

Biographical Encyclopedia of Astronomers

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Anaximander of Miletus

Born Miletus (near Söke, Turkey) circa 611 BCE

Anaximander of Miletus is generally regarded as the second philosopher in the western philosophical tradition after Thales. He was the son of Praxiades. Miletus was a commercial city on the coast of Ionia (part of present-day Turkey).

Details of Anaximander's life are lacking, though it seems certain that he was the first to write a treatise on nature. Only a single fragment of this work remains, in which he announced that the "boundless" or "indefinite" is the first principle or primal "stuff" from which all things originate. Still, his theories are widely attested in the doxography, allowing a general picture of his cosmology.

Departing from the Homeric view that the Earth was a flat plate or disk, Anaximander characterized it as a drum-shaped cylinder suspended in midair. This placement strongly suggested that the celestial bodies passed through the sky and then under the Earth to reappear again the next day, thereby superseding earlier cosmological tendencies that limited the movement of celestial bodies only to the sky above. On one surface of the drum was the inhabited world. On the other was another world, though there is some question about whether Anaximander thought it was inhabited as well

The diameter of the Earth was three times its height. Circling the Earth were rings of fire encased in mist, with apertures through which the fire would shine, thereby explaining the celestial bodies. The ring of the Sun was 27 times the diameter of the Earth, and that of the Moon was 18. There was a separate ring for each of the stars and planets, inclined at various angles, each located closer to the Earth than the Moon, unlike the views of later Greek cosmologists. Because of a lacuna in the ancient sources, we do not know the precise size of these rings, though Anaximander's mathematical method would seem to suggest that they were nine times the diameter of the Earth. Anaximander accounted for eclipses and the phases of the Moon by hypothesizing that

According to ancient tradition, Anaximander introduced the gnomon, or sundial, into Greece and used it to mark the hours and seasons, along with the solstices and equinoxes.

Consequently, he is generally credited with discovering the obliquity of the zodiac, most likely accounting for its north/south wobble by an appeal to wind. Anaximander is also reputed to have been the first to draw a map of the inhabited world. Most surprising, perhaps, in Anaximander's cosmology, is the view that there are innumerable worlds or other kosmoi, though scholars disagree on whether the theory held that these worlds coexisted in space or whether they existed only in temporal succession.

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