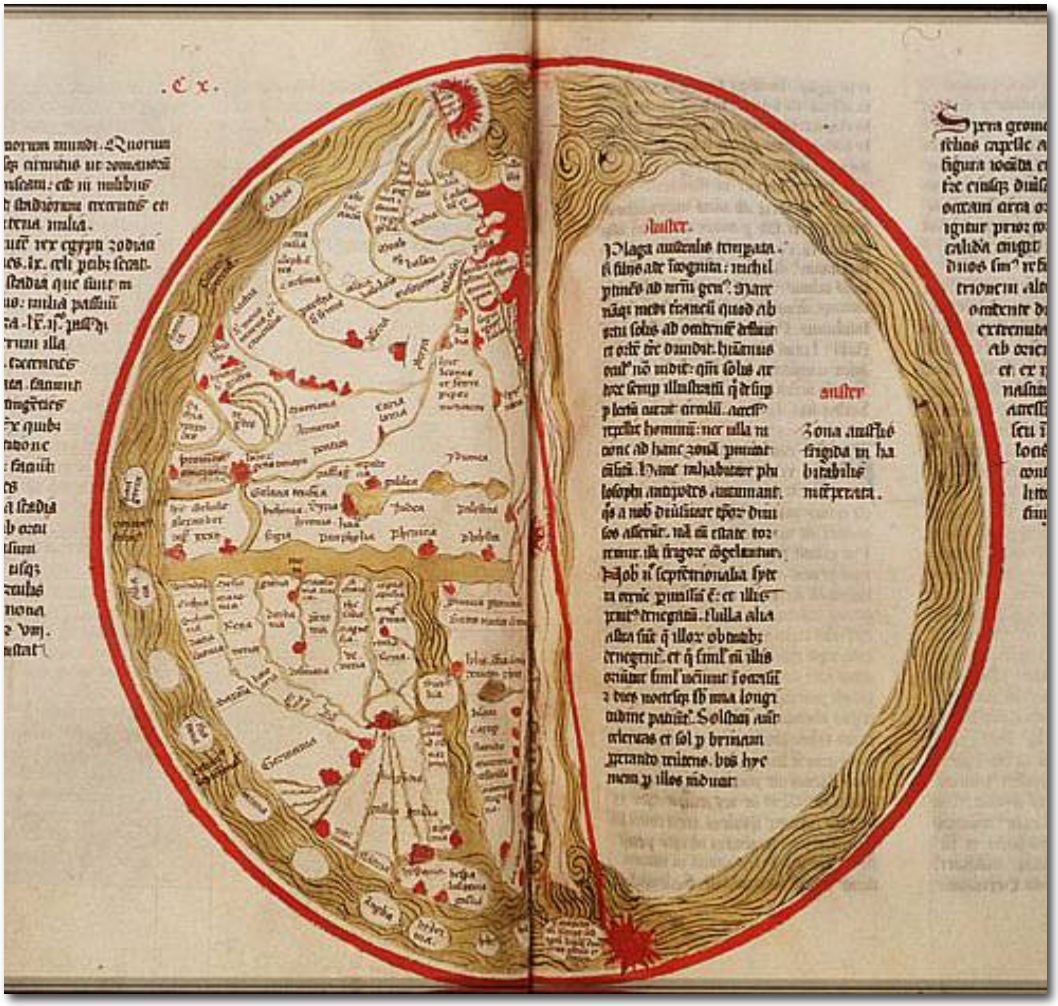
Map of Albi, 750 A.D.
Mediatheque Pierre Amalric, Albi, France, MS 29, f.57, 29 x 23 cm (#206)



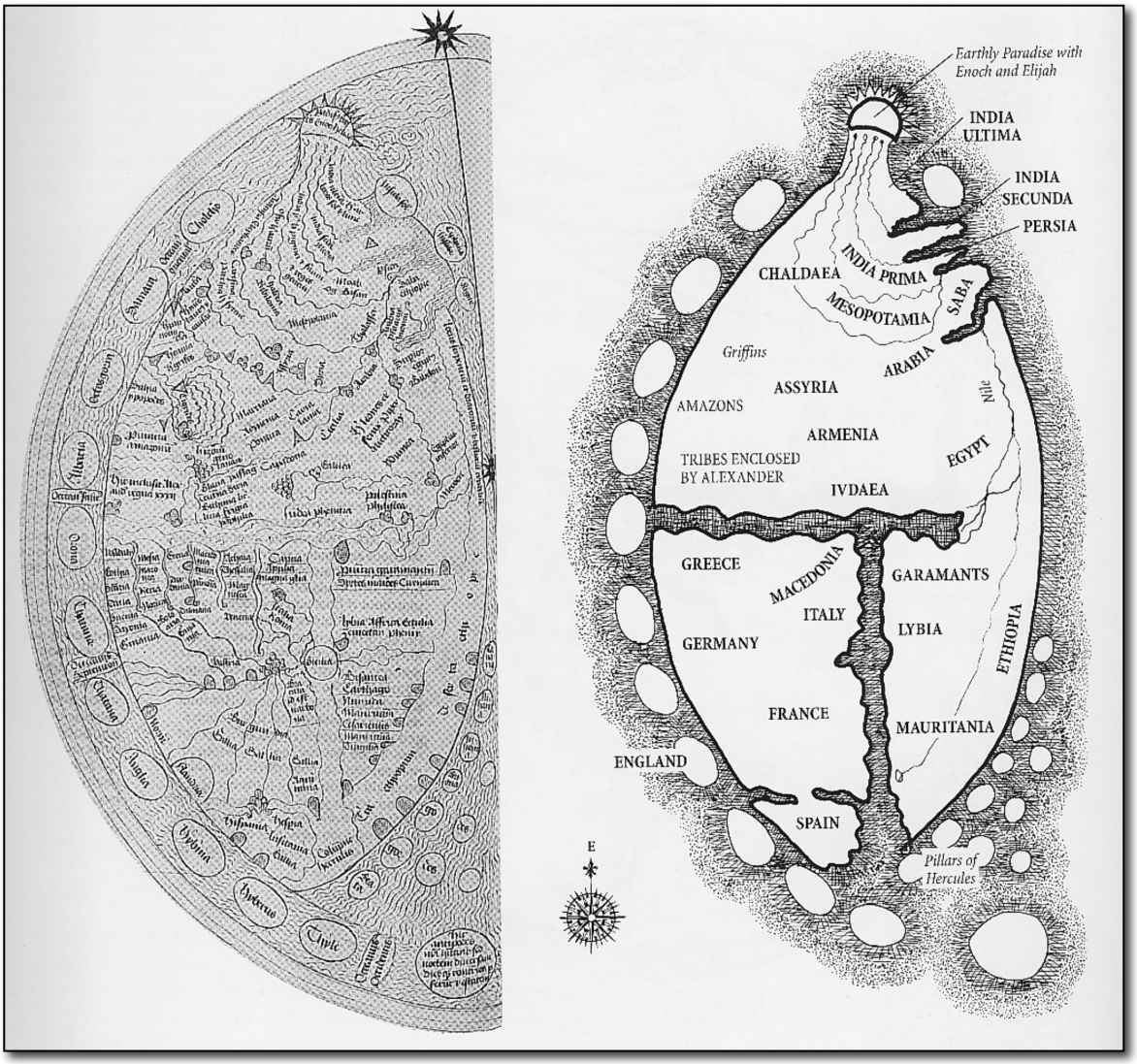
This medieval world map actually tries defined areas (countries) with both labels and defined areas with borders

The Cottoniana or Anglo-Saxon Map, ca. 995 (#210)

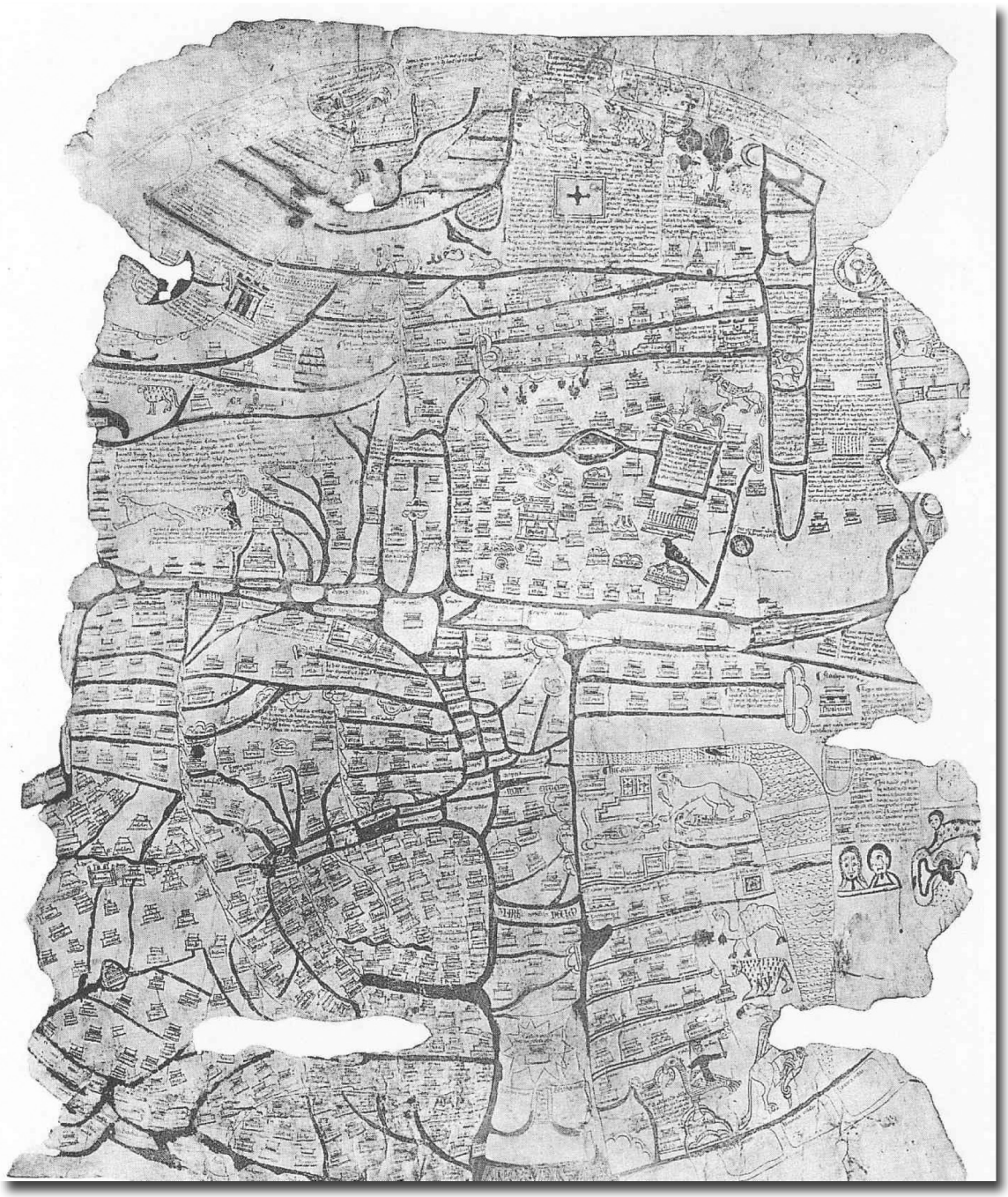
This medieval world map also tries defined areas (countries) with both labels and defined areas



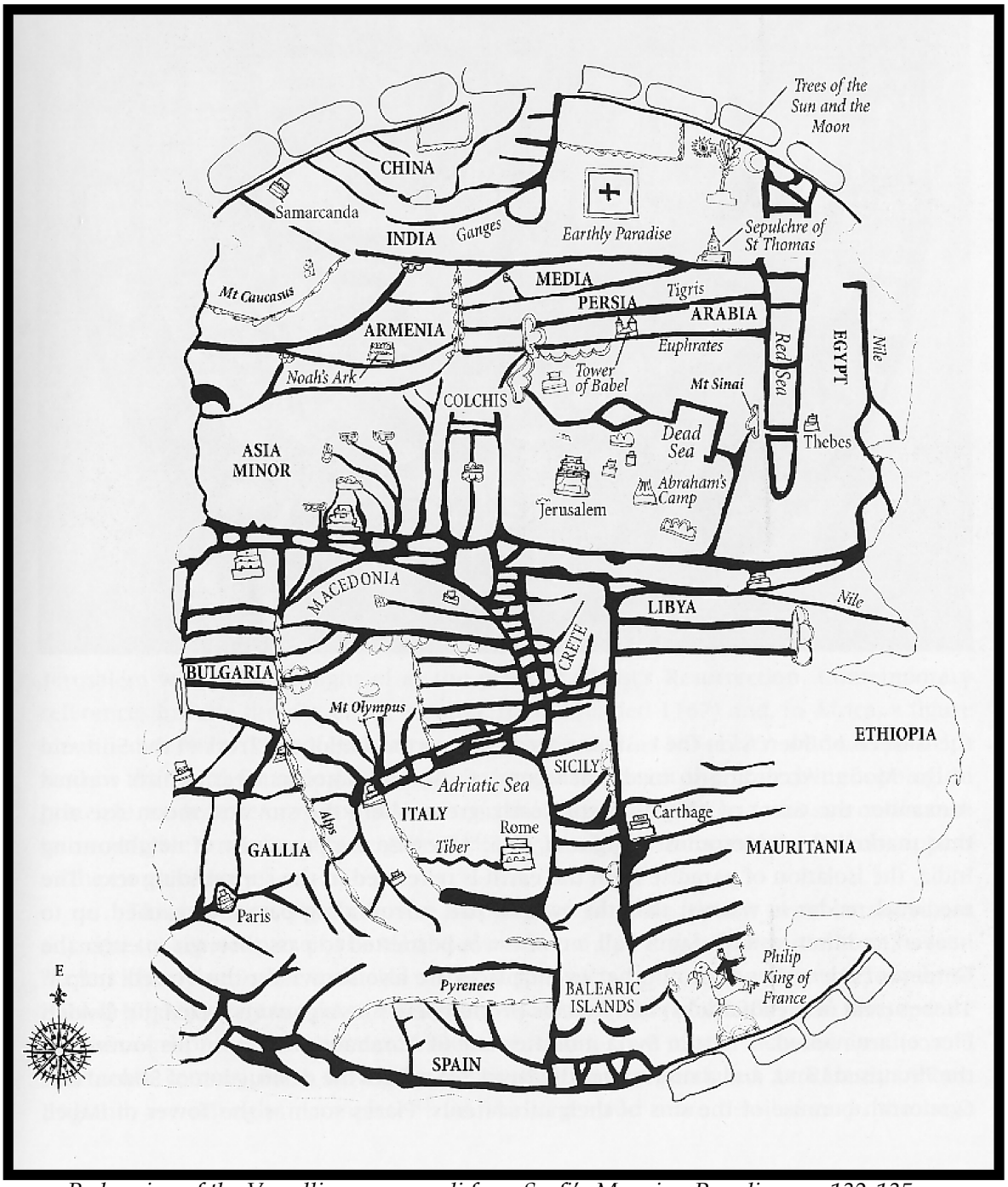
Lambert of St. Omer, Liber Floridus, 1460 (#217)



Lambert of St. Omer, Liber Floridus, 1460 (#217) illustrates the vague outlines of countries

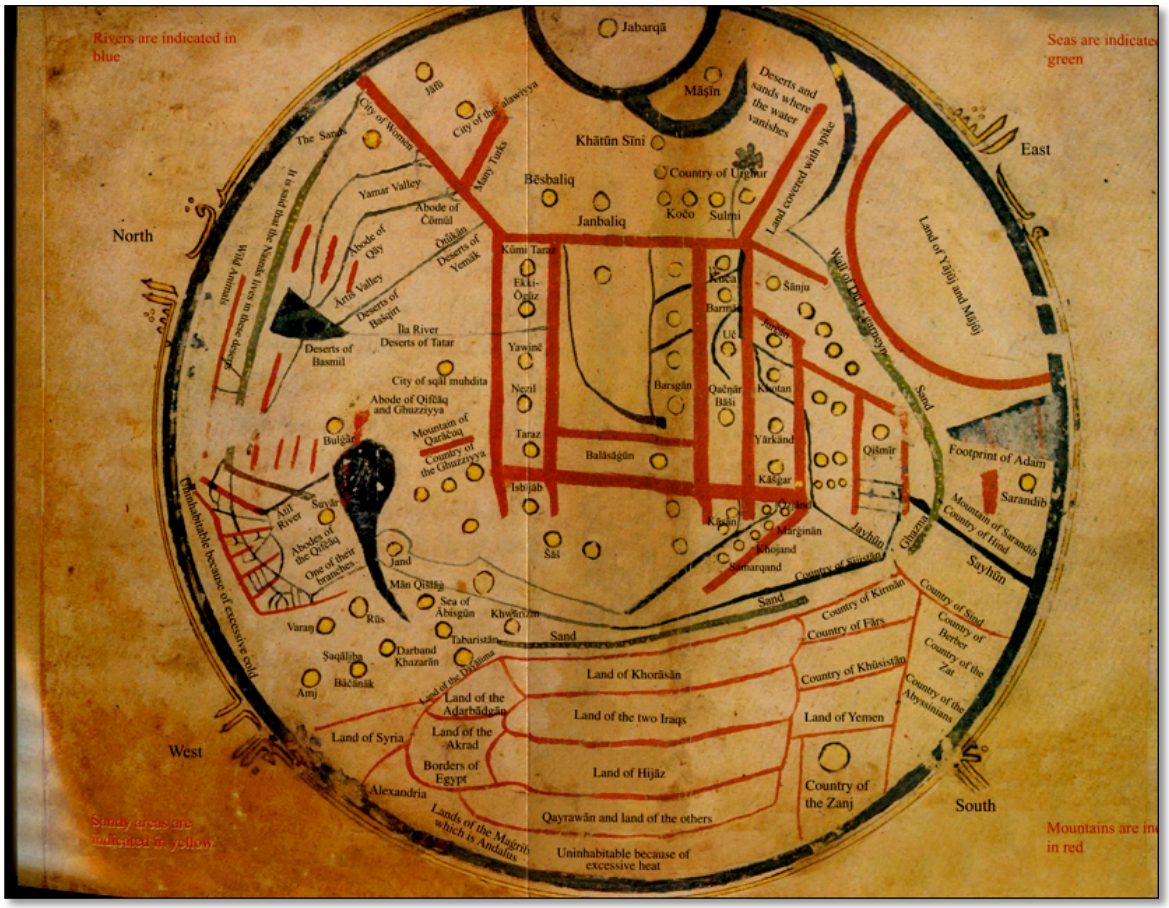


Vercelli mappamundi, c. 1200, 84 x 72 cm (#220.3)



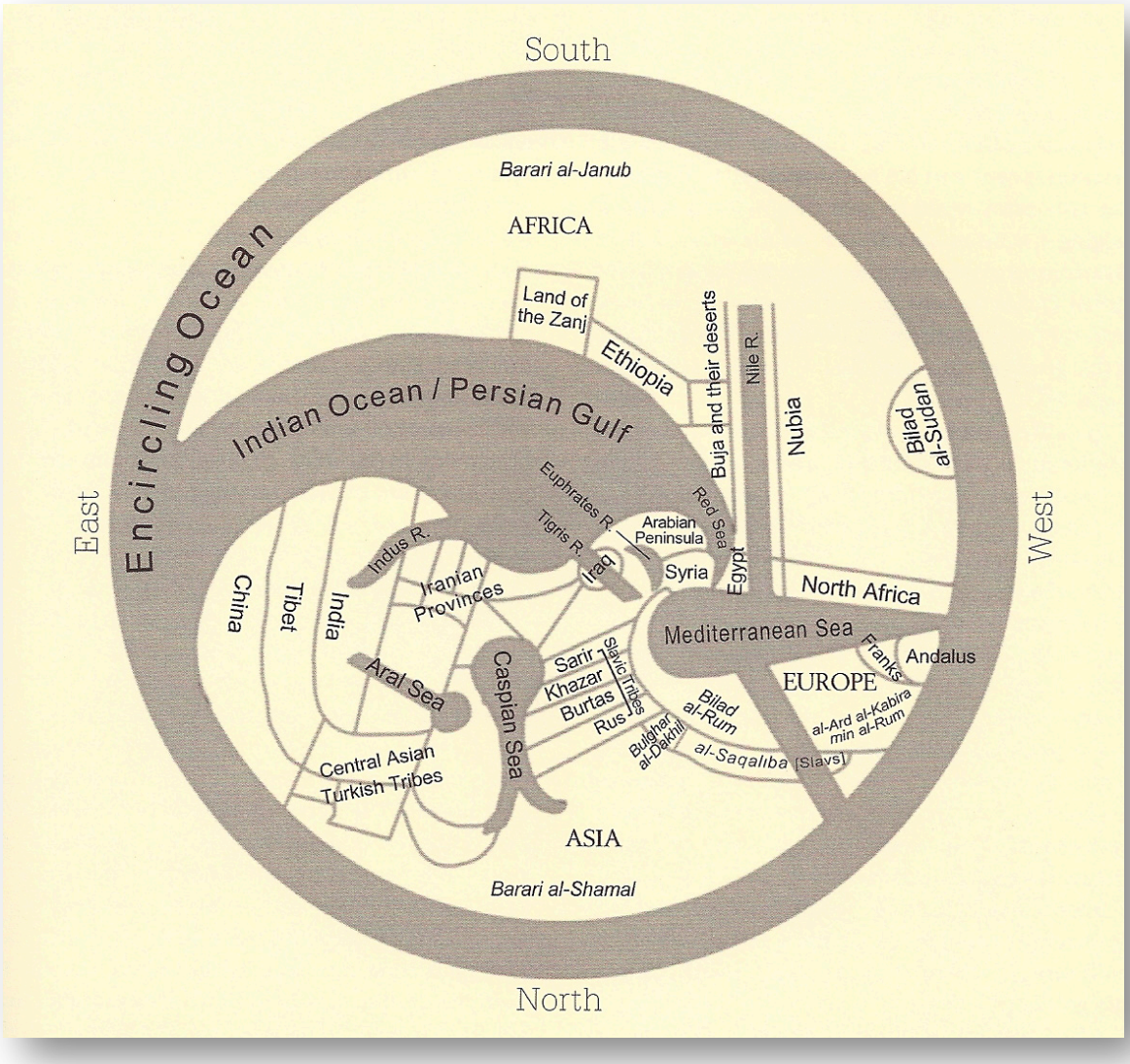
Redrawing of the Vercelli mappamundi from Scafi's Mapping Paradise, pp. 132-135
Showing countries often borders formed by geographic features such as rivers, mountains, seas.

Ranulf Higden mandorla-shaped mappamundi, the world as an allegory of Christ in Majesty, ca. 1350, 21 x 32.3 cm from the Bodleian Library, MS. Tanner 170, fol. 14v (#232) oriented with east at the top and rather generic boundary lines that designate regions/countries.



World map of al-Kashghari 664/1266 (*original 464/1076 A.D.) #214*
Translations in English of Turkish toponyms from Akalin's One Thousand Years Ago, One Thousand Years Later, Mahmud Kashgari and Diwan Lugat at-Turk Countries are drawn with defined borders. Notice Jabarqa [Japan] in the partial circle at the top of the map.

Map of the world from the earliest of the KMMS Ottoman Cluster, 878/1473, Sulemaniye Camii Kutuphanesi, Istanbul, A.S. 2971a, fol. 3a.
South is at the top. Diameter 19.5 cm. For place-names, see below where countries are defined with drawn borderlines



It should be noted that in all these medieval examples, while somewhat unique in that they even display borders of countries at all; however, the country borders are obviously arbitrarily drawn by the cartographer using simple geometric shapes, and, in most cases, without regard for real-world boundaries such as mountains, rivers, etc. Thereby in no way are they representing or approximating actual boundary lines. Also, as mentioned above, sovereign boundaries during this period were "fluid", changing with frequent conquest by neighboring entities.

In the Renaissance, surprisingly, most world maps did not show countries well-defined borderlines or distinguished countries using conventions like different colors. If identified by some method other than mere text, a coat-of-arms or national flag was often planted in the general geographical area of the country or colony of the country.

British Isles, France, Spain and Portugal on the Queen Mary I Atlas, 1558
Note the flags and coat-of-arms placed in each country and England, Scotland and Ireland are also differentiated by separate color outlines.

Portolan chart by Pedro Reinel (c. 1504). Bayerische Staatsbibliothek, Munich. (#356.2)
Here flags were used to designate countries and claimed territories of those countries, but no borderlines.

China,1609. An anonymous manuscript which must have used authentic sources, possibly Jesuit. It shows the fifteen provinces of the Ming Empire, with their principal cities, and the Great Wall. Also noted are the countries of Borneo, Cauchin, Odia, Malacca, Sumatra,Sian The Brirish Library Cotton MS Aug.l.ii.4S.

John Speed's map of Europe, 1626 where countries are delineated with borderlines

It was during the Renaissance that cartographers began producing maps of individual countries. The Ptolemy maps *(see #119)* also included individual countries and were produced in the late 15th century from retrieved Ptolemy manuscripts. These country maps began to introduce conventions such as color-coding each separate country and distinct boundaries displayed.

France and Belgium appeared in the 1478 Rome edition of Ptolemy's Geography, Claudii Ptholomei Alexandrini. Cosmographia...

Nova totius Galliae geographica descriptio, deintegro (collatis omnibus, quae extant, particularibus Provinciarum descriptionibus) non sine magno labore et cura emendata, in eaque Archiepiscopatus, espiscopat. omnes, Academiae item & Parlamenta singula suis quaequae notis distinca. a Iudoco Hondio. Ann. Dni. 1600 . . .Jodocus Hondius

Germaniae Veteris typus, Abraham Ortelius, 1624

Angliae, Scotiae, Et Hiberniae Sive Britannicae Insularum Descriptio
Abraham Ortelius, 1574

Linschoten's Asia, 1596, oriented with East at the top (#436.1)
Besides China various other countries are identified through text and color: Borneo, Iava Mayor, Iava Menor, Timor, Siam, Cambo, Pegu, Sunatra, Celebes, Gilolo, OS Papuas, Corea, Iapan. However, without the color, the countries are simply identified by text without distinct boundaries (except, of course the island nations)

The country of Wales by John Speed, 1676
This map is one of the most historically important and artistically virtuous maps of Wales. It is richly embellished with 16 town views, four coats of arms and a sailing ship, two sea monsters and an elaborate compass rose. The various counties are outlined in different colors.

Many nations were created organically as a group of people had a common culture and language. Other countries were formed simply because of geography, while others were created following mass migrations. Some states were established after the breakup of bigger empires or countries into smaller states, and others were established following wars and treaties. A "country" is defined as a region that is identified as a distinct entity in political geography. There is no hard and fast definition of what regions are countries and which are not. Countries can refer both to sovereign states and to other political entities, while other times it can refer only to states. A "state" is a territory with its own institutions and populations and is synonymous with "country". A "sovereign state" is a state with its own institutions and populations that has a permanent population, territory, and government. It must also have the right and capacity to make treaties and other agreements with other states. Although it is not clearly laid out in law, today a territory essentially becomes a "sovereign state" when its independence is recognized by the United Nations. Becoming an internationally recognized sovereign country is not a clear or straightforward process.

According to the United Nations, here are 195 countries in the world today. Of that number, 54 are in Africa, 48 in Asia, 44 in Europe, 33 in Latin America & the Caribbean Sea, 14 in Oceania and 2 in North America. There were only about 65 such "countries" about 100

years ago. This is because of the existence of various colonial "empires" such as the British, Russian, Dutch, Portuguese, Ottoman, French and German. Many of today's African, Asian and Oceania countries only obtained their independence, name and boundaries within the last 100 tears. Below are the 195 countries ranked by their date of sovereignty, along with their estimated 2018 population.

It should be noted that the "date of sovereignty" is not always straight forward due to conquests and re-conquests, colonization, empires, etc. The list shows large groupings associated with the dates of independence from decolonization (e.g. 41 current states gained control of sovereignty from United Kingdom and France between 1956 and 1966) or dissolution of a political union (e.g. 18 current states gained control of sovereignty from Soviet Union and Yugoslavia between 1990 and 1992). In other cases, a sovereign state submitted to foreign military occupation or political subjugation for a period of time and later regained its independence (e.g. 6 current states gained control of sovereignty from Nazi Germany between 1944 and 1945).

The world's newest country is South Sudan, which declared its independence from Sudan in 2011 following a bloody civil war. The smallest country on Earth is the Holy See, which has a landmass of 0.2 square miles within Rome, Italy. One of the oldest countries is the Republic of San Marino, which was founded in 301 B.C., but not recognized as an independent country until 1631. San Marino is also surrounded by Italy. Those tiny countries have managed to survive nearly 2,000 years of political upheaval in Europe, a remarkable achievement as political ambitions and nationalist aspirations are forever redrawing the world's map.

Country	Sovereignty	2018 Population
Iran	3200 B.C.	82,820,766
Egypt	3100 B.C.	101,168,745
Armenia	2492 B.C.	2,936,706
Vietnam	2879 B.C.	97,429,061
India	2000 B.C./1950	1,368,737,513
Georgia	1300 B.C.	3,904,204
Israel	1300 B.C./1948	8,583,916
Sudan	1070 B.C.	42,514,094
Afghanistan	678 B.C.	37,209,007
Sri Lanka	377 B.C.	21,018,859
China	221 B.C./1911	1,420,062,022
Mongolia	209 B.C.	3,166,244
Somalia	200 B.C.	15,636,171
Ethiopia	50	110,135,635
San Marino	301	33,683
Japan	400	126,854,745
Bulgaria	681	6,988,739
Oman	751	5,001,875
Holy See (Vatican)	756	799
Serbia	768	8,733,407
Cambodia	802	16,482,646
France	843	65,480,710
Myanmar	849	54,336,138
Russia	860	143,895,551
Ukraine	860	43,795,220
Czechia	870	10,630,589
Norway	872	5,400,916
Croatia	879	4,140,148
Hungary	895	9,655,361
Iceland	930	340,566
Poland	966	38,028,278
Denmark	980	5,775,224
Montenegro	1042	629,355
Eritrea	1137	5,309,659
Portugal	1139	10,254,666
Maldives	1140	451,738
Ireland	1171	4,847,139
Mali	1230	19,689,140
Thailand	1238	69,306,160
Lithuania	1253	2,864,459
Andorra	1278	77,072
Switzerland	1291	8,608,259
Monaco	1297	39,102
Turkey	1299	82,961,805

Laos	1354	7,064,242
Bosnia and Herzegovina	1377	3,501,774
Sweden	1397	10,053,135
Philippines	1402	108,106,310
Spain	1516	46,441,049
Netherlands	1581	17,132,908
Morocco	1631	36,635,156
Bhutan	1634	826,229
United Kingdom	1707	66,959,016
Liechtenstein	1719	38,404
Saudi Arabia	1744	34,140,662
Nepal	1768	29,942,018
United States	1787	329,093,110
Madagascar	1787	26,969,642
Seychelles	1790	95,702
Haiti	1804	11,242,856
Mexico	1810	132,328,035
Colombia	1810	49,849,818
Argentina	1810	45,101,781
Chile	1810	18,336,653
Venezuela	1811	32,779,868
Paraguay	1811	6,981,981
Uruguay	1815	3,482,156
Luxembourg	1815	596,992
Peru	1821	32,933,835
Guatemala	1821	17,577,842
Dominican Republic	1821	10,996,774
Honduras	1821	9,568,688
El Salvador	1821	6,445,405
Nicaragua	1821	6,351,157
Costa Rica	1821	4,999,384
Panama	1821	4,226,197
Ecuador	1822	17,100,444
Lesotho	1822	2,292,682
Bolivia	1825	11,379,861
Belgium	1830	11,562,784
Greece	1830	11,124,603
Tonga	1845	110,041
Liberia	1847	4,977,720
Italy	1861	59,216,525
Canada	1867	37,279,811
Germany	1871	82,438,639
Romania	1878	19,483,360
DR Congo	1885	86,727,573
Brazil	1889	212,392,717
Australia	1901	25,088,636

Cuba	1902	11,492,046
New Zealand	1907	4,792,409
South Africa	1910	58,065,097
Albania	1912	2,938,428
Finland	1917	5,561,389
Yemen	1918	29,579,986
Azerbaijan	1918	10,014,575
Austria	1918	8,766,201
Latvia	1918	1,911,108
Estonia	1918	1,303,798
Uzbekistan	1924	32,807,368
Iraq	1926	40,412,299
Slovakia	1939	5,450,987
Lebanon	1943	6,065,922
Indonesia	1945	269,536,482
Syria	1946	18,499,181
Jordan	1946	10,069,794
South Korea	1948	51,339,238
North Korea	1948	25,727,408
Libya	1951	6,569,864
Tunisia	1956	11,783,168
Malaysia	1957	32,454,455
Ghana	1957	30,096,970
Guinea	1958	13,398,180
Nigeria	1960	200,962,417
Côte d'Ivoire	1960	25,531,083
Cameroon	1960	25,312,993
Niger	1960	23,176,691
Burkina Faso	1960	20,321,560
Senegal	1960	16,743,859
Chad	1960	15,814,345
Benin	1960	11,801,595
Togo	1960	8,186,384
Congo	1960	5,542,197
Central African Republic	1960	4,825,711
Mauritania	1960	4,661,149
Gabon	1960	2,109,099
Cyprus	1960	1,198,427
Tanzania	1961	60,913,557
Sierra Leone	1961	7,883,123
Kuwait	1961	4,248,974
Uganda	1962	45,711,874
Algeria	1962	42,679,018
Rwanda	1962	12,794,412
Burundi	1962	11,575,964
Jamaica	1962	2,906,339

Trinidad and Tobago	1962	1,375,443
Samoa	1962	198,909
Kenya	1963	52,214,791
Singapore	1963	5,868,104
Malawi	1964	19,718,743
Zambia	1964	18,137,369
Malta	1964	433,245
Zimbabwe	1965	17,297,495
Gambia	1965	2,228,075
Guyana	1966	786,508
Barbados	1966	287,010
Swaziland/Eswatini	1968	1,415,414
Equatorial Guinea	1968	1,360,104
Mauritius	1968	1,271,368
Nauru	1968	11,260
Fiji	1970	918,757
Bangladesh	1971	168,065,920
United Arab Emirates	1971	9,682,088
Qatar	1971	2,743,901
Bahrain	1971	1,637,896
Pakistan	1973	204,596,442
Guinea-Bissau	1973	1,953,723
Bahamas	1973	403,095
Grenada	1974	108,825
Angola	1975	31,787,566
Mozambique	1975	31,408,823
Papua New Guinea	1975	8,586,525
Timor-Leste	1975	1,352,360
Comoros	1975	850,910
Suriname	1975	573,085
Cabo Verde	1975	560,349
Sao Tome & Principe	1975	213,379
Djibouti	1977	985,690
Solomon Islands	1978	635,254
Dominica	1978	74,679
Tuvalu	1978	11,393
Saint Lucia	1979	180,454
Kiribati	1979	120,428
St. Vincent & Grenadines	1979	110,488
Vanuatu	1980	288,017
Belize	1981	390,231
Antigua and Barbuda	1981	104,084
Saint Kitts & Nevis	1983	56,345
Brunei	1984	439,336
Micronesia	1986	536,579
Marshall Islands	1986	53,211

State of Palestine	1988	5,186,790
Belarus	1990	9,433,874
Namibia	1990	2,641,996
Kazakhstan	1991	18,592,970
Tajikistan	1991	9,292,000
Kyrgyzstan	1991	6,218,616
Turkmenistan	1991	5,942,561
Moldova	1991	4,029,750
North Macedonia	1991	2,086,720
Slovenia	1991	2,081,900
Palau	1994	22,206
Botswana	1996	2,374,636
South Sudan	2011	13,263,184

Source: https://en.wikipedia.org/wiki/List_of_sovereign_states

Six non-UN states with partial recognition are Taiwan, Western Sahara, Kosovo, South Ossetia, Abkhazia, and Northern Cyprus. All of these are claimed as parts of other countries, but aren't actually controlled by them (at least not completely). The number of UN members recognizing them varies, from just one for Northern Cyprus to over 100 for Kosovo. There are at least three more self-declared countries that aren't recognized by any UN members at all, but still operate independently from the countries that claim them. These are often called "de facto" sovereign states, a fancy Latin way of saying they're independent countries in actual fact, even if not on paper. The three places most often considered de facto independent countries despite having no recognition from UN members are Artsakh (Nagorno-Karabakh), Transnistria, and Somaliland. Furthermore, there are other places that lots of people consider countries but all belong to an actual sovereign member state.

- Hong Kong (rightly or wrongly, China)
- Macau (China)
- Tibet (China)
- Northern Ireland, Scotland, England, Wales (the UK)
- French Guiana (France)
- Puerto Rica (US)
- Lots of the Caribbean (BVI, Guadeloupe, Aruba, USVI, Cayman Islands, Turks and Caicos, Anguilla, Saint Martin and more)
- Reunion Island (France)
- French Polynesia (France)
- American Samoa (US)
- Canary Islands (Spain)
- Madeira (Portugal)
- Faroe Islands (part of Denmark)
- Gibraltar (part of the UK)
- Greenland (part of Denmark)
- The Arctic (belongs partly to Norway, Denmark, Canada, the US and Russia)
- The Falklands (part of the UK)

- French Polynesia (part of France)
- Guam (US)
- Tahiti (French Polynesia, and therefore France. Same for Bora Bora!)
- Somaliland
- Nagorno-Karabakh
- Northern Cyprus
- Western Sahara
- Transnistria
- South Ossetia
- Abkhazia
- Iraqi Kurdistan
- Northern Ireland
- Scotland
- England
- Wales
- Cook Islands (New Zealand)
- Niue (New Zealand)

As an example of how new countries are often formed in the modern era, Tim Marshall in his book *Prisoners of Geography* (2015) describes the creation of countries in the areas designated as the "Middle East" and Africa. Below are some excerpts from this fascinating book.

The Middle of what? East of where? The region's very name is based on a European view of the world, and it is a European view of the region that shaped it. The In the 20th century Europeans drew lines on maps of the Middle East and Africa: they were lines that did not exist in reality and created some of the most artificial borders the world has seen. An attempt is now being made to redraw them in blood.

After the First World War, there were fewer borders in the wider Middle East than currently exist, and those that did exist were usually determined by geography alone. The spaces within them were loosely subdivided and governed according to geography, ethnicity, and religion, but there was no attempt to create nation states.

The Greater Middle East extends across one thousand miles, west to east, from the Mediterranean Sea to the mountains of Iran. From north to south, if we start at the Black Sea and end on the shores of the Arabian Sea off Oman, it is two thousand miles long. The region includes vast deserts, oases, snow-covered mountains, long rivers, great cities, and coastal plains. And it has a great deal of natural wealth in the form that every industrialized and industrializing country around the world needs-oil and gas.

It also contains the fertile region known as *Mesopotamia*, the "land between the rivers" (the Euphrates and Tigris). However, the most dominant feature is the vast Arabian Desert and scrubland in its center, which touches parts of Israel, Jordan, Syria, Iraq, Kuwait, Oman, Yemen, and most of Saudi Arabia, including the Rub al Khali or "Empty Quarter." This is the largest continuous sand desert in the world, incorporating an area the size of France. It is due to this feature that not only the majority of the inhabitants of the region live on its periphery, but also that, until European colonization, most of the people within it did not think in terms of nation states and legally fixed borders.

The notion that a man from a certain area could not travel across a region to see a relative from the same tribe unless he had a document, granted to him by a third man he didn't know in a faraway town, made little sense. The idea that the document was issued because a foreigner had said the area was now two regions and had made up names for them made no sense at all and was contrary to the way in which life had been lived for centuries.

The Ottoman Empire (1299-1922) was ruled from Istanbul. At its height, it stretched from the gates of Vienna, across Anatolia, and down through Arabia to the Indian Ocean. From west to east it took in what are now the countries of Algeria, Libya, Egypt, Israel/Palestine, Syria, Jordan, Iraq, and parts of Iran. Ottoman rulers had never bothered to make up names for most of these regions; in 1867 it simply divided them into administrative areas known as *Vilayets*, which were usually based on where certain tribes lived, be they the Kurds in present-day northern Iraq, or the tribal federations in what is now part of Syria and part of Iraq.

When the Ottoman Empire began to collapse, the British and French had a different idea. In 1916, the British diplomat Colonel Sir Mark Sykes took a grease pencil and drew a crude line across a map of the Middle East. It ran from Haifa on the Mediterranean in what is now Israel to Kirkuk (now in Iraq) in the northeast. It became the basis of his secret agreement with his French counterpart Francois Georges-Picot to divide the region into two spheres of influence should the Triple Entente defeat the Ottoman Empire in the First World War. North of the line was to be under French control, south of it under British hegemony.

The term *Sykes-Picot* has become shorthand for the various decisions made in the first third of the 20th century, which betrayed promises given to tribal leaders and which partially explains the unrest and extremism of today. This explanation can be overstated, though: there was violence and extremism before the Europeans arrived. Nevertheless, as we saw in Africa, arbitrarily creating "nation states" out of people unused to living together in one region is not a recipe for justice, equality, and stability.

Prior to *Sykes-Picot* (in its wider sense), there was no state of Syria, no Lebanon, nor were there Jordan, Iraq, Saudi Arabia, Kuwait, Israel, or Palestine. Modern maps show the borders and the names of nation states, but they are young and they are somewhat fragile.

Marshal also describes the situation in the development of countries in Africa. Africa, being a huge continent, has always consisted of different regions, climates, and cultures, but what they all had in common was their geographic isolation from one another and the outside world. That is less the case now, but the legacy remains. Because of the European colonization of Africa, the same issues as the Middle East have arisen. Colonial powers simply drew lines on a map that ignored ethnicity, language, religion and culture of the regions that they controlled through force. When these European colonial powers withdrew from Africa, mostly in the late 19th and early 20th century, they left behind chaotic conditions that are still being dealt with today. The borders of many of the African countries are truly artificial and arbitrary, resulting in very complex governing situations.

Even if technologically productive nation states had arisen in Africa, much of the continent would still have struggled to connect to the rest of the world because the bulk of the landmass is framed by the Indian and Atlantic Oceans and the Sahara Desert. The exchange of ideas and technology barely touched sub-Saharan Africa for thousands of

years. Despite this, several African empires and city states did arise after about the sixth century CE: for example the Mali Empire (13th to 16th century), and the city state of Great Zimbabwe (11th to 15th century), the latter in land around the Zambezi and Limpopo Rivers. However, these and others were isolated to relatively small regional blocs, and although the myriad cultures that did emerge across the continent may have been politically sophisticated, the physical landscape remained a barrier to technological development: by the time-the outside world arrived in force, most had yet to develop writing, paper, gunpowder, or the wheel.

Both the Arabs and then the Europeans brought with them new technology to Africa, which they mostly kept to themselves, and took away whatever they found of value, which was mainly natural resources and people. Back in the great capital cities of London, Paris, Brussels, and Lisbon, the Europeans then took maps of the contours of Africa's geography and drew lines on them. In between these lines they wrote words such as *Middle Congo* or *Upper Volta* and called them countries. These lines were more about how far each power's explorers, military forces, and businessmen had advanced on the map than what the people living between the lines felt themselves to be, or how they wanted to organize themselves.

Many Africans are now partially the prisoners of the political geography the Europeans made, and of the natural barriers to progression with which nature endowed them. From this they are making a modern home and, in some cases, vibrant, connected economies.

There are now fifty-four countries in Africa. Since the "winds of change" of the independence movement blew through the mid-20th century, some of the words between the lines have been altered - for example, Rhodesia is now Zimbabwe - but the borders are, surprisingly, mostly intact. However, many encompass the same divisions they did when first drawn, and those formal divisions are some of the many legacies colonialism bequeathed the continent.

The ethnic conflicts within Sudan, Somalia, Kenya, Angola, the Democratic Republic of the Congo, Nigeria, Mali, and elsewhere are evidence that the European idea of geography did not fit the reality of Africa's demographics. There may have always been conflict: the Zulus and Xhosas had their differences long before they had ever set eyes on a European. But colonialism forced those differences to be resolved within an artificial structure - the European concept of a nation state. The modern civil wars are now partially a result of the colonialists' having told different nations that they were one nation in one state, and then after the colonialists were chased out, a dominant people emerged within the state who wanted to rule it all, thus ensuring violence.

However, one of the biggest failures of European line drawing lies in the center of the continent, the giant black hole known as the Democratic Republic of the Congo-the DRC. Here is the land in which Joseph Conrad set his novella *Heart of Darkness* and it remains a place shrouded in the darkness of war. It is a prime example of how the imposition of artificial borders can lead to a weak and divided state, ravaged by internal conflict, and whose mineral wealth condemns it to being exploited by outsiders.

The DRC is an illustration of why the catchall term developing world is far too broad-brush a way to describe countries that are not part of the modern industrialized world. The DRC is not developing, nor does it show any signs of doing so. The DRC should never have been put together; it has fallen apart and is the most underreported

war zone in the world, despite the fact that six million people have died there during wars that have been fought since the late 1990s.

These are just some examples of how the establishment of a nation-state by "outsiders" often results in unsustainable countries.

But why do countries "disappear"? Most of the countries that vanished had been created after the Renaissance, when the notion of a nation-state — countries that have homogeneous features such as language or common descent — first came into being. We do not see the words "Empire" or "Kingdom" on maps anymore. These designations normally applied to large geographic regions controlled by one entity (royal family). So why did they break apart? Because, in most cases, they lacked a common identity and language, and were instead home to various ethnic and religious groups, most of whom had little to do with each other. Prominent empires and kingdom that no longer appear on maps include:

- **Persian Empire.** refers to a series of imperial dynasties that were centered in Persia/Iran from the 6th century B.C. Achaemenid Empire era to the 20th century AD in the Qajar dynasty era. At its height the Persian Empire included present-day Iran, Afghanistan, Tajikistan, Pakistan and South Ossetia
- **Ottoman Empire** (1299-1922) One of the great empires in history, the Ottoman Empire finally came to an end in November of 1922, after a respectable run of over six hundred years. Once extending from Morocco to the Persian Gulf, and from Sudan to as far north as Hungary, its demise was a slow process of dissolution over many centuries until, by the dawn of the 20th century, it was but a shadow of its former self. But even then, it was still the main power broker in the Middle East and North Africa, and might still be that way today had it not chosen to ally itself with the losing side in World War I. It saw itself dismantled in the aftermath, with the biggest chunk of it (Egypt, Sudan, and Palestine) going to England. By 1922 it had outlived its usefulness, and finally died when the Turks won their war of independence in 1922 and abolished the Sultanate, creating the modern-day nation of Turkey in the process.
- **Mali Empire** (1235-1400) also historically referred to as the *Manden Kurufaba*. The Mali Empire was the largest empire in West Africa and profoundly influenced the culture of West Africa through the spread of its language, laws and customs. The empire's total area included nearly all the land between the Sahara Desert and coastal forests. It spanned the modern-day countries of Senegal, southern Mauritania, Mali, northern Burkina Faso, western Niger, the Gambia, Guinea-Bissau, Guinea, the Ivory Coast and northern Ghana. By 1350, the empire covered approximately 478,819 square miles. The empire also reached its highest population during the Laye period ruling over 400 cities, towns and villages of various religions and elasticities.
- **Austro-Hungarian Empire** (1867-1918) While all of the countries that found themselves on the losing side after the First World War suffered economically, and geographically to some degree, none lost more than the once-powerful Austro-Hungarian Empire, which found itself carved up. Out of the dissolution of the once-massive empire came the modern countries of Austria, Hungary, Czechoslovakia, and Yugoslavia, with parts of it going to Italy, Poland, and Romania. So why did it break apart when its neighbor, Germany did not? Because it lacked a common identity and language, and was instead home to

various ethnic and religious groups, most of whom had little to do with each other. Austro-Hungary was carved up by the victors in WWI.

- **British Empire.** This Empire comprised the dominions, colonies, protectorates, mandates and other territories ruled or administered by the United Kingdom and its predecessor states. It originated with the overseas possessions and trading posts established by England between the late 16th and early 18th centuries. At its height, it was the largest empire in history and, for over a century, was the foremost global power. By 1913, the British Empire held sway over 412 million people, 23% of the world population at the time, and by 1920, it covered 13,700,000 sq mi., 24% of the Earth's total land area. As a result, its political, legal, linguistic and cultural legacy is widespread. At the peak of its power, the phrase "the empire on which the sun never sets" was often used to describe the British Empire, because its expanse around the globe meant that the sun was always shining on at least one of its territories.
- **Union of Soviet Socialist Republic (Soviet Union)** (1917-1991) By landmass, it was the largest country ever, covering one-sixth of the Earth's land surface. It was also home to 100 nationalities. It was created in the chaotic aftermath of the breakup of Imperial Russia after WWI. The USSR broke into no fewer than fifteen sovereign countries, creating the largest new block of countries since the breakup of the Austro-Hungarian Empire in 1918. What followed was the pseudo-democratic Republic of Russia.
- **Holy Roman Empire.** Voltaire, one of the leading writers during the Enlightenment, famously said "…. the Holy Roman Empire was neither holy, nor Roman, nor an empire." The Holy Roman Empire was nonetheless a stabilizing influence through the chaos of the Middle Ages and was a bulwark against Muslim invasions that threatened Europe. The empire filled the power vacuum created after the fall of the Roman Empire. It was the largest governing authority outside the Catholic Church in the Middle Ages and provided troops for the crusades. Pope Leo III crowned Charlemagne as the first Holy Roman Emperor in 800, and the Holy Roman Empire lasted for more than 1,000 years. Because of its vast size, the Holy Roman Empire was a decentralized empire that granted regions considerable autonomy. The empire encompassed portions of modern European states France, Italy, Austria, Switzerland, Germany, Poland, the Netherlands, Belgium, Slovenia, and the Czech Republic.
- **Roman Empire.** (27 B.C. – 476). Few empires have influenced the world more than the Roman Empire, which dominated most of Europe, northern Africa and the western part of Asia for about 500 years. The empire emerged from the Roman Republic beginning in 27 B.C. after Octavian defeated Mark Antony and Cleopatra and Octavian took the title of Augustus. The western portion of the empire lasted until it was invaded by Germanic tribes in 476. The eastern part of the empire, called the Byzantine Empire, lasted until 1453, when the Ottoman Turks conquered Constantinople. The causes of the decline of the Roman Empire have been the subject of historical debate for hundreds of years. The empire proved to be too vast to govern, and over time, its rulers became corrupt.
- **Byzantine Empire.** Also referred to as the Eastern Roman Empire or Byzantium, it was the continuation of the Roman Empire in the Greek East during Late Antiquity and the Middle Ages, when its capital city was Constantinople

(modern Istanbul, formerly Byzantium). It survived the fragmentation and fall of the Western Roman Empire in the 5th century AD and continued to exist for an additional thousand years until it fell to the Ottoman Turks in 1453. The Byzantine Empire was delivered a mortal blow during the Fourth Crusade, when Constantinople was sacked in 1204 and the territories that the empire formerly governed were divided into competing Byzantine Greek and Latin realms. Despite the eventual recovery of Constantinople in 1261, the Byzantine Empire remained only one of several small rival states in the area for the final two centuries of its existence. Its remaining territories were progressively annexed by the Ottomans in the Byzantine–Ottoman wars over the 14th and 15th centuries. The Fall of Constantinople to the Ottoman Empire in 1453 ended the Byzantine Empire.[10] The last of the imperial Byzantine successor states, the Empire of Trebizond, would be conquered by the Ottomans eight years later in the 1461 Siege of Trebizond.

- **Mongolian Empire.** This empire existed during the 13th and 14th centuries; it became the largest contiguous land empire in history. Originating in Mongolia, the Mongol Empire eventually stretched from Eastern Europe and parts of Central Europe to the Sea of Japan, extending northwards into Siberia; eastwards and southwards into the Indian subcontinent, Indochina and the Iranian Plateau; and westwards as far as the Levant and the Carpathian Mountains.

Countries that have disappeared from maps include the following:

- **East Germany** (1949-1990) The Democratic Republic of Germany, or East Germany, was created in 1949 after World War II as the Allies agreed to divide Nazi Germany, including the capital Berlin. East Germany lasted until 1990. The nation functioned under a socialist command-economy system and was dominated by the Soviet Union, which had conquered that part of Germany during World War II. It remained under Soviet influence essentially as a satellite state. East Germany was half the size of the Federal Republic of Germany, or West Germany. A year after the fall of the Berlin Wall in 1989, East Germany ceased to exist and two Germanys were reunited.
- **Czechoslovakia** (1918-1992) Founded in 1918 at the end of World War I, Czechoslovakia, a former Central European nation, comprised the former lands of Bohemia, Moravia, and Slovakia. The political union was possible because these regions had similar languages, religion, and culture. Between the world wars, the country became one of Central Europe's most politically stable and prosperous states, functioning as a parliamentary democracy. From 1938-1945, Czechoslovakia was under Nazi rule, and from 1948-1989, it was controlled by the Soviet Union. A peaceful "Velvet Revolution" brought communism to an end in Czechoslovakia in 1989. By 1990, the country had held its first free elections, but disagreements between Czechs and Slovaks grew. The parliament peacefully dissolved the sovereign state in 1992, agreeing to separate the country into the Czech Republic and Slovakia starting in 1993.
- **Yugoslavia** (1918-1992) Like Czechoslovakia, Yugoslavia was a by-product of the breakup of the old Austro-Hungarian Empire in the aftermath of WWI. Basically made up of parts of Hungary and the original state of Serbia. It maintained a somewhat-autocratic monarchy until the Nazis invaded the country in 1941, after which it became a German possession. With the collapse of the Nazis in 1945, Yugoslavia somehow managed to avoid Soviet occupation but not Communism. It remained a nonaligned authoritarian socialist republic until 1992, when internal tensions and rival nationalism resulted in civil war. The country then split into six smaller nations (Slovenia, Croatia, Bosnia, Serbia, Macedonia, and Montenegro,) making it a textbook example of what happens when cultural, ethnic, and religious assimilation fails.
- **Tibet** (1913-1951) While the land known as Tibet has been around for over a thousand years, it wasn't until 1913 that it managed become an independent country. Tibet lost its sovereignty when China annexed the region and dissolved of the Tibetan government.
- **South Vietnam** (1955-1975)
- **Korea** (1897-1948)
- **United Arab Republic U.A.R.** (1958-1971) The attempted merger of Egypt and Syria.
- **Sikkim** (8th century – 1975) a tiny, land-locked region, nestled securely in the Himalayan Mountains between India and Tibet. About the size of Rhode Island, it was basically a little-known, and largely forgotten, little monarchy that managed to hold on into the 20th century before it finally realized it had no

particularly good reason for being independent, and decided to merge with modern India in 1975. It has no fewer than eleven official languages.

- **East Pakistan.** Despite existing for barely 17 years, East Pakistan had known much turmoil. Occupying the land of Bangladesh today, the country's first constitution replaced what was until then British rule with an Islamic republic. Not long after, however, martial law was enacted for several years following a coup d'etat. Eventually, a movement aimed at restoring democracy gained enough support, and in 1970 Pakistan held its first federal general election. The party that won the majority of the seats won all of its seats in East Pakistan but failed to gain one seat in West Pakistan. This led to Bangladesh (East Pakistan) declaring independence from Pakistan and to a nine-month long Bangladesh Liberation War and the 1971 Bangladesh genocide — and finally to the creation of Bangladesh.
- **Gran Colombia** (1819-1830) This country spanned a massive swath of land in northern South America and southern Central America and included what are today Colombia, Venezuela, Ecuador, Panama, northern Peru, western Guyana, and northwest Brazil. The country's short existence was plagued by regional conflicts and struggle between two main factions: supporters of a central government and a strong presidency led by President Simón Bolívar and supporters of a decentralized, federal form of government led by Francisco José de Paula Santander y Omaña. In addition to the political discord, growing regional tensions such as the Venezuelan rebellion in 1826 also led to the dissolution of Gran Colombia. As a result, Venezuela, Ecuador, and New Granada became independent states.
- **Prussia.** Prussia was a state on the southeastern coast of the Baltic Sea. It originated in 1525 and was ruled by the House of Hohenzollern. Under the dynasty, Prussia expanded its size and sovereignty with military might to control many regions around it. It had considerable influence across Europe, and of course over Germany. With Berlin its capital since 1701, Germany was unified in the 19th century with Prussia at its core. Deciding to eradicate militarism, the Allies after World War II moved to abolish it. Present-day Poland occupies most of what was Prussia.
- **Rhodesia**. Located in South Central Africa, Rhodesia is now divided into Zimbabwe and Zambia. Named after British colonial administrator Cecil Rhodes, Rhodesia was administered by the British South Africa Company, which sought to mine its deposits of gold, copper, and coal in the 19th century. From 1965 to 1979, Rhodesia was a self-declared, independent nation that was an unrecognized state. Following a brutal civil war between two nationalist organizations, the world recognized Rhodesia's independence in 1980. The country took on the name Zimbabwe.