Creatures on Maps: Real & Imagined

5.17



The reason that I love maps and have made a life-long study of them is simply that, aesthetically they continually fascinate me. Each map has a multitude of endless points of fascination – the strange, often imaginary geography, the cultural history displayed, the pure artistry. Maps have been drawn for thousands of years. And during that time, the appearance of each map can very simply be attributed to one thing: the purpose for drawing the map. No, not every map was drawn in order to simply provide directions, or display some selected geographic content. Since they can never show everything (natural or cultural), the map-maker, or cartographer as they came to be called, selected his content based upon the purpose(s) behind the map. Those maps that have survived through the centuries show clearly that the map-maker often had a very different purpose than to simply display selected geographic elements. The type and amount of these non-geographic elements varied widely and while some may be considered purely ornamental decoration, often times they had another more significant reason to be incorporated. Many of these non-geographic elements were placed on maps to satisfy the patron of the map, while others were placed there to provide additional educational value to the potential audience. Some examples include the very decorative "cartouches" that contained the title or textual descriptions; the placement of historical and/or religious events; cities or settlements; or the rendering of exotic animals and indigenous people or even sea monsters. It must be noted that during any period of map-making there are those surviving examples that contain no "decorative" or non-geographic elements because, again, it depended on the purpose of the map as determined by its maker.

Of course some will point out that many "decorative elements" such as exotic animals, ships and natives were placed on maps merely to fill-out the empty areas that were relatively unknown to the map-maker. While this may be true in some instances, it is more interesting to consider why the cartographer chose to display specific items – Was it to attract his audience with the exotic? Was it to educate his audience? Was he simply passing on information from sailors and travelers?

In the book *Art and Cartography* edited by David Woodward, he discusses all forms of art associated with maps, including coloring, lettering and ornamentation. Woodward states that it has been commonly assumed that the history of cartography can be divided into two distinct phases: a "decorative phase", in which geographical information was usually portrayed inaccurately, and a "scientific phase", in which decoration gave way to scientific accuracy. The famous cartographic historian Leo Bagrow delimited the subject matter of his general work in this way: "This book ends where maps ceased to be works of art, the products of individual minds, and where craftsmanship was finally superseded by science and the machine; this came in the second half of the eighteenth century." In all but the most narrow definitions of "work of art," it can readily be seen that art and science have coexisted throughout the history of mapmaking, as in the instance of starkly functional *portolan* charts existing contemporaneously with fanciful and moralistic medieval *mappaemundi*.

This definition of the term "work of art" is frequently equated with maps' ornamental elements and nothing more. The term evokes intricate work on the cartouches, robust putti, sailing ships, animals, native customs, sea monsters, and other

embellishing paraphernalia that account for so much of the decorative appeal of early maps. In my opinion the attraction and lure of these early, "pre-scientific" maps is their total artistic effort: both geographical and "ornamental". According to Chet Van Duzer the analysis of creatures on maps is important for the history of cartography and of art, but also for developing an understanding of the perception of the new worlds in the early Modern Era. The animals depicted on the maps can offer significant insights into the sources, influences and methods of the cartographers who drew or painted them



Jozeph da Costa e Miranda's 1706 world map displays many land and sea creatures





PART I: Land Creatures on Maps

These maps may be considered as "zoological maps", i.e. a map that indicates the typical animals of an area or a distribution map that portrays the extent of an animal's range. Many ancient maps record animals. On the clay tablet bearing a Babylonian map of the world, 7th century BCE ***(#103)***, the circular disc of the earth is surrounded by the Heavenly Ocean with animal constellations such as a dragon, lion, bull, etc. (British Museum, Department of Western Asiatic Antiquities, no. 92687). Fish swim in the oceans of the Beatus maps of the 12th and 13th centuries ***(#207).*** Typical animals roam across the continents on Gervaise of Tilbury's world map, the *Ebstorf* map, ca. 1235, ***#224***) and Richard of Haldingham's world map, the *Hereford* map, ca. 1285, ***#226***). Animals feature prominently on European maps of the world and its regions in the 16th and 17th centuries. Olaus Magnus's *Carta Marina* of 1539 ***(#366)*** with its land animals and abundant sea creatures ranks as a major contribution to the natural history of northern Europe and the northeast Atlantic Ocean. The fauna of the newly discovered countries of the world was of particular interest, and many maps, especially those of the Americas, were in advance of the bestiaries of their time. The atlases and charts (ca. 1540-80) of the Dieppe hydrographers and their associates, such as Jean Rotz ***(#368)***, Pierre Desceliers ***(#378)*** and Guillaume le Testu ***(#392),*** were notable for their painted miniatures of exotic scenes in which animals appeared in their natural environment.

From an aesthetic and educational perspective, one of the earliest "decorative elements" were the illustration of animals and "monstrous races". World maps were in fact a vehicle for displaying geographical, scientific, ethnographical and historical information, with drawings illustrating concepts of the physical world and the human environment. Wilma George in her 1969 book *Animals and Maps* provides a very detailed discussion of how various real and imaginary creatures were displayed on maps from the medieval period onwards. However, the most of the illustrations in her book really did not do the subject justice.

In her book's conclusion, George states that as new lands were reported and appeared on the maps so new animals were written about and depicted on the maps. Many explorers wrote as much about the animals and plants of a region as they did about the people or the conformation of the coastline. Many of the cartographers used this information fully and their maps showed not only the shape of continents and islands but also many of the animals and people belonging to particular parts of the world. As new lands became more accurately and more fully delineated so more animals, exotic cultural features and people were to be found on the maps.

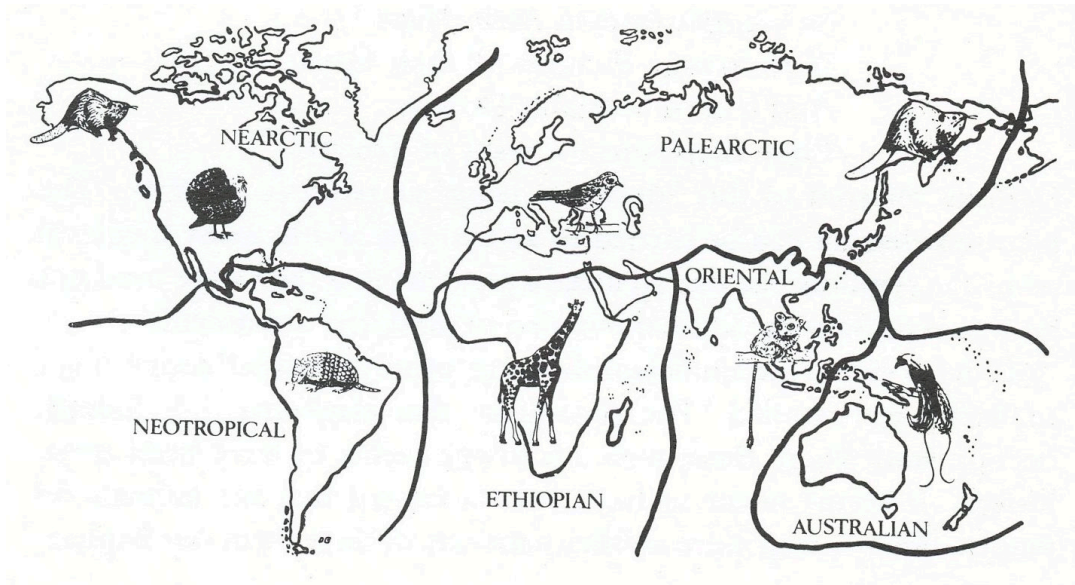
This exposure to new and exotic animal life began with the medieval travelers from Europe to the Far East and continued through the Great Age of Discovery in the 16th and 17th centuries. Certain tales dating back to medieval bestiaries or classical myths are at the origin of the representation of mysterious islands, sea monsters, fantastic animals and other incredible creatures on maps. Mixed-in with the travelers' reports of new and different animals was the tenacious ancient myths and legends of exotic creatures. When travelers began to penetrate the distant regions of the earth in the Middle Ages and later, they brought back to their homelands both truly observed reports of the animals encountered and garbled or vague versions. The great discoveries of the 15th and 16th centuries opened up huge territories with flora and fauna hitherto undreamt of. 'The pictorial element can be carried to an extreme and in many medieval

maps the symbols become so utterly pictorial that they were used not only to represent the known but also to mask the unknown.

The possibility that elephants did, indeed, occupy land where there were no towns seems to explain some depictions. It seems never to have been accepted that the animals on many a famous map were neither fictitious in their form nor haphazardly placed round the world; a detailed study of these depictions through the centuries like the one conducted by George reveal an entirely new facet of the mapmaker's art.

It is not fortuitous that some animals that occur in the Old World are missing from the New, that some animals are confined to one continent while others have a world-wide distribution. Animals have come to occupy their present habitations as a result of their slow evolution and migration in the past millennia. As the animals evolved, so did the outlines of the great landmasses of the world. The reciprocal effects of animal evolution and land evolution have led to the characteristic distribution of animals round the world.

According to Ms George, on the basis of its animals the world can be divided into six zoogeographical regions that correspond roughly with the main continents. In the New World, the *Neotropical* region corresponds roughly with South America and the *Nearctic* region with North America. In the Old World, there are two tropical regions, the *Ethiopian* occupying most of Africa and the *Oriental* region stretching from south of the Himalayas to the Malay Archipelago. The Old World temperate zone of Eurasia is known as the *Palearctic* region. Finally, there is the *Australian* region corresponding to the continent of Australia with a few nearby islands. Each region has animals peculiar to itself and each region has a characteristic assemblage of the animals not so confined. Thus, there are no elephants in the New World, no opossums in the Old World, no bears in Africa and very few placental mammals in Australia. Instead, there are tapirs, armadillos and humming birds in the *Neotropical* region; turkeys and beavers in the *Nearctic*; beavers and hedge sparrows in the *Palearctic*; ostriches, giraffes and rhinoceroses in the *Ethiopian*; tapirs, rhinos and tarsiers in the *Oriental*; and many families of marsupial mammals as well as egg-laying mammals (monotremes), cassowaries and birds of paradise in the *Australian* region.



The Zoogeographical Regions of the world as defined by Wilma George

The early explorers setting out from Europe, from the Mediterranean basin in the early days, overland to China or across the seas to the New World in later centuries, would come across a fauna and flora whose composition would strike them as different from their own. Not only would they be unable to find some of the more common mammals and birds with which they were familiar at home, but also they would be struck by creatures and by plants they had never seen before nor ever heard of. From early accounts of travels and voyages, it is clear that men were aware of the strangeness of many of the animals they met. Further, they were interested enough to record them, often to describe them in detail and, in some cases, to bring home specimens or parts of specimens, such as the tail feathers of a macaw or a piece of prickly pear.

It is not, therefore, surprising that some of the cartographers, following the journals of expeditions, or making their own observations on the spot, should have included as part of the land's features some of its peculiar animals and some of its plants. They were decorative but they were also in all probability used diagnostically of the countries they inhabited, just as banners identified knights. If there were no towns to put on the maps, it is arguable that the animals or plants were as reputable an indication of the terrain as a range of hills or a river.

Of the many maps that have survived from between the time of Ptolemy (first century CE) and the beginning of the 15th century, only a few depict animals. Illustrations of fish and monsters in the sea are very common but land creatures less so. The earliest depiction of an animal on an extant map from this time, apart from decorative fish borders of some of the Beatus maps, seems to be the lion pursuing a gazelle across the plains of Moab on the Madaba mosaic map of about 560 CE *(see monograph **#121**)*. The front of the lion is lost in a cloud of lion color but the gazelle shows clearly its cloven feet and, with its short horns and short tail, looks remarkably like a Dorcas gazelle *Gazella dorcas*.

As Chet van Duzer points out, some early modern maps are embellished with images of animals, and others are not. In the case of nautical [*portolan*] charts, we find a full spectrum of degrees of decoration, from examples with no decoration to others with extremely elaborate decoration, and every level in between. The level of decoration was specified in the commissioning of the chart, with the more elaborate charts intended for collection and display by nobles, rather than for use at sea or on land. In other cartographic genres, such as large *mappaemundi*, the desires of the person or organization commissioning the map, as well as considerations of the intended audience, certainly played a role in the absence or presence of images of animals, but the evidence that the maps themselves supply about these decisions has not been considered as fully as one might wish. He also points out that Wilma George was a zoologist and does not address these subjects in her book about animals on maps.

Van Duzer examines possible connections between the depictions of animals on maps and the tradition of seeing animals as "emblematic," that is, as moral models that humans should follow. This idea goes back to the Bible, in which animals are sometimes suggested as models for human behavior.



A lion (on the left) chasing a gazelle on a redrawing of the Madaba mosaic map, note also the fish in the river.

Rudolf Wittkower in his article "Marvels of the East " (*Journal of the Warburg and Courtauld Institutes*, 5, 1942, 159-97, esp. 159-66) provides a good introduction to this material with background to Greek sources, especially links between the earliest surviving report of India by Ctesias from Knidos (fifth century BCE), and Megasthene's *Indica* (ca. 303 BCE) based on Alexander the Great's invasion of India. In spite of several enlightened figures of the Hellenistic world like Strabo (63 BCE, ***#115***) who questioned the validity of these stories of marvels, prodigies and fabulous races; and in spite of developments in geographical knowledge from Aristotle to Ptolemy, the work of Ctesias and Megasthenes was preserved and incorporated into natural histories of Pliny and Solinus. Their works were given preference by Christian writers of the Middle Ages.

These creatures had been described for the first time as associated with the western lands of *Libya* [i.e. Africa] by Herodotus in *The Histories*:
''In that western part of the Libya there are [...] the horned asses, the dog-headed men and the headless that have their eyes in their breasts, as the Libyans say, and the wild men and wild women, besides many other ferocious beasts not fabulous''.

Other classical and medieval authors (e.g., Indika, Ctesias of Cnidus 5th century BC, the *Historia Naturalis* of Pliny the Elder 23-79 CE, the *Collectanea rerum memorabilium* of Solinus third century CE, the *Travels of John de Mandeville* 1300, and the *Physiologus*

also reported these creatures. The dog-headed men are among the borderline creatures, very close to the human species, which both the Islamic and European traditions locate at the edges of the known world or beyond it. Another source might have been one of the Arab books of animals or encyclopaedic works such as the *'Aja'ib al-makhluqat wa-ghara'ib al-mawjudat* [Marvels of Things Created and Miraculous Aspects of Things Existing] of al-Qazwini, Zakariya Ibn Muhammad, (1283, **#222**) or the *Nuzhatu-l-Qulib* by Hamdullah-Al-Mustaufi-Al-Qazwini (14th century). The first treatise is among the best-known texts of the Islamic world. The genre of *Aja'ib al-makhluqat* [The Wonders of Creation], of which al-Qazwini's work is the most famous example, includes texts in Arabic and Persian that describe the marvels of the heavens and the earth, including animals and fantastic creatures. Numerous manuscripts of al-Qazwini's work have survived and the Persian, Turkish or Indian translations are frequently illustrated. Sources such as one of the copies of the work of al-Qazwini in which zoomorphic figures with their faces on their chests (headless), *cynocephali* and other humanoid creatures were said to inhabit a remote island near the edge of the known world. Other illustrated 13th century Arabic books on animals in the Ibn Bakhtishu tradition could also have been sources for later maps.



A, Dog-headed creatures; B, less-headed creatures. From the Marvels of Things Created by al-Qazwini (1283). This is the oldest known textual witness to the original work.

Four hundred years later on the *Cottoniana/Anglo-Saxon* map of the world ***(#210)*** a lion again appears, in Asia. He is a splendid male lion and above him the inscription reads '*hic abundant leones*' ***(see monograph #210)***. However, this is the only animal depicted on the *Cottoniana/Anglo-Saxon* map.

Known only through hearsay and inhabiting countries beyond the reach of the crusades, the stories of the strange and monstrous races unleashed a fascination with imagined deformities of these creatures. Their bodies, attire, habits of eating and locomotion, sexual behavior, treatment of elders and methods of rulership, as described by the ancients, rekindled interest in that rich source of the fantastic to be revisited as comparisons to the European Christian standard. Strange and monstrous creatures were originally described by ancient texts and they were incorporated into the medieval collective lore of the distant through the "Wonders of the East", bestiaries, and other odd assortments of information about real and imagined creatures.

Medieval Period

Representations of monstrous races and historical legends on *mappaemundi* reflected the medieval craving for the bizarre and fantastic. In classical times, especially in Greece, such a demand had been expressed in the invention of mythical creatures with religious associations, such as centaurs, sirens, and satyrs. Non-religious images were formed of monstrous races of men who inhabited progressively more remote areas as more of the earth became known. Many of these ideas derived from empirical observation, for

example, the *Amyctyrae* with protruding lower lips could well have been based on remote contact with the African Ubangi tribe. The Table below summarizes the main groups of semi-mythical races that appear on medieval *mappaemundi*.

The sources of the monstrous races go back at least to the fifth century BCE to writers such as Herodotus, Ctesias of Cnidos (fl. 398 BCE), and Megasthenes (ca. 303 BCE). The last two had apparently traveled to India, where most of the marvels were assumed to be found. With Alexander the Great's invasion of India in 326 BCE, a body of legend grew out of his travels that was revived in the Middle Ages in the form of the Alexander romances. Although the Greek geographer Strabo (64/63 BCE to 21 CE) disdained the reports of these marvels and monstrous races, being "seized with disgust for such worthless writings that contribute neither to adorn nor to improve life," Pliny the Elder was less critical, and it was his writings that had considerably more influence on medieval thought. His *Historia naturalis* (ca. 77 CE) contained a vast collection of geographical lore culled from hundreds of sources. Much of Pliny's encyclopedic work is of great descriptive value, but it was largely the bizarre that was transmitted to the Middle Ages. The *Collectanea rerum memorabilium* of Gaius Julius Solinus (third century CE), for example, emphasized the marvels and little else. Popular writers like Macrobius and Martianus Capella, although enlightened in several matters such as the zonal concept and the sphericity of the earth, also perpetuated the monster legends in later medieval times, see monograph #*201*). All the great encyclopedias of the later Middle Ages contain references to monsters: Isidore, Rabanus Maurus, Honorius, Gautier de Metz, Gervase of Tilbury, Bartolomeus Anglicus, Brunetto Latini, Vincent of Beauvais, and Pierre d'Ailly. Inevitably, maps incorporated into these works also featured them, right into the 15th century where they continued to appear in printed illustrated histories and cosmographies, such as those by Hartmann Schedel, Sebastian Münster, Andre Thevet, Sebastian Franck, and other Renaissance figures. However, there was also the skeptical and perhaps nostalgic view, such as that expressed by Francois Rabelais (ca. 1495-1553):

> I saw an incredible number of attentive men and women... they held a mappamundi and spoke eloquently of prodigies... of the pyramids and the Nile... and of Troglodytes, of Himantopodes, of Blemmyae... of Cannibals.... There I saw Herodotus, Pliny, Solinus... and many other ancients... all writing beautiful lies.

The monstrous races also posed a number of problems for the fathers of the church. If they existed, and there was general agreement that they did, were they human? And if they were human, were they descended from Adam and Noah, possessing souls that could be saved? Several biblical passages stated that the gospel must be preached to all nations of men, which was taken to include the "monsters". Hence, the main target of the medieval missionaries were the *Cynocephali*, the dog-headed peoples sometimes associated with Islam, whose conversion would have created a dramatic demonstration of the power of the gospel. These creatures are thus found on the didactic *mappaemundi*. The *Borgia* map, for instance, contains a representation of the dog-headed Saracen, under the rubric: Ebinichibel is a Saracen Ethiopian king with his dog-headed people **(#237**).

The placing of the monstrous races on the world map varied according to the three main types of *mappaemundi*. In tripartite maps, the races were usually crowded into a band in the southernmost part of Africa, no particular attempt being made to link the position of these peoples with climatic or other physical factors, a location derived from Pliny. An additional advantage, in the eyes of medieval ecclesiastics, would have

been their being shown as far as possible from the civilized center of the earth, Jerusalem, but, as the *Ebstorf* map **(#224)** vividly shows, still within the reach of the left arm of Christ.

List of the Main Semi-mythical Races Found on Mappaemundi

Name	Characteristics	Location	Maps
Amyctyrae	Protruding lower or upper lip	Africa	Ebstorf
Anthroophagi	Maneaters; drink from skulls	Scythia; Africa	Walsperger; Ebstorf
Antipodeans	Opposite-footed	Antipodes	Beatus
Artibatirae	Walk on all fours		Psalter
Astomi	Mouthless; apple smellers	Ganges	Walsperger
Blemmyae	Faces on chests; no necks; also known as *Acephali*	Libya (Africa)	Walsperger
Cyclopes	One-eyed; also known as *Monoculi*	Sicily; India	Walsperger
Cynocephali	Dog-headed	India	Borgia; Hereford; Ebstorf; Walsperger; Psalter
Epiphagi	Eyes on shoulders (similar to *Blemmyae*)		Psalter
Hippopodes	Horsesí hooves	Africa	Ebstorf
Maritimi	Hold bow and arrow (four eyes)	Africa	Psalter;Ebstorf
Martikhora	Four-legged beasts with men's heads	Africa	Hereford; Ebstorf
Sciopods	Shadow-footed (also called *Monocoli*, from the Greek, causing confusion)	India	Beatus; Hereford; Psalter
Troglodytes	Cave dwellers	Ethiopia	Walsperger; Psalter

In the Middle Ages, scholars referred to St Augustine's *Civitas Dei* for guidance in dealing with the predicament that these strange creatures posed for the Church. Particularly, as Naomi Reed-Kline points out in here article "Maps, Monsters and Misericords: From Creation to Apocalypse", the debate regarding the question of redemption for human monstrosities had a long history. Expanding upon such treatises as Isidore of Seville's discussion of monstrous races, Augustine grappled with the question of how the Church could reconcile the presence of monstrous races with a world of God's creation. To begin, Augustine described monsters as "prodigies", placed on this earth as indication of God's power to create all things. By arguing that they were related to the sons of Noah, and therefore redeemable, he provided the means by which these peoples could be incorporated into the biblical structure with purpose and meaning. According to Augustine, God placed monsters on this earth to participate in the Last Judgment, at which time God's power to refashion the bodies of the dead would be Faith's witness. According to St Augustine, the monstrous races provided, in their many guises, material proof of God's plan and final judgment.

Throughout the medieval period maps often became the visual representation of reported creatures that inhabited the extremities of the known world (the *oikoumene)*. Although these were very limited distribution maps because they were manuscript maps, not printed, they marked a change, in that the animals were wild animals, accurately drawn and occurring in parts of the world where they were considered to be

typical or even outstanding features of the fauna. For instance lions occurred abundantly in the near east and Europe until comparatively recent times, giving Xerxes trouble with his baggage camels as he travelled through Macedonia according to Herodotus. A few lions still exist in India and the near east and there are gazelles in Arabia and into India.

Note that the ***# numbers*** *in parentheses reference the complete monographs on each of the referenced maps on this website.*

Zonal maps like the one shown below showed the world divided into temperature zones. Here the *oikoumene* inhabited by the descendants of Adam and Eve, is located in a temperate zone. Beyond the *oikoumene* however were zonal regions thought to be uninhabitable due to frigid temperature? Between the *oikoumene* and these uninhabitable zones was the *Antipodes*. The *Antipodes*, although temperate in climate, was believed to be uninhabited by human beings because it was separated from the *oikoumene* by the fiery heat of the regions labeled *Perusta* through which no human being could cross. Zonal maps, therefore, provided an early pictorial argument that the family of humanity was limited to the descendants of God's Creation as described in the biblical *Book of Genesis*.

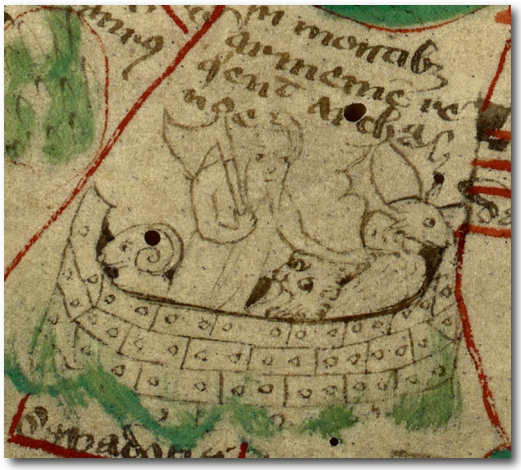


Lambert de Saint-Omer, Liber Floridus. Diocèse de Cambrai, 12th century
BNF, Manuscrits (Latin 8865, f. 62 v°), world map, oriented with East at the top, the Antipodes are on the right, Europe and Lybia (Africa) on the left, Asia at the top left (**#217**)



*A lion displayed in Asia on the Cottoniana, Anglo-Saxon map of 995 (**#210**).*

One of the most elaborate examples of this art form during the medieval period is the profusely illustrated *Hereford mappamundi (see monograph **#226**)*. The purpose of this world map was thought to be for educational purposes, particularly to stress the teaching of the Christian faith. This was important because it came at a time when the general population was uneducated and very provincial. In the *Hereford* map they could revel in this pictorial description of the outside world, which taught natural history, classical legends, explained the winds and reinforced their religious beliefs. Other similar elaborate medieval *mappaemundi* include the *Ebstorf mappamundi* from 1235 *(**#224**)* and the *Vercelli mappamundi* from ca. 1200 *(**#220.3**)*. They too contain a large number of illustrations to reveal the world along with its natural flora, fauna and cultural elements, both past and present. The *Psalter mappamundi* of 1225 *(**#223**)* has only the depiction of the "monstrous races" in southern Africa. Other examples include the maps of Europe by Opicinus de Canistris *(**#230**)* in the late 13th century.

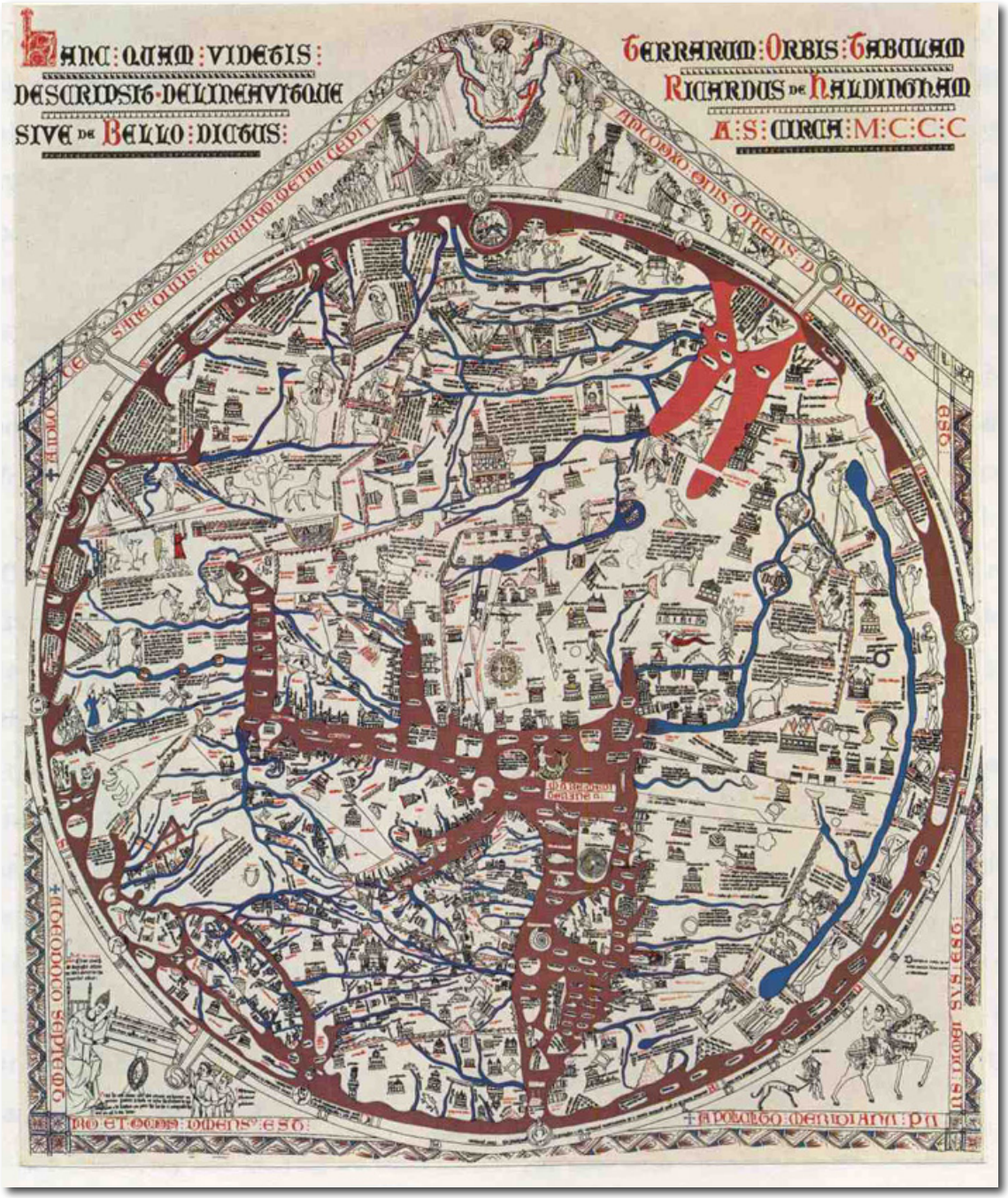


Some medieval maps, such as those by Ranulf Higden *(detail shown on the left, **#232**)* used such imagery sparingly. Here is detail of Noah in the ark with a ram, lion, and a stag, from Ranulf Higden's *Polychronicon*, England, c. 1350, upper edges of its antlers.

Like the *Hereford* and *Ebsorf mappaemundi*, the *Catalan Atlas* of 1375 *(**#235**)* is another example of a lavishly illustrated world chart, based somewhat upon the *portolan* [navigational chart] tradition.

It is because of these wondrous illustrations that I fell in love with old maps, and one of my all time favorites is the *Borgia mappamundi* from ca. 1450 *(**#237**)*. This world map, oriented with the South at the top, was engraved on two copper plates riveted together and contains many textual legends, illustrations of 20 maritime vessels, and fauna from all three of Wilma George's "regions": *Ethiopian, Oriental* and *Palearctic*. In this respect Ms George states that it

"formalized exuberance resembling the 12th century maps by populating the *Oriental* region with camels, jackals or hyenas, an elephant, a panther, lion, dragon and, marginally, in the region, some reptiles." An elk or moose appears in Europe from behind some trees, with the tines on the opposing and It followed that in the 16th century cartography was developing in two opposite directions, becoming more ornamental and also more exact. Also there is a polar bear emerging from an igloo in Norway, domesticated reindeer, foxes and wolves to be found. This *mappamundi* is truly a work of art and a true story-telling device.



*Facsimile of the Hereford mappamundi, 1290 (***#226***)*



An excerpt from the Hereford mappamundi showing southern Africa with the display of "monstrous races", unicorns, lizards, centaur, blemyae, birds. Antelopes. There are also many non-human monsters illustrated in Africa, for example, a phoenix, a crocodile, a poisonous salamander, and a monocerus which is probably intended for a rhinoceros. ***(#226)***

It is in this extreme region, according to Solinus, there are those with heads like dogs (*Cynocephale*), those born with only one leg, some who move swiftly and shield themselves from the sun with their large feet, others whose lips are enormous and must drink through straws. Amongst others there are people without heads but mouths and eyes on their shoulders (*Blemyae*), cannibals like *Ephiphaghi*, and a race of wild men with teeth like dogs who gnarl like dogs, amongst whom are bigamists and whose wives offer themselves as sacrifice upon their husband's funeral pyre. *Himantopodes* who walk on all four, and *Hermaphrodites* of dual sex, and the list goes on.

These peoples form a J-shaped chain surrounding the Nile extension, lined up, one above the other, individually mounted on pedestals of rocks representing frightening mountainous places, the viewer is shown a parade of deformities and customs. Piles of rocks located these people in mountainous places, which set them apart from those who inhabited cities symbolized by castles, churches, and towers, the buildings symbolic of *civitas*. The figures set on the rocks were the relatives of the wild men who were believed to live as savages in the undeveloped wilderness. In the Middle Ages, nature was feared; the uncontrollable wilderness or barrens loomed frightening against the security of the enclosed. The mountains were associated with fear and loathing and "were taken as examples of God's anger".



Below is a list of land creatures that are displayed on the *Hereford mappamundi.*

ALERION. Asia. Alerion the only pair in the world. Eagle-like birds of prey. Often represented without beak or feet. Heraldically like footless martlets. Coat-of-arms of Lorraine family.

ANTS. Africa. Here huge ants guard golden sand. Ants dig up gold and guard it.

BASILIK. Asia. Basilisk half a foot marked with white stripes. Hatched by a serpent from a cock's egg, and so also called cockatrice; its breath fatal. Reptile with head of cock, or triple-

tufted crest like a royal crown, called basilisk from Greek word for king; King of the serpents. No cock's head in map.

BONNACON. Asia. In Phrygia there is born an animal called bonnacon; it has a bull's head, horse's mane and curling horns, when chased it discharges dung over an extent of three acres which burns whatever it touches. Identified with bison.

BUGLOSSA. France. A buffalo. From its literal meaning in Greek it also signifies the plant ox-tongue, so called from its shape and roughness of its leaves.

CAMEL (Bactrian). Asia. Bactria has very strong camels that never wear out their hooves. Arabian camels have one hump, Bactrian camels have two, as in the map. Camels prefer dirty water to fresh, detest horses, live a hundred years. Example of humility, they kneel to be loaded.

CENTAUR. Egypt. Fauns half-horse men. Centaur wrongly labeled faun; fauns were half goat, half men; centaurs half horse, half men; trunk and arms of man joined to body and legs of horse, as depicted in map. Idea of centaur probably derived from appearance of savage riders. Cavalry still called horsemen.

CIRENUS BIRD. Palestine. Unidentified, possibly cinnamologus, Arabian bird that feeds on cinnamon.

CROCODILE. Egypt. Name derived from crocus, of yellow color like saffron. Reputed to weep hypocritical tears when devouring its victim.



DRAGONS (Dracones). India. Golden mountains defended by dragons.
Mythical fire-breathing creature with wings, scales and claws; malevolent in west, benevolent in east. Heraldry, common. Welsh dragon.



ELEPHANT. India. India also has the largest elephants, whose teeth are supposed to be of ivory; the Indians use them in war with turrets (howdahs) set on them. Two species of elephant, the African and the smaller Indian. The chaste elephant and his wife represent Adam and Eve in the time of their innocence.

GRIFFINS (Gryphae). Asia. Arimaspi contend with griffins for emeralds. Griffins with heads and wings of eagles resemble lions in their bodies they will fly away with an ox. The idea of gigantic winged creatures might be taken from fossilized bones and horns thought to be the claws of monstrous birds.

> As when a Gryphon through the wilderness
> Pursues the Arimaspian who by stealth
> Had from his watchful custody purloined
> They guarded gold.*Milton; Paradise Lost II. 943.*

LEOPARD. Africa. The offspring of a lion and panther mating, *leo pardus*. Member of the cat family, a nocturnal hunter.

LION. Africa. Roams on mountain tops; placed in the map between two mountain ranges. Sleeps with eyes open, an example to the Christian to be vigilant. Spares prostrate foe, a lesson in compassion. The winged lion is the emblem of St. Mark. Heraldry: lion passant guardant in arms of Great Britain.

LYNX (Linx). Asia Minor. The linx sees through walls and produces a black stone— a valuable carbuncle in its secret parts. Wolf-like, tufted ears, short tail, keen sight.



MANDRAKE. (Mandragora). Egypt. Mandragora a plant most wondrously potent. It had aphrodisiac and narcotic properties; used as an anesthetic in ancient Greece. Short spikes, forked root occasionally of human shape. If anyone tries to uproot it, it would shriek and he would die or become insane.

MANTICORA. India. Solinus: The Manticora is born in India with a triple row of teeth a man s face; bluish-grey eyes; red color; lion s body; scorpion s tail and voice of a Siren. It was said to revel in human flesh, was swifter than a bird, in its tail were three fatal stings that could be used as darts.

MARSOK. Asia. Marsok a beast changed from one (color) to another. Quadruped, two feet webbed, two feet with toes or claws. Probably a chameleon that can change the color of its skin to harmonize with its surroundings.

MERMAID. Mediterranean. A woman down to the waist with the tail of a fish. Conventionally holds a mirror in one hand, combing lovely hair with the other According to myth created by Ea, Babylonian water god. Sometimes identified with Sirens, the mythical enchantresses along coasts of the Mediterranean, who lured sailors to destruction by their singing. Ulysses contrived a way of escape. To her regret the mermaid had no soul, and was regarded as a temptress. There may be significance in the soulless mermaid placed in the map close to the unattainable Holy Land, or she may be a possible temptation to sea-faring pilgrims.

MINOTAUR. Misplaced in Scythia. Scythia. Here l found beasts like the minotaur useful for war. The place for this bull-headed monster is Minos' kingdom of Crete. Associated with bull-cult and Cretan ceremonial bull-leaping.

MONOCEROS—see Rhinoceros (Unicorn).

OSTRICH (Ostricius). Europe. Ostrich head of a goose; body of a crane; feet of a calf. Capable of digesting iron; reputation for folly in leaving the sun to hatch its eggs and burying its head in the sand when pursued.

PARROT (Psittacus). India. Solinus: Indian sends for the parrot a bird of green color with purple neck. According to Aristotle the tongue of a parrot resembles that of man.

PELICAN. Asia. For my young l rend my heart. The mother bird was reputed by St. Augustine and Isidore to kill its young by kisses or blows, and after three days the male bird would wound himself in the breast and revive the brood with his own life-blood. A symbol of the Resurrection.

PHOENIX. Egypt. The bird phoenix lives for five hundred years it is the only one of its kind in the world. According to Herodotus a red and golden bird, the size of an eagle. Every five hundred years the phoenix visited Heliopolis, the city of the sun, with the embalmed body of its father in a roll of myrrh and buried it in the temple of the sun. Then it plunged to its own death in fire, to be re-born from the ashes. Christian symbol of the Resurrection.

RHINOCEROS. Egypt. Solinus: The Rhinoceros a native of India; is the color of boxwood; it erects its single nasal horn when fighting against elephants; being the same length but shorter in the leg it naturally attacks the belly which it realizes is the only vulnerable spot.

SALAMANDER. Egypt. Salamander a most venomous reptile. A species of newt or lizard. Wrongly represented with wings; often colored red because capable of living in fire.

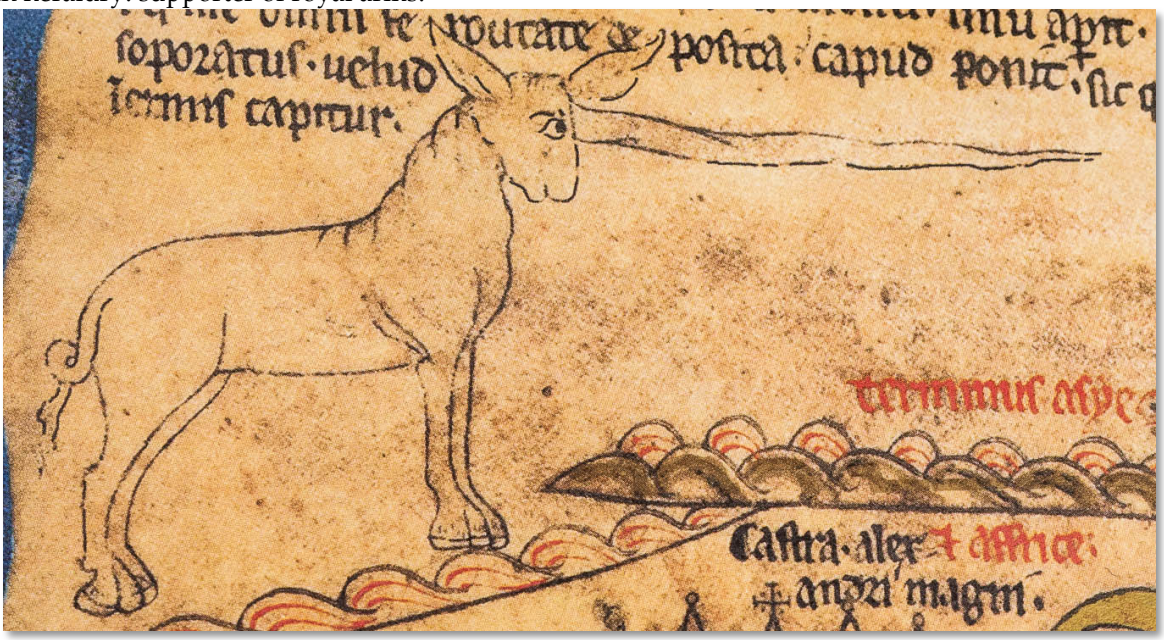
SCORPION (Scorpio). Egypt. Germany. Crab-like stinging creature injecting poison with its tail. Eighth sign of the Zodiac.

SIMIA (Ape). Norway. Simia from a Greek-word, snub-nosed, i.e., unattractive appearance. Anthropoid, man-like, e.g., gorillas, chimpanzees, orangutans.

TIGER (Tigris). Asia. A tiger when it sees its cub has been stolen chases the thief at full speed; the thief in full flight on a fast horse drops a mirror in the track of the tiger and so escapes unharmed. The point of the maneuver is that the thief escaping with a tiger-cub throws down a mirror to delude the pursuer which sees its own reflection in the mirror, mistakes it for the cub, stops to fondle it, loses valuable time and the thief escapes. Tiger meat was eaten to give strength and courage; the cub may have been stolen for this purpose.

TIGOLOPES (Ugolopes). Syria. Webbed feet, tail, holding up a wand.

UNICORN (Monoceros). Egypt. A virgin girl is set in front of this unicorn; at his approach she opens her lap; there he lays his head with all ferocity vanished and stupified and defenseless is captured. A frequent subject for bestiaries. Unicorn's strength and gentleness symbolic of Christ. In heraldry: supporter of royal arms.



YALE (Eale). Asia. Solinus: the eale is born in India with the body of a horse; the tail of an elephant black in color goats jaws; horns more than a cubit long not rigid but moveable as the need arises in fighting; it fights with one and folds back the other. This creature, recorded by Pliny and Solinus, was long regarded as mythical but identified in 1968 by Wilma George as the Indian water buffalo whose horns are not movable; instead of butting it uses one at a time with sideway inclination of head.

The *Hereford mappamundi* also contains other "creatures" of an abnormal nature.

AGRIOPHANI ETHIOPES. Africa. Agriophani Ethiopes eat only the flesh of panthers and lions they have a king with only one eye in his forehead. (Solinus). Identified with the Agofagy of the Alexandrian Romance.

ALBANI. Asia. The Albani have grey eyes and see better at night. Their eyesight described by Isidore, their unclean habits by Aethicus.

AMAZONS. Asia. The Pandean race in India is ruled by women. Assumed to be Amazons, female warriors; said by Herodotus to live in Scythia. Amazon means "without a breast," according to tradition these women removed the right breast to use the bow.

ARIMASPIANS (Carimaspi). Asia. Arimaspians fight with griffins for diamonds.

BLEMYAE. Africa. The Blemyae have mouths and eyes on their breasts. (Isidore and Solinus); a wild Ethiopean race frequently invading Egypt; hung down their heads when captured, hence the description.

CYNOCEPHALES. Europe. Men with dog's heads in Norway; perhaps heads protected with furs made them resemble dogs.

ESSENDONES. Asia. Essendones live in Scythia it is their custom to carry out the funeral of their parents with singing and collecting a company of friends to devour the actual corpses with their teeth and make a banquet mingled with the flesh of animals counting it more glorious to be consumed by them than by worms. (Herodotus). Solinus adds that they set the skulls in gold and used them as drinking cups.

GANGINES. Asia. Solinus: they occupy the source of the Ganges and live only on the scent of apples of the forest if they should perceive any smell they die instantly. (Aethicus; Pliny). Their name derived from the river Ganges.

GANGINES OF ETHIOPA. Asia. There is no friendship with them. Two men seen embracing, but they have no friendship with others.

HERMAPHRODITE. Africa. A race of dual sex born with many strange instincts. (Solinus; Mela; Isidore).

HIMANTOPODES (Limantopodes). Africa. Himantopodes; they creep with crawling legs rather than walk they try to proceed by sliding rather than by taking steps. Quite simply, they crawl on all fours as depicted.

HYPERBOREANS. Asia. The Hyperboreans as Solinus says: are the happiest race; for they live without quarrelling and without sickness for as long as they like, and when weary of life they fling themselves into the sea from a well-known rock; they think that is the best kind of burial. (Herodotus; Pindar).

MARMINI (Maritimi). Africa. Maritime Ethopians who have four eyes. Keen sighted.

MONOCOLI (Sciapods). Asia. The Monocoli in India are one-legged and swift when they want to be protected from the heat of the sun they are shaded by the size of their foot. (Solinus; Pliny). Not to be confused with Monoculi, one-eyed.

MOUTHLESS RACE IN ETHIOPIA. Africa. A race with mouth grown fast together fed through a reed.

PHANESII. Asia. Phanesii are covered with the skin of their ears. A bat-like people with enormous drooping ears. Identified with Auryalyn in the Alexandrian Romance.

PHILLI (Psylli). Africa. Psylli test the chastity of their wives by exposing their new-born children to serpents. (Solinus). Legitimate babies are untouched by the serpents. The burning mountain full of serpents is threateningly near.

SCIAPOD – see **MONOCOLI.**



SCYTHIANS. Asia. A race of Scythians dwelling in the interior; unduly harsh customs; cave dwellers; making cups not like the Essendones out of the skulls of friends but of their enemies; they love war; they drink the blood of enemies from their actual wounds; their reputation increases with the number of foes slaughtered and to be devoid of experience of slaughtering is a disgrace. (Solinus; Mela).

TROGLODYTES (Trocoditee). Africa. Troglodytes exceptionally villainous capture wild animals by leaping on them. (Solinus). Cave dwellers.

TURKS (Turchi). Asia. The island of Terraconta where the Turks dwell; descendants of Gog and Magog; a barbarous and unclean race devouring the flesh of youths and abortions. Associated with Mongols and Tartars, a threat to the Greek Empire. (Aethicus).



Thus, van Duzer concludes that despite the abundant religious imagery on the *Hereford* map, and a program contrasting peripheral monsters with the centrality of Jerusalem, the animals on the map are to be understood as elements of natural history, with a goal of revealing (to borrow a phrase from the *Ebstorf mappamundi*), "De ignotis quarumdam bestiarum naturis atque paucis earum notabulis [about the unknown natures of certain beasts and a few of their remarkable characteristics]. Certainly, some viewers would recognize the traditional moral and religious symbolism of some of the images of animals, the focus of the program was displaying unusual animals.

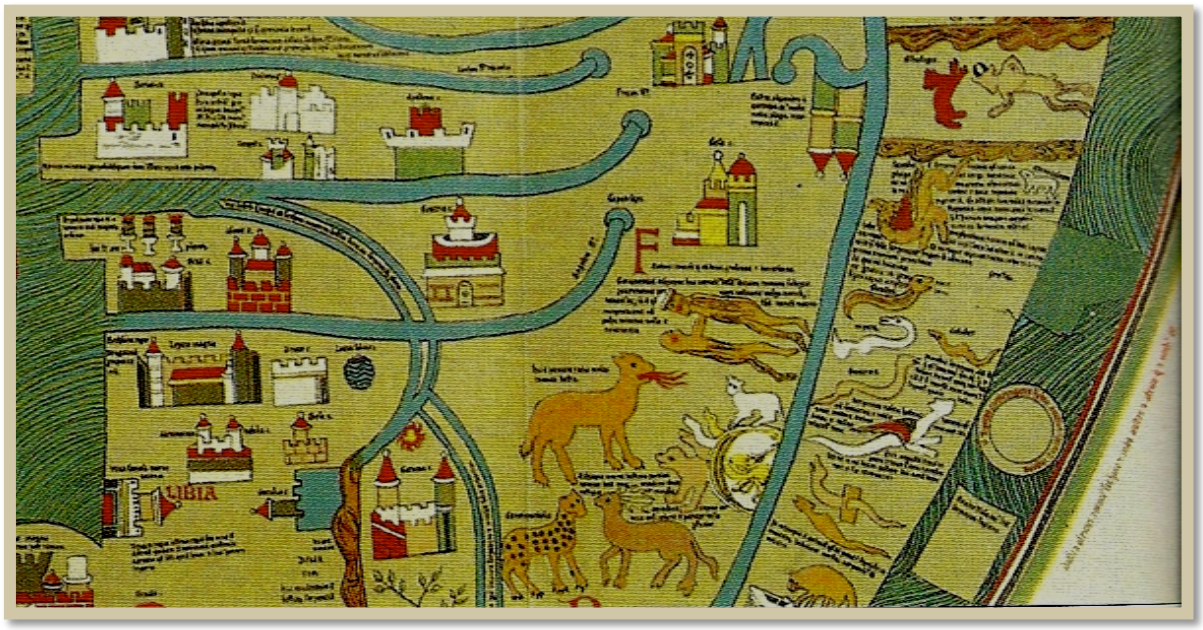


A V-in-□ *mappamundi in the Mare historiarum (BnF, MS lat. 4815, fol. 26v) 1447-1455*





Y-O mappamundi in Macon, Bobliotheque Municipale, MS 2, fol. 19r, ca. 1480



A collection of animals in Africa, George's Ethiopean Region on the Ebstorf mappamundi, 1224 ***(#224)***



Double-humped camel next to the holy city of Jerusalem on the Ebstorf mappamundi, 1224 ***(#224)***



*Animals in Asia on the Ebstorf mappamundi, 1224 (**#224**)*

Wilma George describes, in what she labels the *Oriental Region* (Asia) of the *Ebstorf mappamundi*, the array of zoological information to be found on this pictorial encyclopedia. There are snakes, a parrot, an antelopes with long serrated horns, very difficult to approach, probably the blackbuck *Antilope ceruicapra*, with long corkscrew horns, noted for its speed and still occurring abundantly in Asia, obvious to travelers and hunters because of its diurnal habits. The ant-dog, saiga and chameleon also come into this region, marginally. The saiga, *Saiga tatarica*, once swarmed over central Asia and its horns were much prized by the Chinese for medicinal purposes. It has the required proboscis-like upper lip: *alce mulo similis superius habens labrum tam prominens ut pasci nequeat si non post terga recedat* as the *Ebstorf* map states. An inscription also announces the presence of snakes, tortoises, unicorns, Indian Bulls, ibexes and the manticora but there are no pictures of them. Finally, there is an animal with one horn pointing forward and one backward. This is the *eale* or *yale*. The *yale* which, according to the *Ebstorf* map itself, *comes from India, has a body like that of a horse, the jaws of a goat, the tail of an elephant, horns of a cubit in length, one of which can be reflected backwards as the other is presented forwards in attack, and which can move equally on water or on land.* This description on the map follows closely the original description of a *yale* by Pliny which was then copied by Solinus, about 250 CE, through to the near contemporaries of the *Ebstorf* and *Hereford* mapmakers: for example, the author of *Semeianca del Mundo* about 1223 and the authors of 12th and 13th century bestiaries.

In Africa (the *Ethiopian* region) on the *Ebstorf mappamundi*, the Nile flows out of a lake, in the vicinity of Morocco and near the spot where lies the *Garden of the Hesperides* - included as a heathen anti-thesis to the Christian *Paradise* - within the protecting coils of the feathered serpent, its guardian. The river's course runs at first from west to east, through regions inhabited by panthers, ostriches, giant reptiles and so forth; in all, the artist has generously scattered about sixty different animals over his map. Other

animals identified by Wilma George include an elephant, leopard, hyena, mirmicaleon, monkeys, camelopardalis, scarp, deer and tarandrius the reindeer with many types of snake, crocodiles, lizard and flying lizard, ibis and other birds which inhabit what she calls the *Ethiopian* region for zoological analysis.

There are no animals depicted in the Europe on the *Ebstorf mappamundi* probably because the audience for this map was familiar with the local animals and the display of exotic animals in Asia and Africa was meant to enlighten, excite and educate the European audience.



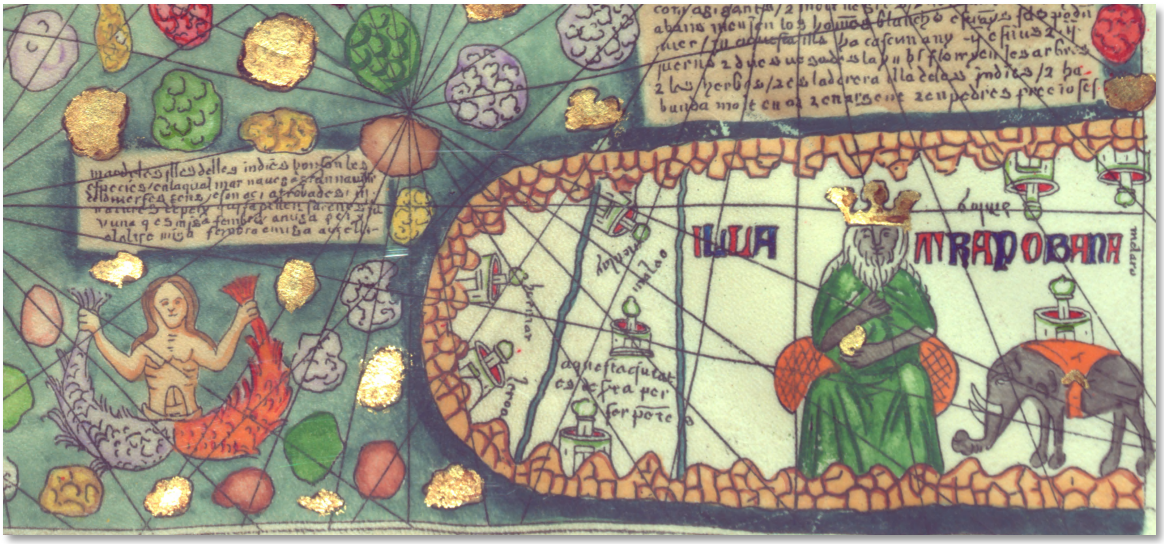
A display of the "monstrous races" on the Pslater mappamundi of 1225 in southern Africa. Like those on the Hereford and Ebstorf mappaemundi, among the monsters of this region are Dog-headed Folk and people with heads in various stages of aggressiveness, having either descended between their shoulders or else absorbed the entire trunk of the body. Besides these there are cannibals, a race with six fingers, Troglodytes, Serpent-eaters, Skiapodes, and a nation that obtained shadow from the hugeness not of their foot but of their lip; tribes also without tongues, without ears, or without noses; others who, having only a little hole for mouths, were forced to suck their food through a reed; Maritime Aethiops with four eyes; and beings who never walked, but crawled on hands and feet. These races, fourteen in all, come mostly from the writings of Solinus; many of them occur also on Ebstorf, on Hereford, or on both.
(see monograph **#223***)*



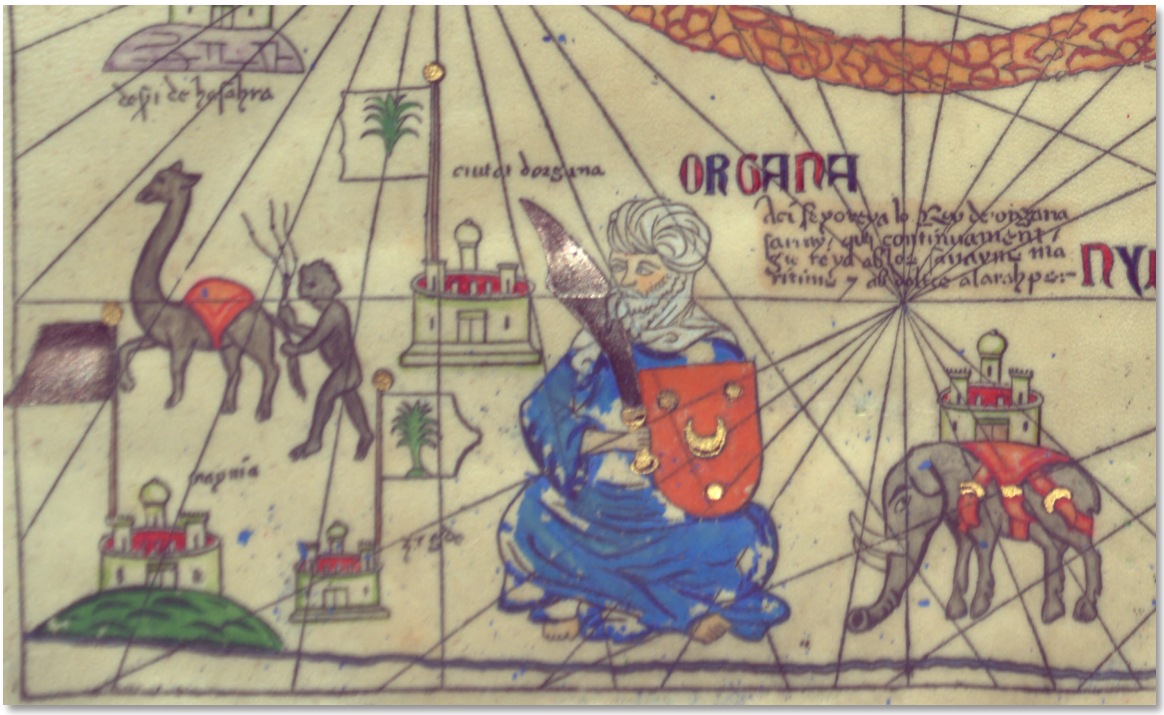
A lion, camel, leopard, a parrot, and various dragon-lizards depicted in Africa on the Vercelli mappamundi, 1200 (see monograph ***#220.3****) In the Oriental region there is a domestic elephant, a one-horned animal, a spotted yale with tusks, bicorned and cloven hoofed, a bulky bison-like animal, a parrot, a falcon and several flying lizards and snakes*



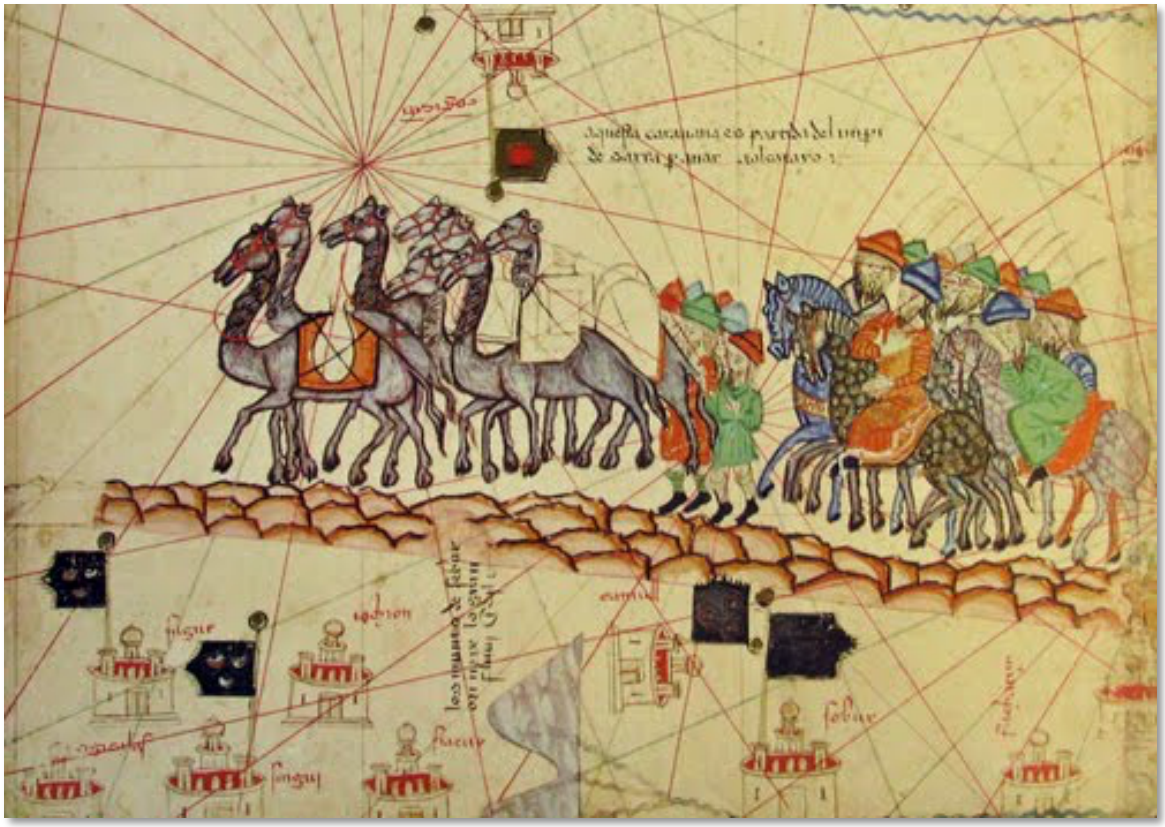
A camel, ox and donkey on the Matthew Paris' map of the City of Acre, 1250, ***(#225.1)***



An elephant on Taprobana in the Catalan Atlas of 1375 ***(#235)*** *and a mermaid*



A camel and elephant in North Africa on the Catalan Atlas (**#235**)



This caravan has departed from the Empire of Sarra to go to Alcatayo on the Catalan Atlas (**#235**)

A series of 15th century German maps provide evidence that the Age of Discovery did not necessarily change attitudes toward the "other". The *Borgia* map is a *mappamundi (#237)*, probably of south German manufacture, engraved on a copper plate, anonymous, ca. 1430. It is the first map to list the *iudei inclusi* identified as *Gog* and *Magog*. As such, Jews and Muslims (Turks) are placed together as the warriors of the Antichrist. Another of the major attractions of the *Borgia mappamundi* of the early 15th century are the myriad of miniature drawings reminiscent of much earlier maps such as the *Psalter*, *Hereford* and *Ebstorf mappamundi (#223, #224, #226)*, as well as the 1448 world map by Andreas Waslperger *(#245)* and the *Catalan Atlas of 1375 (#235)*. The unknown author could not resist the temptation to tickle the palate of his readers, for he fills the empty, unexplored continental spaces with all manner of legendary and traditional characters. Zoologically, there are fauna in all three of Wilma George's regions: *Ethiopian, Oriental,* and *Palearctic* displayed on the *Borgia* map. In this respect Ms George states that it "formalized exuberance resembling the 12th century maps by populating the *Oriental* region with camels, jackals or hyenas, an elephant, a panther, lion, dragon and, marginally, in the region, some reptiles." An elk or moose appears in Europe from behind some trees, with the tines on the opposing and upper edges of its antlers. Also there is a polar bear emerging from an igloo in Norway, domesticated reindeer, foxes and wolves to be found. In Asia the legend states: "The great district of Tartary, which the Tartars traverse with their beasts of burden and cattle as long as there is grass."



Detail of the Borgia mappamundi (#237) showing the territory of Gog and Magog in the Far East.



Dragons, reindeer, a phoenix, tigers and lions populate the African and Saudi Arabian peninsula on the Borgia mappamundi, 1410-58 (**#237**)



Domesticated camels in Northern Africa peninsula on the Borgia mappamundi (**#237**)



An elk in Central Europe on the Borgia mappamundi (**#237**)



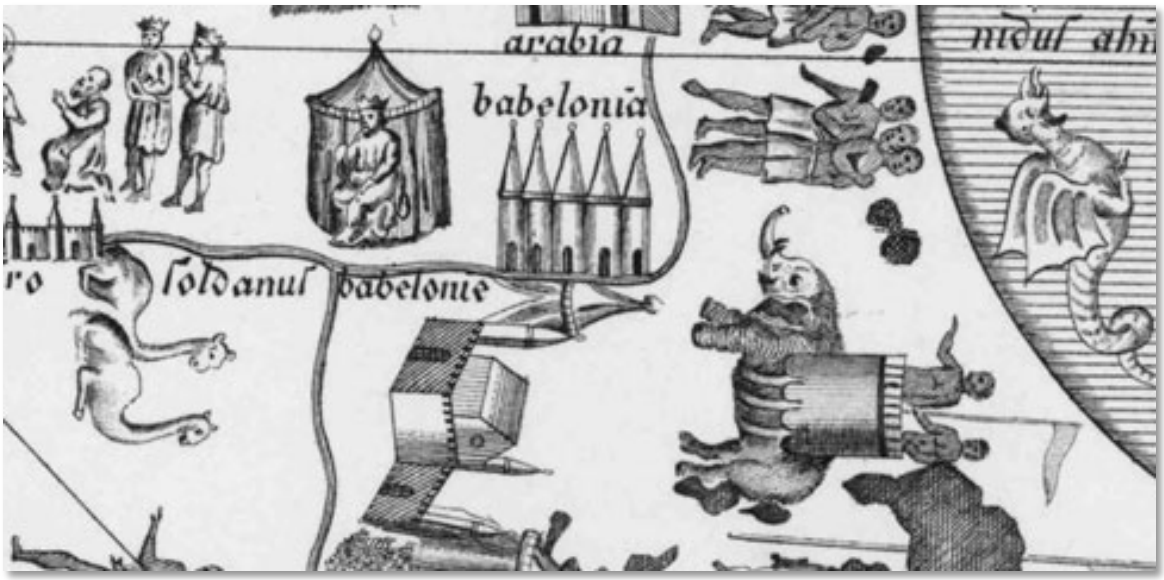
Lions, a griffin, and a leopard in Northern Europe on the Borgia mappamundi (**#237**)



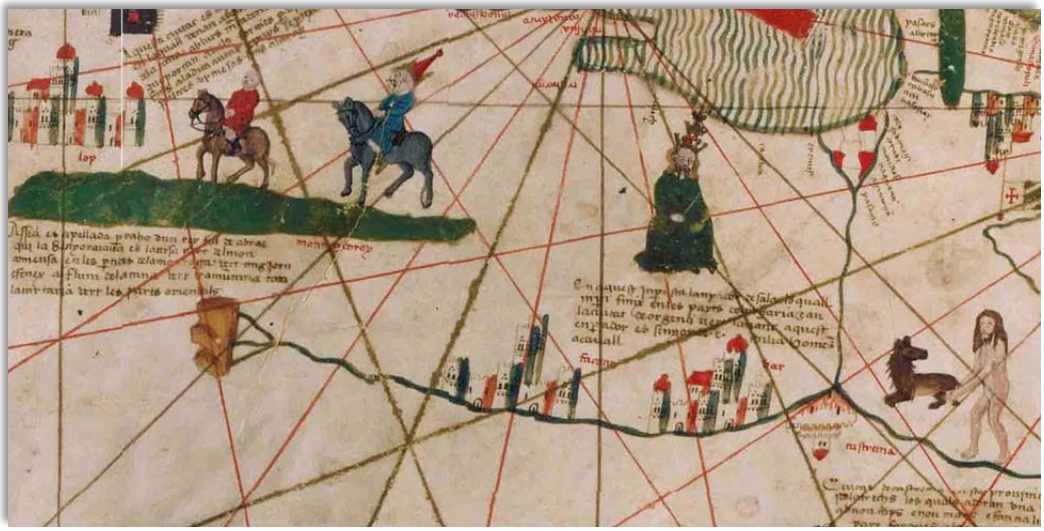
An elephant, a wolf, horses, a camel and a gazelle in Asia on the Borgia mappamundi (**#237**)



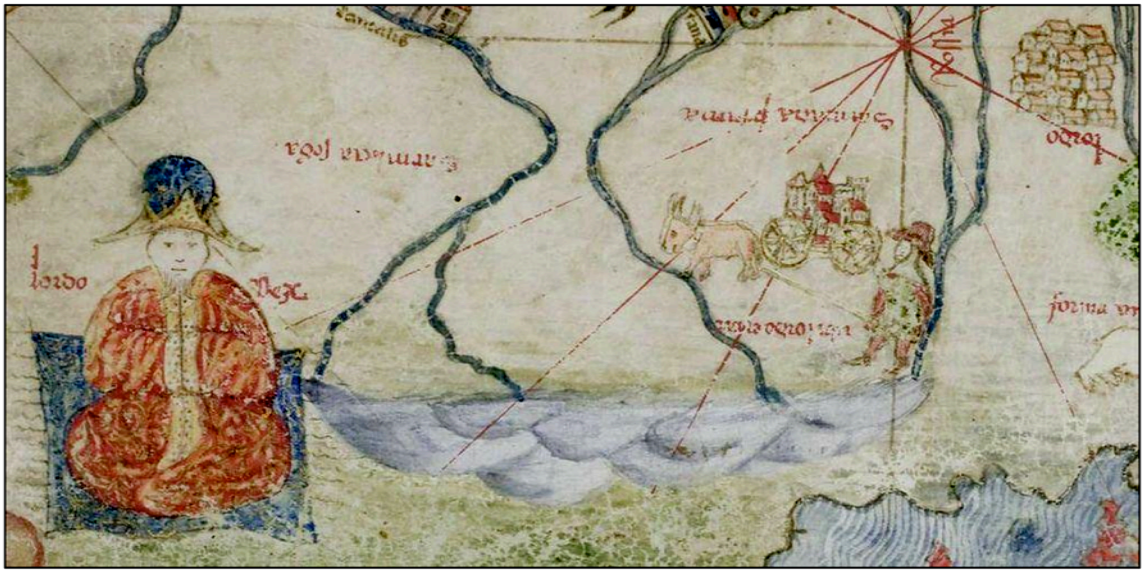
*A polar bear emerging from a cave/igloo, a mounted, domesticated reindeer, a falcon and mounted horses engaged in a battle in Northern Europe on the Borgia mappamundi with legend "Here are bears, white falcons and such like " (**#237**)*



*Two camels and a war elephant in Africa on the 1436 Andrea Bianco mappamundi (**#241**)*



Horses in a Polo-like caravan and a fox (being chased by a giant man) in Northern Asia on the 1450 Catalan-Estense mappamumdi ***(#246)***



Detail of so-called Genoese world map ***(#248)****:*
Mongols north of the Caspian Sea, note wagon and oxen

The reference to the character of the land in Africa on the *Genoese mappamundi* and its different products is very full, attention being drawn particularly to the animals. In addition to the elephant and the crocodile, a camel is represented in the southwest, and near it a mythical animal, which may be a dragon or a basilisk, and which, according to tradition, inhabited Africa in antiquity and in the Middle Ages. One here recalls the description which Idrisi ***(#219)*** gives of a dragon living on an oasis to the east of Sahara, so enormous in size that it was often mistaken for a mountain. It had the form of a snake in that it crawled on the ground, but had large ears extending forward. In the Atlas mountain region there are also represented a giraffe, a lion and two monkeys.

In addition to the usual medieval depiction of the mythical *Gog* and *Magog* in Asia, the *Genoese* map also contains a large number of drawings of zoological interest.

Elephant, camel, lion, monkeys, giraffe, dragon, and crocodile appear in what Wilma George terms the *Ethiopian* region; griffon or black vulture, leopard, ox and polar bear appear in the George's *Palearctic* regions; and snake and storks appear in George's *Oriental* region. This was the first time an accurate giraffe had be drawn on a map in Africa, although *camelopardalis* had appeared much earlier in the same area in the *Ebstorf* map ***(#224)***. *Camelopardalis*, however, was only a giraffe by name, being a four-clawed spotted animal with normally a short neck. Giraffes had been known and drawn accurately at least as far back as the third century BCE.

In support of the statement that the Genoese cosmographer was well informed concerning *Abyssinia* may be found the representation of a war elephant carrying a tower filled with armed men. A legend here reads: *These people fight in a battle-line of castled beasts*.

That the Christian Abyssinians made use of the elephant in war during the Middle Ages, Marco Polo relates, who, in his travels, had gathered considerable information concerning that region of Africa. It was the Abyssinian Christians whom the cosmographers, at the close of the 14th century, had to thank for information concerning their country.

On the *Catalan world map of 1375* ***(#235)*** a war elephant is also represented in *Nubia*, and the same picture appears again in India with the addition of a driver. Marco Polo ascribes the use of war elephants to the inhabitants of Zanzibar, while Mas'udi expressly states that their land was rich in elephants, which, however, were neither tamed, nor were they used in any manner. There can be no doubt that in the lands on the west side of the Red Sea elephants were captured by the Ptolemies in great numbers, tamed and made use of in war, as Ptolemy Euergetes testifies in the inscription from Adulis that he employed Troglodytic and Ethiopian elephants against those from India.



A strange beaked-animal (a griffin?) and an arctic fox or polar bear in Asia on the Genoese mappamundi ***(#248)***



A collection of camels, an elephant in Northern Africa on a Catalan map from ca. 1325 ***(#250.1)***



Creatures featured in present-day Turkey on the 1413 portolan chart by Mecia de Viladestes ***(#240.2)***

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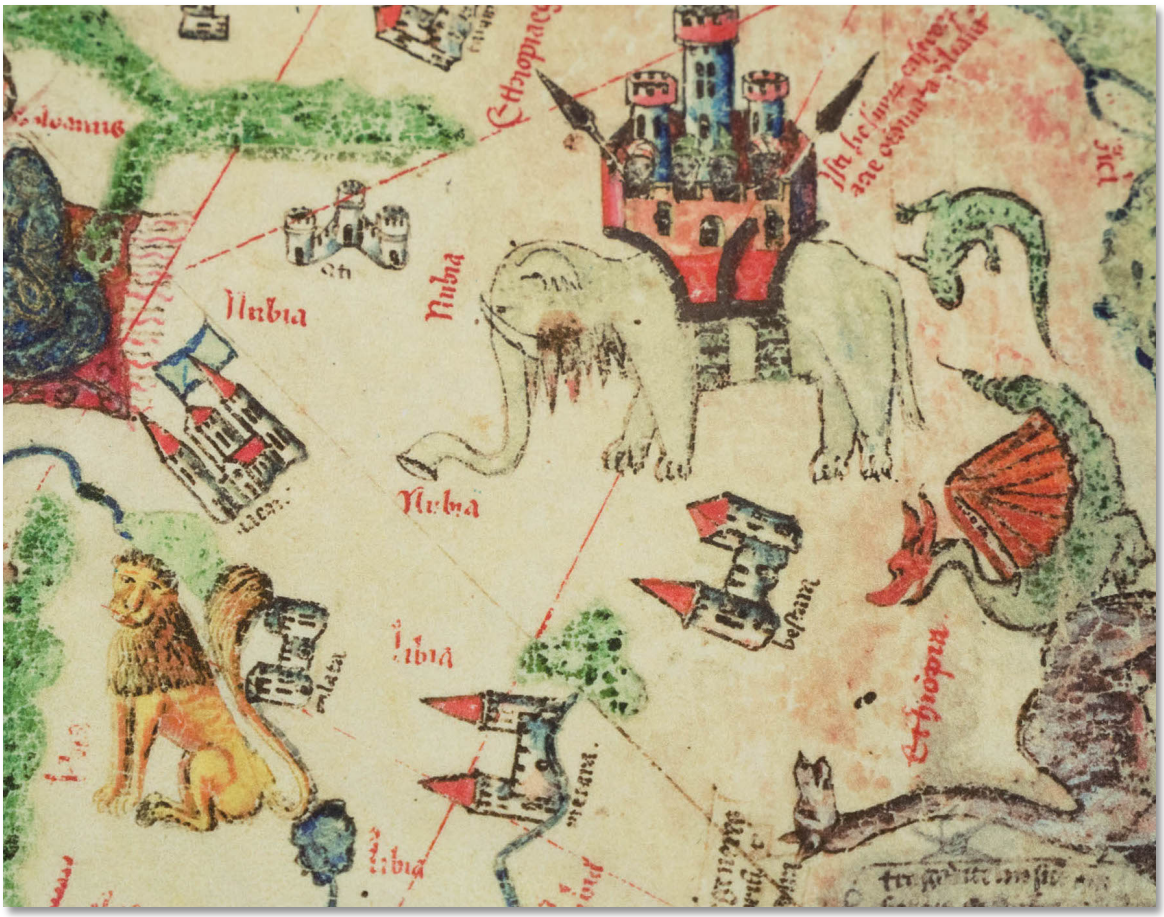
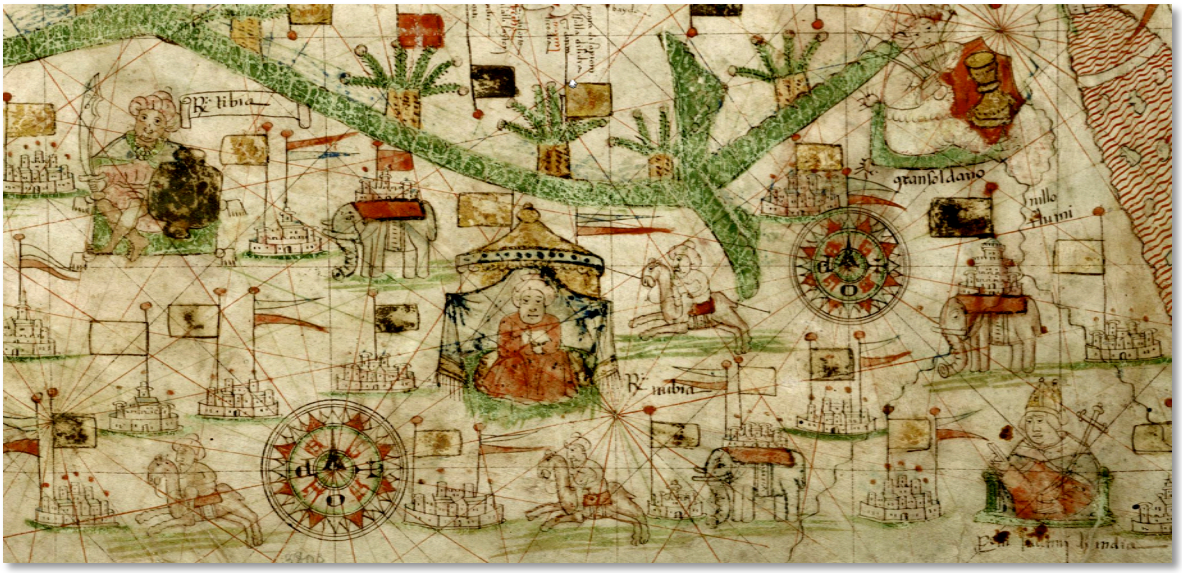


An elephant, a griffin, alligator, camel and lion on the Genoese mappamundi, 1457 ***(#248)***



An anthropomorphized snake in Asia on the Genoese mappamundi, 1457 ***(#248)***



War-elephants and mounted horses in Northern Africa on the portolan chart by Jacobus Russus of Messina, 1533 ***(#250.1)***

The medieval period in Europe produced hundreds of manuscript maps, many heavily decorated, but only a few displayed land creatures, besides the legendary *Gog* and *Magog*. The best example of highly decorated maps of the period without any land creatures depicted include the *Walsperger mappamundi* of 1448 ***(#245)*** and the *Fra Mauro*

mappamundi of 1459 ***(#249)***, both of which are very ornamented with cities and ships, but no land creatures besides *Gog* and *Magog*. The other map producing areas such as China and the Islamic states did not adorn their maps with decorative elements such animals.

In the 15th and 16th centuries *portolan* charts were invented for seafaring and Ptolemy's work was rediscovered. And yet, concurrent with the age of discovery, the depiction of the wonders and strange creatures continued unabated. Not only do the strange races, the strange animals, oddities unknown, continue to be found on maps. According to Naomi Reed-Kline the world of the strange, the "other" appears prominently once again as portents, to the apocalypse. In spite of scientific enquiry and expanded travels, the year 1500 was similarly an apocalyptic milestone marking the half-millennium.

Most of the 15th century maps and chronicles showed the world as better understood - yet the monstrous races still remain in the guise of the "other", in Germany the Jew, in Spain it will be shown to be the Moor. In the Nuremberg Chronicle the "strange folks" are physically and visually relegated beyond the world - no longer within the *oikoumene* as defined by the Christian world. They have been entirely marginalized. Whereas in the medieval maps, the strange races, the deformed, were placed at the edges of the world - now they are excluded.

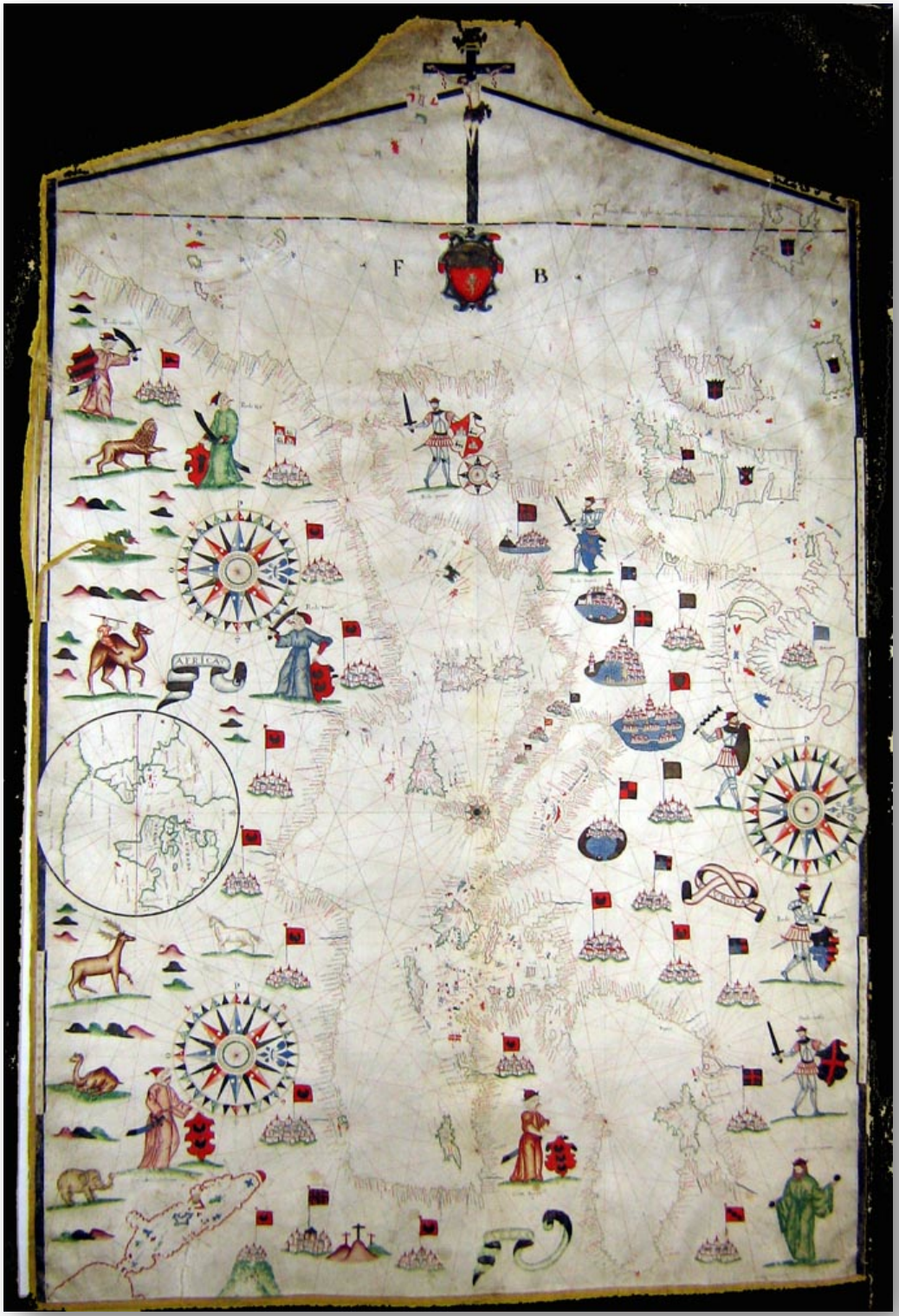


A giant in Asia on the Catalan Estense mappamundi, 1450 ***(#246)***



A mounted reindeer with a falcon in present-day Russia on the Catalan Estense mappamundi, 1450 ***(#246)***

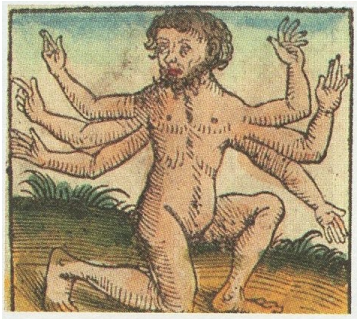
5.17



A lion, camel, gazelle, camel, unicorn and elephant on a 15th century portolan chart



*The Liber Chronicarum, known as the Nuremberg Chronicle, of Hartmann Schedel, printed in Nuremberg by Anton Koberger in 1493, is a complete history of the Christian world from the time of the Creation up to the age of the book's production. Divided into eleven world ages, the history is informed by a variety of classical and medieval sources, from Pomponius Mela and Pliny the Elder to the Venerable Bede and Vincent of Beauvais. In three corners of the design are the sons of Noah, who, according to the Scriptures, divided the world after the Flood: Shem and his descendants took Asia; Japheth, Europe; and Ham, Africa. Here the side panel of this Ptolemaic world map shows the monstrous races thought to inhabit distant places (**#119**). Below are descriptions of these monstrous creatures. Most of these legendary creatures were believed to inhabit the antipodean regions, south of the Equator, and inaccessible due to the excessive heat (see monograph on the Anitopes)*



This character is commonly referred to only as the '*sixhanded man*'. In the histories of Alexander the Great (stories which were later deemed as a masquerade written by an author referred to as Pseudo Callisthenes), this poly-limbed group of people is said to live in India.



The *Gorgades*. These women covered in hair are presumably the same creatures written about by Pliny, which he labels *Gorgades* ('Gorgonlike ones'). Supposedly, they lived on islands scattered throughout the Atlantic. Pierre d'Ailly in his *Imago Mundi* describes them: "The Gorgodes Islands of the ocean ... are inhabited by the Gorgodes, women of destructiveness, with coarse and hairy bodies." Homer, too, mentions hairy '*Gorillae*' women.



These *polydactyl* men are described in the text of the *Nuremberg Chronicle* as being a species of men living naked and rough in the water, some of whom have six digits on their hands and feet. (Elsewhere on the overly fingered phenomenon, Pliny shares a detail in Book XI that: 'It has come down to us that the two daughters of a man of patrician family named Marcus Coranius were called the Miss Six-Fingers on this account.')



The *Hippocentaur*. Schedel, author of the *Nuremberg Chronicle*, relates that, in India, there are those who live in the water and are half man, half horse. Pliny claims to have seen with his own eyes the corpse of a *hippocentaur* pickled in a vat of honey and transported from Egypt during the reign of Claudius Caesar.



These are a species of woman with beards extending down to their breasts, but whose heads are bald. Again, these characters are related in the legends of Alexander, with one variation describing them hunting with dogs in the Indian mountains. 'Shun a woman with a beard as you would pestilence,' advises Pliny.



The *Nisyti.* In Ethiopia, towards the west, lived men in possession of four eyes. This might have been a figurative exaggeration taken literally, for in Pliny's writings one finds the addendum: 'not that the people really have that conformation, but because they are remarkable for the unerring aim of their arrows'.



In Europe, there were thought to be people with necks like those of cranes, and bills for mouths. These are metaphors for the good qualities of a judge, his mouth being a good distance from his heart so that it has time to consider the issue before he speaks. 'If all judges were like this', writes Pliny, 'there would be fewer bad judgments offered.'



The *Cynocephali.* Dog-headed men of the mountains, who clothed themselves with the skins of wild beasts. They communicated with barking, and used their claws skillfully to hunt birds. According to a story by the Greek historian Ctesias, their population numbered around 120,000. This creature was probably based on a species of monkey, perhaps the baboon. Solinus also writes of the dog-headed Simeans of Ethiopia, who were ruled by a canine king.



The *Arimaspi*. These one-eyed people lived in *Scythia*, 'the country to the north', in a district called *Geskleithron*, and were constantly at war with the Griffins over the gold that the beasts dug out of the mountains and watched over jealously. It was often the custom for people to hide money and treasure in the ground, and so the circulation of tales of such buried treasures being guarded by serpents and dragons served a purpose.



The *Blemmyes*. "In Lybia some are born headless and have mouth and eyes," writes Schedel. The *Blemmyes* were a real nomadic Nubian tribal kingdom, described by Strabo as a peaceful race. They existed between 600 BC and the eighth century AD, but later became fictionalized as a legendary headless species. Shakespeare mentions them in Othello as cannibalistic men "whose heads do grow beneath their shoulders", conflating them with the *Anthropophagi*, a man-eating race.



The *Abarimon.* In what is now known as the Himalayas, in a vast country called *Abarimon*, the inhabitants were rumored to be a savage race, whose feet were turned backwards but nevertheless possessed great speed, and wandered indiscriminately with wild beasts. They were unable to breathe in any other climate but their own, for which reason it was impossible to bring them before one's king. Aulus Gellius also relates this, among other wonderful tales, in the chapter, "On the miraculous wonders of barbarous nations," IX c.4. He cites, among his authorities, Aristeas and Isigonus, whom he designates as "writers of no mean authority".



In Lybia lived this androgynous race: 'Some are double-sexed, the right breast male, the left one female. They are indiscriminate in their associations with one another and bear children,'writes Schedel.



The *Sciapodes* [Shadow feet]. These were each owners of one very large foot and leg, while also being marvelously nimble. In the summertime, while lying on their backs, they protected themselves against the sun by the shade of their single foot. (They were also thought to live on the island of *Taprobana*



The *Straw-Drinkers* '*Toward Paradise*', writes Schedel, 'by the River Ganges, are people who do not eat. Their mouths are so small that they are obliged to drink through a straw. They live upon the odor of fruits and flowers. They quickly die if they encounter evil odors.'



The *Sciritae*. A race of noseless, flat-faced men of short stature, who were also to be found 'toward *Paradise*, by the River Ganges', and whose existence is confirmed by Megasthenes.



The *Amyctyrae* [The Unsociable]. Some have lower Iips so large that they cover the entire face. They live on raw meat and can use their giant lower lip as an umbrella against the sun.



The *Panotii.* In Sicily lived people whose ears are so large that they cover their whole body. The ears reach to their feet and they used them as blankets to keep warm. Intensely shy, when they saw travelers they used their ears as wings with which to flyaway.



The *Satyrs* In Ethiopia: ... some have horns, long noses and goat's feet; and these are spoken of throughout the legends of St Anthony', writes Schedel.



In Ethiopia, towards the west, were people with but one foot, which was very broad. They were so fleet that they were able to pursue wild animals.



The *Hippopodes.* In Scythia were people with hoofs like a horse, who, according to Pliny, lived near the Baltic.



These people, who were only a cubit in height, had a lifespan of only eight years. They lived in the mountains of India, 'near the great sea, in a wholesome and ever verdant region'. Their wives gave birth at the age of five years, and they waged passionate warfare against cranes, their hated enemy.

There were several medieval travel accounts about Asia, which were produced during the 13th and 14th centuries, in the time of the so-called Mongol mission. These reports were written by Franciscan and also some Dominican missionaries, namely William of Rubruck, John Plano of Carpini, Odoric of Pordenone, John of Marignola, Jordanus Catalanus and a few others. The idea that the East was home to various human monsters dates back to classical antiquity; medieval authors picked up the thread and their accounts also were reflected in the fine arts. These peculiar humanlike creatures of the East were believed to include *Skiapods, Blemmyae*, *Pygmies, Dog-heads*, *Panotti* and others. More comprehensive lists can be found especially in the works of Ctesias of Knidos (5th/4th century BCE) or Megasthenes (4th century BCE), frequently quoted by Strabo and Arrian. In medieval Europe monsters mainly inhabited the pages of encyclopedic works, such as the *Etymologiae* by Isidore of Seville ***(#205)***, *De Universo* by Rabanus Maurus or *Liber de Natura Rerum* by Thomas of Cantimpré. Monstrous creatures also appeared in epics, most notably about Alexander the Great, about the travels of Ernest the Brave, Margrave of Austria, or about the adventures of Henry the Lion, Duke of Saxony. These accounts raised a range of questions, primarily concerning the extent to which these creatures could be considered human, whether they were eligible for salvation and what was the cause of their disfigurement. An emerging issue within the medieval discourse on human monsters was the nature of their otherness in relation to people as well as their position in the world order.

Dog-heads, humanlike beings with dogs' heads or faces, were among the most frequently mentioned "monster tribes"; their alleged locations included various parts of Asia from the continent's northern corners down to the Nicobar Islands. In a chapter about this archipelago in the Indian Ocean, Odoric of Pordenone writes that local men and women have dogs' faces, worship an ox as their god, are brave warriors but eat their captives; their ruler is just and travelling in his country is safe. Marco Polo locates a tribe of Dog-heads to the neighboring Andaman Islands and describes them as cruel cannibals, whose women are beautiful, but men have the faces of dogs.

These two narratives about people with dogs' faces in the area of the Nicobar and Andaman Islands are not isolated, as similar accounts are given by other travelers, including Ibn Battuta. Dog-heads are the only monster tribe described by Jordanus Catalanus, who locates them in *India Tertia,* as he does systematically with all other mythical elements.

John of Marignola never applies the term "monster" to tribes or nations he met in person, but only to physically deformed individuals (whose deformation he interprets as God's warning or as an ominous sign) and to strange animals. He expresses doubts about the existence of monster tribes previously described in the European literature

and attempts to explain the origin of these myths through rational constructions. Rather remarkable is his explanation of the myth of *Skiapods*, who were widely believed to use their single large foot to protect themselves from sunburn while lying on their backs. John of Marignola argues that this was a tale made up by poets and inspired by a habit among Indians to carry parasols — similar to one Marignola himself had at home in Florence. The Italian traveler concludes that mythical monstrous creatures do not exist and that their images in European literature have to be understood as myths born out of a peculiar interpretation of reality.

The examples above suggest that European travelers to Asia in the 13th and 14th century had an ambition to confirm or refute the authenticity of traditional images of human monsters. In doing so, they used their own observations of reality to rectify or explain many mythical motifs. Aboriginal tribes that the travelers encountered in person are never described as monsters, but rather as people of different appearance. "Real" monsters were thus restricted to the sphere of legends — not only the European ones, but also local tales, as is evident from the use of Mongolian names for monsters described by Mongols to the author of *Hystoria Tartarorum*.

Several conclusions can be drawn based on the examples above. The European medieval travelogues to some extent reflect traditional imagery of the Asia and Africa and attempt to find answers to questions regarding the nature of legendary phenomena. That, however, does not mean that these authors were unable to also perceive reality around them and supplement or rectify earlier knowledge. William of Rubruck did not hesitate to dispute Isidore's earlier claim that the Caspian Sea is a sea gulf by pointing out that it is rather a sea or a large lake and that it is possible to travel all around it in four months. John of Marignola similarly did not shy away from rectifying earlier erroneous beliefs, whether they were related to the world's geography or to the way in which pepper was grown.

Renaissance Period

The exploration of new lands in the Renaissance period invited pictorial detail to convey a vivid impression of the new world revealed. Thus the renaissance world maps of Juan de la Cosa, ca. 1500 ***(#305)***, Cantino and Caveri, ca. 1502 ***(#306, #307)***, and those of the Dieppe school in the 1530s and 1540s abounded in exotic colorful detail. The decorative arts in cartography reached their highest level with the great Dutch publishing houses of the 17th century, the firms of Blaeu, Hondius and Jansson. The magnificent baroque title pages of atlases, the title cartouches, marginal views and other decorative devices on maps, all conveyed a visual impression of the landscape, while the maps themselves attained accuracy of detail, with features often shown in plan rather than in profile.

This progression of cartography from the naive drawings of the traveler to the specialized work of the highly professional cartographic workshop of 17th century Europe, reflected a growing comprehension of the physical environment, and improved techniques in recording it. Among the features of the physical environment important to man birds and beasts have commanded a special interest, as creatures closest to man, as a means of sustenance to him, if domesticated, a source of companionship; in the wild, a source of danger. Hence, when man began to depict the environment in his drawings, animals were an inevitable feature of the scene.

The continent of South America was reported to Europe in 1499 and the following year an attempt to depict such a continent occurred on the world map of Juan de la Cosa ***(#305)***. Only two years later, the Cantino ***(#306)*** and Caveri ***(#307)*** maps

showing the coastline of South America also showed long tailed parrots. By 1529, the configuration of the eastern part of the New World was reasonably well known and, by that date, Ribeiro ***(#346)*** had filled the South American continent with some fifteen different types of animals; some, like deer, well known from other parts of the world; others, like armadillos and rheas, new to naturalists. Ribeiro's map also populated both Africa and Asia with a wide variety of animals.

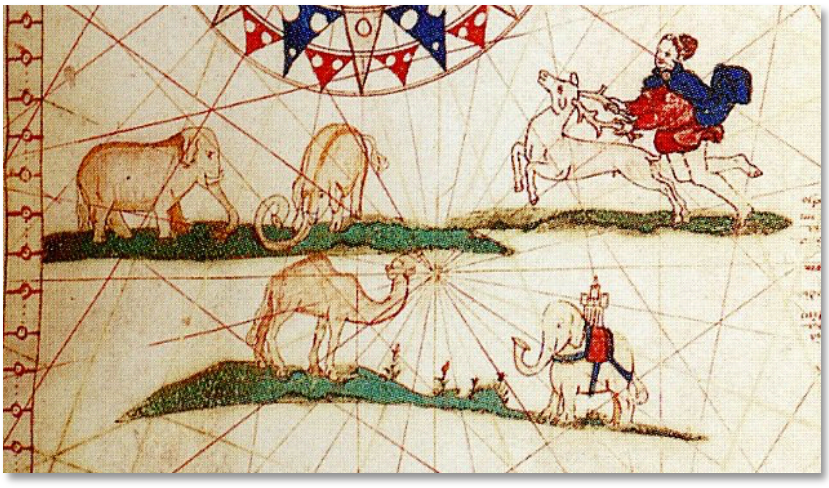
At the same time as this southern continent became known, explorers were reporting animals from North America but these animals were slower to appear on the maps. Increase was slow until the middle of the 16th century when, on French maps, much of the definitive map fauna started to appear as a result, very largely, of the reports of Jacques Cartier.

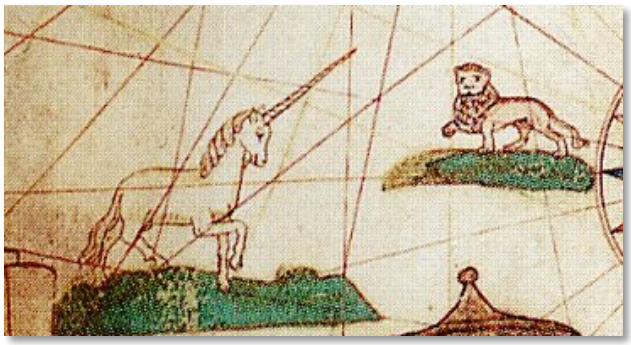
It seems then that, whereas reports of discoveries of new lands, of coastlines or islands often traveled from one country to another rapidly to influence the cartographers, the incorporation of new animals into the map fauna was either slow or had to wait for direct contact between cartographer and explorer or his journal. Catalan maps of the late 14th and early 15th centuries, for example, derived at second hand from reports of Marco Polo's 13th century journeys.

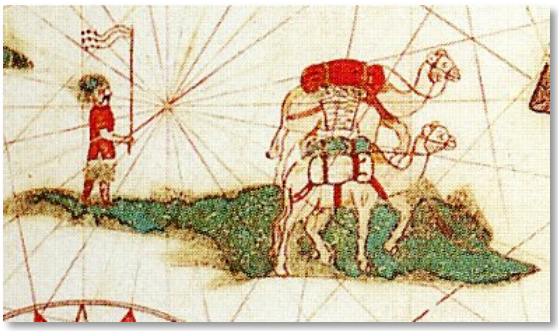
Another magnificently illustrated map is the *Carta marina et Descriptio septemtrionalium terrarum ac mirabilium rerum in eis contentarum, diligentissime elaborata Annon Domini 1539 Veneciis liberal itate Reverendissimi Domini Ieronimi Quirini* [A Marine map and Description of the Northern Lands and of their Marvels, most carefully drawn up at Venice in the year 1539 through the generous assistance of the Most Honourable Lord and Patriarch Hieronymo Quirino] by Olaus Magnus ***(#366)***. This map takes the viewer on a very detailed journey that is cultural, legendary and naturalist in scope. The purpose of this map? Olaus Magnus (1490-1557) did not like the map of Scandinavia in the 1482 edition of Claudius Ptolemy's *Geographia*. The classic Ulm text, a translation of the Greek's principles of geography and cartography formulated in the second century, purported to have the most current and accurate maps available at the time and was a reference work of great scholarly importance. But Olaus knew the map of Scandinavia was hopelessly wrong. To correct the erroneous ideas that most Europeans, especially southern Europeans, had about his native land, he made his own map. Published in 1539, the *Carta Marina*, a wall map in nine sheets, was the first large-scale map of any part of Europe. Also, the title makes clear that Olaus intended his map to be used by navigators, as do the navigational elements depicted on the map: four large compasses, *rhumb* lines indicating directions from them, a pair of dividers, and distance scales.

Illustrations on Mateus Prunes' 1559 portolan chart





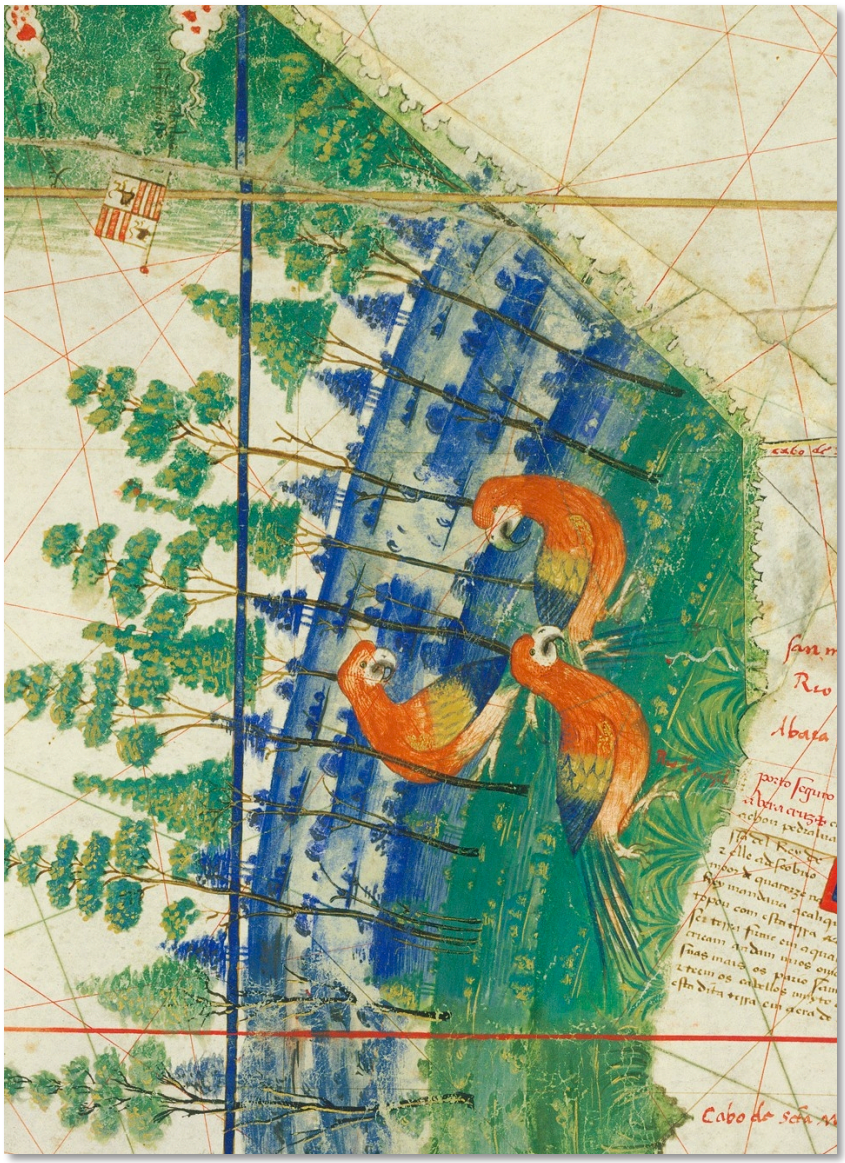






The three Biblical Wise Men on horseback in Asia and in the far northeastern corner of Asia, enclosed by a great semicircular river and split by a broad moat, "R[egio] Got" and "R[egio]

Magot": above R. Got is a dog-headed figure. Above R. Magot is a humanoid monster whose face is in its chest and who holds in each hand what appears, from the color and shape, to be a piece of meat. The topos of Gog and Magog as anthropophagi has been merged with Solinus' blemmyae in the latter example, with another legend concerning men with dog's heads in the former. R. Got and R. magot suggest the Biblical Gog and Magogon on the Juan de la Cosa world Map 1500 (see monograph ***#305****)*



*Parrots in South America displayed on the Cantino planisphere of 1502 (****#306****)*



An elephant in South Africa on Martin Waldsemüller's 1507 World Map ***(#310)***



In Southeast Asia, as part of the "Tiger Leg" is the famous inscription HC SVNT DRACONES [Here are the Dragons] on the Lenox Globe of 1510 ***(#314)***



*Detail from the 1513 Piri Reis Chart of the Ocean Sea (**#322**): South America displaying a cynocephalus (dog-headed man), a blemmya (man with his face on his chest) and new world animals.*

Thee representation of South America and the description of its toponyms in the Piri Reis map are typical of an early 16th century manuscript map and are based on Portuguese sources (probably dated after 1502); however this chart is the first to depict fantastic South American animals, particularly in Brazil. In a part of the map referring to South America, Piri Reis added a legend:

"In the mountains of this territory were creatures like this [dog-head man and a baboon-like monkeys] and human beings came out on the seacoast. Thee gold mines are endless".

"These monsters [headless] are seven spans long. The space between their eyes is one span, but they are harmless souls".

As seen above, these fantastic creatures had already occasionally been depicted in medieval *mappaemundi* and many of them were associated with either Africa or Asia, such as the headless men and the *yale* respectively. For instance creatures such as the *cynocephali* (dog-heads), "headless" men or *blemmyes* (*acephali*), dragons, unicorns and similar 12th century monsters are present in the 14th century *mappamundi* of Ranulph Higden (1363, **#232**) among others. De La Cosa's map (1500, #*305*) also shows a *blemmye* and a dog-faced man in the Far East, in the approximate location of China. After Piri Reis they are also found on the chart of Guillaume Le Testu (1555. **#392**) and associated with the New World on the map of Sebastian Cabot (1544, **#372**) and that of Guiana by de Bry (1599).

Like other charts of the same period, the Piri Reis map is enriched by the representation of several zoomorphic figures, real and fantastic, evoked for the specific designation of the various individual territories. The Piri Reis map shows some legendary cephalopods, dog-headed figures, etc. taken from ancient and medieval sources. However, it also displays a large number of real-life mammals for the first time, in South America, together with some snakes and the symbolic parrots. The parrots are green with red beaks and long tails, sitting on all of the Caribbean islands and described as being of four kinds: white, red, green and black. There are monkeys with long tails, a one-horned bovid, a two-horned spotted ungulate with a tusk, a six-horned animal, which might possibly be one of the South American hollow toothed deer with much branched antlers, and an animal that might well represent a llama were it not for its horns. A single carnivore, looking agile with its tail flourishing, resembles the very common South American martens or *tayras* (mustelids) but could, perhaps, according to Wilma George, represent the larger, more frightening and, therefore, more written about jaguar.

According to Gregory McIntosh, there are eleven Atlantic islands characterized by the occurrence of birds on the Piri□ Reis map. These animals are shown perched on these territories, some of them recognizable as *Istonasia, Trizpose, Triz Matos, Elcerize Izle despanhya, Undiziverjine* and *Antilia* identified as parrots. We can assume that these birds were well known to Piri Reis, since they are represented with almost scientific precision. Before offering our zoological interpretation of the parrots, we will first list the islands on which these birds were shown on the map.

Depicted on one of the two islands between Africa and South America is a black and white parrot with a red beak. This is the legendary island of *Antilia* that was often illustrated on 15th century *portolan* charts, but was usually shown to the west of Europe, not to the west of Africa as on the Piri Reis map. The inscription referring to the island of *Antilia* reads, in translation:

"[...] and this island they call the island of Antilia. There are many wild beasts [i.e. monsters] and parrots and much logwood. It is not inhabited".

Another parrot shown on the map is associated with a group of eleven islands northeast of Puerto Rico and is accompanied by this inscription:

"These small islands are called 'undizi vergini' [that is to say the eleven virgins]". These are, of course, identified with the Virgin Islands, named after the popular legend of the eleven thousand virgins of St. Ursula.

Actually, there are two groups of Virgin Islands on the Piri Reis map, and the parrot stands on the "duplicated" ones that are drawn further to the north, east of

Puerto Rico. A third parrot is found on an island that the Turkish admiral calls *Triz Matos*. This string of islands southeast of Puerto Rico can be identified as the Lesser Antilles, the islands that Columbus discovered on his second voyage. On four islands surrounding the Lesser Antilles, four more parrots of different colors are depicted, one with a very distinct white head and others with black and green-black bodies. Another parrot is shown on the southeast corner of a big island in the center of the Caribbean Sea: this is Hispaniola, modern-day Haiti/Santo Domingo Republic. The shape and orientation of Hispaniola on the Piri Reis map is strikingly similar to that of the island of *Cipango* [Japan], as illustrated on the 15th century geographical maps. It also recalls the shape of *Antilia* as shown in the 1492 globe of Martin Behaim ***(#258)***, as well as other later maps. *Cipango* was the name given by Marco Polo to the Japanese archipelago and it was one of the original destinations of Columbus' first voyage. In fact, when Columbus discovered Hispaniola, he believed it to be *Cipango*, the major axis of which he assumed to run north-south (see the Martellus world map of c. 1498, ***#256***). In addition to all these islands, two other insular territories located in the extreme northwest portion of the map are characterized by the depiction of one parrot each.

With the exception of Hispaniola and the Virgin Islands (the duplicated ones), it seems that none of these islands which are decorated with parrots actually exist, and their conventional shapes suggest that they are the products of fantasy assumed that all the islands with parrots originated from the map which Columbus used on his first voyage, regarding which he communicated with Martin Alonso Pinzon on September 25, 1492.

A closer examination of these birds reveals them to be parrots, parakeets and/or *Aras*, but they do not appear to correspond to any species known to be living today. What could they be? They may represent some kind of bird from the order *Psittaciformes*, and the family *Psittacidae sensu lato*. Three inscriptions appear on the part of the Piri Reis map showing the mainland of Central America, which has, however, been identified as Cuba by McIntosh. The last inscription is of particular interest:

"This region is known as the province of Antilia. It is in the west. They say that there are four kinds of parrots: white, red, green and black. The people eat the flesh of parrots and their headdress is made entirely of parrots' wool [i.e. feathers]..."

References to parrots are abundant in all the subsequent texts of the explorers of the New World. Parrots were very sought-after animals among Renaissance nobles and were massively imported from both Central and South America. These birds became a sort of intermediary between the two worlds and were the first American animals to circulate in Europe as representatives of an alien reality. The association of parrots with the New World is particularly evident in paintings and in several geographical maps of the early 16th century, such as those of Cantino (***#306***, 1502) and/or Waldseemüller (***#310***, ***#320***, 1507, 1516).



An elephant and ostrich of the northwest coast of Africa from the 1513 Piri Reis Chart of the Ocean Sea **(#322)**

The interior of the map is filled with characteristic features of the continent. Two animals are associated with this part of the map: an elephant and an ostrich, *Struthio camelus*. Although the African proboscidean ought to be *Loxodonta africana*, the representation appears to portray an animal of the Asian species, *Elephas maximus*, since its back is convex and its ears are smaller than those of the African species.

Asiatic elephants were a common subject on maps and *mappaemundi* both in Europe and the Near East. Two examples of this are the Byzantine *Creation of animals*, where many zoological species including an Indian elephant are illustrated in a *mappamundi* of the 12th century *Seraglio Octateuch*, fol 32v, (Anonymous 12th century), and the *Catalan Atlas* of 1375 (**#235**). After Piri Reis these Asiatic proboscideans continued to be featured on European maps until the end of the 16th century (e.g., the maps of Diogo Ribeiro 1529, **#346**).

Regarding the ostrich, five subspecies of this giant non-volant bird are ordinarily recognized as occurring in Africa: the nominate subspecies, the North African ostrich or red-necked ostrich, *Struthio camelus camelus*, the Somali ostrich, *Struthio camelus molybdophanes*, the Masai ostrich, *Struthio camelus massaicus*, the southern ostrich, *Struthio camelus australis*, and the Arabian ostrich, *Struthio camelus syriacus*, the only subspecies found outside Africa. The model for the Piri Reis birds, quite skillfully depicted, may have been an adult female (perhaps *S. c. camelus*), which is characterized by a less bright coloration than the male of the species. It is, however, not easy to identify the source of

the Piri Reis image due to the fact that ostriches have been frequently portrayed in bestiaries and books of animals since antiquity.

During Marco Masseti and Cecilia Veracini's analysis of the zoomorphic images of the Piri Reis map ***(#322)*** they observed two different patterns of representation of the animals: one more realistic and another more fabulous. In the portion of the map showing Africa, which is fairly accurate in its geographical contents, the animals are depicted in a fairly naturalistic way, not unlike those encountered on other previous maps. The late medieval iconography often shows animals such as ostriches and elephants associated with Africa. In this sense Piri Reis merely illustrates what was taken for granted in contemporary knowledge about the African fauna. Nevertheless it is impossible to know whether the admiral could have had access to Portuguese chronicles or to recent information about Africa that mentioned the new animal species that the Portuguese had begun to encounter from the second half of the 15th century. It is well known that many of these chronicles were regarded as state secrets in Portugal and hence not accessible. The fabulous creatures that fill the New World lands on the map had been previously associated with either Asia or Africa on late medieval maps or *mappaemundi*, but the Piri Reis map was the first (and one of the few) to depict these legendary beasts in the New World. These mythical creatures would eventually disappear with the arrival in Europe of new and more realistic descriptions of South American animals in the decades after Piri Reis. Many of the sources that Piri Reis used to describe the American animals can be traced to bestiaries or Arabic books of animals, combined with the little first-hand information to which he had access. (see Marco Masseti and Cecilia Veracini's article, "The zoomorphic representations of the Piri Reis map (1513)", *Anthropozoologica* 51 (1): 41-54.)



*The first opossum in South America on Martin Waldsemüller's Carta Marina, 1516 (**#320**)*



A rhinoceros in Northern Africa on Martin Waldsemüller's Carta Marina, 1516 ***(#320)***



A unicorn on the 1516 Vesconte Maggiolo chart



An elephant, lion and a griffin on the 1516 Vesconte Maggiolo chart ***(#307.3)***



A unicorn, two camels, an elephant in Africa on the 1504 world map by Vesconte Maggiolo (**#307.4**)

5.17



*Possibly the depiction of a walrus on Martin Waldsemüller's Carta Marina, 1616 (**#320**)*

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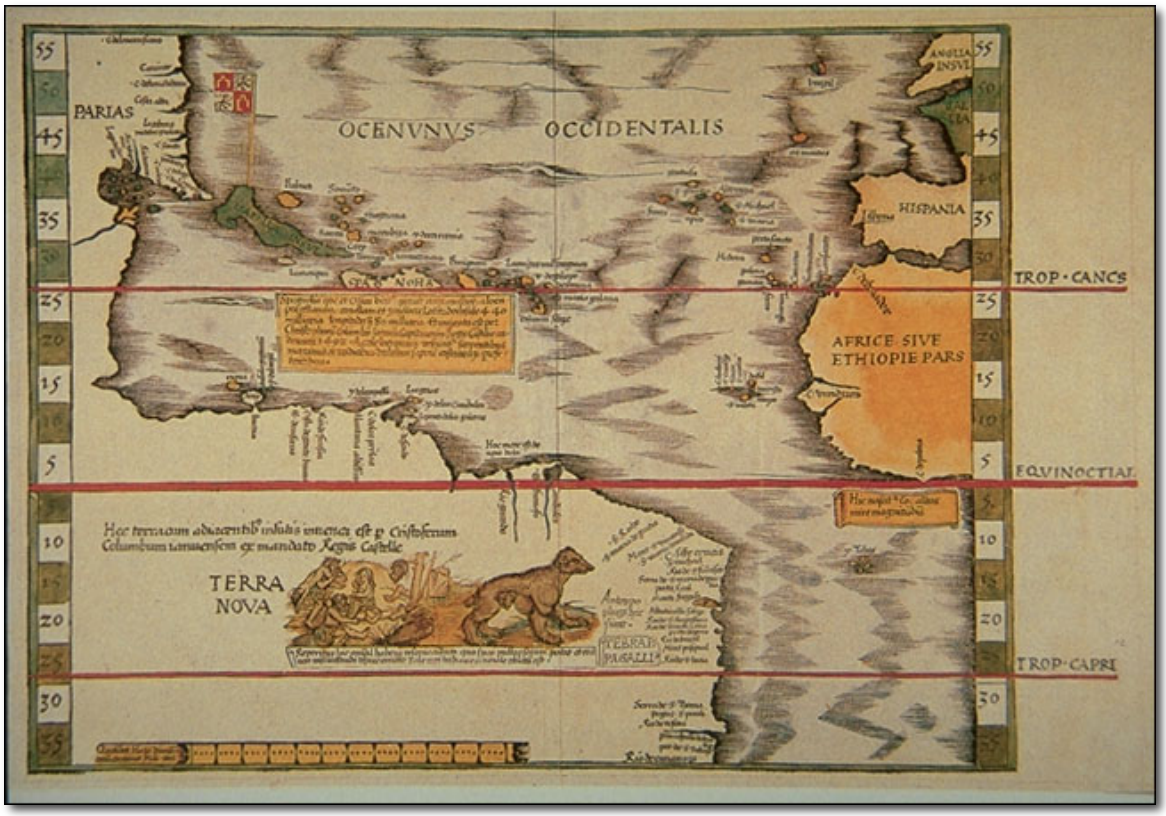
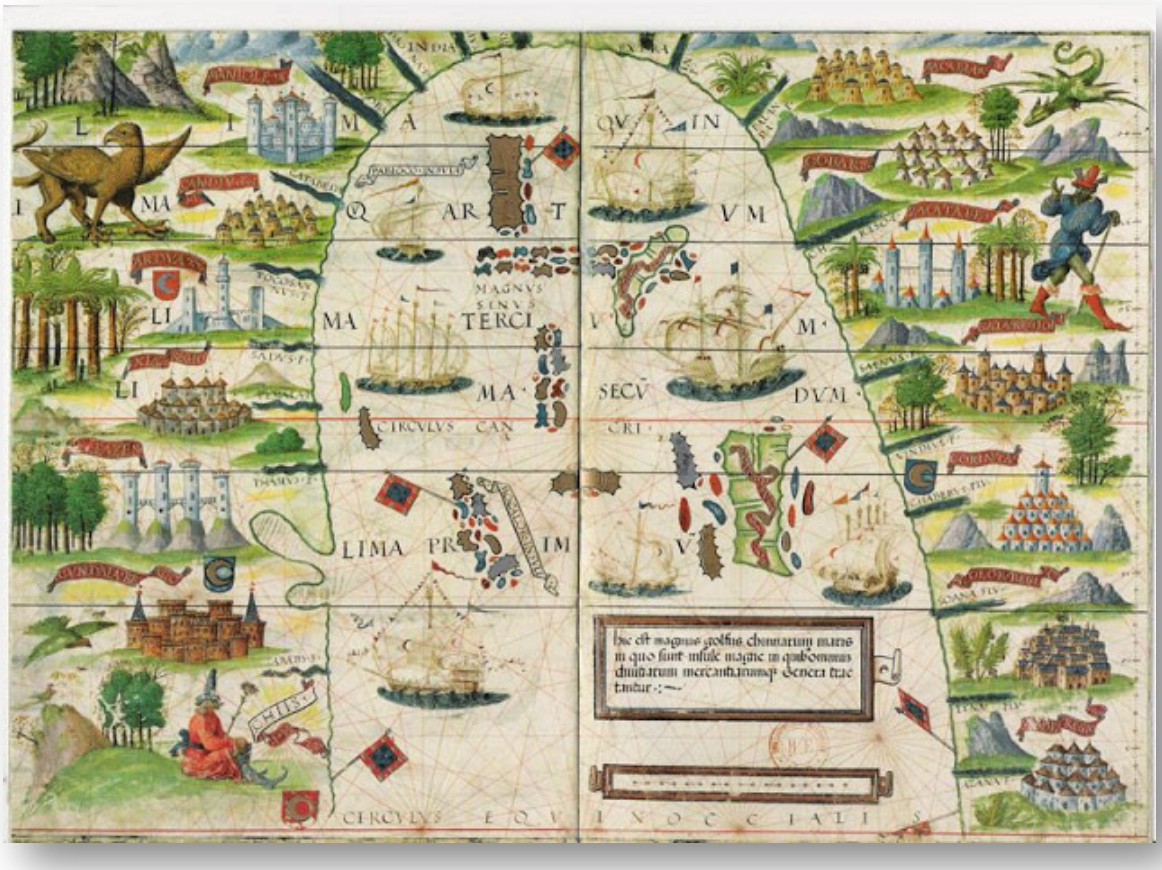


An opossum on the Oceani Occidentalis Seu Terrae Novae Tabula [The Admiral's Map], 1535
(#320)



*A winged creature in Africa bordering the "China Sea" and a dragon in India on the 1519 Miller Atlas (**#329.1**)*



Lions, elephants, camels, a rhinoceros in northern India in the Miller Atlas, 1519 ***(#329.1)***

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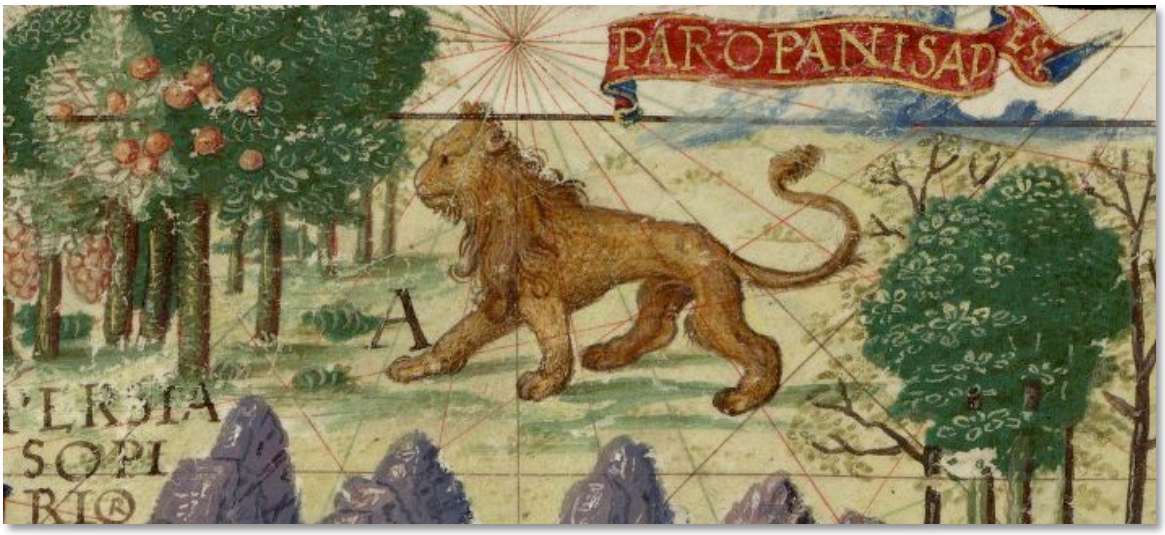
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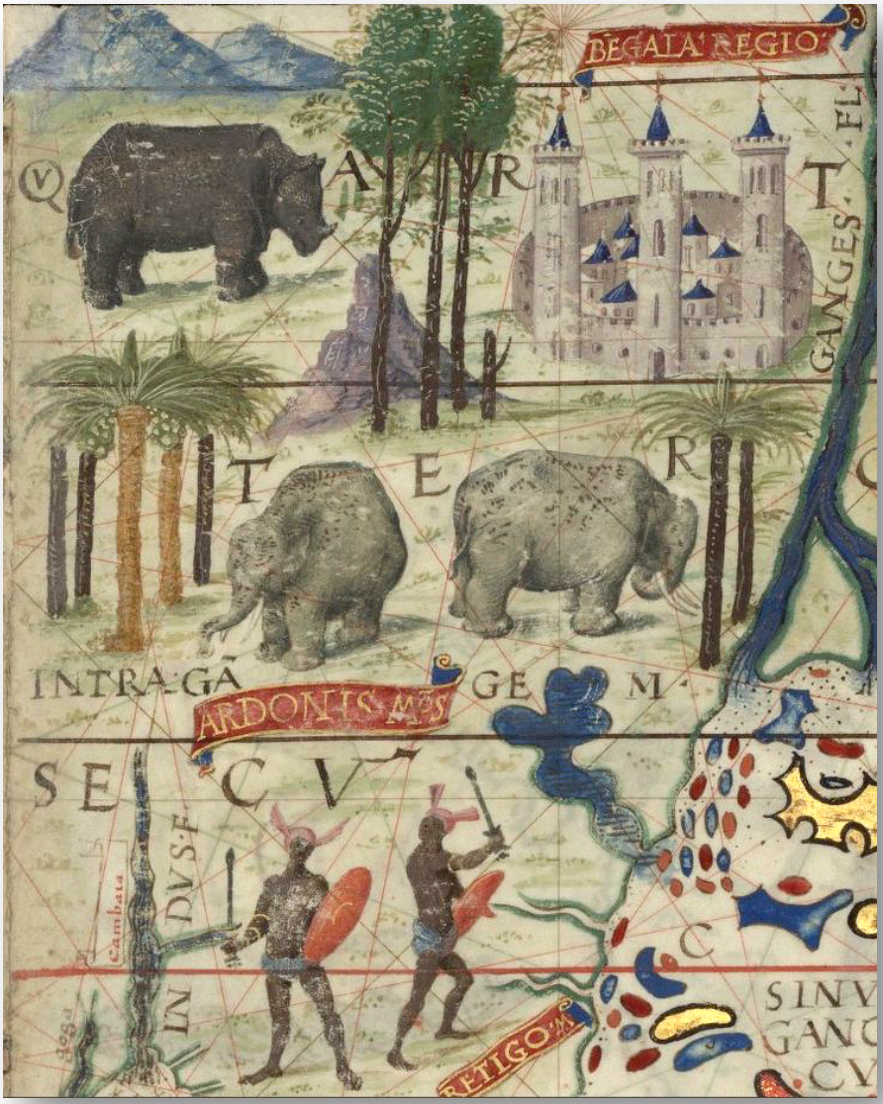
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Two bears, deer and a fox in North America in the Atlantic Ocean map in the Miller Atlas

In 1527 the South American ostrich or rhea turns up for the first time, on the Spanish Wolfenbüttel map of the New World, attributed to the Portuguese cartographer Ribeiro *(see monograph **#346**)*. Antonio Pigafetta, whose influence on the mapmaking of Ribeiro is well known, had listed several birds from South America, among which was an ostrich. Two years later, Ribeiro redrew a map of the world and covered it with animals. To the monkeys, opossums, rheas and parrots that were becoming familiar on the South American scene, he added deer, a jaguar, a possible bear, a dragon, some birds and a number of small animals that are difficult to interpret but, on the original preserved in the Vatican library, they give an impression of some of the South American rodents such as the mara, chinchilla and viscacha. If this interpretation is correct, this is the first occurrence on a map of a representative of the New World rodents. These conspicuous continental forms were not described in writing until 1589. Chinchillas are another genus of small animals like squirrels having a marvelously soft fur, and its skin is taken for giving as a present and as a wholesome cover for the stomach and for parts where it is necessary to keep a moderate heat; also they make coverings, or blankets of the fur of the chinchillas. They are found in the sierra of Peru where there are also other more common animals, such as guinea pigs, which the Indians consider very good as food, and often use these guinea pigs as offering in their sacrifices. They are like rabbits and have their burrows under the earth, and in some parts they undermine the whole place. Some are brown, others white and different. Other animals are called *vizcachas*, which are a sort of hare, some bigger, and were also hunted.

Among the animals on Ribeiro's map there occurs an animal with every appearance of an armadillo: its small pig-like body with an impression of armoring seems to identify it. Finally, according to Wilma George there appears an animal which probably represents a howler monkey.



A variety of animals in South America on the Diego Ribero world map, 1529 ***(#346)***



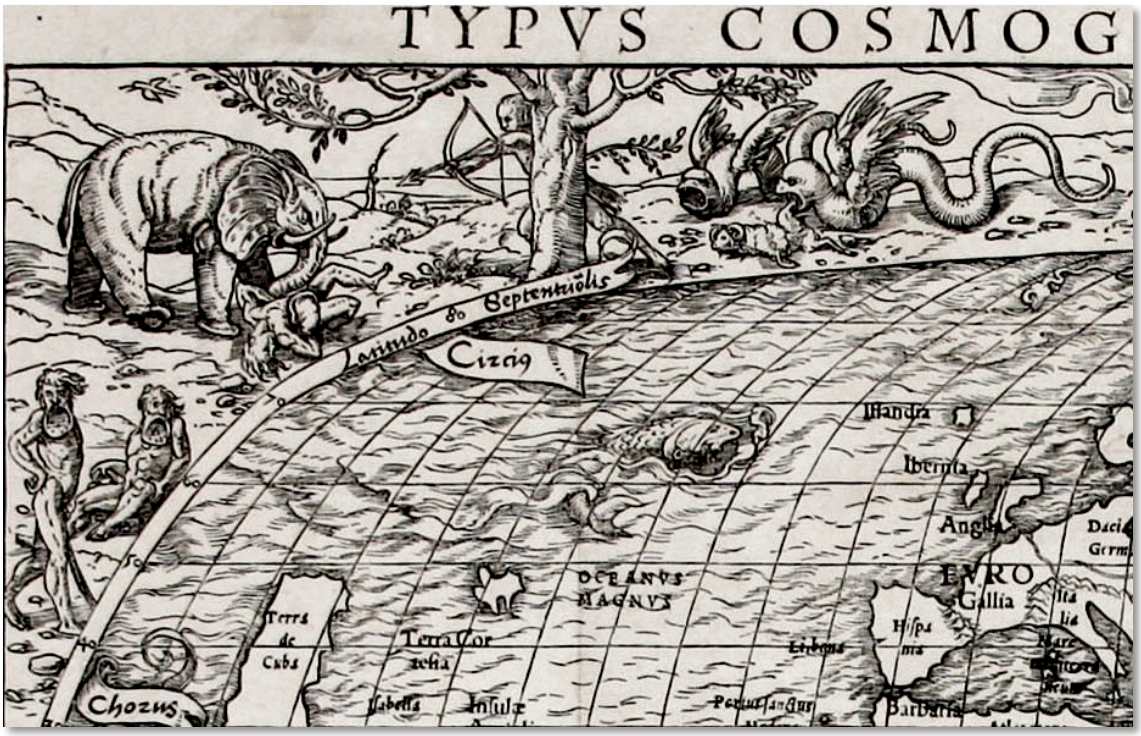
Birds and animals in Central Africa on the Diego Ribero world map ***(#346)***



Camels, elephants, unicorns and a dragon in Asia on the 1531 Maggiolo world map ***(#340)***



The Wittenberg world map, more commonly known in English as Daniel's Dream Map, 1536, is probably the most mystical world map of all time. At the time of its first publication as the sixty-first world map to go into print it was, on the one hand, a depiction of the Old World based on the Ptolemaic world view but including a number of recent Spanish and Portuguese discoveries, but on the other hand, a visualization of the prophet Daniel's apocalyptic dream of the four kingdoms. In the continents stand four fabulous beasts: a lion with eagle's wings; a bear; a leopard with four heads and four bird's wings; and a goat with iron teeth, seven large horns and one small horn with a human head. In the west of Asia but east of the Caucasus a mounted army with people wearing turbans and carrying banners can be seen. **(#352)**



An elephant and winged-snakes on the Typus Cosmographicus Universalis by S. Grynaeus/H. Hoblein [S. Münster?], 1532-55 ***(#353)***



A lion and exotic birds in the map: Brazil, from the Nautical Atlas, 1538 ***(#365.1)***

Probably THE most profusely decorated map is that of Olaus Magnus, *Carta marina et Descriptio septemtrionalium terrarum ac mirabilium rerum in eis contentarum, diligentissime elaborata Annon Domini 1539 Veneciis liberal itate Reverendissimi Domini Ieronimi Quirini* [A Marine map and Description of the Northern Lands and of their Marvels, most carefully drawn up at Venice in the year 1539 through the generous assistance of the Most Honourable Lord and Patriarch Hieronymo Quirino]. More than a hundred of the images from the *Carta Marina* appear in the *Historia*, with explanations. In 1998 the Hakluyt Society published the complete *Historia* in an English translation by Peter Fisher and Humphrey Higgens, edited by Peter Foote. The three-volume work provides new insight into the illustrations on the map. Olaus' attempt to blend Ptolemy's maps with mariners' charts was not entirely successful — Scandinavia extends two degrees beyond the North Pole, for example — but what the *Carta Marina* may lack in geography is more than compensated for by its folklore. The images of his people and his land are both delightful to look at and rewarding to study. While displayed in color here, the original baroquely detailed map image was uncolored.

In 1539, among the more usual elks, reindeer, lynx, bears, foxes and other small carnivores, Olaus Magnus depicts rodents, an order otherwise remarkably absent from maps. Among the rodents is a squirrel, beavers, mountain hares and, probably, mice being eaten by a dragon and by foxes. There is a horse in west *Frisia* that is not obviously domesticated and there is a picture of the now extinct wild *aurochs*, in Russia.

The *aurochs* or wild ox was always confined to Europe and may be the progenitor of most of the modern domestic cattle. It was probably represented on the 13th century *Hereford mappamundi (**#226**)*, in Europe, as it had been known and had been named hundreds of years earlier. "Some remarkable breeds of wild oxen, the mained bison and the exceptionally powerful and swift *aurochs*, to which the ignorant masses give the name of buffalo, though the buffalo is really a native of Africa and rather bears some resemblance to the calf and stag," wrote Pliny.

A wild pig storms through White Russia and the lakes are filled with fish of all types. Birds are numerous, from pelicans to many sorts of birds of prey. There are also snakes.

In the far north of the map is an animal like a lion and a giant holding rune stones. The latter is a representation of Starkather from Tavastland, said by Claus to be a model for others, as his strength was "a love of frugality and an aversion to lavish feasting."

The number of small carnivores is extended to include otters, a marten, a sable and, most interestingly, the *gulones*. The *Gulo*, wolverine or glutton, related to the badgers, was once more widespread than it is today, ranging over the greater part of North America, Europe and Asia. It is comparatively large, as much as a meter in length and weighing up to twenty kilograms. It is aggressive in accordance with its size. It may be Herodotus' "creature with a square face, whose skin they use for making edges for their jackets; its testicles are good for affections of the womb." *Gulones* were reported in 1553, by Sir Hugh Willoughby, as animals of particular interest, being unknown to him from the more southerly and western parts of Europe (Hakluyt 1598). It was probably from direct experience that Olaus Magnus figured them on his map. It was not, by any means, fortuitous that his map was a Scandinavian natural history. He had traveled widely in the north and studied carefully before his map was actually cut in Venice in 1539.

With his map is an *Opera Breve* which describes the pictures, pictures not only of animals but of people, activities and historic incidents and, in 1555, he published the

Historia de Gentibus Septentrionalibus which described both the northern peoples, their occupations and history and the natural history of the area. Of the *gulo* he wrote: "The gulo is as a great dog and his ears and face are like a cats: his feet and nails are very sharp: his body is hairy with long brown hair, his tail is like a foxe, but somewhat shorter, but his hair is thicker, and of this they make brave winter caps." He goes on to describe, how it eats a carcass until it is bursting and then pushes between two trees to squeeze it out; as such, with little other resemblance to Olaus' description, it appears on his map. Gluttons are reputed to be capable of pulling down deer and it is in this act that one is shown in 1747. The North Americans, equally, had their myths about the gluttons, even though these did not seem to be communicated to the early travelers in those regions and, thus, did not reach the maps as the beavers did. The glutton, a member of the weasel family, was an animal much feared by the Eskimos and North American Indians, because of its deceitful nature.



The Carta marina by Olaus Magnus, 1539 (**#366**)

The reindeer and the red deer represent Wilma George's *Palearctic* region on the maps more often than any other animal. According to Pliny "the reindeer is the size of an ox; it has branching horns, cloven hooves, and a fleece as shaggy as a bear's but, when it happens to be self-colored, resembling an ass' coat. The hide is so hard that they use it for making cuirasses". The reindeer occurs most frequently in domestic roles. On the early Catalan maps of the 14th century and maps of the early part of the 16th century,

reindeer are ridden by falconers in the northern lands, reaching the summit of domestication in 1539, when Olaus Magnus features them abundantly. They are being milked, they draw carts and they are ridden.



*A wild boar and falcon (**#366**)*



*Reindeer, a horse and leopards (**#366**)*



*A sea monster on land and a griffin (**#366**)*



*A lion, a dragon, beavers, fox (**#366**)*

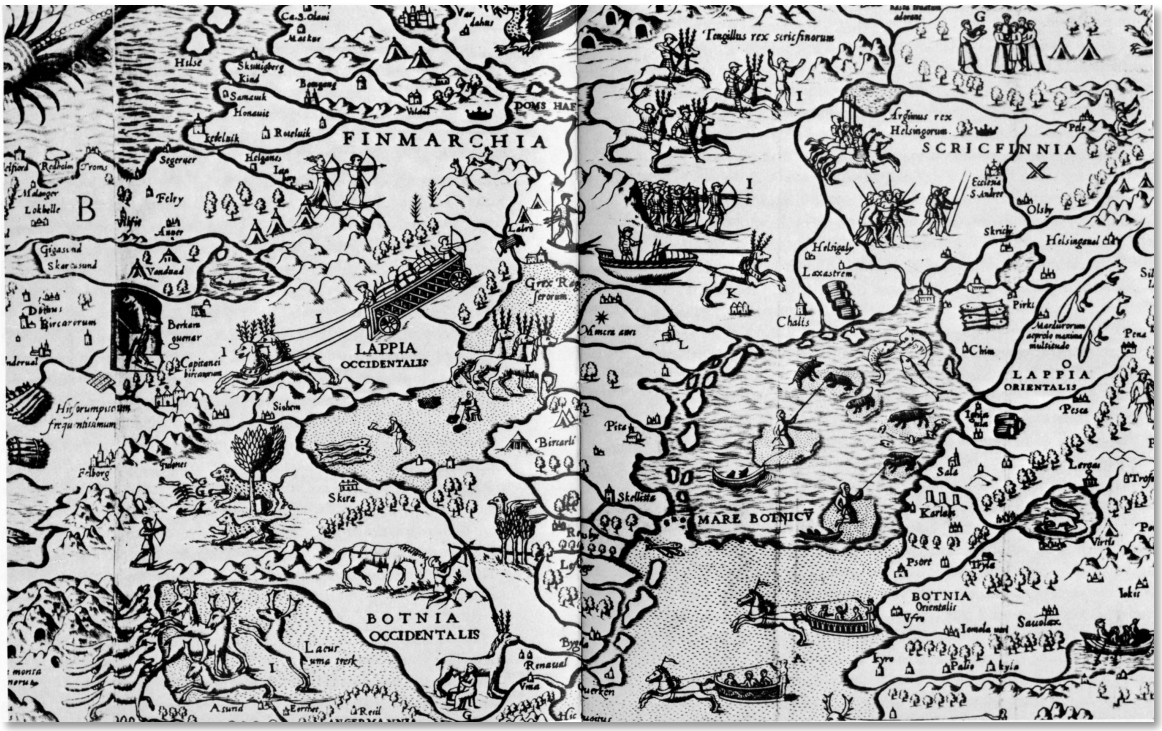


*Reindeer, pelicans, snakes, fox (**#366**)*





*Polar bears on an ice floe (**#366**)*



Part of the 1572 Lafreri copy of Olaus Magnus's 1539 Carta Marina: dragon, reindeer, mountain hares, horses, beavers, gluttons, bears, squirrel, wolves and elk



A 1590 map of Iceland by the Flemish cartographer Abraham Ortelius – who was also the first person to intuit continental drift – explains how polar bears got to Europe's second-largest island, and still do: on sea ice floating southward and eastward from the pole, skirting Greenland's north coast. The map's legend provides details: "Huge and marvelous great heaps of ice brought hither with the tide from the frozen sea, making a great and terrible noise; some pieces of which oft times are fourty cubites bigge; upon these in some places white beares do fitte closely." Although Icelanders quickly killed most of the marooned bears because they threatened their sheep flocks, they occasionally captured and traded orphaned cubs, or gifted them to European royalty, to be kept in private menageries.



A polar bear on a arctic island as seen on the Behaim globe of 1492 ***(#258)***

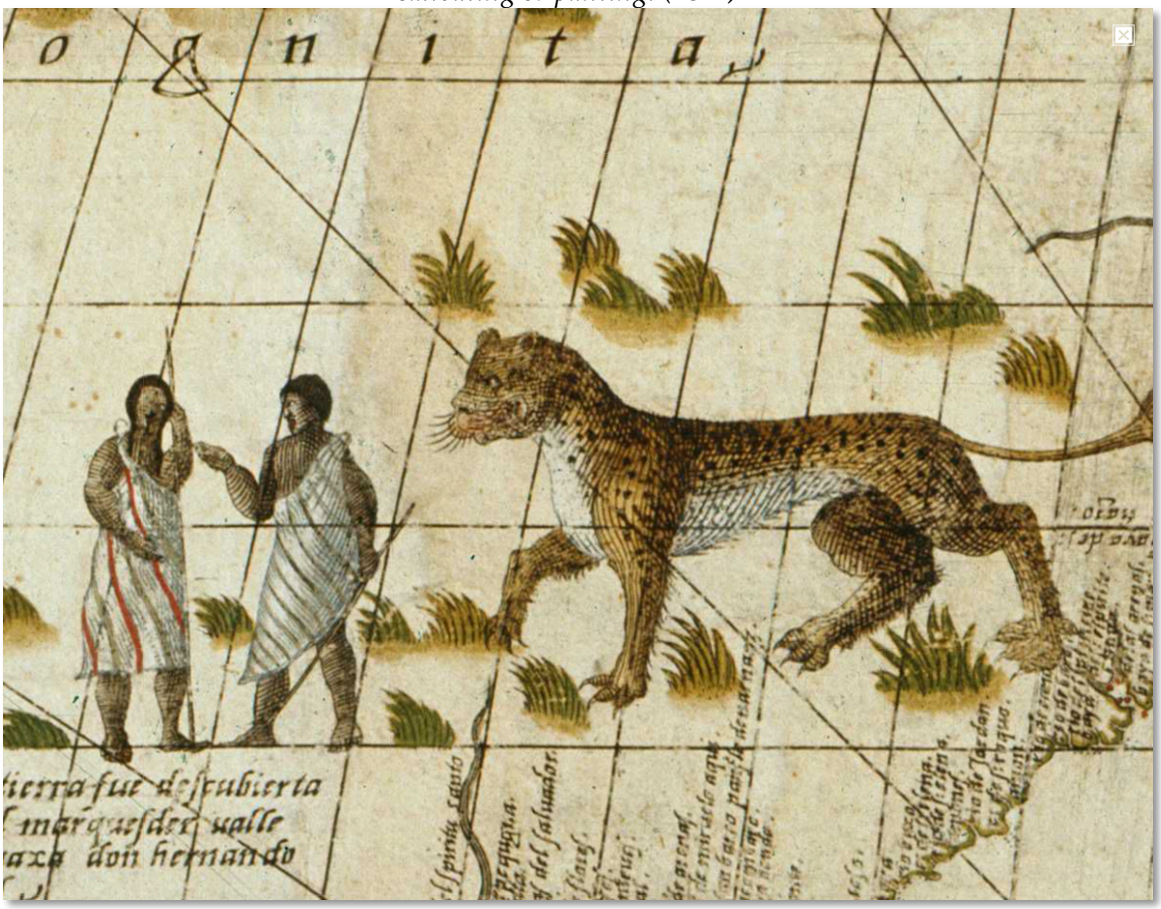


An elephant and alligator in Africa on the 1544 world map by Sebastian Cabot **(#372)**



The first image of a polar bear in North America proper adorns a world map from 1544, usually ascribed to the Venetian Sebastian Cabot. The son of an explorer, Cabot first chased the

Northwest Passage funded by merchants and later in the service of Spain and England. His map has the Arctic Circle at the approximate latitude, and two bears just south of it, in what today is northern Quebec, Canada. "The land is very sterile. There are in it many white bears," a handwritten comment on the map reads. The bears, with their tongues lolling, seem to be either salivating or panting. **(#372)**



A very large leopard in North America on the 1544 world map by Sebastian Cabot **(#372)**

There were several maps and atlases which include fauna in all five Wilma George-defined regions of the then known world and some also included the sixth, unknown, region. Several others covered at least four regions. These were mainly the work of the Dieppe school, the earliest of which to fall in this category is the 1536 *Harleian* or *Dauphin* map ***(#382.1)*** to be followed by, among others, the Pierre Desceliers planispheres ***(#378)***, the *Vallard Atlas* ***(#381.2)*** and the *Le Testu* maps ***(#378)***. Wilma George has conducted a detailed analysis of these maps with respect to the depiction and distribution of fauna, below are some of her astute observations.

The *Neotropical* fauna of South America from Desceliers' map of the world 1546 in the John Rylands Library, Manchester: domestic llamas, opossum, peccary and alligator in the north; snakes, monkey, dragon, large rodent, armadillo and four legged rheas in the south; long tailed turtle in the east. Monkeys and rheas, parrots and opossums persisted until, in 1546, another typical South American creature appeared, with certainty this time, on a world map by Desceliers. This was the *peccary*, which had been recorded by Columbus 1502 from Panama and by Vespucci 1500 from South America but which had not been depicted before unless the grey, tusked but horned,

animal of Piri Re'is 1513 map ***(#322)*** is considered. *Peccaries* are related to the Old World pigs but form a distinct family, which is both confined to the New World and is the only type of wild pig found there. The Dieppe school, of which the most famous cartographers are Desceliers, Vallard, Rotz and Le Testu, is known to have derived its cartographic information from Portuguese sources and it is interesting to find on these maps animals, too, that had been reported from Portuguese sources such as Columbus.

An armadillo is distinctly recognizable by this time. There is a long tailed turtle, a lizard with wings and some sort of other reptile, possibly an alligator or caiman, to represent the other vertebrates. Llamas and monkeys persist and so supposedly does the opossum, although by now it looks more like a pouched cow. Birds that are presumably rheas have four legs. There is also an animal that might conceivably be a capybara, or other large South American rodent, which has turned up already on another Dieppe map, the 1536 *Harleian* or *Dauphin* map in the British Museum ***(#382.1)***. By this time, the middle of the 16th century, the more southerly part of the northern continent was also becoming known and being represented with more accuracy on the maps. By 1546 Desceliers on one of his earlier maps had drawn a peccary and a porcupine in the *Nearctic* region, both being animals shared with the *Neotropical* region; the peccary, originally a North American form that migrated to South America after the Pliocene era; the tree porcupine, a *Neotropical* rodent that migrated north somewhat later. On his 1550 map, Desceliers depicted a turkey for the first time. Desceliers' map of 1550, also in the British Museum, drops all these interesting animals and symbolizes South America by monkeys and macaws once again.

Desceliers made a distinction between the two types of elephants (African and Indian), on both his 1546 and 1550 maps of the world: on both, the African elephants are shown with larger ears than most of those in the Indian region. And, during the century, a map of Ortelius, *Carta deli' Asia*, represents the African elephant as generally bigger and taller than the elephant that depicts the oriental region. For the rest, no distinction was made between the two genera and both were shown, frequently, as domesticated animals; though it seems that the Indian elephant was the more usually domesticated of the two, the African elephant having the unjustified reputation of bad temper and waywardness.

Camels and lions were the next most popular animals of the cartographers: the camels, being mainly domestic, single humped, artificial representatives of the region; the lions, tending towards the heraldic, in many cases. Although not, generally associated with India, lions do not occur there.



Brown and polar bears appear, some on ice floes, north of Canada on the Pierre Desceliers Planisphere from the Dieppe School, 1550. The color of these bears is off, but a few clues indicate they are most likely polar bears. First, the area is treeless tundra into which eastern Canada's grizzly bears rarely, if ever, venture. As well, two of the three bears frolic on ice floes, which grizzlies reportedly never do. ***(#378)***

The 1546 map of Desceliers is particularly interesting in its *Oriental* region, as it depicts what is almost certainly a *pangolin*, for the first and only time in this region. *Pangolins* are the scaly ant-eaters of the *Oriental* and *Ethiopian* regions, looking like fir cones on legs, with strong digging claws, long snouts, long tongues and prehensile tails.

Desceliers also figures another animal with an elongated snout, which is suspiciously representative of another ant-eating animal, the *antlions*, perhaps, of the early naturalists. They had reported the existence of at least two sorts of ant-eaters and left drawings of doglike animals and ant-like animals. Vincent de Beauvais described *formicaleone* as small and *mirmicoleon* as bigger and, on the *Ebstorf* map of the 13th century ***(#224)***, two ant-eating animals had been designated: *mirmicaleon* in the *Ethiopian* region and *formica canu,* marginally, in the *Oriental* region. Little can be gained from the actual drawings of these two except that they are different from one another and *mirmicaleon* is bigger than *formica canu*.

The pictures on Desceliers' map are easier to interpret, at least in the sense that there is little doubt about the *pangolin*. The second ant-eater is more difficult to identify because travelers' reports of the *Oriental* region had not advanced as rapidly as the maps. Two ant-eating carnivores inhabit the *Oriental* region, the sloth-bear *Mellursus* and the *ratel* or honey badger *Mellivora*.

The sloth-bears have elongated noses and reduced dentition associated with an insect eating diet and huge feet and enormous claws for digging out termites' nests. But

the sloth-bear is confined to the *Oriental* region and does not, therefore, fit the written descriptions, although it might be the animal represented by Desceliers.

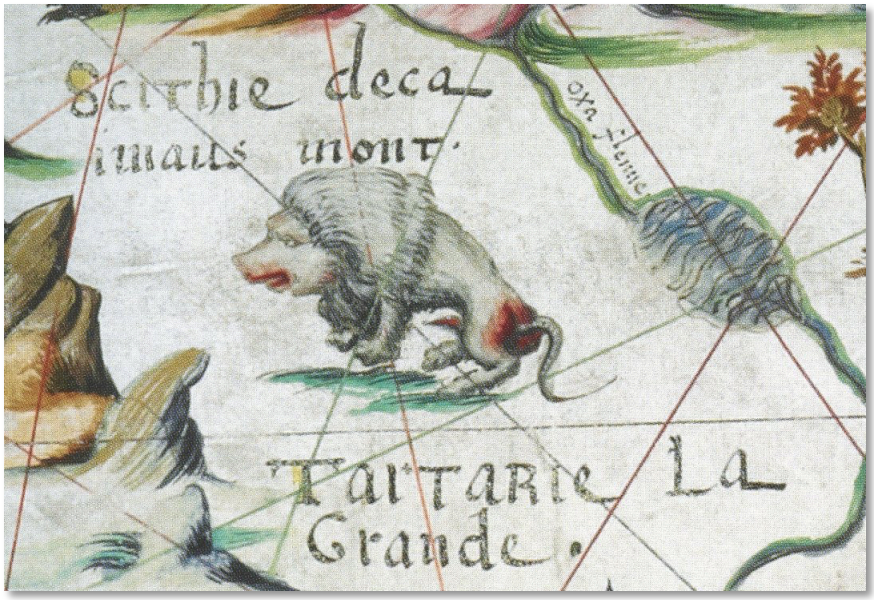
Ratels live as much on the nests of wasps as termites and ants but they inhabit both the *Ethiopian* and *Oriental* regions. They are badger size, smaller than the sloth-bears, but they have equally huge claws, efficient digging habits, longish snouts and shaggy grey, black and white fur. They are, therefore, "of the color of cats" according to Pliny and "of dogs they have all the form and are just of their size" according to Guillaume Le Clerc in the 13th century. The *ratel*, occurring in India and Ethiopia, bears some resemblance to a wolf with four legs and claws on its feet, with a curiously short snout in marked contrast to the characteristically long snout of most ant and termite eating animals. It bears some resemblance to *formica canu* of the *Ebstorf* map. Both have pronounced claws and the exceptionally aggressive look of the rate. *Formica canu* has a longish snout. *Ratels* are very aggressive animals, some of the few animals that stand and fight. They dig with great speed into the nests of wasps and bees. The *ratel*, therefore, is probably one of the ant-eaters written about and figured on the maps, probably the one on Desceliers' map. A *pangolin* figures definitely on that map. The two, between them, may well account for the oriental ant-eaters.

In 1546, too, Desceliers figures a small bear and, also, a large bird with a crest, which occurs in the *Oriental* region and again much later, in 1618, on a map of W. J. Blaeu, for instance. This bird may represent one of the crested egrets or herons that were common in the region and hunted for their plumes or it might be a *sarus* crane *Crus antigone* which, though without plumes on its head, is a five foot tall bird, grey, with red legs and head. The *sarus* crane is specifically figured in several 12th and 13th century bestiaries. These cranes are common features of the south Asia landscape and associated with many legends; never killed by the local people for fear of bad luck, frequently tamed.

The animals depicted on these early maps had scientific value, as Wilma George has shown; and as depicted on the printed maps of the day they were popular with the public. Although absent on the maps in Ptolemy's *Geography* published from 1477, they enlivened the modern maps in Sebastian Münster's editions of Ptolemy published at Basel from 1540 onwards. Dutch printed atlases and maps of the second half of the 16th century and the first half of the 17th often showed typical animals, sometimes with explanatory legends. The *Nieuwe Caerte* of Guiana, 1599, by Jodocus Hondius senior, for example, displayed an impressive array of recently discovered animals, including the armadillo and the anteater. Willem Janszoon Blaeu's map *Nova Belgica et Anglia Nova* in the *Novus Atlas* (Amsterdam, 1635) became a prototype for the display of animals on maps of northeastern North America. Appropriate animals were also incorporated into the designs of decorative cartouches, as on Blaeu's map of "Nova Hispania" in the same atlas.



Reindeer, a bear and an elephant (possibly confused with a walrus) in Greenland on the Pierre Desceliers Planisphere (**#378**)



A baboon in Asia on the Pierre Desceliers Planisphere (**#378**)



Africa on the Pierre Desceliers Planisphere from the Dieppe School, 1550 ***(#378)***



Elephants, a rhinoceros and camels in Africa on the Pierre Desceliers Planisphere ***(#378)***

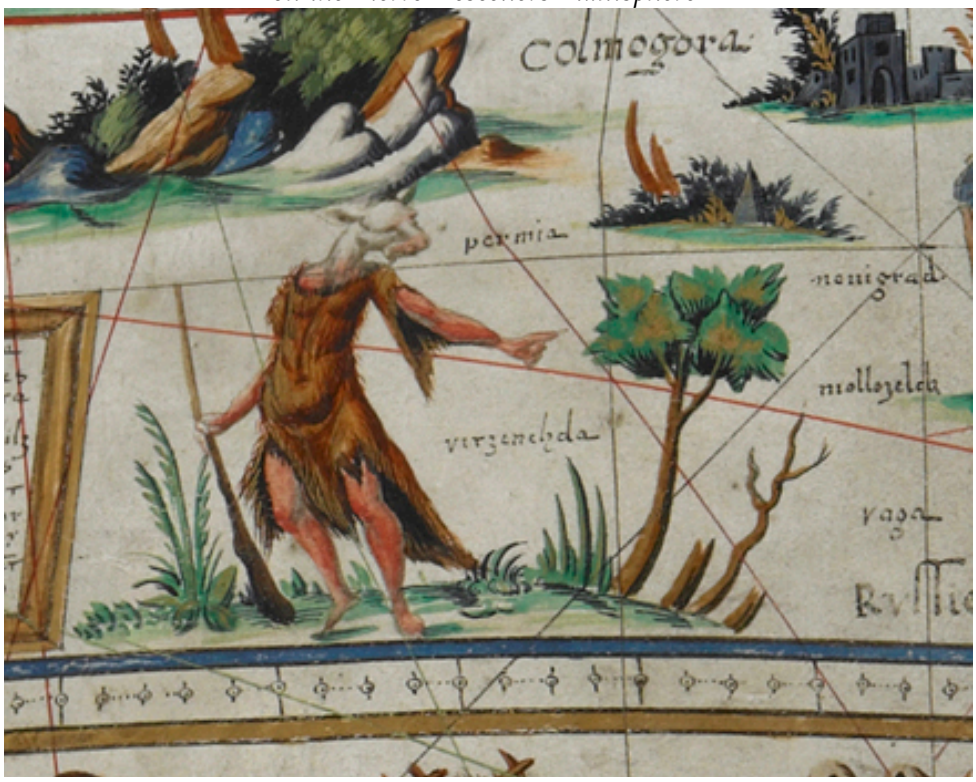


A unicorn, cranes in Canada on the Pierre Desceliers Planisphere from the Dieppe School, 1550 ***(#378)***



Monstrous creatures, a one-eyed blemmyae and one with six arms in Africa ***(#378)***

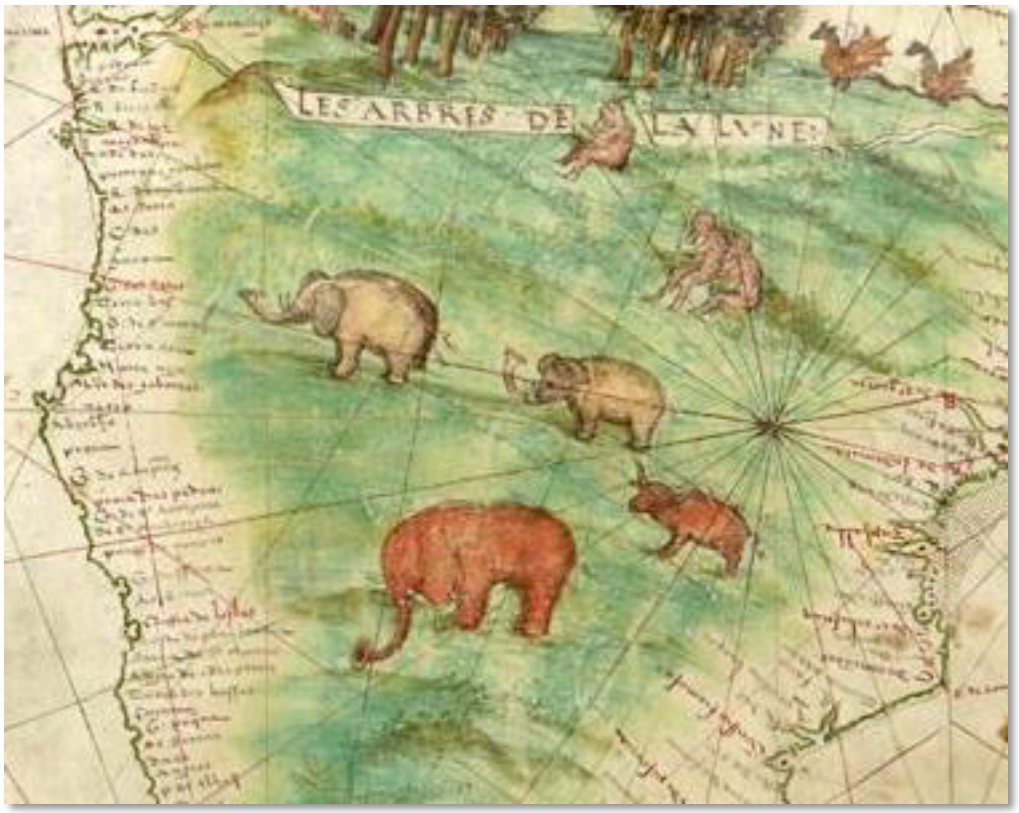
on the Pierre Desceliers Planisphere



A cynocephalus in northern Asia on the Pierre Desceliers Planisphere ***(#378)***



Cynocephal [dog-headed people] cannibals in Australia on the Pierre Desceliers Planisphere ***(#378)***



*Elephants, rhinoceros and griffins in South Africa on the Harleian map, 1544 (**#382.1**)*



*An elephant, griffin, snake and lion on the Pierre Desceliers Planisphere (**#378**)*



Oxen, a basilisks (dragon) and crocodile swallowing a hydrus in South Africa on the Pierre Desceliers Planisphere ***(#378)***

5.17





A flying snake, two different elephants a griffin, and lion depicted in Asia ***(#378)***



An elephant in Greenland on the 1553 Desceliers Planisphere ***(#378)***



*A Cynocephal [dog-headed people] and a Skiapod in northern Eurasia on the 1551 world map by Sancho Gutiérrez, Nautical planisphere. Österreichische Nationalbibliothek (**#394**)*



*An ostrich, griffin and unicorn in Africa on the 1551 world map by Sancho Gutiérrez, Nautical planisphere. Österreichische Nationalbibliothek (**#394**)*



*Detail: North Central EurAsia – Caspian Sea on the 1551 world map by Sancho Gutiérrez with a a headless blemmyae, a character commonly referred to only as the 'six-handed man' and a skiapod (**#394**). In the histories of Alexander the Great (stories which were later deemed as a masquerade written by an author referred to as Pseudo Callisthenes), this poly-limbed 'six-handed man' group of people was said to live in India. (**#394**)*



The Island of Demons off Newfoundland on the map of New France, 1556, by Giacomo Gastaldi



Deer on the 1555 map of Florida from the Cosmographie Universelle by Guillaume Le Testu



Unknown blue creatures (an alligator and griffin?) from the 1555 map of Eastern Africa from the Cosmographie Universelle by Guillaume Le Testu **(#392)**



Camels, an elephant, bears on Map #14, Adriatic Sea from the Vallard Atlas, 1547 ***(#381.2)***



A dog and monkeys on Map #12, Southeastern South America from the Vallard Atlas ***(#381.2)***



Dogs, bear and a deer on Map #9, North America, east coast, Canada from the Vallard Atlas ***(#381.2)***



A rhinoceros, elephant, monkeys, camel, lion, antelope, birds, crocodile, blemmyae and a dog-headed man on Map #7, Northwest Africa from the Vallard Atlas (**#381.2**)



An elephant, griffin, snakes and a crocodile on Map #5, Southern Africa and the Southwestern Indian Ocean from the Vallard Atlas ***(#381.2)***

5.17



Camels, lions and an elephant on Map #4, Arabian Sea, Red Sea, Persian Gulf from the Vallard Atlas ***(#381.2)***

5.17



Elephants, camels, lions and other unidentified creatures populate the map of West Africa, 1556, by Ramusio



*An Ibis, Indian goats, giraffe and lions in Indo-China on the Ulpius globe, 1542 (**#367**)*

Most interesting is the occurrence in the *Oriental* region of an animal with a very long neck which is not obviously a camel on the *Ulpius* globe 1542 *(**#367**)*; the Linschoten map 1595 *(**#436.1**)*; and the W. J. Blaeu world map of 1618. It bears a close resemblance to a heavy giraffe: the long neck is clearly exaggerated, the animal has two short horns, comparatively large ears, a long face and a long upper lip so typical of giraffes.

Today, the giraffe family, giraffes and okapis, are confined to the *Ethiopian* region but once, less than a million years ago, they roamed over Asia. According to some early writers, Pausanius and Timotheos, the giraffe occurred in India.

According to Wilma George, neither cartographically nor actually is the fauna of the *Oriental* region as striking as some of the other regions. Its unique animals are small and obscure both in temperament and zoologically. Its Old World tropical element has not the same variety and eye catching interest of its similar counterpart in Africa and its Old World temperate element would seem of little interest to travelers and, even less, to cartographers.

The *Ethiopian* region on the maps shared its elephants, lions, camels, rhinoceroses and crocodiles with the *Oriental* region. Thus, some of the outstanding similarities between the regions were given due representation by the cartographers. Monkeys were not often part of the *Oriental* scene although they figured largely in the *Ethiopian*. The camels were, of course, strays from the *Palearctic*, except in their domesticated state.

The *Ethiopian* region shares eight mammalian families with the *Oriental* region alone: elephants, rhinoceroses, chevrotains, lorises, Old World monkeys, apes, bamboo rats and pangolins. The elephants and rhinoceroses are well represented on the maps. Monkeys occur mainly in the *Ethiopian* region of the maps where they are abundant and range through the long tailed monkeys, macaques or guenons (Desceliers 1550) and a naked buttocked drill (Le Testu 1555), to a lion maned baboon on a late 16th century Italian *portolan* of the Mediterranean. Crocodiles and dragons occur in both regions but

chameleons, which are shared by the two with their main center of diversification in Africa, occur mainly on maps of the *Ethiopian* region.

Dragons and flying snakes are frequent. These are animals that are normally labeled mythical. Certainly, some of the drawings are highly speculative but some, nevertheless, are no worse impressionistic representations of real animals than some of the rhinoceroses and some of the South American mammals. Several genera of snakes are known as flying snakes, *Chlorophis* the African colubrid green tree snakes, for example. They do not have wings but the shoot from trees, holding themselves rigid by curving the scales and muscles of the ventral part of the body. By progressing through the air, they merit the name "flying snakes". Although coiled, Descelier' 1550 flying snake is propelled through the air and without wings. Le Testu's 1555 flying snakes are both with and without wings. In addition to the flying snakes, numerous more ordinary forms occur on the maps.

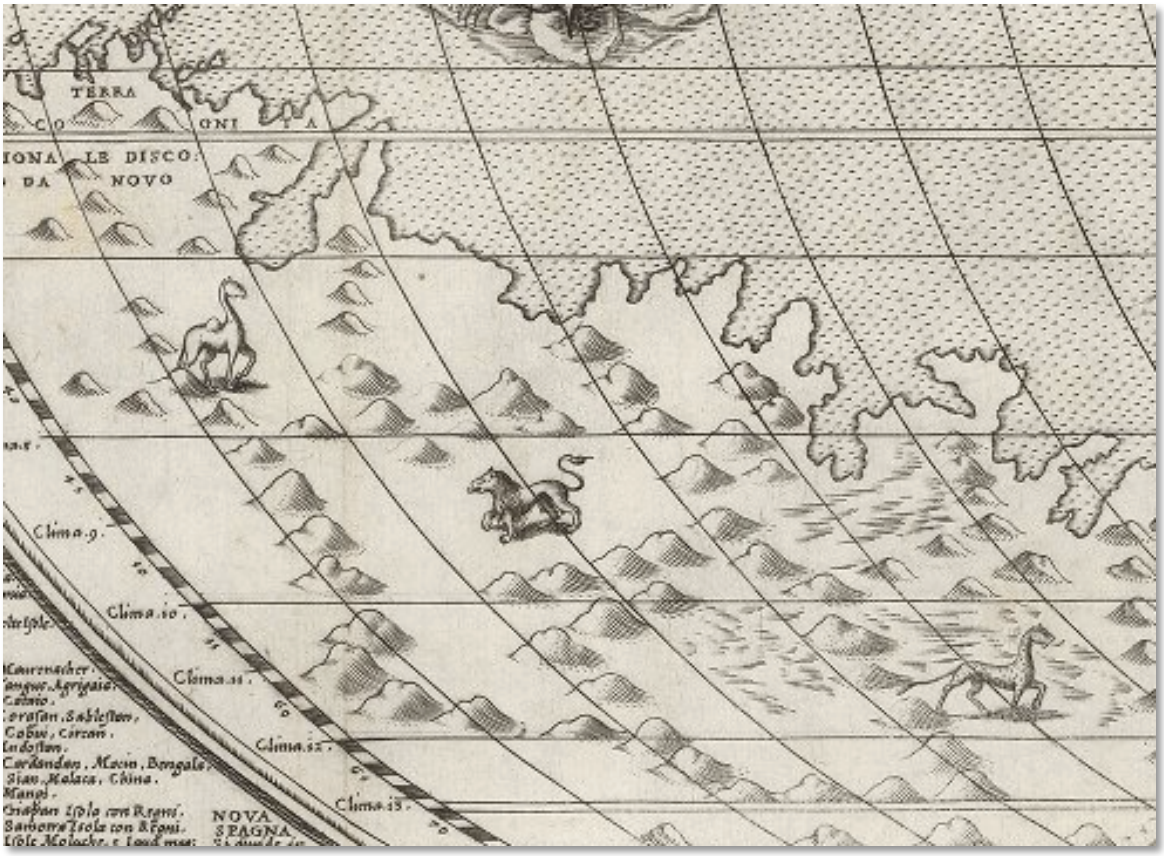
The frequently occurring dragons are even less fanciful, at leas for the *Oriental* region. Small lizards, belonging to the genus *Drace* have membranes stretched over elongated ribs to provide brilliantly colored parachute wings, with which they can glide from tree. Of the many species, some have monstrous formations of the head.



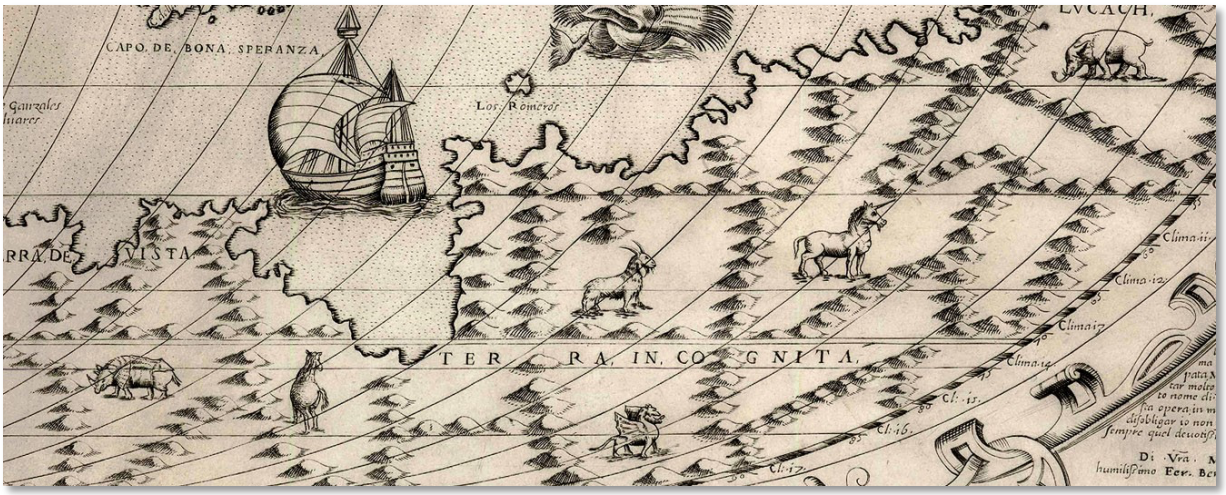
A "monoculi", exotic bids, an elephant and ship displayed on Sebastian Munster's map Totius Africae tabula, & descriptio universalis, etiam ultra Ptolemaei limites extensa, 1546 ***(#381)***



Bears, elk, griffin, lions in Amer-Asia on the Dell Universale world map Giacomo Gastaldi/Matteo Pagano map, 1550



A camel, lion and leopard on the unexplored, Terra Incognita "southern/antipodean continent" on the 1568 world map by Gastaldi Giacomo/ Paolo Forlani (**#398**)



Rhinoceros, lion, bear, elephant, camel, unicorn, etc. in the unexplored, Terra Incognita "southern/antipodean continent" on the 1565 world map by Gastaldi Giacomo/ Paolo Forlani ***(#398)***



*An opossum on Gerard Mercator's 1569 world map (***#406***)*



*Tartaria - a unicorn, large lizard, monster with a human face and unknown creatures with dorsal fins from Urbano Monte's large world map 1587 (**#420**)*



5.17







North America – unknown animals with collars and a griffin
*from Urbano Monte's large world map 1587 (**#420**)*



*Creatures in the southern Indian Ocean: a bird carrying an elephant from Urbano Monte's large world map 1587 (**#420**)*



Creatures at the tip of South America
*from Urbano Monte's large world map 1587 (**#420**)*

5.17



Polar map by J. Picicaro, 1597 with imaginative creatures

An unusual world map engraved on ivory and forming the pull-out writing tab;e of a large Neopolitan cabinet now in the Museum für Kunst und Gewerbe, Hamburg, Germany. The map is on a north polar azimuthal projection with equidistant concentric circles of latitude: one of the first maps to portray the world in this way. Inevitably there is increasing distortion of areas towards the extremities, disguised by a large encircling southern continent. This region is shown with impressive ranges of mountains and is populated by a whole menagerie of real and imaginary animals. The map is engraved in elegant Italian style reminiscent of maps in 'Lafreri' atlases and is signed and dated. The geographical features, however, much more closely relate to the world maps on a polar projection by De Jode and his predecessor Postel than to Italian sources.

5.17


TERRA DE LVCAHC
SEPTETRIO
NOVA GVRLA
CIRCVIVS A
N
C


OPICVS 20
CAPRICO 20 RNI
NTARTICVS
R
O



*A captured bear, a team of domesticated camels, deer and horses adorn the derivative of Jenkinson's map of Russia by Gerard/Cornelis de Jode, 1593 (**#410.6**)*



Armadillos, hogs, deer, lion, a turtle, a blemyae (a creature who have mouths and eyes on their breasts from the writings of Isidore and Solinus) and an Amazon on the map of Guiana by Hondius, 1599.



Rhinoceros, elephant, giraffes portrayed on A.F. Langren/ Linschoten's map of China, 1595 ***(#436.1)***

5.17

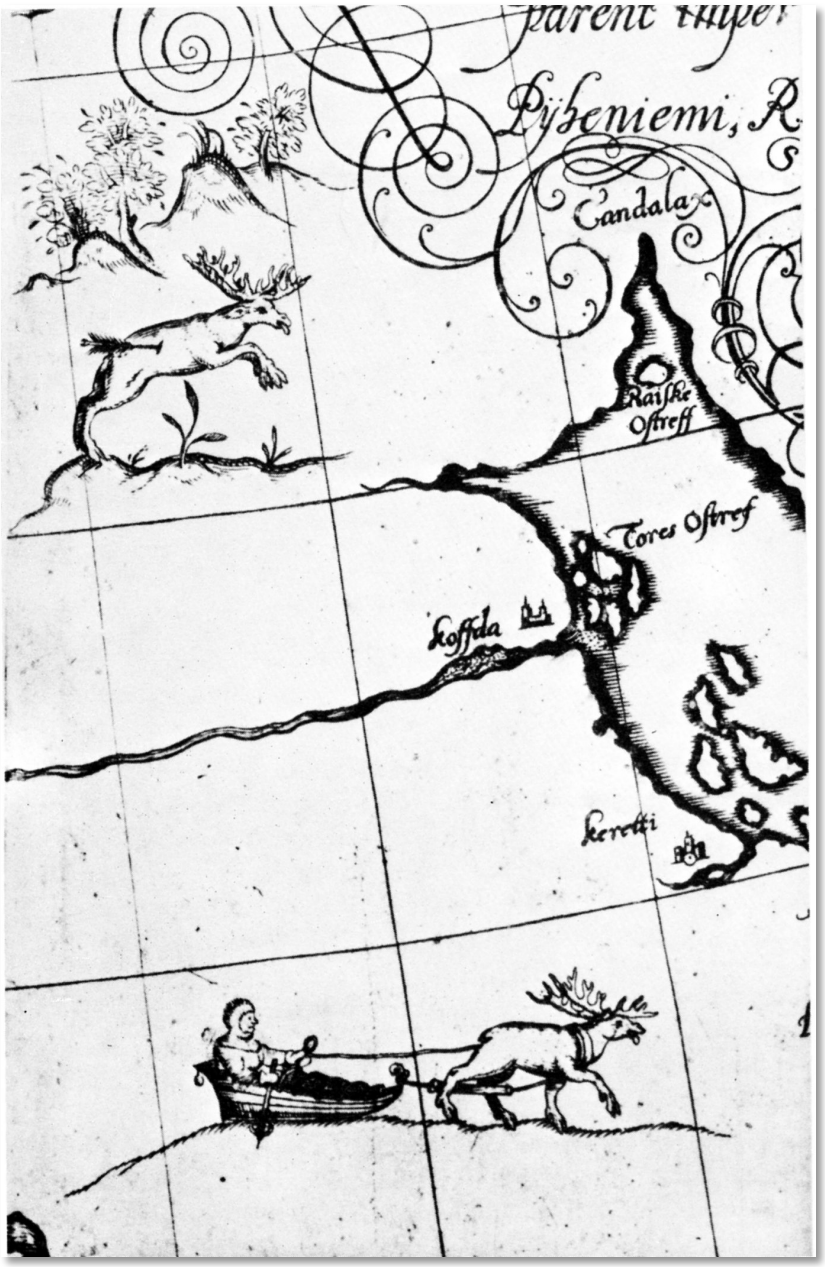


Real & imagined creatures on the 1593 Cornelis de Jode map Novae Guineae Formus and Situs

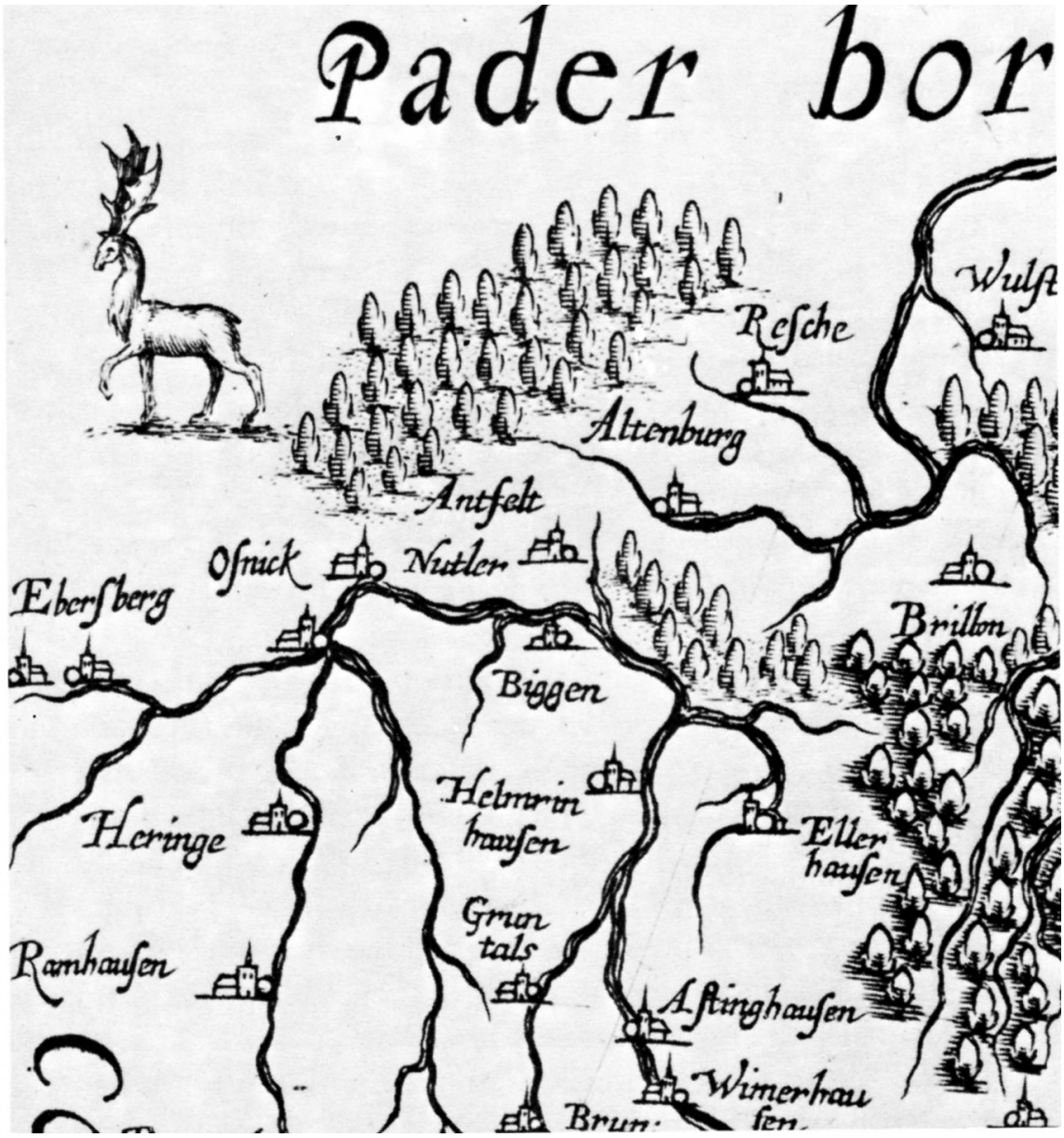



SARRA
THE KINGDOME OF NUBIA
THE KINGD. OF ZANFARA
THE KINGD. OF BIAFARA
MEDRA
Tigrai
Vangue
Ambian cantiva
Belegua nze
Anzica na
Anbian
Quara
Nova
Tigremahon
Zegzeg
Cassena
SENA
Tibeldera
Zigide
Ambiami
Syre
Damat
Gosame
Agag
Dangala
Nubia
Sahaha
Dembe
Gue
Barna
Quere I.
Baza
Belegua midri
Xoa
Girat
Nova
Ganfi
Dafila
Canfila
Canfila
Canf

5.17

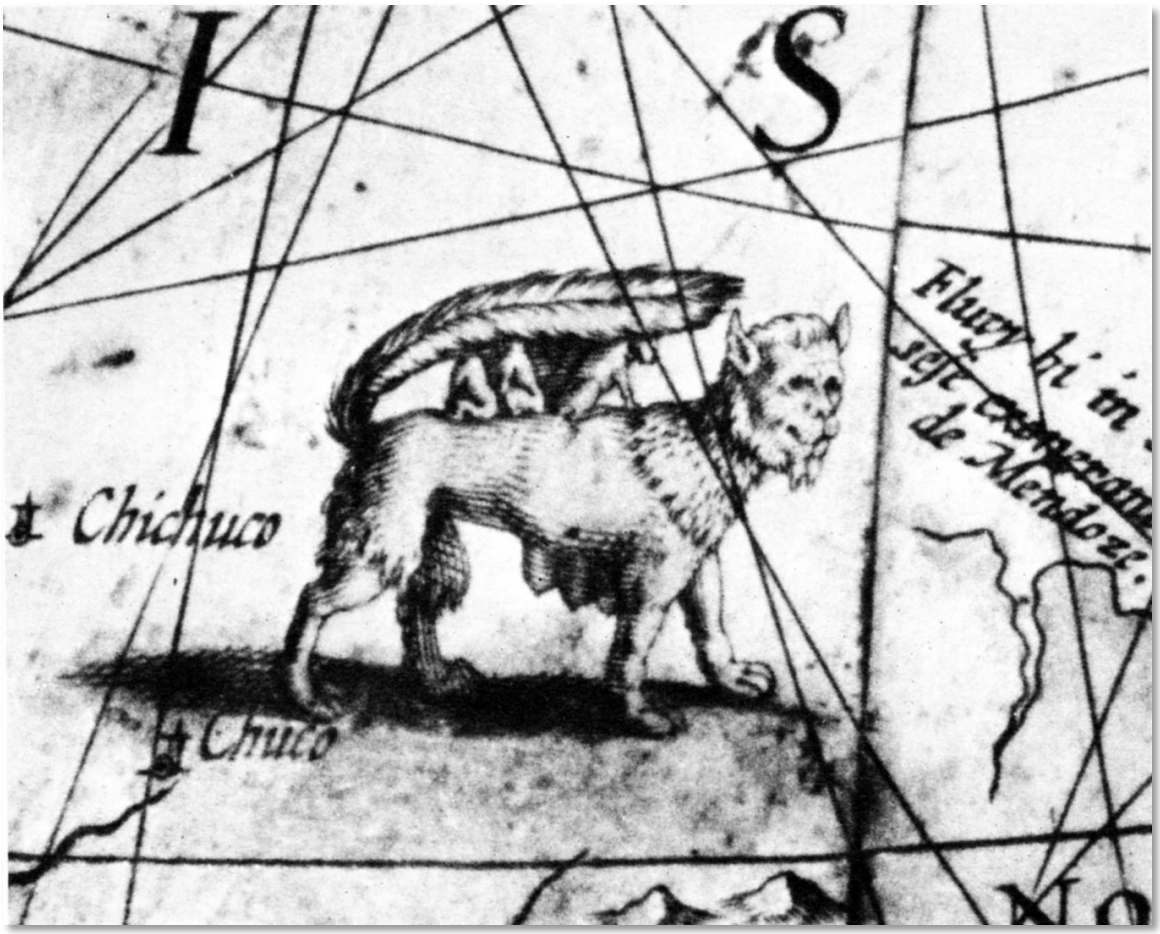


Reindeer on Orbis Arctoi by Anders Bure, 1626



Elk on a map of Waldeccensis, Germany, by Antony Jenkinson, 1578
in de Jode's Speculum Orbis Terrae

5.17

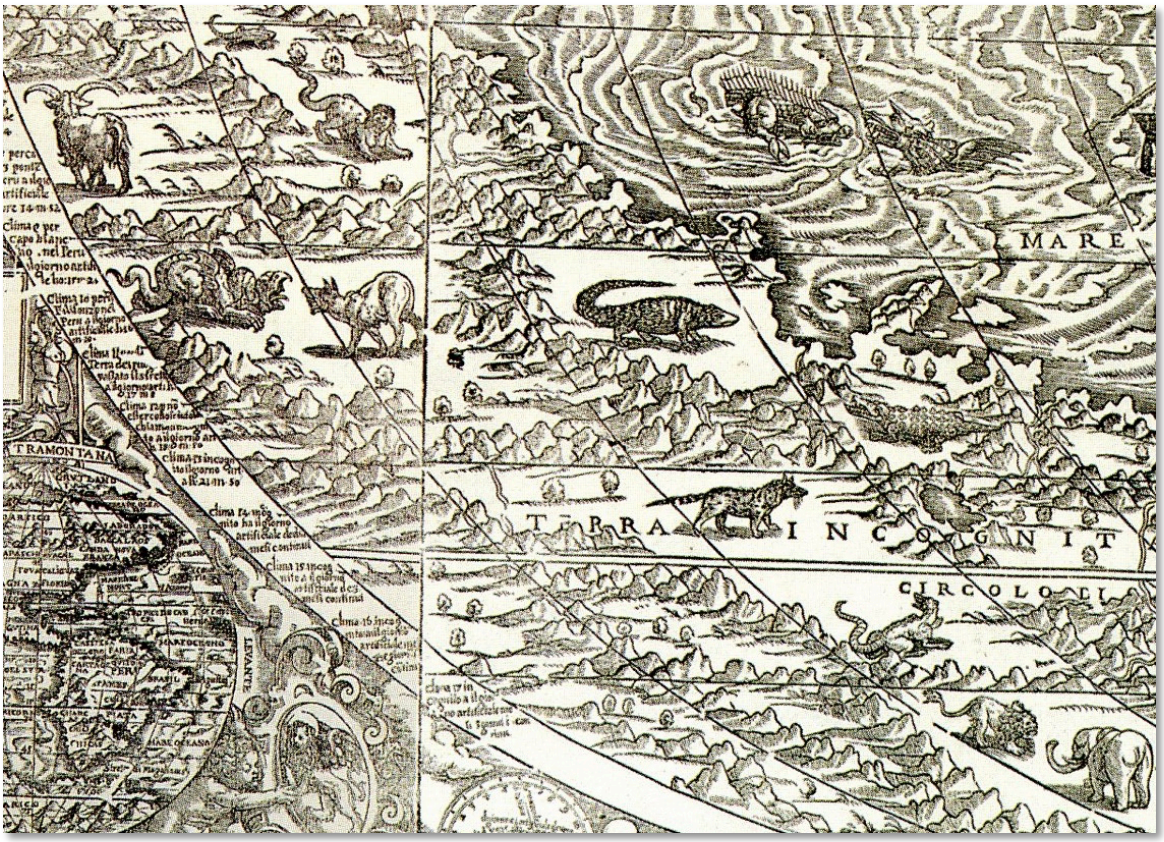


The great American anteater on a globe by Hondius, 1613

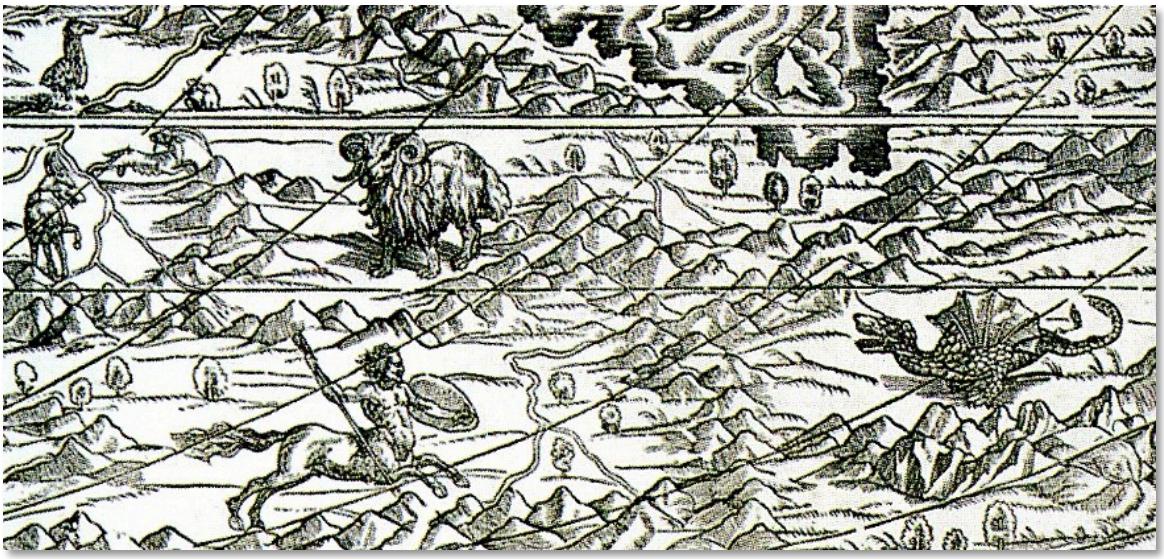


*Tapirs, goats, opossum, and lion portrayed in Linschoten's map of South America, 1595 (**#436.1**)*





Creatures populating the unknown "Terra Incognita Antaricho" Southern Continent on Giacomo Gastaldi's 1561 map (elephants, lions, alligators, lizards, leopard, long-horned cattle; below – a ram, a griffin and a centaur)





Details from maps of Nova Africae Tabula and Ins. Ceilan que Incolis Tenarifin dicitur by Hondius.



A camel, elephants, ostrich, monkey, angolins in Africa from Henricus Hondius' 1631 map Africae nova tabula



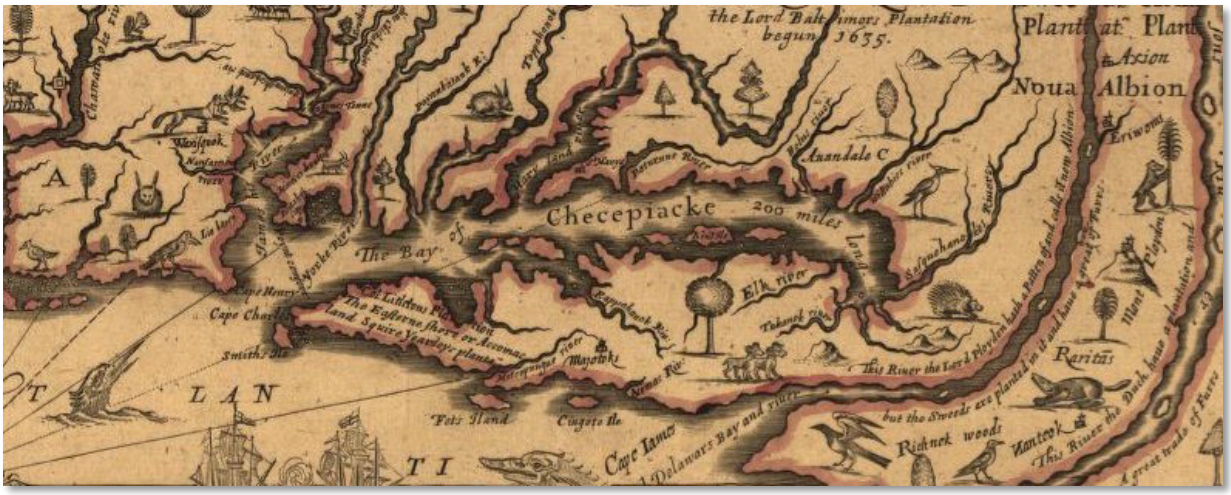
*A gryphon, snake and lizard in Africa on the 1646 wall map Nova et Exacta Asia Geographica Descriptio, Willem Blaeu (**#482**)*



*Strange winged-creatures near the Great Wall of China (**#482**)*



*A leopard, deer, elephants, a rhino. in Central Asia (**#482**)*

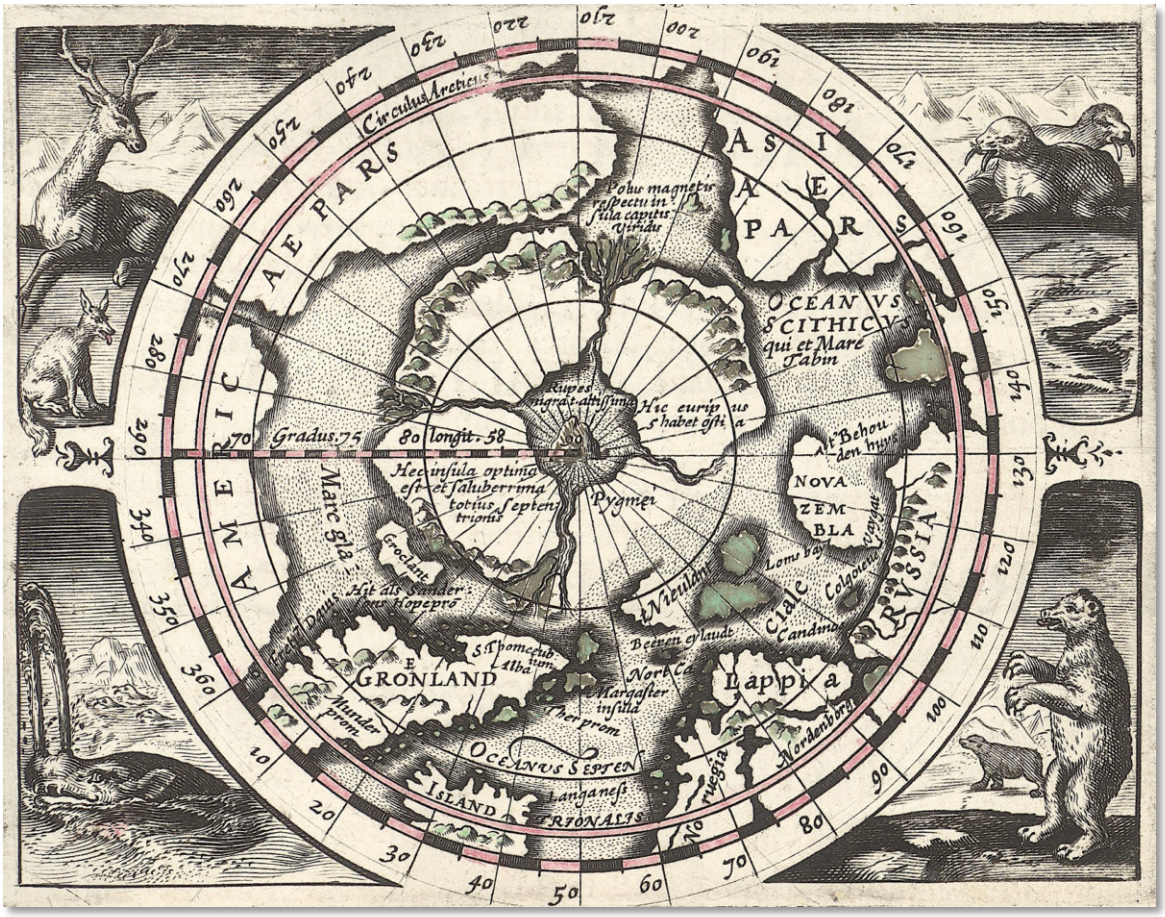


*A fox, rabbit, porcupine, birds, otter and bear on John Farrer's 1651 map of Virginia (**#472**)*



With a growing body of knowledge from whalers and walrus hunters sailing the Arctic, depictions of the more northerly latitudes and their inhabitants became increasingly accurate. However, the newer maps also reveal distortions. In a cartouche on the Dutch atlas maker Willem Janszoon Blaeu's map Regiones Sub Polo Arctico from circa 1635, the dress, weapons, and faces of two indigenous hunters suggest Ottomans and might have been modeled on these "savage" archers. Their polar bear counterpart appears wolf like.





Regiones Hyperboreae is a pole-centered 1616 map by the Flemish theologian, historian, and cosmographer to the court of Louis XIII, Petrus Bertius. Its bear in the margins rears up on hind legs – a most impressive posture – and, like the walrus, is rendered realistically compared to the map's whale, reindeer, and wolf or Arctic fox. On the Bertius map, a polar sea rumored to be ice-free year-round lies enclosed by a landmass dissected by four narrow channels. This fiction endured. In 1860, the American physician Isaac Israel Hayes tried to break through a bulwark of pack ice in search for this open stretch. And as late as 1913, the American Museum of Natural History sponsored an expedition to find Crocker Land, a huge island Robert Peary claimed to have sighted in 1906, but did not exist.



*Reindeer, polar and brown bears in Regionum Circum Polarium Lapponiæ Islandiæ Et Groenlandiæ Novae Et Veteris Nova Descriptio Geographica by Heinrich Scherer, 1702, (**#492**)*

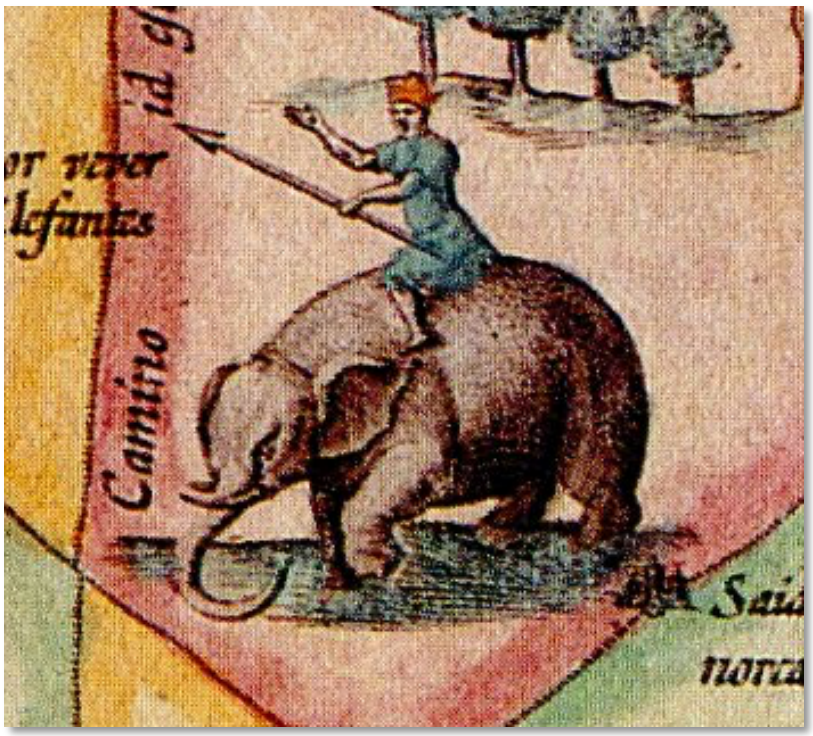


*The famous beaver illustration on Herman Moll's A New and Exact Map of the Dominions of the King of Great Britain on ye Continent of North America (London, 1715 (**#511**)*

5.17



A buffalo on the 1720 Johann Baptiste Homann map Amplissimae Regionis Mississipi ***(#520)***





A fox, bears, deer, egrets, otter, polecat, beavers, goats, dogs, pheasant, turkeys, rabbits, possible armadillo, antelope, possible raccoon and Indian settlements from Nicholas Visscher's map Novi Belgii Novaque Angliae nec non parties Virginia Tabula, 1656. Below are some rabbits and a turkey. ***(#476)***



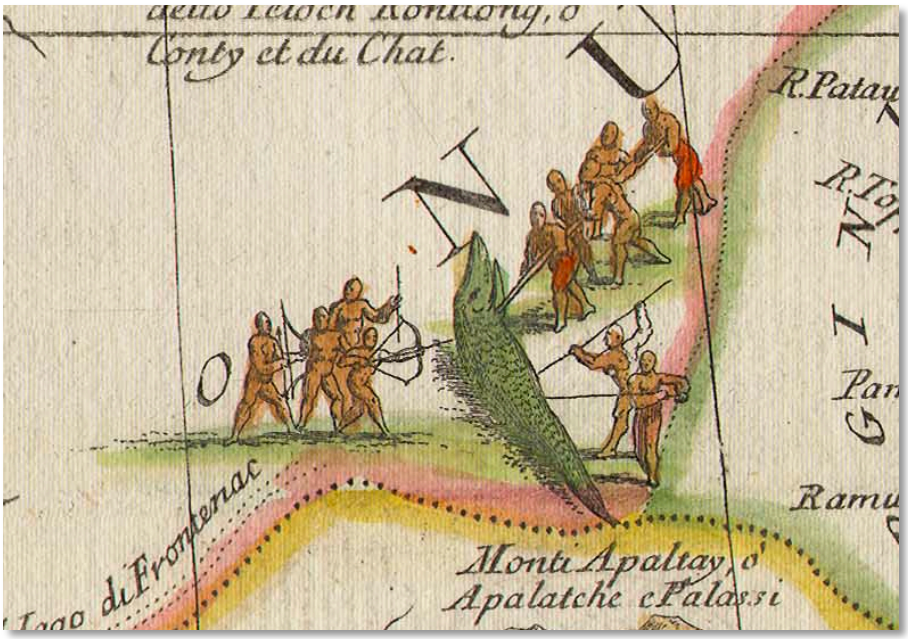


Willem Janszoon Blaeu's 1640 map Nova Belgica et Anglia Nova



Indian canoes, a turkey, deer, foxes, cranes, an otter, polecat, egrets, coyotes, rabbits, bears and beavers from Willem Janszoon Blaeu's 1640 map Nova Belgica et Anglia Nova
The map is the first of the region to accurately depict the fur-bearing and food animals of the region, and it does so in profusion. Between this imagery, and the fleet of trade ships heading towards the coast, the decorative elements vividly emphasize the potential for wealth offered by this region. Blaeu's map was the first of the region to depict, reasonably accurately, the fauna of the northeast. The whole map is adorned by deer, foxes, bears, egrets, rabbits, cranes, and turkeys. Beavers, polecats, and otters appear here for the first time on a printed map.
The map also includes an engraving of a Mohawk village at the top right, loosely derived from the De Bry-White engravings.

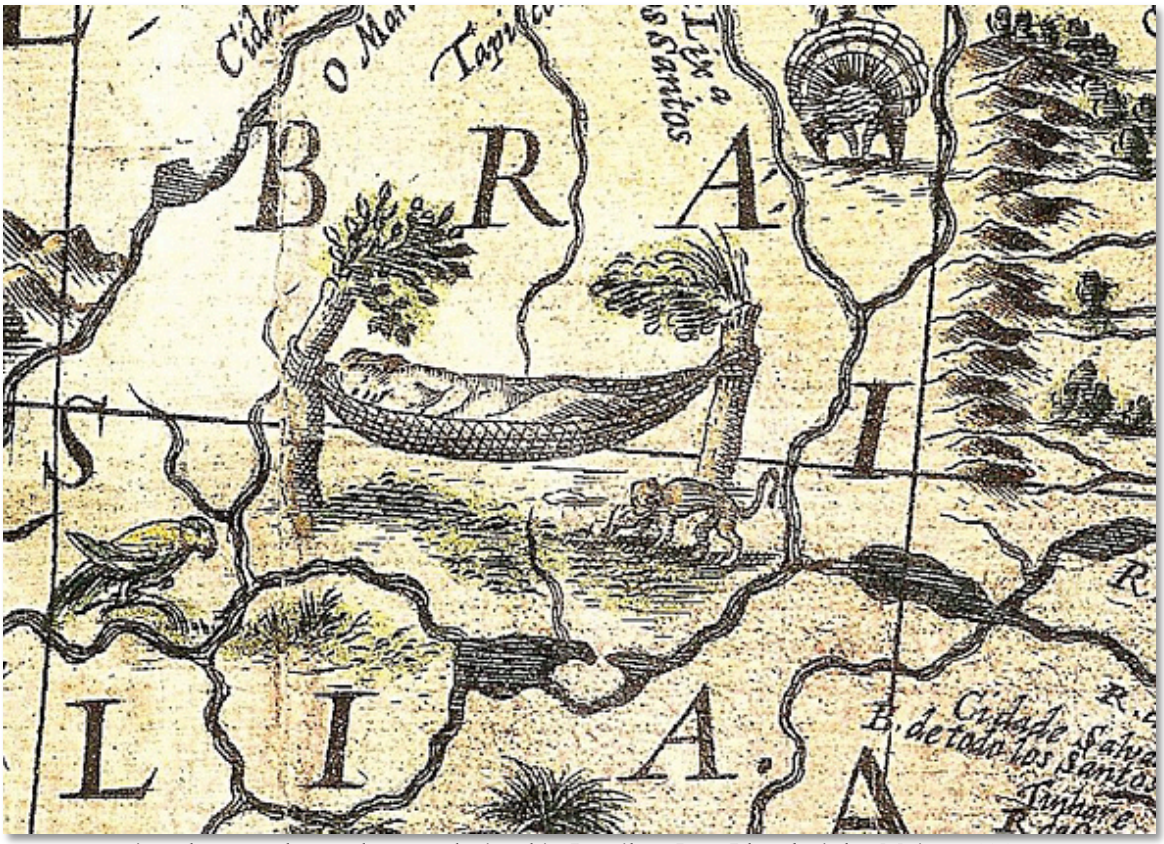




Indians attacking an alligator in the areas of present-day Virginia, from Vincenzo Coronelli's 1690 map ***(#488)***



Elephants and elk in Abraham Ortelius/ Ludovico Georgio's Chinae olim Sinarum regionis, nova descriptio, 1584 ***(#410H2)***



A turkey, monkey and parrot depicted in Brazil on Joan Bleau's Atlas Major, 1686



*Deer and fox in North America on Mercator's China (**#410.H2**)*



A sciopod in the antipodean region on the Beatus El Burgo de Osma, 1086 ***(#207.14)***

A naked one-legged man, shielding himself from the red sun (*sol*) with his single enormous foot. The inscription tells us that: *This region remains uninhabitable and unknown to us on account of the heat of the sun. It is said that the sciopods live there, who have single legs and [travel] with amazing speed. The Greeks call them sciopods, because, lying supine on the ground during the summer, they are shaded by the great size of their feet.* The twelve apostles are shown at the site of their burials. The world is divided with Asia at the top, Europe at the bottom left and Africa at the bottom right. On the Beatus maps a fourth part of the world (the *Antipodes*) is always shown. In this case, it is uniquely inhabited by a *sciopod*. In effect, the fourth part as shown on this map, opens the possibility that the *Antipodes* not only existed but that it was also inhabited. Although it is clearly separated from the *oikoumene* of the apostles' reach, here is introduced the dilemma of whether at the end of time, these deformed beings, shown separated from the *oikoumene* are "redeemable". The question was particularly relevant for Beatus of Liebana, given that he wrote the *Commentary on the Apocalypse* shortly before the year 800 when it was believed that the world would come to an end. A *sciopod* appears on one other Beatus *mappamundi*, the *Navarre* ***(#207.23)***, now in Paris, but without the text, and a text combining *sciopods* and the *Antipodes* is also in the *Lorvão* Beatus manuscript in Lisbon ***(#207.22)***.

Another perspective is offered by Chet van Duzer in a short article, "With Savage Pictures Fill their Gaps': On Cartographers' Fears of Blank Spaces". Here he states that historians of cartography occasionally refer to cartographers' *horror vacui*, that is, their fear or hesitancy to leave spaces blank on maps that might be filled with decorations. Some scholars have denied that this impulse was a factor in the design of maps, but the question has never been examined carefully. The maps exhibited here show that a fear of empty spaces on maps, or at least a fondness for filling every available space, was indeed an important factor in the design of maps, at least for some cartographers, from the 16th to the early 18th century. In the late 17th and 18th centuries maps began to be thought of as more purely scientific instruments, cartographic decoration declined generally, and cartographers managed to restrain their concern about spaces lacking decoration in the interest of presenting their work as modern and professional. Some cartographers adopted this new aesthetic before others, but as more and more cartographers did so, maps adopted their typically **unadorned** modern appearance.

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Agassiz, Louis, "Chart of Zoological Regions," in *Principles of Zoology*, by Louis Agassiz and Augustus Addison Gould. Boston, Gould and Lincoln. 1848

Bagrow, Leo, *History of Cartography*. Revised and enlarged by R A Skelton. London, C A Watts; Cambridge, Mass., Harvard University Press. 1964

George, Wilma, *Animals and Maps*. London, Secker and Warburg. 1969

Van Duzer, Chet, "The Meaning of the Animals on Two Monumental World Maps, C. 1300 and 1611", 25 pages

Wallis, H. M. & A. H. Robinson, *Cartographic Innovations, An International Handbook of Mapping Terms to 1900*, Map Collector Publications Ltd., in association with the International Cartographic Association, 1987



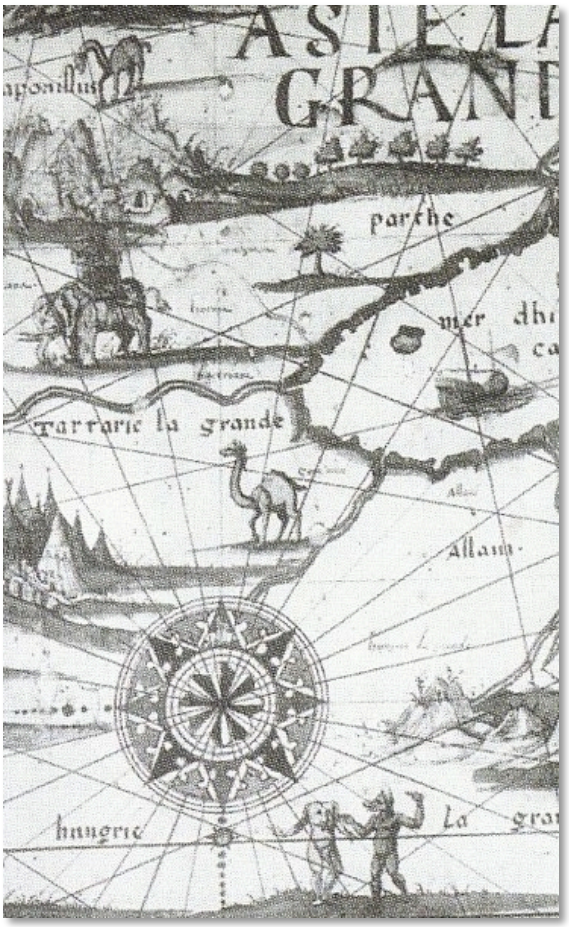
Beasts from Shanhaijing tushuo [The Classic of Mountains and Seas], 1897, Beijing.

The depiction of fabulous creatures on maps, gazetteers, and travelogues was a time-honored tradition both in China and in Europe. European mapmakers with only hazy knowledge of the lands of the East often depicted them filled with fabulous flora and

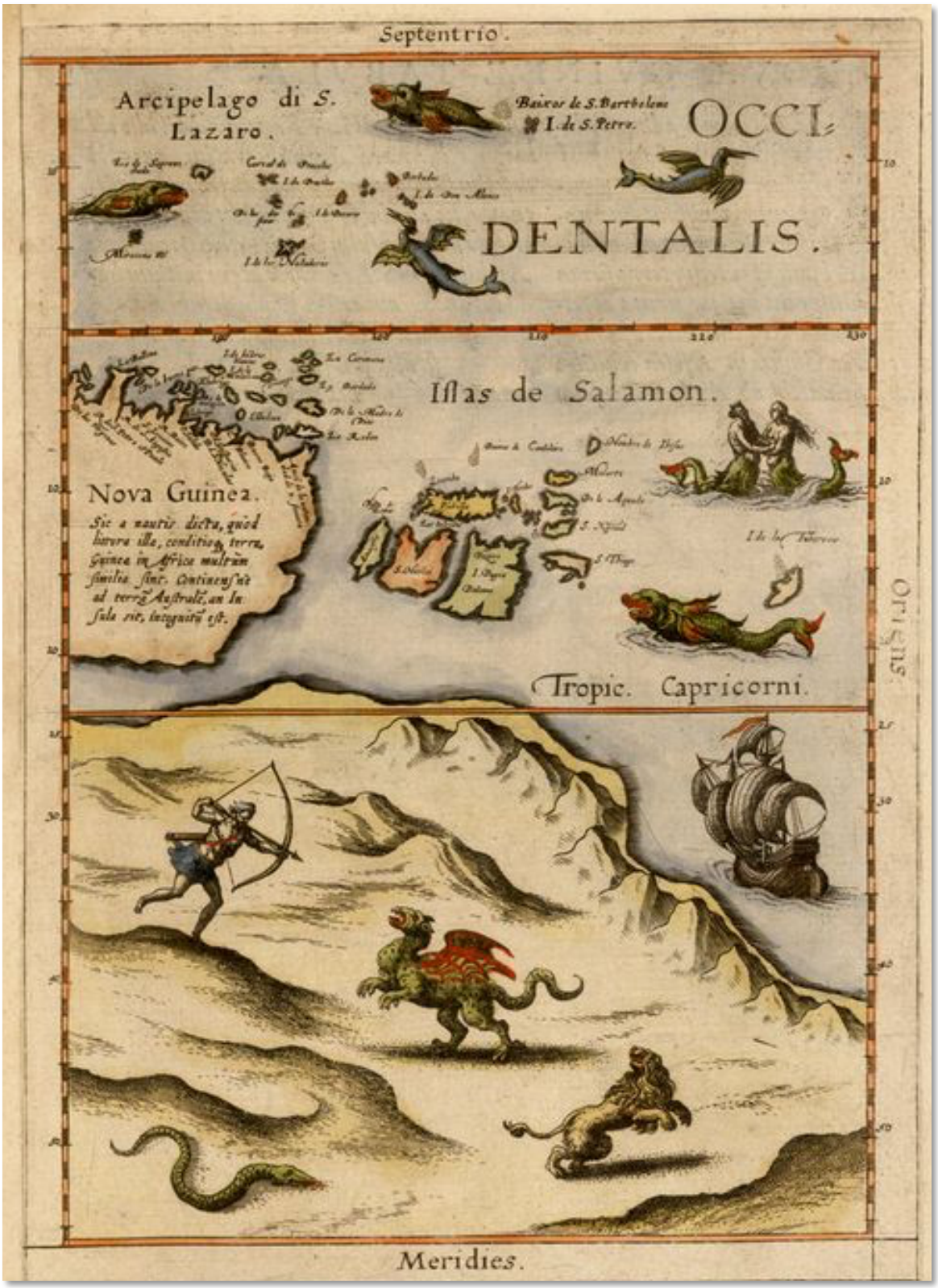
fauna. Chinese maps and geographies did likewise with the unknown regions of Central Asia, most famously in the fourth-century *Shanhaijing* [The Classic of Mountains and Seas], which is filled with fantastic beasts and ill-informed geographical information. Even so it is a bit surprising that one as dedicated to scientific accuracy as Verbiest included mythical animals among his menagerie. Verbiest's zoo includes a rhinoceros, chameleon, salamander, alligator, giraffe, lion, crocodile, beaver, hyena, ostrich, unicorn, flying fish, American turkey, and several arachnids. In the sea appear whales, seahorses, and various monsters. Text and images for the unicorn were taken from Verbiest's *Kunyu tushuo*, [Illustrated Explanations of the Earth], a geographical work he published in 1674. Chinese geographical works by the Jesuits Alfonso Vagnone, Giulio Aleni, and Sabatino de Ursis were primary sources for other texts on the map. Images such as the rhinoceros derive from Conrad Gesner's zoological treatise *Historia Animalium*, produced between 1551 and 1586, while the image itself can be traced back to Albrecht Durer's famous woodcut of 1515.



Referenced Monographs *from www.myoldmaps.com*
#121 *Madaba Mosaic,* 565
#207.14 Beatus *El Burgo de Osma mappamundi,* 1086
#207.22 *Lorvão* Beatus, 1189
#207.23 *Navarre* Beatus, late 12th century
#210 *Cottoniana, Anglo-Saxon mappamundi*, 995
#217 Lambert St Omer, 12th century
#220.3 *Vercelli mappamundi*, 1200
#223 *Psalter mappamundi*, 1225
#224 *Ebstorf mappamundi*, 1224
#225.1 Matthew Paris, 1250
#226 *Hereford mappamundi,* 1290
#232 Ranulf Higden *mappamundi*, 1350
#235 *Catalan Atlas,* 1375
#237 Borgia *mappamundi*, 1410-58
#241 Andrea Bianco *mappamundi*, 1436
#246 *Catalan Estense mappamundi*, 1450
#248 *Genoese mappamundi,* 1457
#250.1 Portolan Charts, 15th century
#260 *The Liber chronicarum Secunda etas Mundi*, *1493***,** Hartmann Schedel
#305 Juan de la Cosa world map, 1500
#306 Cantino world map, 1502
#310 Martin Waldsemüller world map, 1507
#314 Lenox Globe, 1510
#320 *Carta Marina*, Martin Waldsemüller, 1516
#322 Piri Re'is, *Chart of the Ocean Sea,* 1513
#329.1 *Atlas Miller*, 1519
#340 Maggiolo, 1531
#346 Diego Ribero world map, 1529
#352 *Daniel's Dream Map*, 1536
#353 World Map by S. Grynaeus/H. Hoblein, 1532
#365.1 Brazil from the *Nautical Atlas*, 1538
#366 Olaus Magnus*, Carta Marina,* 1539
#367 Ulpius Globe, 1542
#372 Sebastian Cabot World Map, 1544
#378 Pierre Desceliers Planisphere (1546, 1550, 1553) + Le Testu (1555)
#381 Sebastian Münster, 1546
#381.2 *Vallard Atlas*, 1547
#382.1 Harleian, 1544
#398 Gastaldi Giacomo/Paolo Forlani world map, 1568
#406 Gerard Mercator World Map, 1569
#410.6 Anthony Jenkinson, *Nova absolutaque Russsiae Moscovia et Tartaria*, 1562
#410H2 Abraham Ortelius, China
#436.1 Jan Huygen Van Linschoten, South America and Asia, 1595
#464 John Speed, Africa, 1626
#472 John Farrer's 1651 map of Virginia
#476 Nicholas Visscher, *Novi Belgii Novaque Angliae…, 1656*
#488 Vincenzo Coronelli, 1690
#492 Heinrich Scherer, 1702
#511 Herman Moll, 1715
#520 Johann Baptiste Homann , *Amplissimae Regionis Mississipi,* 1720



An elephant, camel, cynocephali



A Griffin, lion, snake and sea creatures on a map of New Guinea by de Jode, 1593
Dominating the lower third of the map is the coastline of the continent of Australia, specifically what is now known as Queensland. This is not only the first printed map of Australia, but is also rare in that it separates New Guinea and Australia.