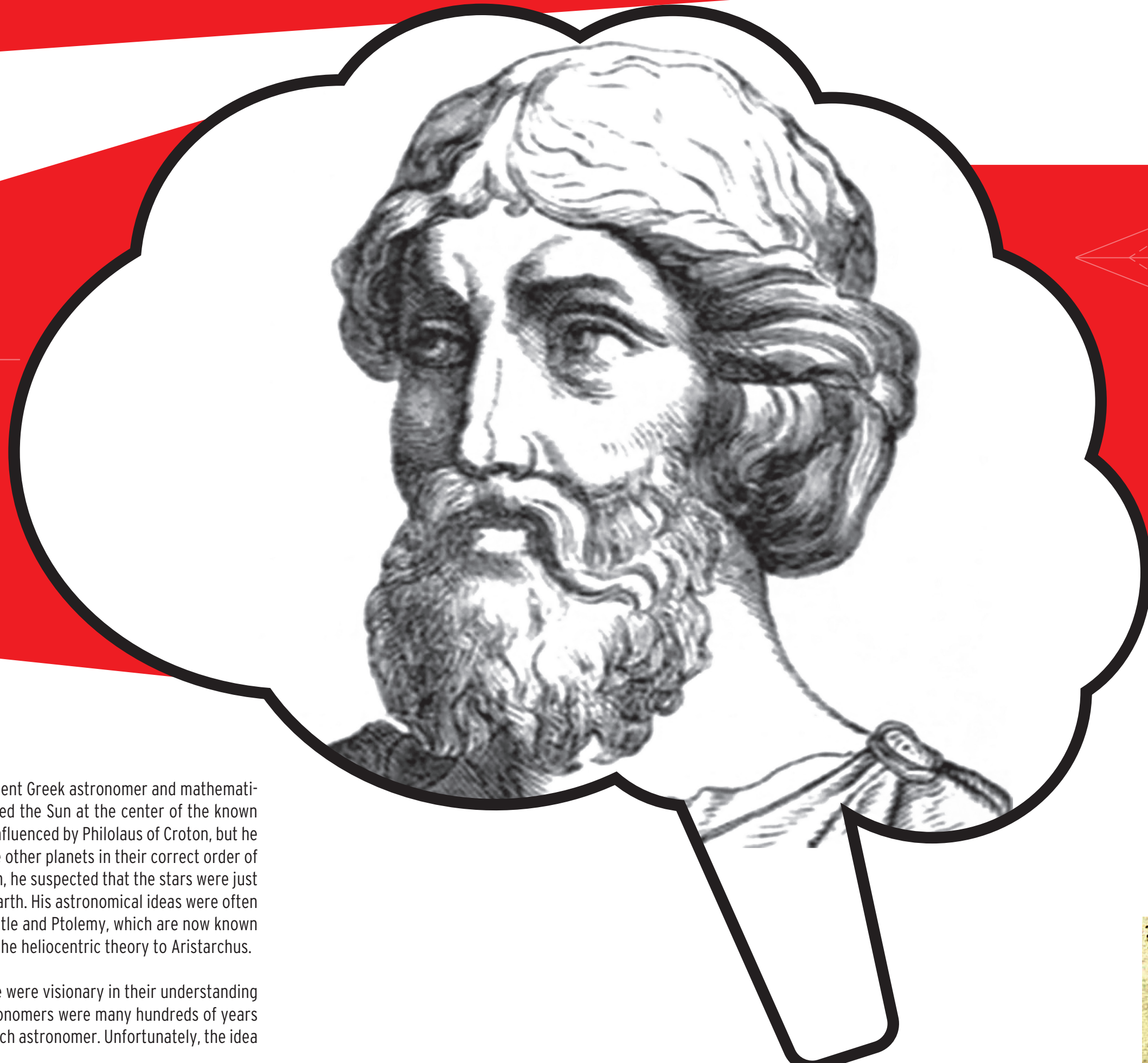# ANATOLIA "THE LAND WHERE SCIENCE WAS BORN AND FLOURISHED"


LIFE

Aristarchus of Samos (c. 310 - c. 230 BC) was an ancient Greek astronomer and mathematician who presented the first known model that placed the Sun at the center of the known universe with the Earth revolving around it. He was influenced by Philolaus of Croton, but he identified the "central fire" with the Sun, and put the other planets in their correct order of distance around the Sun. Like Anaxagoras before him, he suspected that the stars were just other bodies like the Sun, albeit further away from Earth. His astronomical ideas were often rejected in favor of the geocentric theories of Aristotle and Ptolemy, which are now known to be incorrect. Nicolaus Copernicus had attributed the heliocentric theory to Aristarchus.

Not all astronomers during the era of ancient Greece were visionary in their understanding of the solar system. The more forward thinking astronomers were many hundreds of years ahead of their time. Aristarchus of Samos was one such astronomer. Unfortunately, the idea was far too radical to be accepted.

WORKS
Distance to the Sun:
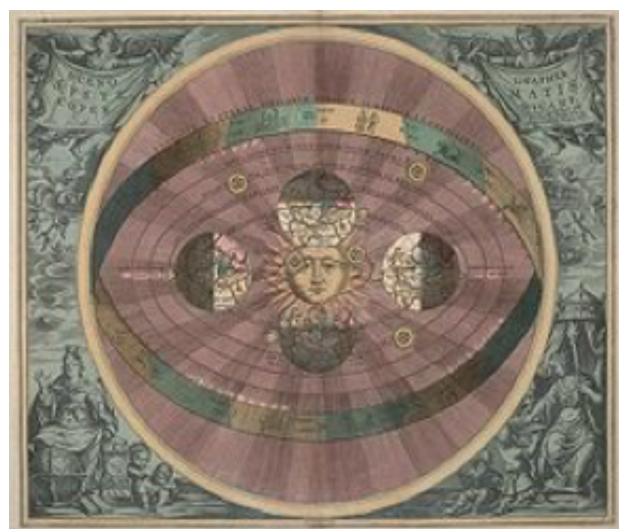
Heliocentrism is the astronomical model in which the Earth and planets revolve around the Sun at the center of the Solar System. Historically, Heliocentrism was opposed to geocentrism, which placed the Earth at the center. The notion that the Earth revolves around the Sun had been proposed as early as the 3rd century BC by Aristarchus of Samos, but at least in the medieval world, Aristarchus's Heliocentrism attracted little attention–possibly because of the loss of scientific works of the Hellenistic Era.

Aristarchus' Heliocentric Model
(Not to scale)
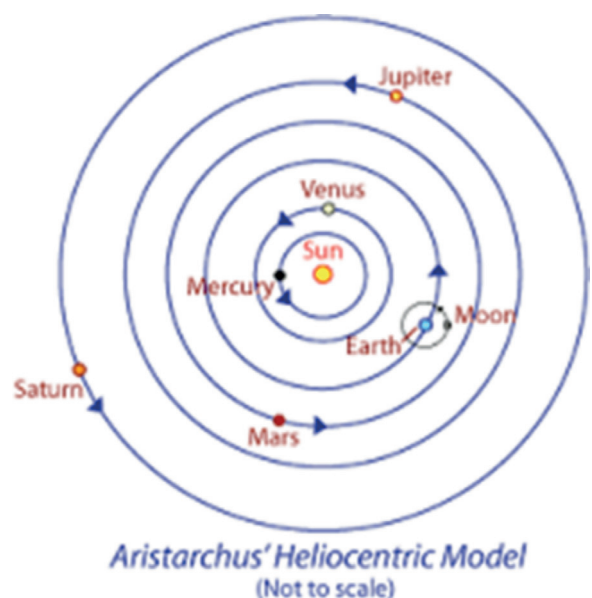
It was not until the 16th century that a geometric mathematical model of a heliocentric system was presented, by the Renaissance mathematician, astronomer, and Catholic cleric Nicolaus Copernicus, leading to the Copernican Revolution. In the following century, Johannes Kepler elaborated upon and expanded this model to include elliptical orbits, and Galileo Galilei presented supporting observations made using a telescope.

ARISTARCHUS

Born & Died: C. 310 - C. 287BC
Main Interest: Metaphysics, Mathematics, Astronomy
Shcool: Pythogoreanism
Notable Ideas: The first person who presented sun at the center universe with the earth revolving around it.

HELİOCENTRISM
The first known model that placed the Sun at the center of the known universe with the Earth revolving around it

The stars were distant suns that remained unmoved and that the size of the universe was much larger than his contemporaries believed.

He was one of the first Astronomer to calculate the relative sizes of the Sun ,the Moon and the Earth..

He used the Geormetry to solve scientific problems.

Distance to the Sun:

The only surviving work usually attributed to Aristarchus, On the Sizes and Distances of the Sun and Moon, is based on a geocentric world view. It has historically been read as stating that the angle subtended by the Sun's diameter is 2 degrees, but Archimedes states in The Sand Reckoner that Aristarchus had a value of ½ degree, which is much closer to the actual average value of 32' or 0.53 degrees. The discrepancy may come from a misinterpretation of what unit of measure was meant by a certain Greek term in Aristarchus' text.
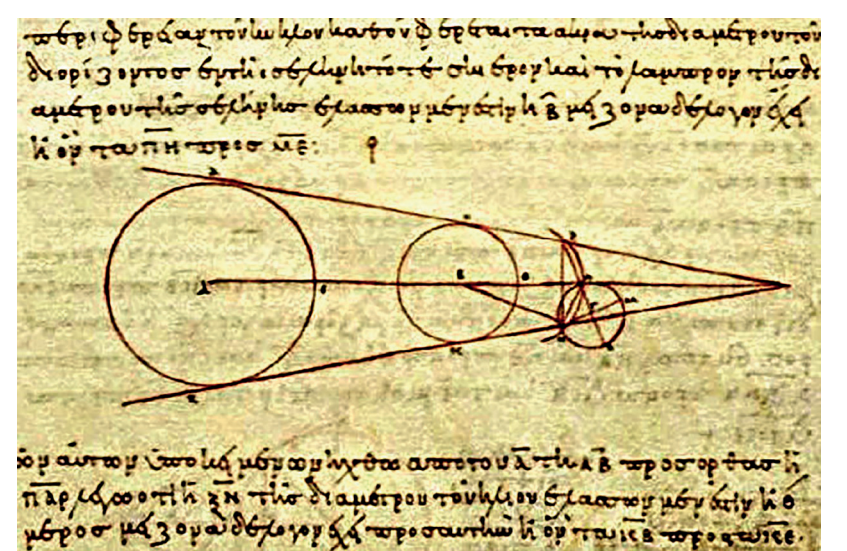

Aristarchus's 3rd-century BC calculations on the relative sizes of (from left) the Sun, Earth and Moon, from a 10th-century AD Greek copy

Half Moon:

Aristarchus began with the premise that, during a half moon, the moon forms a right triangle with the Sun and Earth. By observing the angle between the Sun and Moon, φ, the ratio of the distances to the Sun and Moon could be deduced using a form of trigonometry.
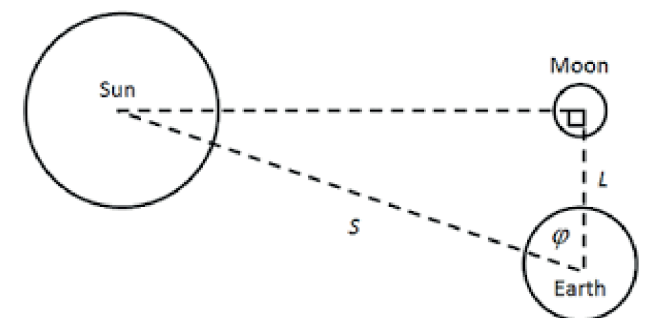
Lunar eclipse:
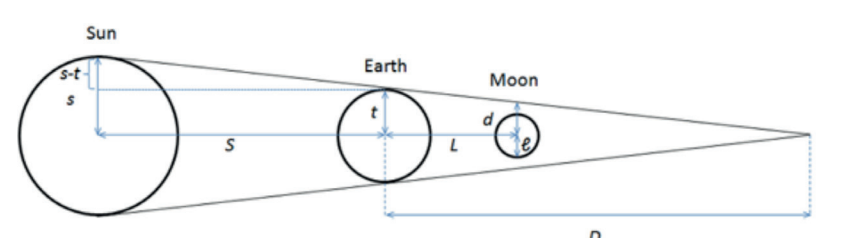
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