DIGITAL WALL MAGAZINE

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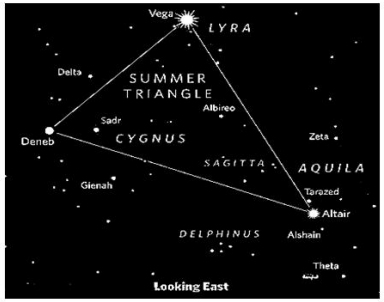
PREPARED BY

THE DEPARTMENT OF GEOGRAPHY

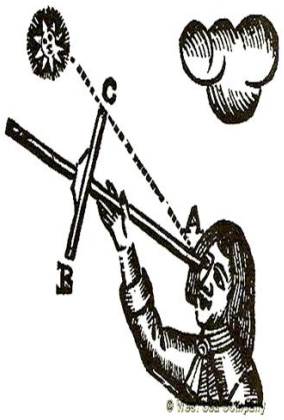
RANIGANJ GIRLS' COLLEGE

CARTOGRAPHIC REVOLUTION



The earliest known maps date back to 16,500 BC only shows the night sky.

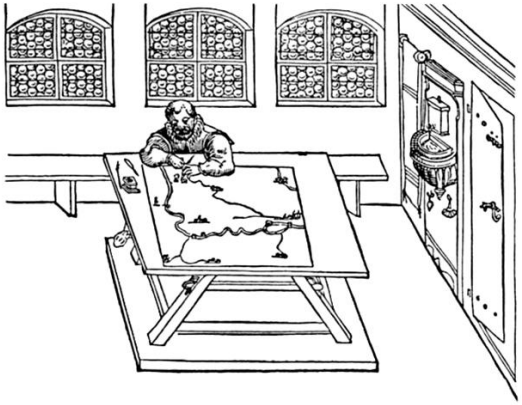
The Babylonian Map is considered the earliest map of the world which is a symbolic representation of the Earth.



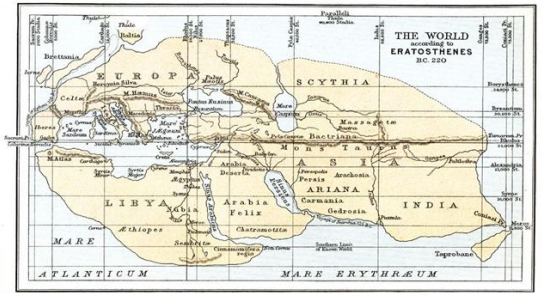
Cartography in all means is the science and art of map making. From cave paintings to ancient maps of Babylon, Greece, and Asia, and on into the 21st century, people have created and used maps as essential tools to help them define and navigate their way through the world because during that time, trading plays a huge role as a source of business .

Evolution of Maps

- Started on stone
- 2nd and 1st BC
- First paper map
- 1st-12th AD
- Very inaccurate and disproportioned
- Modern
- Accurate
- Satellites
- GPS
- Softwares



Chalcography



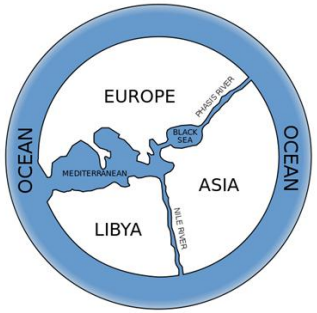
Eratosthenes, one of the legendary map makers of the ancient world created several maps of the world which featured the countries of Great Britain, India and Sri Lanka.

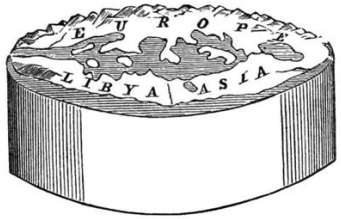
1ST CENTURY BC

GREEK GEOGRAPHERS

ANAXIMANDER

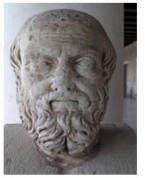
Anaximander was the first of the ancient Greeks to draw a map of the known world and he is considered to be one of the first Cartographer.





ANAXIMANDER'S CONCEPT OF CYLINDRICAL EARTH

'Gnomon' instrument is used to measure the Varying position of the Sun



HECATAEUS OF MILETUS

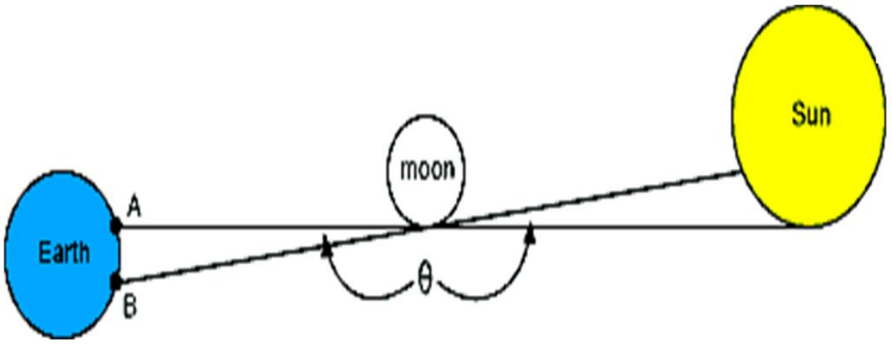
Hecataeus is also credited with improving the map of Anaximander, which he saw as a disc encircled by Ocean

A Map of How Hecataeus of Miletus Saw His World in 500 BC

HIPPARCHUS

Hipparchus is often called the first real astronomer and the founder of Trigonometry, as he was the first Greek person to actually make systematic observations of the sky. He was also a very talented mathematician who made great strides in the development of the classic Greek model of the solar system.

He discovered the slight wobble in the axis of the earth's rotation, also called the "Precession of the Equinoxes."



Designed Orthographic and Stereographic Projection

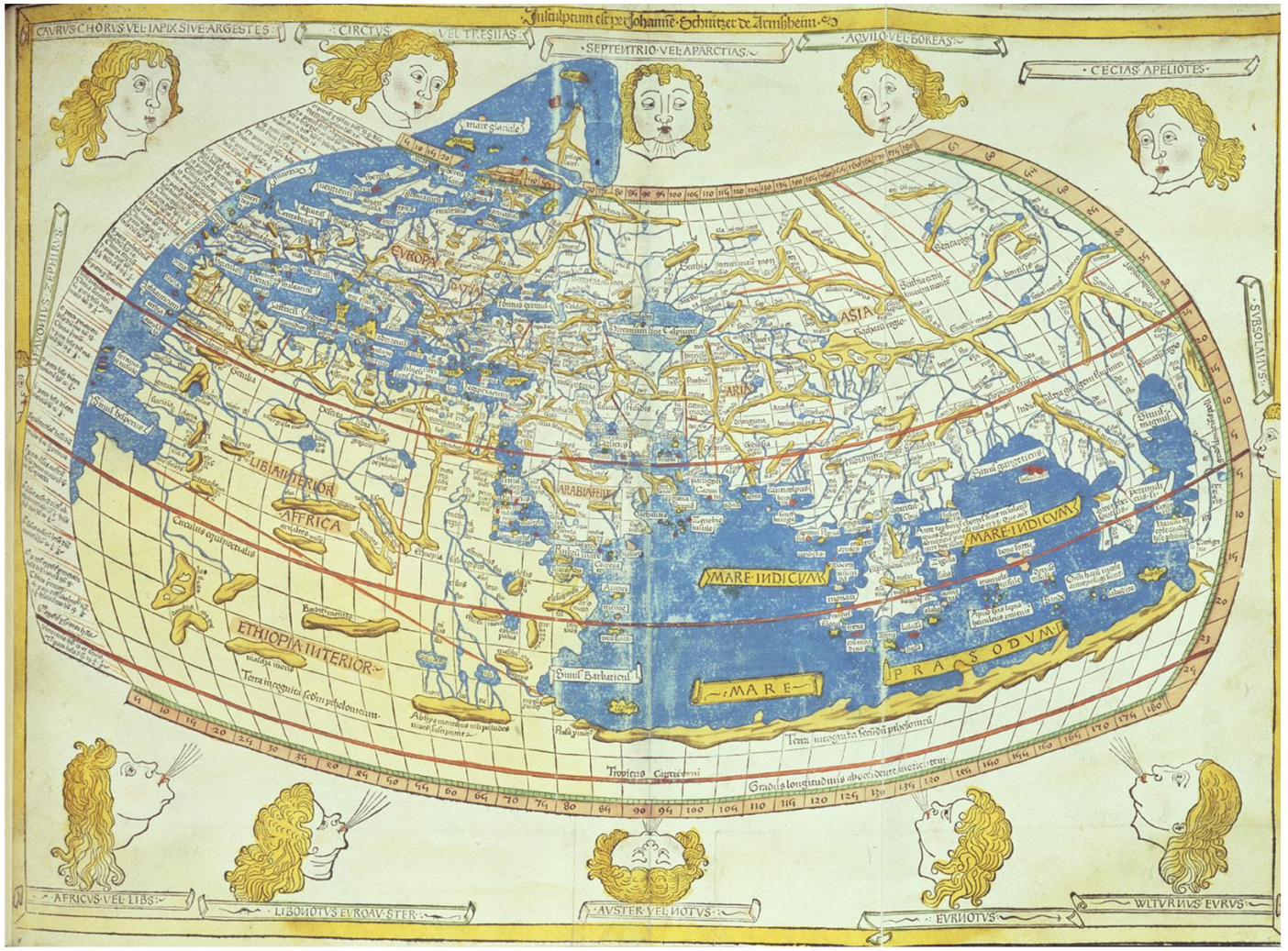
It is believed, that with an 'Astrolabe' Hipparchus was the first to be able to measure the geographical latitude and time by observing fixed stars.

HIPPARCHUS 'S SKY CATALOGUE

2ND CENTURY AD

Ptolemy was an accomplished Greco-Roman geographer. His maps of Asia and Africa are said to have inspired Christopher Columbus, many centuries later, in his westward expedition to India across the Atlantic.

Ptolemy's World map, reconstituted from Ptolemy's *Geography* (circa 150) in the 15th century, indicating "Sinae" (China) at the extreme right, beyond the island of "Taprobane" (Ceylon or Sri Lanka, oversized) and the "Aurea Chersonesus" (Southeast Asian peninsula).



12TH CENTURY AD

Muhammad Al-Idrisi, acknowledge Africa, the Indian Ocean and the Far East gathered by Arab merchants and explorers with the information inherited from the classical geographers to create the most accurate map of the world at the time. It shows the Eurasian continent in its entirety, but only shows the northern part of the African continent.

Centuries before digital navigation apps put global maps at our fingertips, people relied on the work and research of scholars and cartographers (mapmakers) to illustrate the world. One of the most famous cartographers to publish early maps of the world was Arab Muslim geographer, traveler, and scholar Abu Abdallah Muhammad ibn Muhammad ibn Abdallah ibn Idris al-sharif al-Idrisi, or simply al-Idrisi. Al-Idrisi's book, ***The Excursion of One Who is Eager to Traverse the Regions of the World,*** is known as one of the great works of medieval geography.

THE EVOLUTION OF THE MEDIEVAL SEA CHART

Towards the end of the thirteenth century there came into use in western Europe a type of chart which was a great advance upon any other products of medieval cartography so far considered.

These charts marked a complete break with tradition: their fundamental feature was that they were based on direct observation by means a new instrument, THE MARINER'S COMPASS.

PORTOLAN CHART

CATALAN WORLD MAPS

Another notable stage was reached in the fourteenth century, when European cartographers made the first attempt since classical times to include the continent of Asia within their world picture on the basis of contemporary knowledge. The result of these efforts are embodied in the series of Catalan World Maps.

Outline of the eastern section of the Catalan Atlas, c. 1375

CATALAN WORLD MAP

14TH CENTURY AD

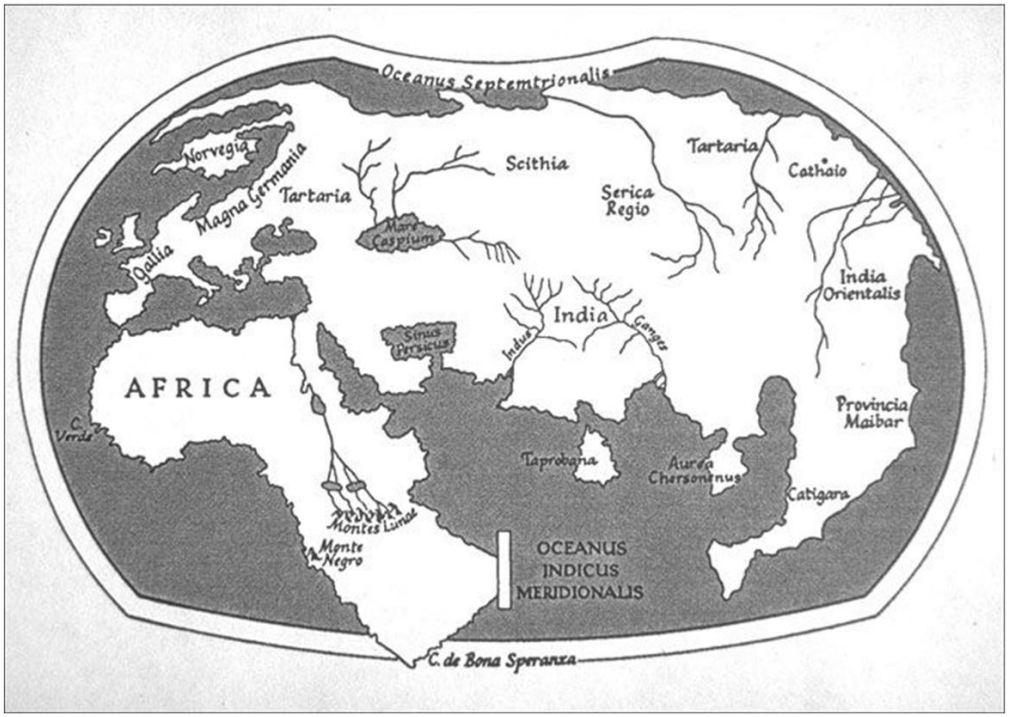
China developed mapping techniques at about the same time as ancient Rome. Chinese world maps showed China at the centre and Europe, half-way round the globe, depicted very small and horizontally compressed at the edge.

THE CARTOGRAPHY OF THE GREAT DISCOVERIES

The Second Great Contribution to the revival of cartography was made by the leaders of overseas expansion: the sea men of many nations– Italian, Portuguese, Spanish, French, Dutch and English.

The outstanding stages in this progress are: the rounding of the southern promontory of Africa by Bernal Diaz in 1487; the landfall of Columbus in the West Indies in 1492; the attainment of India by Vasco da Gama in 1498; the discovery of Brazil by Cabral in 1500; the capture of Malacca by Alfonso d'Albuquerque in 1511 and the circum navigation of the globe by Magellan's expedition.

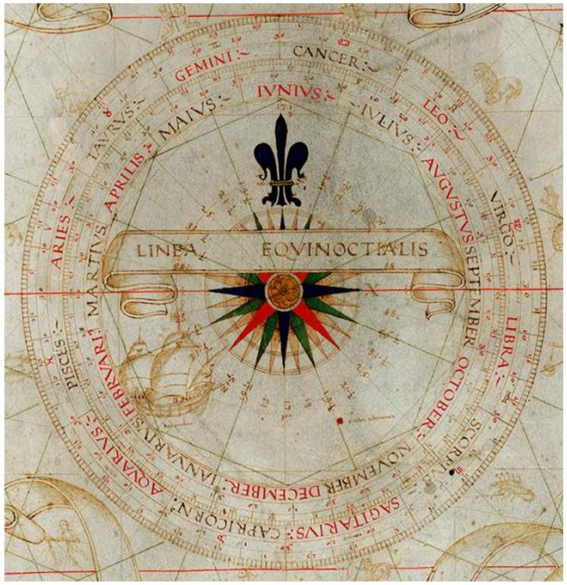
The Waldseemuller

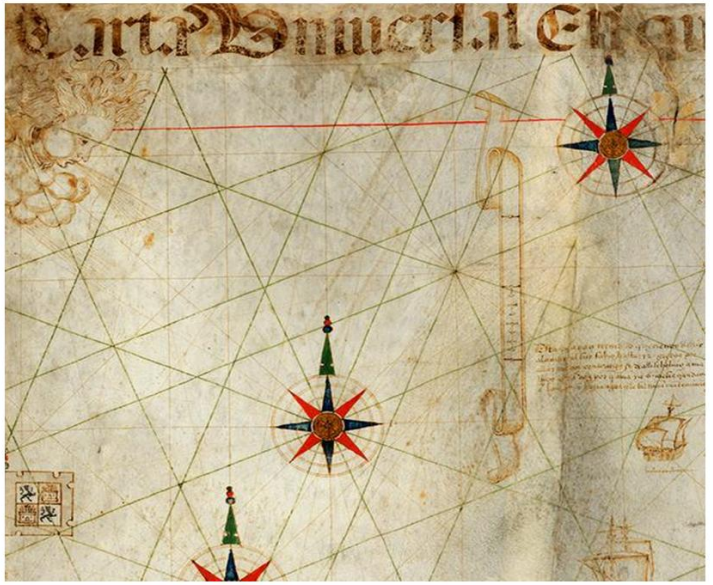


Outline of Henricus Martellus' World Map, 1489

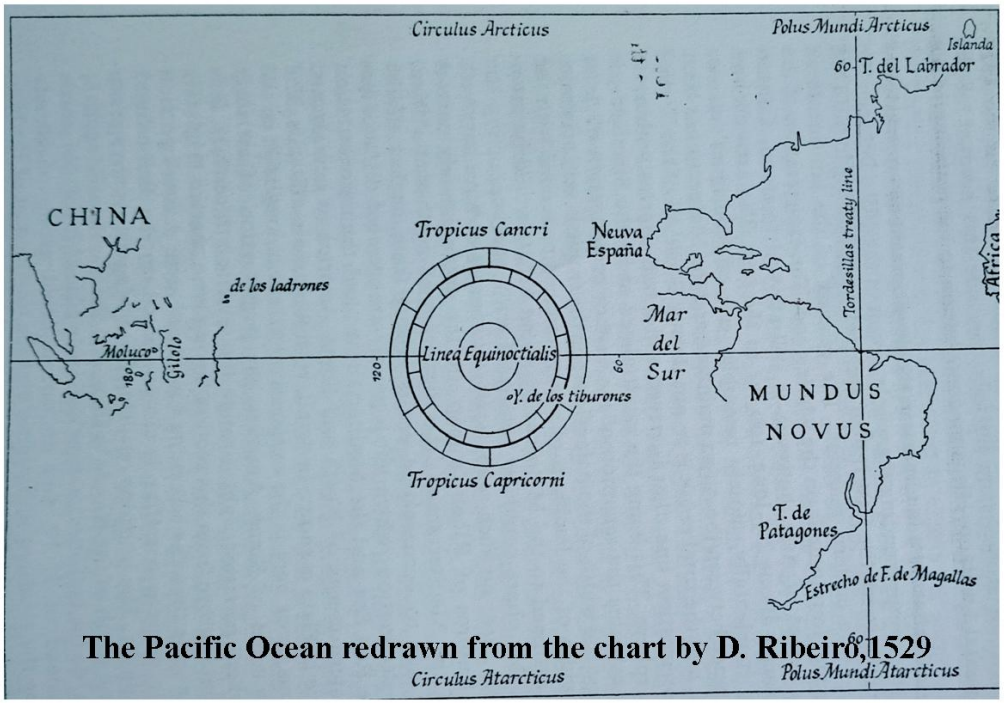
The Waldseemuller

Was the first map where the name America appears, holding the strong opinion that it was a new continent that Amerigo had discovered on in 1507.

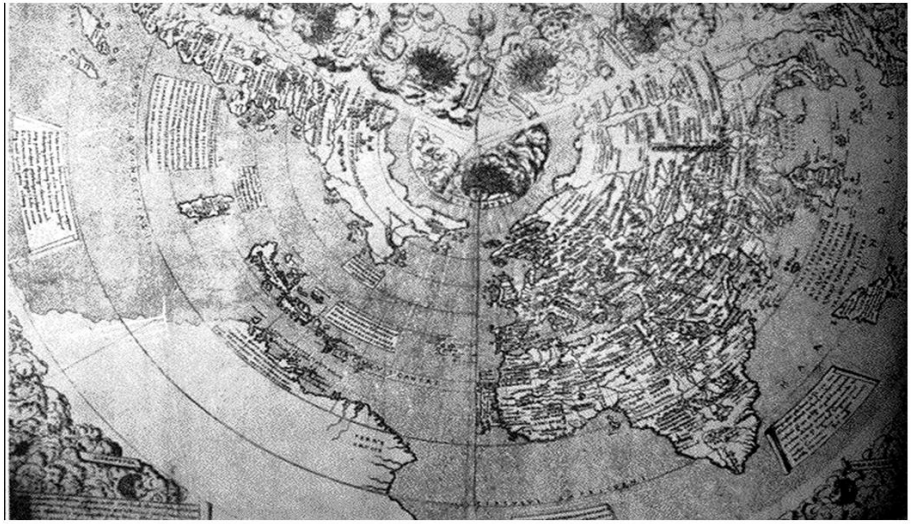


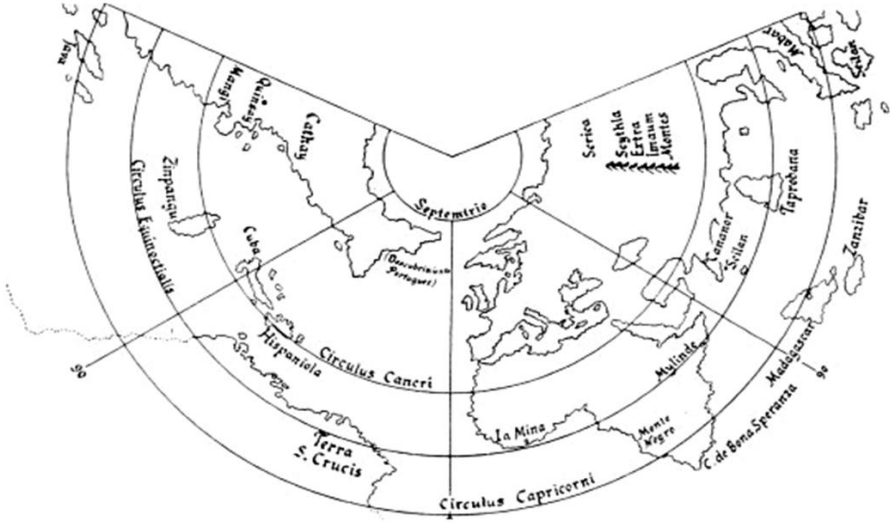


Diogo Ribeiro (*Diego Ribero* or *Ribeiro*), was a Portuguese master cartographer, who worked for many years on the *Padron Real*, and eventually became Royal Cosmographer and a chief cartographer of the Spanish crown. Ribeiro prepared the current copy of the standard for Charles V, Holy Roman Emperor and King of Spain, who presented it to Pope Clement VII in 1529.



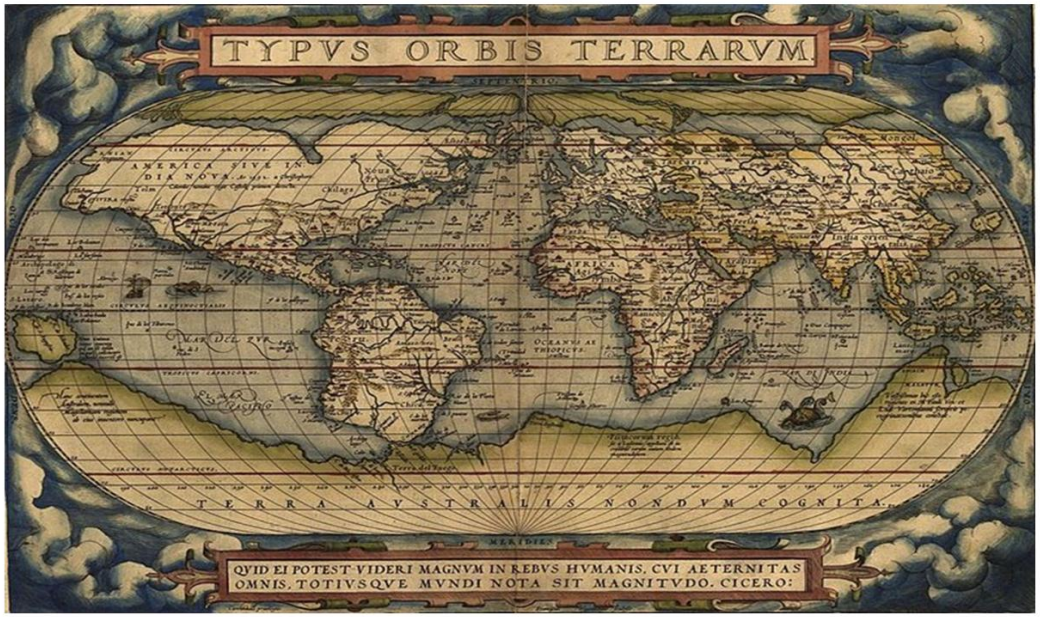
The Pacific Ocean redrawn from the chart by D. Ribeiro, 1529





Contarini's World Map, 1506

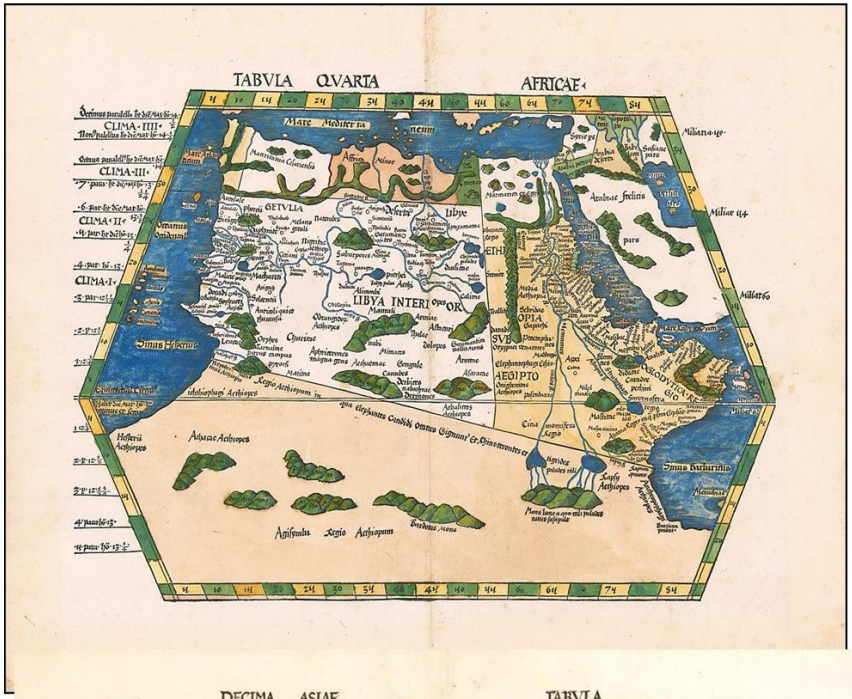
"Theatre of the World" is considered to be the first true modern atlas. Written by Abraham Ortelius and originally printed on May 20, 1570, in Antwerp, it consisted of a collection of uniform map sheets and sustaining text bound to form a book for which copper printing plates were specifically engraved.

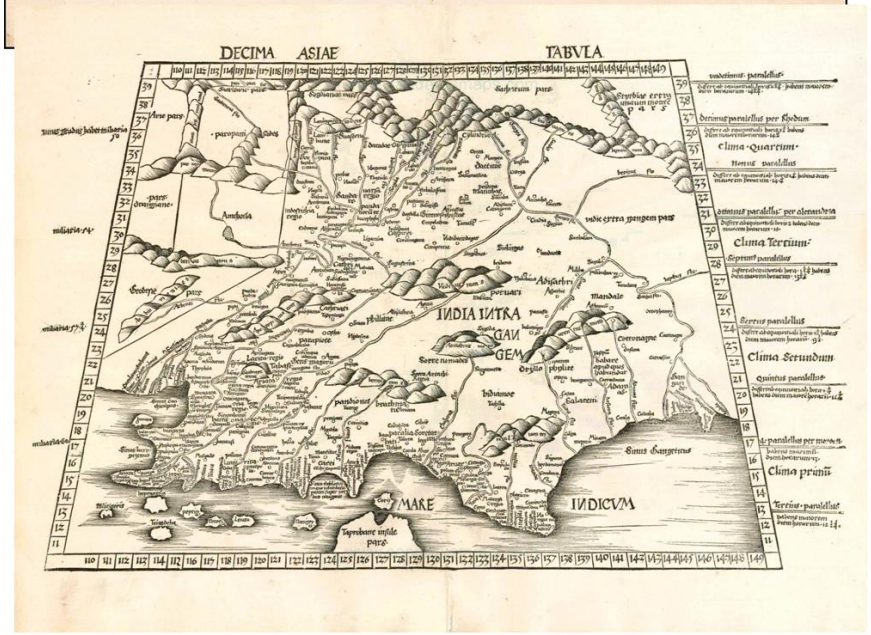


The Theatrum Orbis Terranum

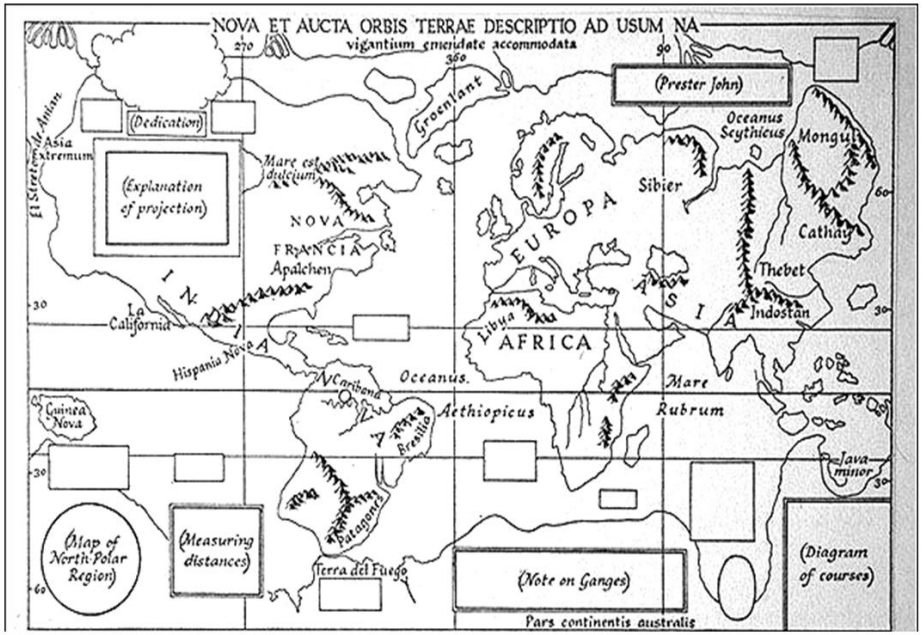
TOPOGRAPHICAL SURVEYS OF THE FIFTEENTH AND SIXTEENTH CENTURIES

From the fifteenth century quite elaborate maps of territories in northern Italy have survived. The territories of the city states ,often compactly grouped around the capitals in well-watered plains, formed reasonably sized units for the delineators. One of the earliest of these extant ‘surveys' is exceptionally large(3.05m X 2.25m)- Verona and its territories, ascribed to c. 1440. This is carefully drawn and coloured, with mountains in brown, rivers a green-blue, vegetation light green, roads yellow, and names in red.

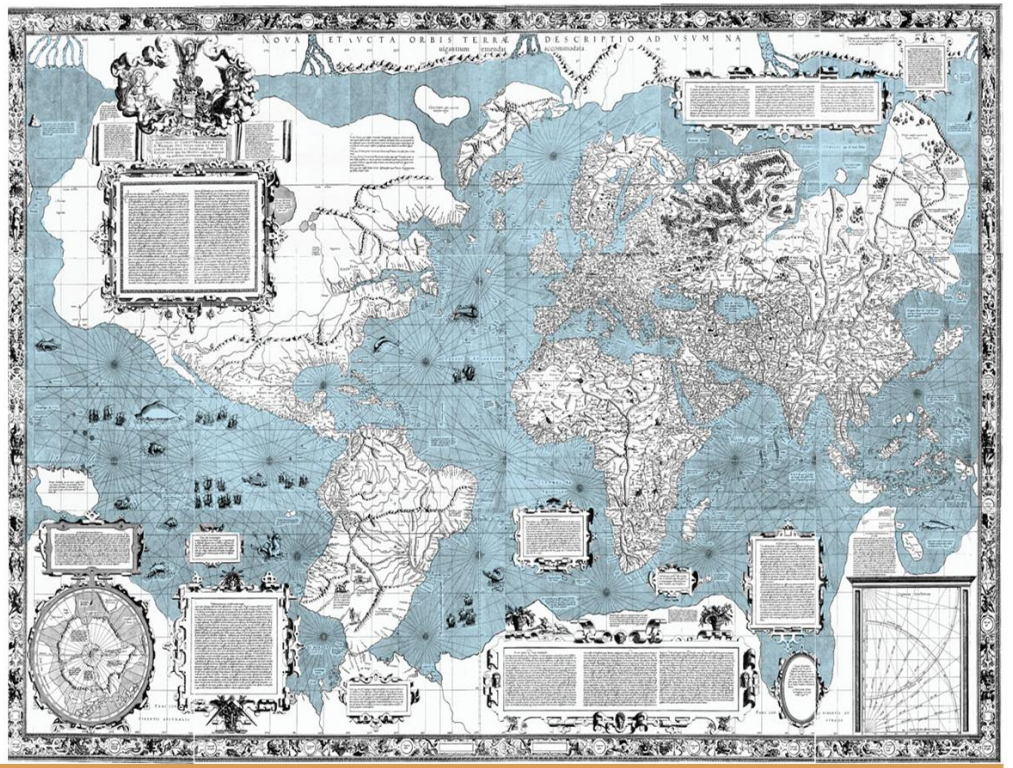




MERCATOR, ORTELIUS AND THEIR SUCCESSORS



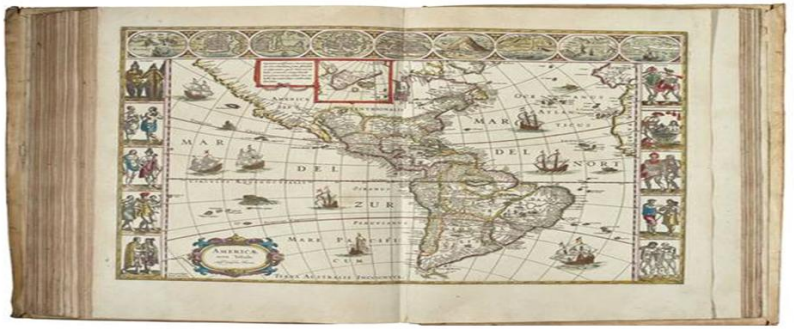
Outline of Mercator's World Map of 1569



Gerhard Mercator, born at Rupelmonde in Flanders in 1512, owed Much to his relations with the Gemma Phrysius, the cosmographer and editor of Peter Apian. As a pupil of Gemma at the University of Louvain, Mercator showed himself to have an aptitude for practical tasks. He is first mentioned as the engraver for the Gores of Gemma's globe of about 1536; he was also a maker of mathematical and astronomical instruments, and in his early days a land surveyor. It was no doubt this aptitude that led him later to examine and to solve the problem of concern to the practical navigator, namely the representation of constant bearings (loxodromes) as straight lines on a chart. In the course of his long life, he also acquired a profound knowledge of cosmography and of topographical progress in Europe and beyond and won general recognition as a most learned geographer of his day.

NATIONAL SURVEYS AND MODERN ATLASES

Cartography since the early decades of the nineteenth century is characterised by the execution of regular topographical surveys as national undertakings. Most has been accomplished in Europe; in some countries of Asia(e.g. India, Japan, The Dutch and East Indies); in the United States and Canada ; and in Egypt and Parts of North Africa.



20TH–21ST CENTURY (CONTEMPORARY CARTOGRAPHY)

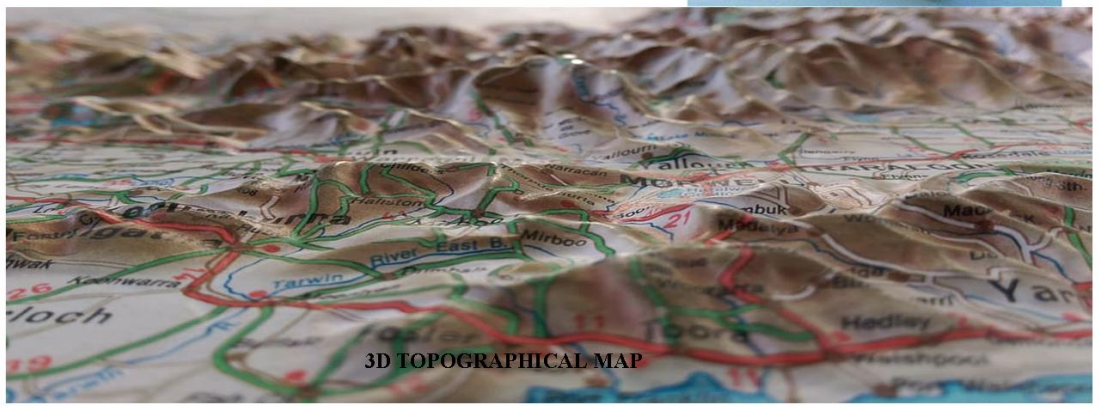
Advances in mechanical devices such as the printing press, quadrant and vernier, Aerial photography, Satellite imagery, GPS, Computer softwares' allowed for the mass production of maps and the ability to make accurate reproductions from more accurate data. Optical technology and other devices that uses telescope, allowing mapmakers and navigators to accurately survey land and find their latitude by measuring angles to the North Star at night or the sun at noon.

PLAIN TABLE

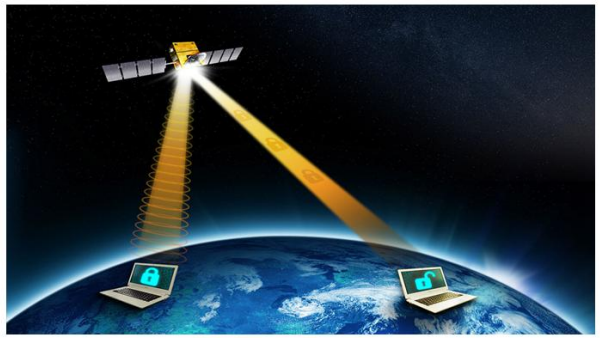
THEODOLITE

CLINOMETER

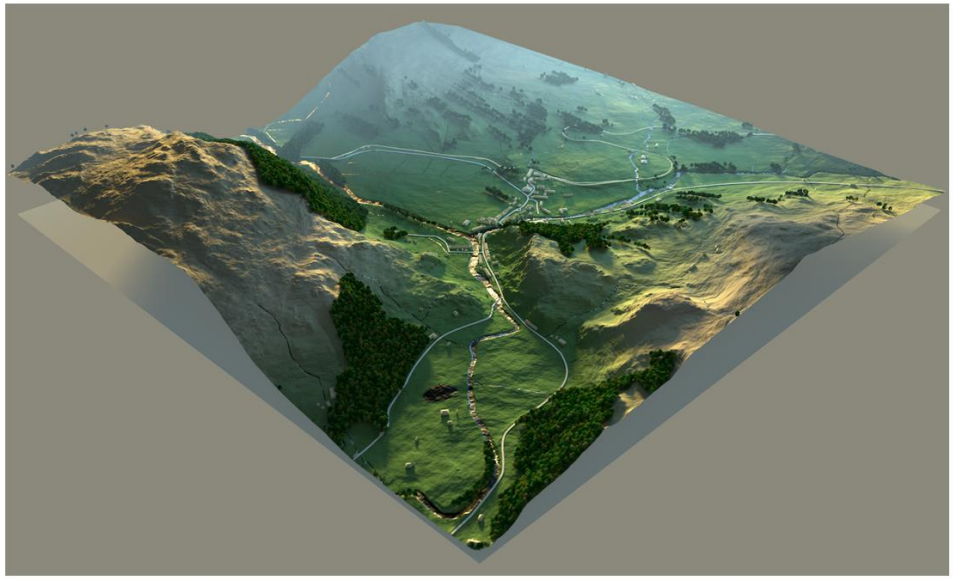
DUMPY LEVEL

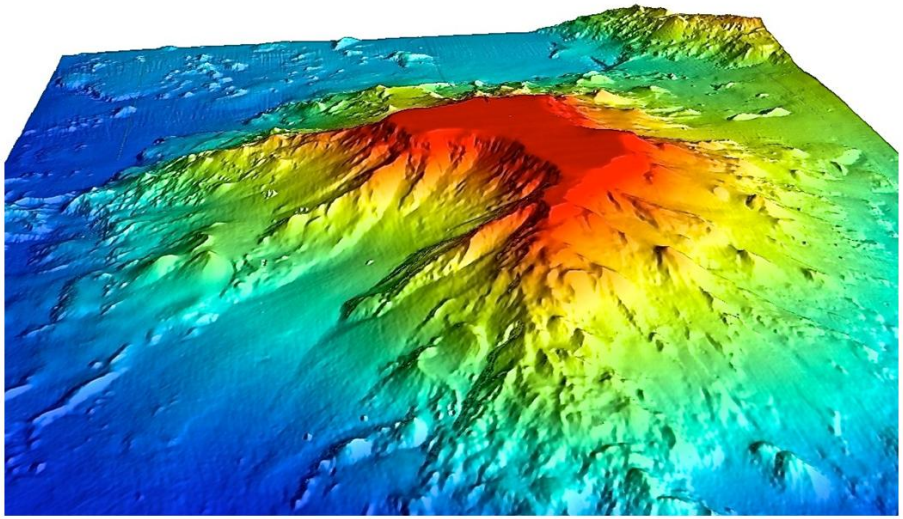


3D TOPOGRAPHICAL MAP



DIGITAL CARTOGRAPHIC DATASET THROUGH DIGITAL ELEVATION MODEL(DEM)





"The good cartographer is both a scientist and an artist. He must have a thorough knowledge of his subject and model, the Earth…. He must have the ability to generalize intelligently and to make a right selection of the features to show. These are represented by means of lines or colors; and the effective use of lines or colors requires more than knowledge of the subject – it requires artistic judgement." **~ Erwin Josephus Raisz (1893 – 1968)**

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