



Aristarchus of Samos

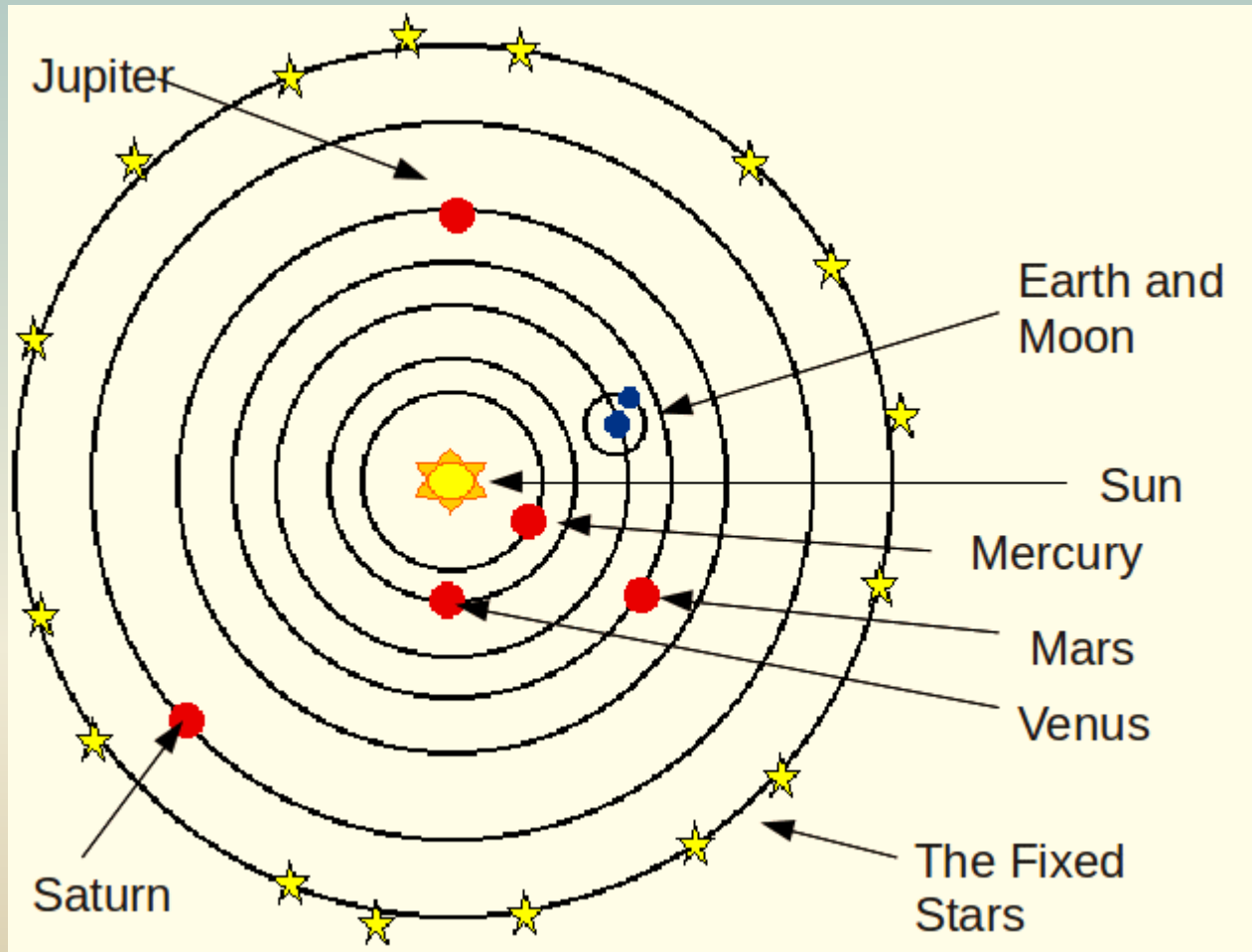
Ancient Greek mathematician
and astronomer
(310 – 230 BCE)



He came up with a revolutionary astronomical hypothesis.

He claimed the Sun, not the Earth, was the fixed center of the universe, and that the Earth, along with the rest of the planets, revolved around the Sun.

Aristarchus heliocentric model



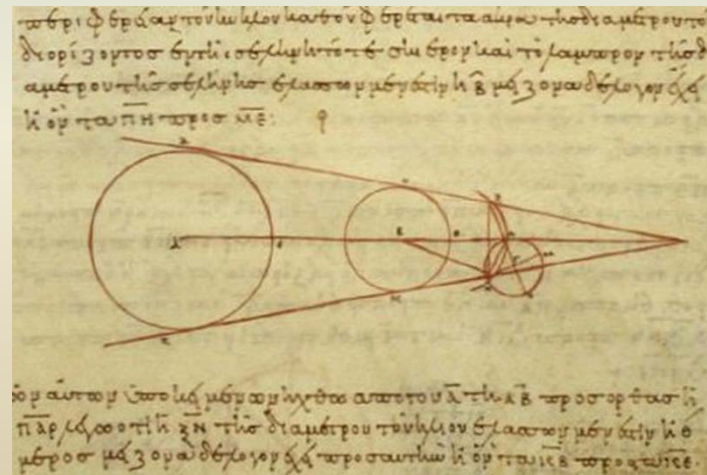
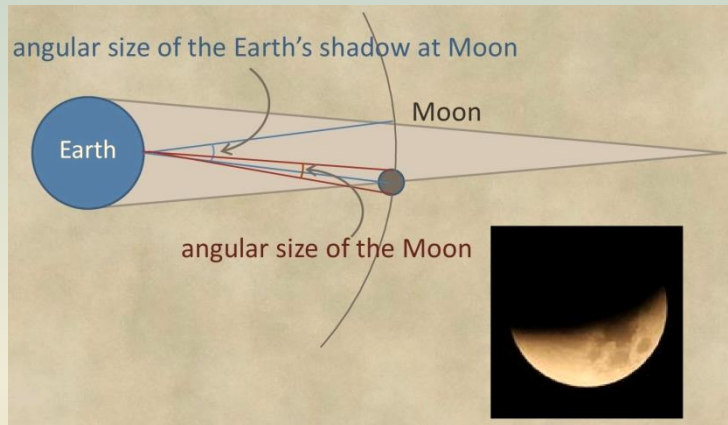
He also said:

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



Aristarchus estimated the relative sizes of the Sun and the Moon and their distances from the Earth.

He used the size of the Earth's shadow on the Moon during a lunar eclipse to do this.



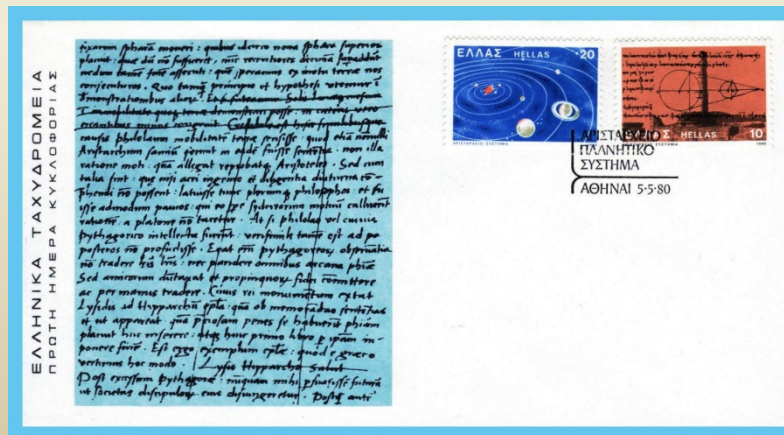
Aristarchus' calculations on the relative sizes of the Sun, Earth and Moon, from a 10th-century Greek copy

He estimated:

- the size of the Moon is $\frac{1}{3}$ the size of the Earth (modern value $\frac{1}{4}$)
- Sun is 7 times the size of Earth (110)
- distance from Earth to the moon is 20 times the diameter of the Earth (30)
- distance from Earth to the Sun is 380 times the diameter of the Earth (1200)



Aristarchus planetary model was discarded only to be rediscovered almost two millennia later during the years prior to the rise of modern science that took place during the Renaissance.



References:

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- https://www.ancient.eu/Greek_Astronomy/
- <https://brewminate.com/ancient-astronomy-science-and-the-ancient-greeks/>
- <http://www.phy.olemiss.edu/~perera/astr101F18/>
- <https://facultystaff.richmond.edu/~ebunn/homocentric/>

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"Four Seasons in the Sky"

