

ANAXIMANDER (Ἄναξιμανδρος [Anaximandros]) of Miletus, son of Praxides, student and companion of Thales of Miletus; the dates of his birth and death (b. 610 BC, d. 545 BC) have been reconstructed based on a comment by Apollodorus that the philosopher was 64 years old in 547 or 546 BC, but these dates are not certain. He was at his height (ἄκμη [akmé]) in intellectual development and work around 565 BC.

He studied astronomy and was thought in ancient times to have invented the gnomon. He studied geography and was thought to have made the first map of the earth and sea. He was active in politics and wrote a constitution for Apollonius, an Ionian colony on the Black Sea, whose citizens raised a statue to him in gratitude. He wrote the first philosophical treatise in the strict sense. The work was written in poetic language and its main points and its content have been passed on to us by his doxographers—Aristotle, Theophrastus, Pseudo-Plutarch, Hippolytus, and Simplicius— but the work itself has not survived. Its title was *On nature* (Περὶ φύσεως [Peri physeos]) but the title was probably added to Anaximander's work later.

As a philosopher Anaximander is situated within the circle of studies initiated by Thales, what is called the Ionian philosophy of nature. It sought the first principle and cause of the entire universe. This first principle was conceived as a material principle— arché (ἀρχή). Aristotle called them the physicists (φυσικοί [physikoi]) and they were generally known by this term. Anaximander differed from Thales because he thought that the principle was not water or any of the elements (στοιχεῖα [stoichéia]), but rather the ápeiron (τὸ ἄπειρον [to ápeiron]), which was a primordial substance without any defined quality or quantity. It was ineffable, infinite, eternal, ungenerated and indestructible. It had within itself the source of its own motion (hylezoism), the source of all generation and corruption, and the philosopher described it as divine. The apeiron as the principle or arché is the substantial and normative source of the world. The world has its beginning in it and in it will find its end. It is in all the things of the world as a substance, the power that determines their generation and corruption, their law and norm, and it regulates things according to a defined measure of change. In his cosmogony Anaximander stated that worlds come into being (γένεσις [génesis]) and perish (φθορά [phthorá] in cycles. These cycles are subject to a stable and unchanging law of necessity established by the ápeiron, according to which the time-span of the worlds is set by the measure of the order of time (κατὰ τὴν τοῦ χρόνου τάξιν [katá ten tou chrónou taxin]).

Anaximander was the first to express the idea that the universe is a structure ordered according to mathematical rules. There were measurable numerical relations between the centers of the cycles of the sun, the moon, the stars, and the earth. In successive cycles of generation and corruption distinct opposites emerged from the apeiron in its motion. These were the substratum of hot and cold, and water arose from these. The other elements—earth, air, and fire—emerged in turn from water. In successive stages of the world's generation the heavenly bodies and the earth took shape. The present world is one of many that occur in succession according to the law of necessity and it has the form of many circles of heavenly bodies. In the middle of these circles lies the earth which is held in place by the equilibrium of opposites. The earth is shaped like the shaft of a column and people dwell at the top. Living beings arose out of slime, while humans arose from fishes and were in their bosoms until they were able to nourish themselves and go out on dry land.

J. Burnet, *Early Greek Philosophy*, Lo 1892, 1952⁴; Diels-Kranz I–III (passim); G. S. Kirk, J. E. Raven, M. Schofield, *The Presocratic Philosophers*, C 1957, 1983² (in Polish: *Filozofia przedsokratejska*, Wwa-Pz 1999); C. H. Kahn, *Anaximander and the Origins of Greek Cosmology*, NY 1960; Anaximander, *Fragments et Témoignages* (ed. M. Conche), P 1991.

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