

Biographical Encyclopedia of Astronomers

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Geminus

Born possibly Rhodes, (Greece), circa 10 BCE

Died circa 60

Geminus concerned himself largely with dividing mathematics (which then included astronomy) into several divisions and subdivisions.

The belief that Geminus was from Rhodes is largely based on his astronomical works, which use mountains on Rhodes as reference points. However, Rhodes was the center of astronomical research at the time; it is conceivable that Geminus simply referenced these points from prior knowledge, and it is thus distinctly possible that he was not a native of the island. He was either a direct pupil or a later follower of Posidonius and is considered a Stoic philosopher. Geminus is mentioned in works by Simplicius and is accused of simply rewriting Posidonius. There is enough of Geminus' original work surviving for this accusation to be untrue

Geminus' primary contribution to astronomy included some philosophical musings. He said that astronomy dealt with facts and not causes, and proceeds from hypotheses. He gave several examples of such reasoning in relation to astronomy in his works, which included a commentary on Posidonius' *Meteorologica* and a work that was clearly his own, *Isagoge* (Introduction to Astronomy). In it, he made some interesting contributions to astronomy. In particular, he introduced the concept of mean motion and represented the motion of the Moon in longitude by an arithmetic function. In addition, the work mentions the zodiac, the solar year, the irregularity of the Sun's motion, and the motions of the planets. In dealing with the zodiac, Geminus discussed the 12 signs, the constellations, and the axis of the Universe. He spoke of eclipses, the lunar phases, and the calendar.

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Selected References

Heath, Sir Thomas L. *A Manual of Greek Mathematics*. Oxford: Clarendon Press, 1931. New York: Dover, 1963.

Neugebauer, Otto (1975). *A History of Ancient Mathematical Astronomy*. 3 pts. New York: Springer-Verlag.

Smith, David Eugene (1923). *History of Mathematics*. Vol. 1. Boston: Ginn and Co. (Reprint, New York: Dover, 1958.)

Swetz, Frank J. (1994). *From Five Fingers to Infinity*. Chicago: Open Court.

Worthern, T. D. (1991). "Inclusive Counting as the Source of the Misunderstanding about the Luni-Solar calendar of Geminus prior to the Octaeteris." *Bulletin of the American Astronomical Society* 23: 898. (Paper abstract.)