

GEOGRAPHICAL THOUGHT

II M.SC GEOGRAPHY

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TIME: 1:30PM TO 3:30PM

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INTRODUCTION

The Greeks were pioneers in many branches of knowledge. Describing the change of geographical knowledge in different stages may face some problem. To avoid the problems some approaches have been risen to describe Geographical knowledge. The basis of their knowledge was observation, measurement, generalization process, philosophical and comprehensiveness of mind were able to make tremendous advancement in the knowledge of Geography. Their period is known as the 'Golden age of Greece'. Greek philosophers and scientist were also interested in learning about spatial nature of human and physical features found on the Earth.

THE CONCEPT OF DEVELOPMENT AND THOUGHT

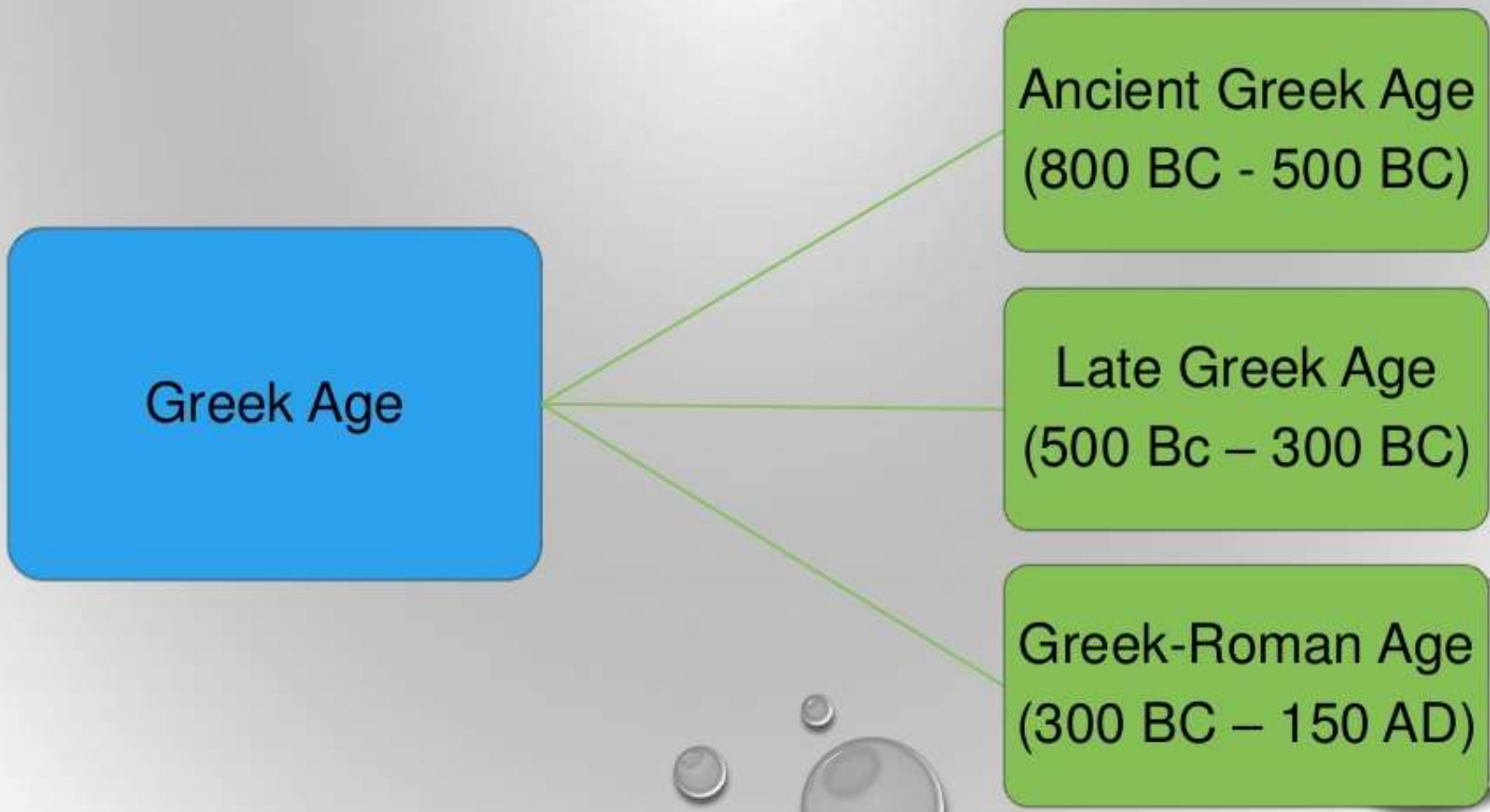
Development is the process of developing or being developed. Development is an event constituting a new stage in a changing situation. By hard working and long term efforts geography reach the present condition.

Factors of Development:

- Observation of the people
- Encouragement (social, political, financial)
- Travelling
- Trade and Commerce
- Exploration

In geography, Thoughts are the agglomeration of physical, cultural and biological aspects of the earth and values and beliefs of different objectives. Explanation is the methodological description of these thoughts

GREEK AGE (800 BC – 150 BC)



THE GEOGRAPHICAL ACHIEVEMENTS OF GREEKS

- Greeks discovered that, the earth is round.
- Greeks first drew the map of ocean.
- Eratosthenes first measure the circumference of the earth.
- Greeks invented the pole star.
- Greeks created Geography as subject.
- Greeks invented latitude, longitude and projection of the earth.

THE ANCIENT CLASSICAL GEOGRAPHY

- ❑ Geography as a field of learning in the western world had its beginning of ancient Greece.
- ❑ It is clear that much attention was given to geographical study in ancient China, and Chinese explorers did as much do “discover” Europe as the Europeans did to reach the “Far East”. But Chinese scholarship did not form a major part of the stream of western thought.
- ❑ The Greeks like all innovative people were great borrowers from the much older civilizations.
- ❑ Many of the basic procedures of scholarship still in use were first developed by the Greeks.

THE ROOTS OF GREEK SCHOLARSHIP

- The Greeks were indebted to the world's earliest scholars in many ways. Egypt has been called the cradle of science because of the very early development of the methods of observation, measurement and generalization in that country. Their contribution:
 - Developed ways to measure land areas.
 - North-south line
 - The art of writing
 - $(a + b)^2 = (a^2 + 2ab + b^2)$
 - Both the Egyptians and Sumerians believed that there were 360 days in a year.
 - The Sumerians divided the year into twelve months. They also divided the circle of the zodiac into 360 parts.
 - The Babylonians and Assyrians developed the ideas - a body of concepts that we call Astrology.
 - The Phoenicians, too, developed the world's first phonetic alphabet.

GREEK GEOGRAPHY

- ❖ The Greeks were pioneers in many branches of knowledge. Their period is known as the “Golden Age of Greece”. Between the 5th and 3rd century B.C., the Greek colonies were established in different parts of the Mediterranean sea and Euxine.
- ❖ Euxine became the main center of geographical enquiry.
- ❖ The early expedition of Hanno.
- ❖ The establishment of famous library Museum at Alexandria.

LOCATION OF GREECE


➤ The location of Greece, situated on both sides of Aegean Sea, was also conducive to geographical study. The great diversity in its topography and physical features provided great impetus to the growth and development of geography such as-

- Hilly and undulating country
- Rivers are mainly torrents
- Numerous straits
- Limestone topography of the mainland

These phenomena, the Greek scholars tried to study and explain.



Fig : Map of Greece

The background is a light gray gradient with a bright, circular glow in the center. Scattered throughout are several realistic water droplets of various sizes, some with highlights and shadows, giving a sense of depth and texture.

Greek Scholar's Contributions in Geography

HOMER

Born in : Melesigenes, as told
Pseudo-Herodotus

c. 8th century BC,
according to
Smyrna

Herodotus,

Died : Ios Island

Residence : Smyrna, Cyme
(Aeolis), Chios

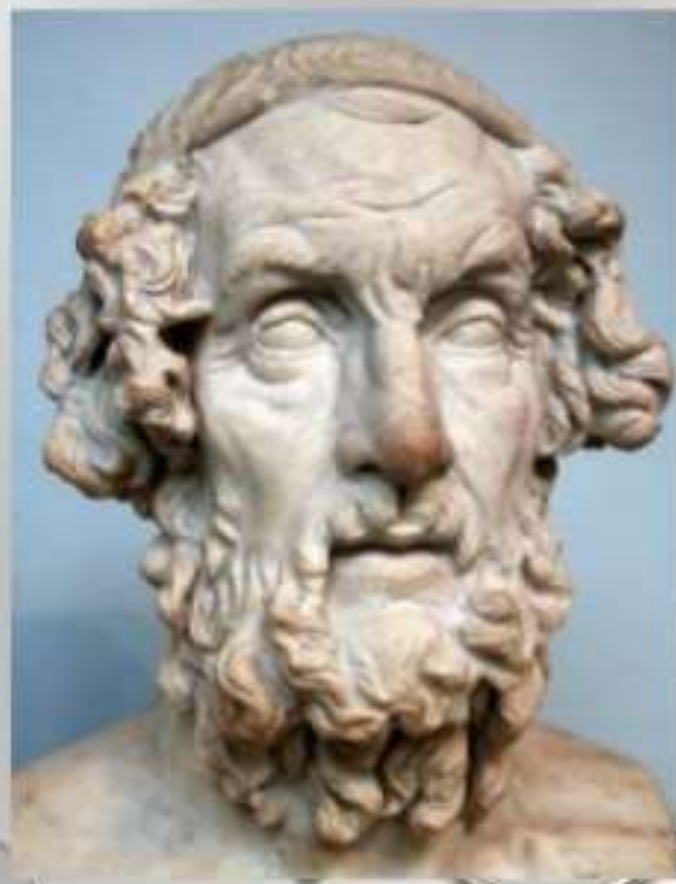
Nationality : Greek

Notable work : Iliad, Odyssey,
Homeric Hymns,
Epic Cycle, other
Homeric

Religion : Greek polytheism

Era : Geometric Period

Region : Shores and islands of
the Aegean Sea



Idealized portrayal of Homer dating to the Hellenistic period. British Museum

HOMER

Contribution In Geography

- The earth to be a place of circular form, surrounded on all sides by ocean river. The sky (Vault of Heaven), which he conceived as a solid concave surface, resting on tall pillars.
- The sun rose out from ocean stream and again sank into the same way. Stars are also bathing everyday in the Ocean like sun.
- He described the name 'Europe' was applied to the shore of the Aegean Sea towards the setting sun and 'Asia' was applied to the shore towards the rising sun.
- Winds are coming from four directions
 - **Bores:** North wind, Strong and cool with clear skies;
 - **Euras:** East wind, warm and gentle;
 - **Notus:** south wind, on the from of advanced storm;
 - **Zephyrus:** West wind, dreaded, Balmy with gale force

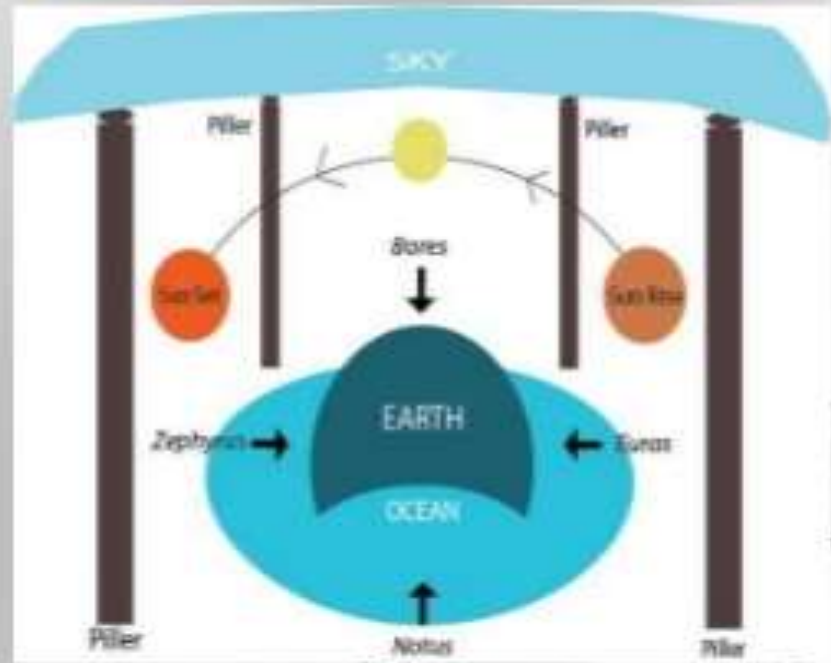


Fig: Earth in Homer's Thought

ANAXIMANDER

Born : c. 610 BC
Died : c. 546 BC
Residence : Miletus, Ionia
(Turkey)
Nationality : Greek
Notable Ideas : The apeiron is the
arche

living Evolutionary view of
things Earth floats
unsupported
mechanical model of
the sky Water of
evaporation rain from

Main Interest : Metaphysics,
Astronomy, Geometry,
Geography.

Era : Pre-Socratic philosophy



Relief representing Anaximander.
This is the only existing image of
Anaximander from the ancient world.

ANAXIMANDER

Contribution In Geography

Cosmology

- Anaximander explains how the four elements of ancient physics (air, earth, water and fire) are formed, and how Earth and terrestrial beings are formed through their interactions.
- The Earth floats very still in the centre of the infinite, not supported by anything. Stars are closer to Earth and then Moon and Then Sun. From this model he gave the explanation on eclipse.

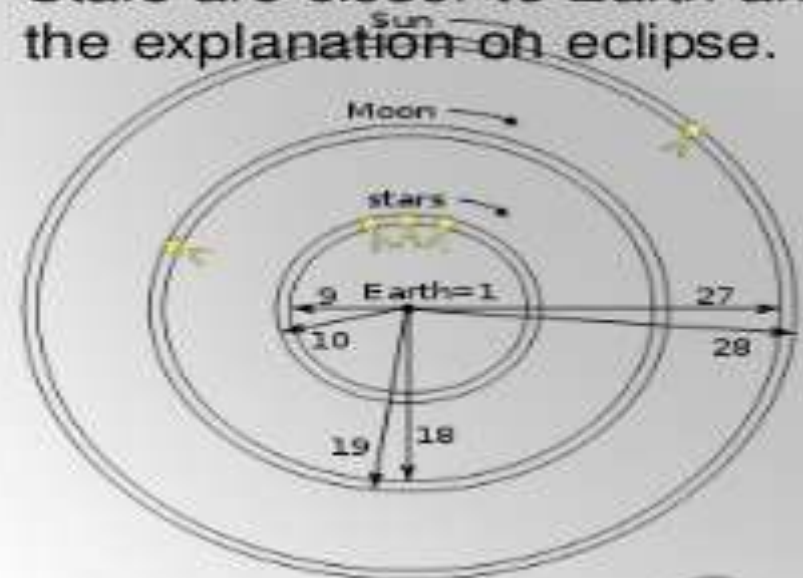


Fig: Map of Anaximander's universe

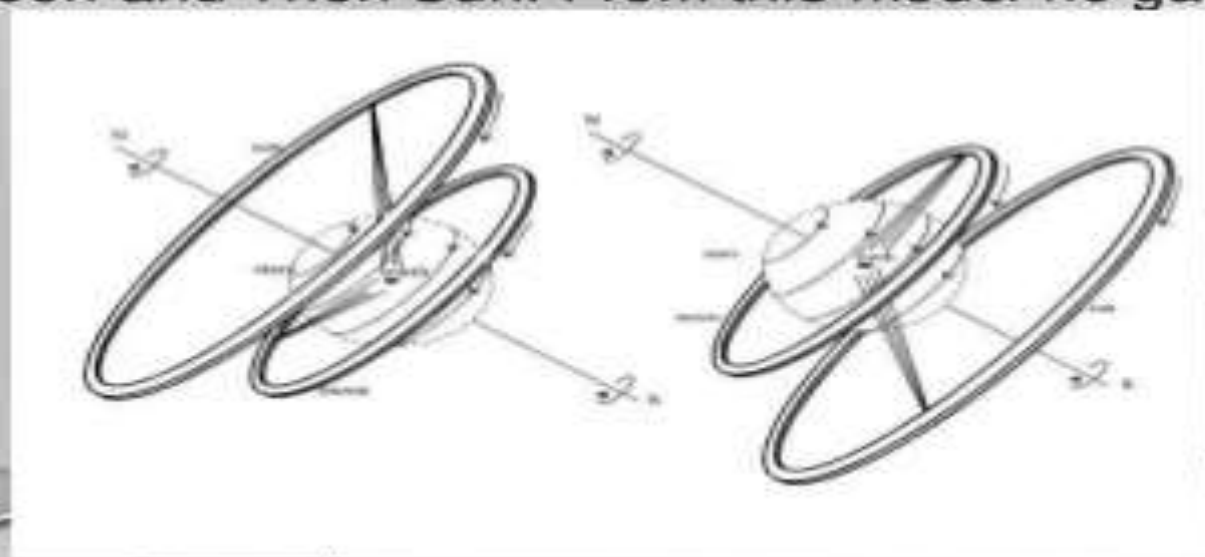


Illustration of Anaximander's models of the universe. On the left, daytime in summer; on the right, nighttime in winter.

ANAXIMANDER

Contribution In Geography

Meteorology

- Anaximander attributed some meteorological phenomena, such as thunder and lightning.
- Rain as a product of the humidity pumped up from Earth by the sun.

Cartography

- Anaximander prepared a world map to scale. In scale. In this map Greek has been shown in the the center of the world and surrounded by the the Ocean river.

Geometry

- Gnomon is a pole set vertically above a flat surface which the varying position of the sun sun could be measured by the length and direction of the shadow cast by the vertical pole. pole. With the help of Gnomon, noon could be be established by noting when shadow was the the shortest; The noon shadow provided the

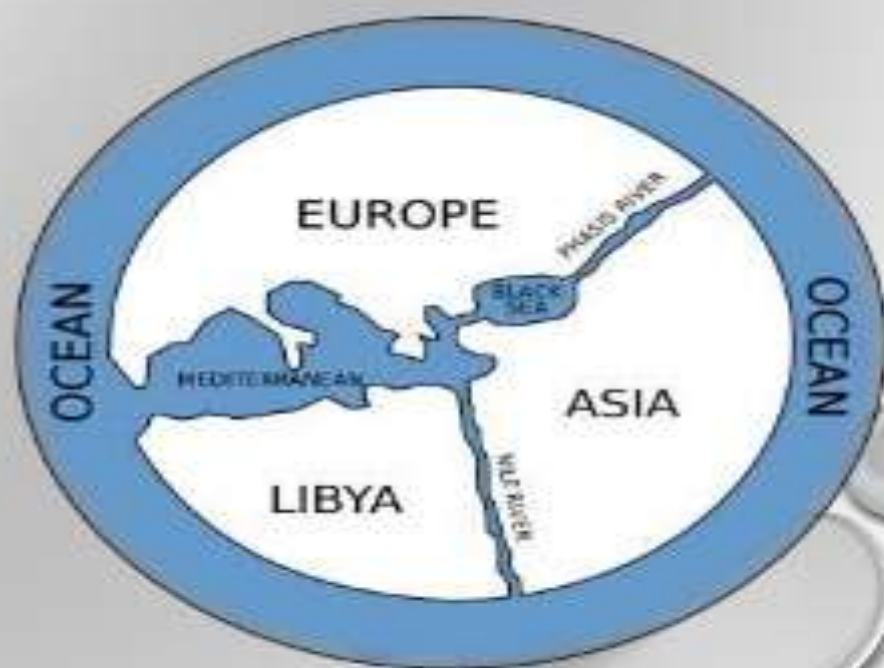


Fig: Anaximander's world map

HIPPARCHUS

| | | |
|---------------------|---|---------------------------|
| Born | : | c. 190 BC |
| Kingdom Bithynia | | Nicaea, of |
| Died | : | c. 120 BC |
| | | Rhodes, Roman Republic |
| Occupation | : | Astronomer |
| Mathematician | | |
| Nationality | : | Geographer Greek |



Fig:
Hipparchus

HIPPARCHUS

Contribution In Geography

- He discovered the precession of the equinoxes.
- He made the star catalogue, listed 850 stars.
- Divided the circle into 360 degree based on Assyrian arithmetic.
- Equator as a great circle which divided the earth in to two equal parts.
- 'Astrolabe' The instrument helps to determine Latitude and Longitude.
- The conversion of three dimensional sphere to two dimensional plane.
- Orthographic and Stereographic, these projections are designed by him.
- Orbit and Motion of the sun and moon
- Distance of Sun and Moon from the Earth

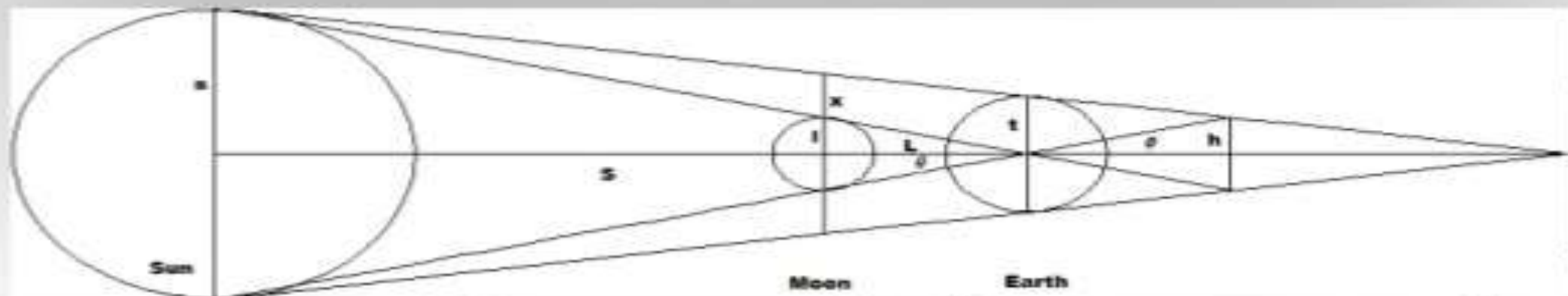


Fig: Geometric construction used by Hipparchus in his determination of the distances to the sun and moon.

HERODOTUS

| | | |
|---------------------|---|--|
| Born | : | c. 485 BC Halicarnassus, Caria, Asia Minor |
| Died | : | c. 425 BC Thurii, Calabria or Pella, Macedon |
| Occupation | : | Historian |
| Ethnicity | : | Greek |
| Notable work | : | The Historian |

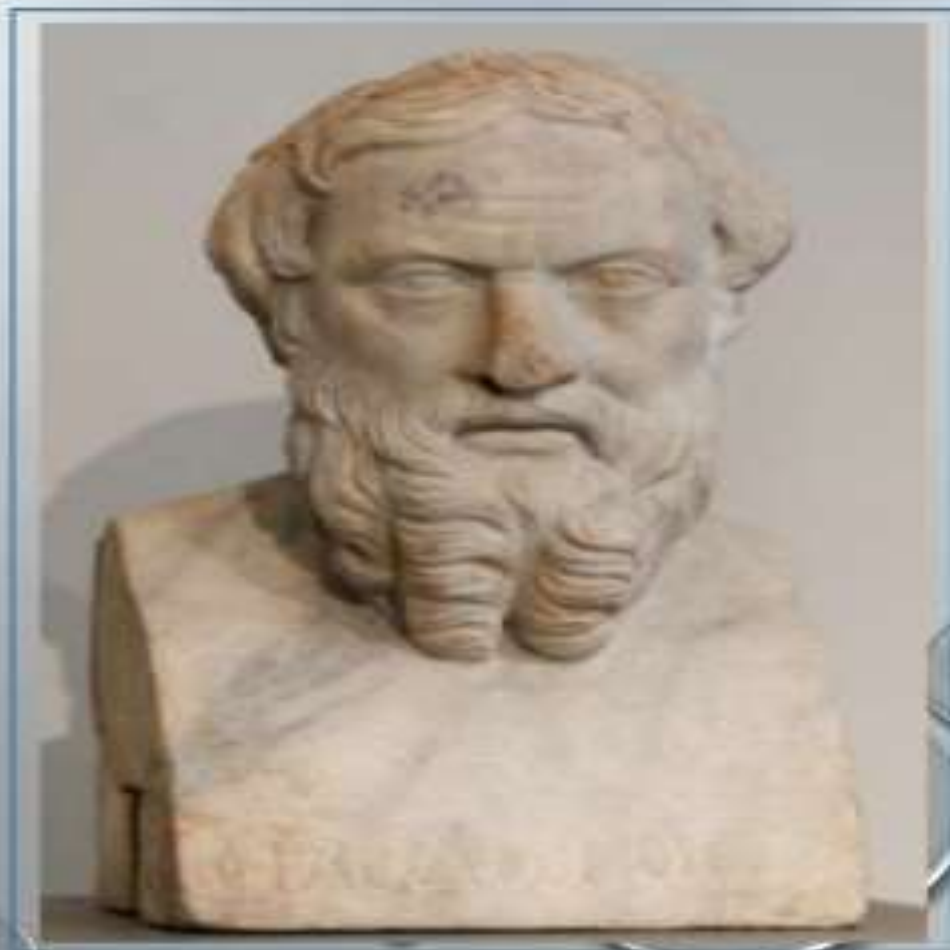


Fig: A Roman copy of a Greek bust of Herodotus

HERODOTUS

Contribution In Geography

- He gave description of then existing tribes and their life style.
- The meridian was drawn in the world map.
- Divided the Land mass of the earth into three continent : Asia, Europe and Libya (Africa).
- Divided Libya (Africa) into three latitudinal zones.
 - Mediterranean coast from Atlas mountain to delta of Nile.
 - Area of Wild beast (South)
 - True Sahara Desert



Fig: ancient map based on Herodotus

ERATOSTHENES

- Born** : c. 276 BC
Cyrene
- Died** : c. 194 BC
Alexandria
- Occupation** : Scholar,
Librarian,
Poet,
Inventor
- Ethnicity** : Greek



Fig: Eratosthenes

ERATOSTHENES

Contribution In Geography

- Described and Mapped the known world and dividing the Earth in to five climatic zone : two freezing zone around the pole, two temperate zone and a equatorial zone.
- Placed grids of overlapping lines over the surface of the earth

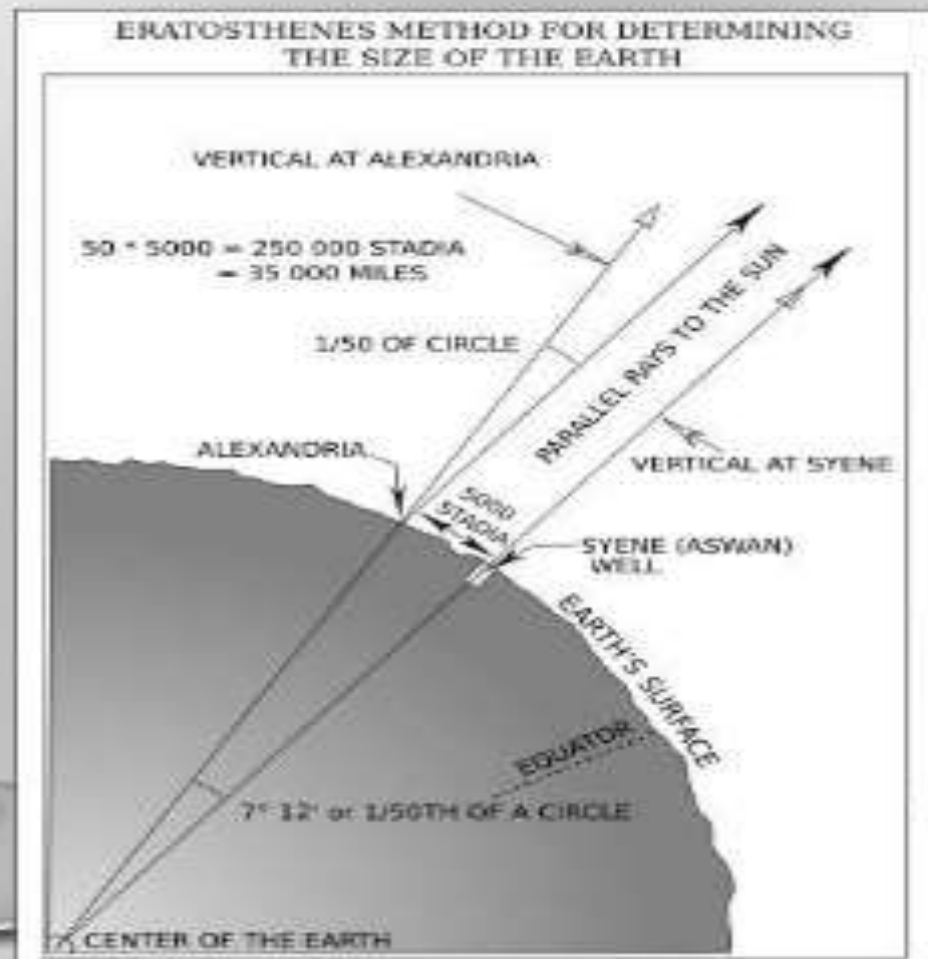


Fig: The World according to Eratosthenes

ERATOSTHENES

Contribution In Geography

- He wrote three books on Geography.
 - The first book was something of an introduction and gave a review of his predecessors, recognizing their contributions that he compiled in the library.
 - Second Book "A text on Mathematical Geography". Here he described about the discover of the circumference of the earth.
 - Third book "the Geography" contains political geography.
- calculated the Sun's diameter about 27 times that of the Earth
- Founder of 'Leap Year'
- Measured the Circumference of the Earth.



PLATO

(c. 427 BC – 347 BC)



Plato is one of the greatest Greek philosophers. He was student of Socrates. His concept till now are taught in universities worldwide.

Contribution:

☐ In Astronomical Geography:

- **Explanation of solar system as system (circle shape).**
- **Explanation Size, shape of sun, moon, and earth (round, circular)**
- **Concept of revolution of sun, moon, and planets (in circular way)**
- **Concept about position of earth (at centre of solar system).**

PLATO

(c. 427 BC – 347 BC)

- In mathematical geography:**

Analyzing physical science by mathematical way.

- Concept of deduction (pollution).**

- Books:**

Pheadu.

Philebus.

Timaeus.

Republica(Studied worldwide till now).

ARISTOTLE

Aristotle is a towering figure in ancient Greek philosophy, making contributions to logic, metaphysics, mathematics, physics, biology, botany, ethics, politics, agriculture, medicine, dance and theatre. He was a student of Plato who in turn studied under Socrates. He was more empirically-minded than Plato or Socrates and is famous for rejecting Plato's theory of forms.

Contribution on different field:

Works on natural history

- History of Animals (physical/mental qualities, habits)
- On the parts of Animals
- On the Movement of Animals
- On the Progression of Animals
- On the Generation of Animals

Physical works

- Physics (explains change, motion, void, time)
- On the Heavens (structure of heaven, earth, elements)
- On Generation (through combining material constituents)
- Meteorologics (origin of comets, weather, disasters)

Philosophical works

- Metaphysics (substance, cause, form, potentiality)
- Nicomachean Ethics (soul, happiness, virtue, friendship)
- Eudemian Ethics
- Magna Moralia
- Politics (best states, utopias, constitutions, revolutions)
- Poetics (tragedy, epic poetry)



| | |
|-----------------------|--|
| Born | 384 BC Stagira, Chalcidice (Chalkidiki), Northern Greece |
| Died | 322 BC (aged 62) Euboea, Greece |
| Nationality | Greek |
| Era | Ancient philosophy |
| Region | Western philosophy |
| School | Peripatetic school Aristotelianism |
| Main interests | Biology · Zoology Physics · Metaphysics Logic · Ethics · Rhetoric Music · Poetry · Theatre Politics · Government |
| Notable ideas | Golden mean Aristotelian logic Syllogism Hexis Hylomorphism Theory of the soul |

HECATAEUS OF MILETUS

Hecataeus of Miletus (c. 550 BC – c. 476 BC), son of Hagesandrus, was an early Greek historian of a wealthy family. He flourished during the time of the Persian invasion. Hecataeus is the first known Greek historian and was one of the first classical writers to mention the Celtic people.

Works

Some have credited Hecataeus with a work entitled *Periodos ges*, "Travels round the Earth" or "World Survey", written in two books. One, on Europe, is essentially a periplus of the Mediterranean, describing each region in turn, reaching as far north as Scythia. The other book, on Asia, is arranged similarly to the *Periplus of the Erythraean Sea* of which a version of the 1st century AD survives. Hecataeus described the countries and inhabitants of the known world, the account of Egypt being particularly comprehensive; the descriptive matter was accompanied by a map, based upon Anaximander's map of the earth, which he corrected and enlarged.

The other known work of Hecataeus was regarded as the *Γενεαλογίαι* (*Genealogiai*) or the *Ἱστορία* (*Historia*), a rationally systematized account of the traditions and the myths of the Greeks, a break with the epic myth-making tradition, which survives in a few fragments, just enough to show what we are



ALEXANDER THE GREAT

Alexander III of Macedon commonly known as **Alexander the Great** was a King of the Ancient Greek kingdom of Macedon and a member of the Argead dynasty, a famous ancient Greek royal house. Born in Pella in 356 BC, Alexander succeeded his father, Philip II, to the throne at the age of twenty. He was undefeated in battle and is considered one of history's most successful military commanders. During his youth, Alexander was tutored by the philosopher Aristotle until the age of 16. Alexander's legacy includes the cultural diffusion his conquests engendered, such as Greco-Buddhism. He founded some twenty cities that bore his name, most notably Alexandria in Egypt. Alexander's settlement of Greek colonists and the resulting spread of Greek culture in the east resulted in a new Hellenistic civilization, aspects of which were still evident in the traditions of the Byzantine Empire in the mid-15th century and the presence of Greek speakers in central and far eastern Anatolia until the 1920s.



Statue of Alexander in Istanbul Archaeology Museum.



Map of Alexander's empire and his route



Alexander's conquests of the Indian subcontinent