

Biographical Encyclopedia of Astronomers

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Heraclides of Heraclea

Born Heraclea Pontica (Eregli, Turkey), circa 388 BCE

Died Heraclea Pontica (Eregli, Turkey), 315-310 BCE

The Greek philosopher Heraclides was the son of Euthyphro, a wealthy man of high status at Heraclea Pontica. (One of his ancestors was an original founder of this Greek colony on the south coast of the Black Sea.) Heraclides attended the academy in Athens and was left in charge of it during Plato's third visit to Sicily in 360 BCE. Although he was a pupil of Plato, Heraclides studied with Aristotle and with Speusippus (Plato's nephew and successor as head of the academy). When Speusippus died in 339 BCE, Heraclides tried to become the next leader of the academy, but Xenocrates, another of Plato's disciples, triumphed by just a few votes. In the same way, Heraclides kept in contact with some Pythagorean philosophers and was strongly influenced by their philosophy

Following the greatest part of ancient and modern sources, Heraclides was the first to clearly explain that the apparent rotation of the heavens is brought about by the rotation of the Earth on its axis rather than by the global movement of stars around the Earth. He proposed that the seeming westward movement of the celestial bodies is due to the eastward rotation of the Earth on its axis, although he maintained a geocentric universe.

Nevertheless, a few ancient authors, like Cicero, wrote that two obscure Pythagoreans, Hicetus of Syracuse and Ecphantus of Syracuse (the second being probably the disciple of the first and who lived at the end of the 5th century BCE), proposed the same theory, the axial rotation of the Earth, before Heraclides. But so little is known about them that it has been said that they could be two fictitious characters from one of his lost dialogues

According to a commentary on Plato's *Timaeus*, written by Calcidius in the 5th century, Heraclides would have suggested that the two planets Mercury and Venus orbited the Sun, which itself was moving around the Earth. This peculiar view of the Universe, whose name is the geo-heliocentric system, found favor with three late Roman Empire writers (Calcidius, Macrobius, and Martianus Capella) from the 5th century. It also found favor with some scholars during the High Middle Ages (especially Alcuin, Rabanus Maurus, and John Scot Erigena, who proposed that Mars and Jupiter also orbited the Sun). Far later, during the 16th century and with the fall of the Ptolemaic system, Paul Wittich and Tycho Brahe proposed the same geo-heliocentric system where the five planets, including Saturn, orbited the Sun

From the beginning of the 19th century until fairly recently, it was believed, especially by T. H. Martin and Giovanni Schiaparelli, that Heraclides really suggested that Mercury and Venus orbited the Sun. The latter went further to claim that Heraclides must have proposed the theory that the Sun revolves around the Earth (but the planets revolve around the Sun). This theory was never, as far as we now know, put forward by a Greek astronomer.

Moreover, several modern scholars are now thinking that Heraclides did not propose any geoheliocentric theory. The misunderstanding came from a bad reading of Calcidius's

commentary, which received a more accurate translation by Otto Neugebauer. D. C. Lindberg gave a wealth of recent references that clearly indicate that Heraclides's theories never espoused heliocentrism, which was rejected at its time because it was believed that the rotation of the Earth would cause falling bodies to be deflected westward

Heraclides had been the author of numerous Plato-like dialogues on many subjects, including astronomy (*On the Celestial Bodies*). Unfortunately, all of them are lost, and we only have the titles (especially by Diogenes Laertius) and some poor extracts.

Christian Nitschelm

Alternate names

Heraclides of Pontus

Heraclides Ponticus

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