

Thales

The first person to break with this mythopoetic style of explanation. Offered a new kind of answer: "everything is water". Does not mean literally that everything is that liquid, but that everything is constituted out of a basic element, which is water. Here Thales is using a new idea, the idea of arche: an underlying principle which makes a thing what it is (sometimes we speak of the physis, or 'nature' of a thing). When he says everything is water, he means that water is the arche of everything in the world. While not evident to the senses, everything which is evident to the senses arises by the action of this underlying element, which turns out to be water.

Discussion about Thales' revolutionary answer:

Shocking? (Is this what you expected after my buildup re Presocratics?)

Plausible? Well, consider:

- A. Four elements thought to be earth, air, fire, water.
- B. Moisture nec. for life, in blood and sap.
- C. Seeds are moist.
- D. Water is everywhere & is in all three states: fog, ice, water.

Kind of Explanation emerging from Thales (let them tell me, with hint from mythopoetic list):

1. Naturalistic: explains workings of natural universe by appeal to natural element(s)--no appeal to anything outside nature.

2. Systematic: all nature has a single underlying principle or arche which accounts for everything evident in nature (while later thinkers may not pursue such a wildly unified account, they do imagine there are a very few principles and elements from which we can explain everything in nature....sometimes this is referred to as the universality or generality requirement for scientific explanation).

3. Nonanthropomorphic

4. Economical, even wildly parsimonious: simple explanation for complex phenomena (when two theories are otherwise equally good, the simpler one is the better one on this view)

5. Gleeful rejection of appeal to common sense (appeal to the "scientific image" instead of the "manifest image", i.e., to some arche rather than to sensory properties).

The name for those who pursued this new style of explanation: Phusikoi (the physicists), vs the Nonphusikoi (Homer and Hesiod):

Phusikoi

World is orderly, intelligible

Events have explicable course, systematic

World determined by natural elements

Explanations use natural elements

Gods leave world alone

Nonphusikoi

World is chaotic, mysterious

Events arbitrary, unsystematic

World deter'd by will of gods

Expl's use mythical elements

Gods run the world

Short bio on Anaximander and Xenophanes

Anaximander intro: pupil of Thales, Milesian. First to think of the arche as a principle (Thales probably thought of water as a basic stuff out of which everything is made, rather than a principle out of which everything is made)

a. First real philosopher with a system, a cosmology, physics, expl. of earth and animals, nature of human knowledge. Set the scope of questions for later phil.

Anaximander Quotation (oldest piece phil writing pp.74-75)

Two important ideas here:

a. idea of an ur-stuff/matter underlying 4 elements.

Proposed a different ur-stuff for the universe: to peiron (deh pehroan)...the infinite, indefinite, the internally undifferentiated...he prefers the unlimited. Two points here:

1. Anax realized none of the 4 elements could be basic, since they were all thought to be opposites (water was opposed to fire, earth to air), and opposites cannot generate each other. The idea of the unlimited resolves the conundrum...the unlimited is not one of the opposites, and so they can be borne from the unlimited. This is matter...a material substratum capable of taking on all the phenomenal properties we find in things.

Anaximander was the first to articulate the scientific idea of matter which constitutes things in the world.

a. why is "the unbounded or infinite" an obvious candidate for the ur-stuff...."If you seek to explain that which underlies a finite world, and which is not itself explained by something else, then you are plausibly looking for something without a limit. And the infinite is such a thing, and further, is naturally thought of as a principle rather than as an entity, and it is a principle that Anaximander thought he must find to stand as the arche of the world."

2. idea of natural law (moral necessity that binds opposites to remain in balance, or pay penance for failure to do so)

a. the opposites arise and wane in the world by a process Anaximander sees as a matter of "moral necessity". This is Anaximander's way of introducing the notion of a natural law. It is the first articulation of idea of a natural lawlike necessity to the patterns of change in the universe. Change is the altering balance of opposing properties in things (as is found in the seasons, where hot and dry gives way to cold and wet, and there is an overall balance of these properties over the course of a year). This is ingenious analogical application of what was familiar, i.e., the morally necessary, to natural things. If you violate natural law (you being one of the opposites, like hot, cold, wet or dry) by not retaining balance with your counterpart, you must "pay for this injustice" by being dominated by that counterpart for some equal portion of time. This is the sense of the expression "in accordance with the arrangement of time". The balance of opposites is coordinated by natural law in time, by producing oscillations between the dominance of one and the dominance of its opposite. Penance for each dominant period is paid by a natural opposite, like hot, with an equal period of dominance by its counterpart, the result of which is an overall harmonic balance among the properties found in the world.

3. Anaximander on earth's being unsupported in space (p. 74)

Importance: idea of gravity (non-Newtonian, but nonetheless)

World is a cylindrical drum. The earth doesn't rest on anything, but rests where it is on basis of its equidistance from all other things in the universe. Appears to be an early instance of applying the idea of gravity.....a force which does not have a natural direction. Gravitation is a function of masses, and if a mass is in the middle, equidistance from all other masses in the universe, then it would have no reason to move. Not Newtonian gravitation....not a function of magnitude of masses, no mention of a special role for distance between masses (besides equal distances yielding equal attraction). But this is clearly an early attempt to apply intuitions that are associated with the basic idea of gravitational attraction.

Xenophanes (possibly Parmenides teacher, poet, peripatetic, founder of Eleatic school of thought.

Nonanthro, all-k, all-p, all-g single God idea

Scepticism on h-k

Distinction between true belief/statement and knowledge (p.94m) Important distinction which will become clearer in Plato and Aristotle, who obsess on the distinction.