

14. He also declares that in the beginning humans were born from other kinds of animals, since other animals quickly manage on their own, and humans alone require lengthy nursing. For this reason, in the beginning they would not have been preserved if they had been like this. (pseudo-Plutarch, *Miscellanies* 179.2 = 12A10)
15. Anaximander . . . believed that there arose from heated water and earth either fish or animals very like fish. In these humans grew and were kept inside as embryos up to puberty. Then finally they burst and men and women came forth already able to nourish themselves. (Censorinus, *On the Day of Birth* 4.7 = 12A30)

Anaximenes

Anaximenes was said by ancient sources to be a younger associate or student of Anaximander. Anaximenes agrees with Thales and Anaximander in adopting material monism, but proposes a different underlying reality, which he calls aer (usually translated "air" although aer is more like a dense mist than what we think of as air). Aer is indefinite enough to produce the other things in the cosmos but it is not as vague as Anaximander's boundless. Anaximander had left it quite unclear just what it is that comes from the indefinite that is productive of hot and cold, and Anaximenes may well have argued that the indefinite was too nebulous a stuff to do the cosmic job Anaximander intended for it. Anaximenes says that everything is really just aer in some form or other, but he improves on the theories of Thales and Anaximander by explicitly including in his account the processes, condensation and rarefaction, by which aer is transformed into everything else.

16. Anaximenes . . . like Anaximander, declares that the underlying nature is one and boundless, but not indeterminate as Anaximander held, but definite, saying that it is air. It differs in rarity and density according to the substances <it becomes>. Becoming finer it comes to be fire; being condensed it comes to be wind, then cloud, and when still further condensed it becomes water, then earth, then stones, and the rest come to be out of these. He too makes motion eternal and says that change also comes to be through it. (Theophrastus, quoted by Simplicius, *Commentary on Aristotle's Physics* 24.26–25.1 = 13A5)
17. Just as our soul, being air, holds us together and controls us, so do breath and air surround the whole cosmos. (Aetius, 1.3.4 = 13B2)

18. Anaximenes . . . said that the principle is unlimited [boundless] air, out of which come to be things that are coming to be, things that have come to be, and things that will be, and gods and divine things. The rest come to be out of the products of this. The form of air is the following: when it is most even, it is invisible, but it is revealed by the cold and the hot and the wet, and movement. It is always moving, for all the things that undergo change would not change unless it was moving. For when it becomes condensed and finer, it appears different. For when it is dissolved into what is finer, it comes to be fire, and on the other hand air comes to be winds when it becomes condensed. Cloud results from air through felting, and water when this happens to a greater degree. When condensed still more it becomes earth and when it reaches the absolutely densest stage it becomes stones. (Hippolytus, *Refutation* 1.7.1–3 = 13A7)
19. Anaximenes determined that air is a god and that it comes to be and is without measure, infinite and always in motion. (Cicero, *On the Nature of the Gods* 1.10.26 = 13A10)
20. Anaximenes stated that clouds occur when the air is further thickened. When it is condensed still more, rain is squeezed out. Hail occurs when the falling water freezes, and snow when some wind is caught up in the moisture. (Aetius 3.4.1 = 13A17)
21. Or as Anaximenes of old believed, let us leave neither the cold nor the hot in the category of substance, but <hold them to be> common attributes of matter which come as the results of its changes. For he declares that matter which is contracted and condensed is cold, whereas what is fine and "loose" (calling it this way with this very word) is hot. As a result he claimed that it is not said unreasonably that a person releases both hot and cold from his mouth. For the breath becomes cold when compressed and condensed by the lips, and when the mouth is relaxed, the escaping breath becomes warm through the rareness. (Plutarch, *The Principle of Cold* 7 947F = 13B1)
22. When the air is felt the earth is the first thing to come into being, and it is very flat. This is why it rides on the air, as is reasonable. (pseudo-Plutarch, *Miscellanies* 3 = 13A6)
23. Anaximenes, Anaxagoras and Democritus say that its flatness is the cause of its staying at rest. For it does not cut the air below, but covers it like a lid, as bodies with flatness apparently do, since these are difficult for winds to move because of their resistance. They say that

the earth does this same thing with respect to the air beneath. And the air, lacking sufficient room to move aside, stays at rest in a mass because of the air beneath.

(Aristotle, *On the Heavens* 2.13 294b13-20 = 13A20)

24. Likewise the sun and moon and all other heavenly bodies, which are fiery, are carried upon the air on account of their flatness.

(Hippolytus, *Refutation* 1.7.4 = 13A7)

PYTHAGORAS AND PYTHAGOREANISM

Pythagoras was born on the island of Samos in the eastern Aegean sometime around 570; according to tradition, his father was a gem-cutter or engraver. He reportedly traveled in Egypt and Babylonia, leaving Samos around 530 to escape the rule of the tyrant Polycrates. Eventually Pythagoras settled in Croton (in Southern Italy) and founded a community that was philosophical, religious, and political. After about twenty years there was an uprising in Croton and elsewhere against the Pythagorean influence; the Pythagoreans were temporarily driven out and many were killed. Pythagoras himself was said to have taken sanctuary in a temple in Metapontum where he starved to death. Despite these and other setbacks, there continued to be Pythagoreans in Southern Italy (one of them, Archytas of Tarentum, was a friend of Plato). Little is known of the views of Pythagoras himself, except that he had a reputation for great learning (a reputation that would later be mocked by Heraclitus), and that he was probably the originator of the important Pythagorean doctrine of the transmigration of souls (a view ridiculed by Xenophanes). Sometime during Pythagoras' life or soon after his death, his disciples split into two groups, the mathematikoi and the akousmatikoi. The akousmatikoi were followers who venerated Pythagoras' teachings on religion and the proper way to live (the word akousmatikoi comes from akousmata, "things heard"), but had little interest in the philosophical aspects of Pythagoreanism. The mathematikoi had a great reputation in the ancient world for philosophical, mathematical, musical, and astronomical knowledge (the word mathematikoi comes from mathema, "study" or "learning"). These different sorts of knowledge were connected in Pythagorean thought, for the Pythagoreans believed that number was the key to understanding the cosmos. Their original insight was that the numerical ratios of the musical scale indicate that the apparent chaos of sound can be brought into rational, knowable order by the imposition of number. They reasoned that the entire universe is a harmonious arrangement (in Greek, kosmos) ordered by, and thus knowable through, number. The Pythagoreans rejected Ionian methods, and turned from inquiry into the stuff of the universe to a study of its form. This view of the rational arrangement of the universe can be found in the work of Philolaus, the earliest Pythagorean who left a book. He was born in Croton, probably about 470, and so never knew Pythagoras himself, who died around 494. Philolaus claimed that the cosmos was made up of what he termed limiters and unlimiteds, fitted together in what he called a harmonia (literally a carpenter's joint; also a musical fitting together or harmony). This harmonia is express-