

## The Greek Scholars

The Greeks were pioneers in many branches of knowledge. The ancient period is known as the **Golden Age of Greece**. The Greeks are given the credit of being the earliest geographers. It was so mainly due to the fact that the Greeks had developed a philosophical and logical approach and they were academic in their outlook. Moreover, Greece which was a land of great diversity in its topography and physical features provided great impetus to the growth and development of geography. They tried to study and explain geographical phenomena like occurrence of volcanoes, earthquakes, disappearance of rivers in limestone regions and their emergence in subterranean course, etc. Thus, the nature of geography was descriptive in character.

### Homer

He was a well known Greek poet. His works were published in the forms of Illiad and Odyssey. These long epic poems describe the episodes of Trojan War and presents geographical accounts of the lands and peoples located on the margins of the world, then known to the Greeks. Homer describes a circular world ringed by a single massive ocean. *Four winds coming from the four directions as described by Homer*

- Boreas was the North wind.
- Notus was the South wind.
- Eurus was the East wind.
- Zephyrus was the West wind.

### Thales of Miletus

Thales was a practical businessman who lived in the 7th century BC. Thales was the first Greek scholar who originated several basic theorems of geometry.

He is also regarded as the first Greek to have devoted focussed attention to the measurement and location of places on the surface of the Earth. He considered the Earth as a flat disc floating in water.

### Anaximander (6th Century BC)

A disciple of Thales of Miletus. Anaximander considered Earth as a cylindrical mass suspended in a spherical universe. He introduced into the Greek world of a Babylonian instrument known as 'Gnomon'. This instrument was used for measuring the varying position of the Sun. This was just like a Sun dial. He prepared a world map to scale, in which Greece was shown in the centre of the world. The map was circular and was bounded on all sides by the ocean river.

### Herodotus (485-425 BC)

Herodotus is widely known as the father of history, but was also an eminent explorer and geographer of his time. For him, geography provided the stage or the setting that gives meaning to historical events.

Herodotus had travelled a great deal. Throughout his travels, he had retained a keen interest in the nature of the landscape, so that he not only described geographical phenomena, but also tried to explain them. While describing the surface of the Earth, he provided an interesting account of the existing tribes and their lifestyles.

Herodotus is the first to have noted the process by which large rivers, such as the Nile, build up deltas and also first recorded that winds tend to blow from colder regions to warmer ones.

### Hecataeus

Hecataeus was a resident of the town of Miletus. He was the first writer of prose in classical Greek literature. He has made significant contribution to the field of geography. He had an intimate knowledge about the lands bordering the Mediterranean sea. Egypt, especially the Nile Valley was extensively travelled by Hecataeus and he was perhaps the first to call this country as 'Gift of Nile'.

### Aristotle (384-322 BC)

Aristotle was a renowned philosopher of his age. He had a keen interest in geography and travelled a great deal. He studied geography on a basis of systematic observation. He accepted the idea of spherical Earth and also the theory of gravitation.

However, he considered the Earth as the centre of the universe and believed that the stars revolved around it. He divided the Earth into climatic zones on the basis of differences in temperature. He also put forward the idea of erosive agents that change the original form of the Earth.

### Eratosthenes (276-194 BC)

Eratosthenes is often regarded as the first scientific geographer, who upheld the mathematical tradition in geography, which was introduced by Thales much earlier in the 7th and 6th centuries BC. He has made an immense contribution to the field of mathematical geography and his works laid the foundations of modern cartography. He is famous for the correct measurement of the length of the equator with the help of an apparatus known as gnomon. He also calculated the latitude and longitude of many places and introduced the practice of plotting information on maps using a grid system.

### **Polybius (210-128 BC)**

He was a physical geographer. Polybius studied the process of erosion and suggested how streams grade their valleys.

### **Hipparchus (150 BC)**

A Greek astronomer and mathematical geographer, who was the first to divide the great circle into 360 degrees. He discovered the precession of the equinoxes and calculated the length of the year to within six and half minutes. He made an early formulation of trigonometry. He has emphasised the importance of parallels of latitudes and meridians of longitude in his work. For determination of latitude and longitude, he invented an instrument called 'astrolabe'. He is given the credit for conversion of three-dimensional sphere into a two-dimensional plane. He devised the technique of projections to achieve this. He devised the orthographic and stereographic projection. These projections show only a hemisphere and the whole Earth. Thus, his works marks an important development in the field of scientific cartography.

### **Posidonius (135- 50 BC)**

Posidonius a Greek historian and geographer, who lived shortly before the time of Christ, made two important contributions, out of which the one later proved wrong, while the others were right, but was overlooked for a long time.

*Firstly*, he recalculated the circumference of the Earth and arrived at a much smaller figure than that of Eratosthenes. He greatly overestimated the West to East distance from the Western most part of Europe to the Eastern extremity of the ekumene (the habitable Earth), then thought to be occupied by India.

He therefore said that a ship sailing Westward from European coast of Atlantic would reach the East coast of India after a journey of only 7000 miles. This estimate became the basis of Columbus's journey in search of India, which finally ended at the Eastern coast of America. *Secondly*, Posidonius contradicted the view of Aristotle that the equatorial part of the torrid zone was uninhabitable because of heat.

He insisted that the areas of highest temperature were located near the tropics and temperatures near equator were much less extreme. He pointed out that the overhead sun is seen for the longest time near the tropics and is overhead at the equator for a much shorter time.

## **Smart Facts**

- Anaximander and Thales are considered founders of mathematical geography.
- Herodotus is given the credit as the first geographer, who regarded the Caspian sea as an Inland sea.
- Herodotus was also the first scholar who divided the world landmass into three continents namely Europe, Asia and Libya.
- Aristotle was the first to advocate the spherical shape of the Earth.
- Eratosthenes is said to have coined the word geography.
- Eratosthenes determined the 'Size of the Earth' quantitatively for the first time.