

Biographical Encyclopedia of Astronomers

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Cleomedes

Flourished circa 200

Cleomedes was a Stoic philosopher who was active around 200. This date is inferred from the internal evidence of his sole surviving treatise, *Caelestia* (The Heavens). This treatise includes polemical attacks against Peripatetics (followers of Aristotle) and Epicureans that are characteristic of debates between Stoics and other philosophers during the 1st and 2nd centuries and that cease by the early 3rd century. Attempts to date Cleomedes to the 4th century on the basis of an astronomical observation reported at *Cael.* 1.8.46-56 are not warranted by the text.

The *Caelestia* is actually an astronomical digression in a series of lectures on Stoic philosophy offered by Cleomedes. Thus, it tells us much more about Stoicism at the time, and the desire to follow Posidonius in defining astronomy as a science that takes its starting points or first principles from physical theory and cosmology, than it does about current astronomical theory. Indeed, the astronomy it presents is elementary and limited to the following topics: the celestial sphere, the division of the world into zones, seasonal and climatic differences (1.1-4), the sphericity and centrality of the Earth (1.5-6), the absence of parallax in observations of the Sun and beyond (1.8), the sizes of the celestial bodies (2.1-3) (specifically, Epicurus' claim that they are the size they appear to be), the illumination and phases of the Moon (2.4-5), and lunar eclipses (2.6). There is a brief appendix (2.7) giving values for planetary latitudes and elongations.

For historians of astronomy, the *Caelestia* is important mainly for offering two geometrical arguments estimating the size of the Earth, one attributed to Eratosthenes and the other to Posidonius (1.7). The presentation of these arguments, however, is plainly governed by Cleomedes' determination to show, in accordance with Stoic epistemology, how the heavens may still be the object of knowledge, though they are not in general the subject of cognitive presentation (sense perception that is veridical and self-certifying). It is, therefore, difficult to assess the historicity of these accounts, and in particular that attributed to Eratosthenes, given that the value for the circumference of the Earth ascribed by Cleomedes to Eratosthenes differs from that reported in numerous earlier sources.

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Selected References

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Goulet, Richard (1980). *Cléomède: Théorie élémentaire*. Paris: J. Vrin. (Still very useful for its notes and discussion.)

Todd, Robert B. (1990). *Cleomedis Caelestia*. Leipzig: Teubner. (The first critical edition of Cleomedes' treatise.)