

## Chapter 14

### Diogenes of Apollonia

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#### 1. Life and Writings

The work of Leukippos and Demokritos forms the true climax of natural philosophy before Plato and Aristotle. Diogenes of Apollonia is only a kind of postscript. He belongs to the world of the Sophists, and he provides the ground-bass, so to speak, for the great assault upon philosophy in the *Clouds*. Aristophanes' play was not a success with the illiterate multitude. But the prominence of the ideas of Diogenes in it, shows that he must have been quite celebrated (and fairly widely read) among the literate minority.

The *Clouds* (produced in 423 BCE) provides the best reference point that we have for Diogenes' date. He may have been younger than Sokrates, but (if so) he was not much younger. The "Apollonia" that was his birthplace was *probably* the city on the Black Sea that Anaximander helped to found. Diogenes *probably* lived, for some years at least, in Athens; this would explain why Aristophanes hoped to raise a few laughs with his ideas (64 A 1, A 5).<sup>i</sup> He was certainly a practicing physician. (That is not in any report, but it is clear from the remains.)

He apparently wrote more than one book. Simplicios still had the treatise *On Nature* which refers to other books *On the Nature of Man* and *On Meteorology* (A 4).<sup>ii</sup> He quotes from *On Nature* at some length.

## 2. His Thought

Diogenes learned something from the Atomists. But in all important respects he was a follower of Anaximenes. This is so clear that some ancient reporters claimed (impossibly) that he had been an actual pupil of Anaximenes (A 1).

He was certainly a careful student of Parmenides and Melissos.<sup>iii</sup> He criticized the pluralism of the Empedoklean four elements, on the ground that some changes involve their mutual transformation; and this necessitates the postulation of an underlying continuum (or common substrate). Anaxagoras' doctrine of "all things together" only made the difficulty worse; the right solution was to stand by the earlier monism of the Milesians. Diogenes was an emphatic monist, declaring at the outset that "all existing things are modifications of the same thing, and are the same thing" (B 2). Clearly he wanted to meet the standard set by Parmenides; but also to respond to the problem raised by Anaxagoras. Things that were radically different could never be "together" or mixed. Everything must come from the One, and return to it. Simplicios thought that Diogenes' ultimate unity ought to be a neutral substratum (like the Boundless of Anaximander). But instead, Diogenes proposed one of the elements: Air. The primary characteristic of the ultimate unity, however, was *intelligence*. Under the impact of Anaxagoras,<sup>iv</sup> Diogenes laid tremendous emphasis on the self-directing mental power of the divine Air which he had taken over from Anaximenes; and there are strong indications that in doing this he was also giving the correct interpretation of Anaximander's Boundless. For he argues that "without intelligence it would not have been possible for a division to be made in such a way as to keep the measures of all things: winter and summer, night and day, rain, winds and fair weather" (B 3).<sup>v</sup>

The cosmological theory of Diogenes was an eclectic imposition of the newer theories of Anaxagoras upon the older tradition of Anaximenes and Anaximander (with some imaginative flights of his own to facilitate the wedding). The divine Air (which surrounds the whole *kosmos*) plays the part of Anaxagoras' Mind; and the moving heavenly bodies are "burning stones." But

since it has to be Air that is burning, the celestial stones are like pumice-stone. The divine Air blazes into the *kosmos* (as Fire) through the “breathing holes” of the Fixed Stars. The solid bodies are condensed Air, and the fires are rarified Air, of course. The heavenly fires come somehow from the periphery of the *kosmos*, where the Air has transformed itself into Aether. Diogenes may have adopted a modified version of the Empedoklean theory of the Sun; our reports are not detailed enough to be clear about this. But the Moon is just another fiery pumice stone (64 A 6, A 12-4).<sup>vi</sup>

The Earth is a flat round disc of condensed Air, with many pumice-like holes (through which it is vivified, no doubt). It is fixed in the center; but it rests upon the Air, which can shake it in an earthquake. The sea is a layer of water on the disc, which the Sun is gradually drying up (so that the salt-concentration is increasing). The Nile floods are part of this process of evaporation. The hot summer in the North draws up water, and creates a suction effect in the porous Earth to the South; the one-way flow of water out of the Black Sea is a similar compensatory phenomenon (A 1, A 16a, A 18).<sup>vii</sup>

These theories about cosmic water-flow were suggested by the analogy of the circulation of the blood in the human microcosm. Diogenes’ theory of magnetism was suggested by the analogy of breathing. The lodestone draws in more “moisture” than it expels. It attracts the “moisture” of iron (though not that of other things). Demokritos has a similar theory — except that, of course, the “effluences” are streams of atoms (A 33; cf. 68 A 165). Diogenes also had a complex theory of thunder and lightning which we cannot now consistently reconstruct; but the wind was somehow involved, as well as the incursion of the heavenly fire (A 16).<sup>viii</sup>

Of course, all of us mortal living things owe our life (and its rational cyclic pattern) to the divine Air. We are sustained by breathing it in. “All men are guided by it, and it masters all things” (this is probably almost verbatim from Anaximenes’ book); “this same thing is God, it reaches everything, it disposes all things, and it is in everything. There is not one thing that does not have a share in it” (contradicting the view of Anaxagoras about *Nous*). But the levels of intelligence are as various as the forms of the Air itself; and *cold* Air is inanimate.

The animal soul is Air that has made itself warm; and here too there is an indefinite variety of types, for if two modes of the Air were identical, we should have not two things but the same thing. It is the air (in its original divine form) which pervades the whole body in the blood (through the veins) and so makes mental activity possible. The (appropriately specified) form of Air is the “seed” of each different type of animal life. The divine life itself is a kind of body that is “both eternal and immortal” as the substrate of all coming to be and perishing.<sup>ix</sup>

So far, we have not seen how Diogenes was indebted to the Atomists. But he needed some *room* in which the divine Air could express itself by contracting and expanding. His God needed breathing space in the Eleatic world. So he accepted the reality of the infinite Void from Leukippos (A 1, 57).<sup>x</sup>

The recognition that motion and change are a *problem* for the traditional monism is a novel element in Diogenes’ thought. This is the difference that Zeno has made. But his theological emphasis — the insistence that Air is an intelligent God — is only the bringing out, the making explicit, of what the Milesians had always meant. His great predecessors were not just seeking the material substrate of all things, as Aristotle suggested; they wanted to comprehend the divine *life*. Our own living consciousness is the activity of “a small portion of the God” (as Theophrastos puts it — A 19: 42).<sup>xi</sup> The pure (divine) Air recognizes all of its own, variant, forms. But it must *attend* to them; so the pure Air in us does not notice some things, if we are distracted by others. Drunkenness turns the *pure* Air towards wetness, and in this way clouds perception; sleep is also the result of a tendency toward the damp form of Air. (Here we can recognize the influence of Herakleitos. But Diogenes built all of these influences into his own theory of the circulation of the blood — A 19: 44; cf. A 29.)

There was an element of sheer fantasy in Diogenes’ theorizing that became very obvious to the educated public with the spreading of knowledge about philosophical speculations. For instance, he thinks that the quadrupeds are less intelligent than man because, being closer to the Earth, their air is wetter. (So Aristophanes has his “Sokrates” raised up in a basket to clear his mind of the

damp.) The living Air in the birds, on the other hand, is too busy in the body to be available for intelligence in the head (A 19: 44).<sup>xii</sup>

Conscious sensation always depends on passage *through* the sense-organ to reach the pure dry Air of the mind. Diogenes took over from Empedokles the view that dark eyes see better by day, and light eyes by night. Some animals have a keener sense of smell than we do, precisely *because* they have less of the pure Air in their heads — and it mixes with the incoming stimulus more rapidly (64 A 19, A 21-2).<sup>xiii</sup>

More interesting than this armchair speculation, is the evidence of empirical investigations. Anaxagoras is found to be right about the crucial importance of the brain for consciousness (C 3a),<sup>xiv</sup> but Diogenes' most important research concerned the pattern of the veins. It is clear that he did some dissection of bodies; and we can take it as certain that he was a practicing physician. He insisted that the circulatory system carried air everywhere dissolved in the blood; and he probably recognized the importance of the heart in this respect. The *guiding* Air was in the brain; but *life* as such did not have a single seat (B 6).<sup>xv</sup>

Diogenes agreed with the Atomists (but perhaps he was more influenced by Protagoras here) that all sensation is subjective and relative; it is “conventional” and not “natural” (A 23; cf. B 5). We have pleasure when there is more Air in the blood — our spirits are literally “light” so to speak; and we die when the blood loses Air altogether (A 19: 43).<sup>xvi</sup>

As a physician, Diogenes was concerned with the diagnostic symptoms of disease. Color (of complexion etc.) and the coating of the tongue were important signs; and he used the theory of the four humors to classify diseases (A 19: 43; A 29a). He believed that the male semen was a kind of foam, formed from the blood by its Air — so the etymology of “Aphrodite” as “foam-born” was correct. He also held the peculiar view that the embryo was nourished by nipples in the womb, not nourished through the umbilical cord (A 25).<sup>xvii</sup> The foetuses of the two sexes form at slightly different rates (the female more slowly). The infant is born hot, but still lifeless; it needs its first

breath of cooler air. Breathing involves the filling of a void; and fish breathe Air from the water through their gills — as Anaxagoras thought (A 26-8, A 19, 44).<sup>xviii</sup>

Sokrates must have been better pleased with Diogenes than he was with Anaxagoras. For the Apollonian did try hard to show that the divine Air does everything “for the best.” Diogenes is not a very original thinker; as a rule, he weaves ideas that he has found in several different sources into the structure of the Milesian theory that he inherited from Anaximenes. But he is an imaginatively creative interpreter; and he did some significant empirical observation on his own account. His weakness, indeed, is that his imagination is rather *too* fertile, so that his work appears to be a curious amalgam of fantasy and common sense. In part, he was unlucky to be at work in the generation that was finally ready to laugh at him. Because of Aristophanes, we find things merely amusing in Diogenes that were admirable and remarkable in Anaximander and Herakleitos. He does not quite deserve this fate. He is a worthy successor of his great forbears; and (although he is only a “postscript” in the new age) the first great cycle of speculation about Nature comes to a properly circular climax in him. The cosmic Whirlwind that everyone inherited from Anaximenes, has now plainly taken control of *human* ideas and affairs. (As Aristophanes put it: “Zeus is not, and the Whirlwind is King.”<sup>xix</sup>

Diogenes made the divine Air fashionable among religious intellectuals. He praised Homer for identifying Zeus with the Air (A 8). Demokritos — who certainly did not believe in the divinity of the Air himself — speaks of some “rational men” praying to the Air as Zeus (68 B 30); and Euripides makes Hekuba do just that in the *Trojan Women* (64 C 2).<sup>xx</sup> “Sokrates” prays to the Air in the *Clouds* — but he insists emphatically that the Divine Air has unseated Zeus, and that “Respiration, Chaos and Air” have replaced the Olympians. The comic poet Philemon carried on the *identification* of the Air with Zeus later. But it was the *hostility* between natural philosophy and the traditional religion that made the *Clouds* into a great turning-point in our intellectual history (64 C 1, C 2, C 4).<sup>xxi</sup>

## Notes

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- i. The sources tell us that he was a younger contemporary of Anaxagoras; for the possible Apollonias see A 3. C.H. Kahn thinks that even a *visit* to Athens is “more or less fictitious” — 1960, 106. That seems to me to be a quite outrageous aspersion upon the good sense of Aristophanes. But it shows how uncertain my proposed biography is.
  - ii. Galen says (in A 9) that *On Nature* itself consisted of *two* books. Diels suggested that “On Meteorology” and “On Human Nature” were just the titles of those two parts. But Simplicios had *something* which he did not recognize as “Meteorology.” So it is likely that *that* was a separate work, at least.
  - iii. P. Curd (1998, 224) suggests that it was Melissos who provoked Diogenes’ “return to the Milesian commitment.” But the steadily continuous influence of Anaximenes makes this hypothesis quite unnecessary. “Return” was hardly needed.
  - iv. The impact of Archelaos may have been more important than that of Anaxagoras, since he sought to make *Nous* into a mere accident of the cosmic mixture. (This view is plausible if we grant that Diogenes wrote his book in Athens after the banishment of Anaxagoras, and while Archelaos was head of the Athenian study group.)
  - v. The author of the Derveni Papyrus text was a disciple of Diogenes (or could he have been Diogenes himself?). G. Casadio (1987, 296) calls him “an ultrapedantic follower of Diogenes of Apollonia.”

- vi. Since Diogenes called the Fixed Stars “breathing holes” he probably accepted the theory of Anaximenes that the *kosmos* was enclosed in a “crystalline” shell — but our reports say nothing of this.
  
- vii. We cannot be certain whether Diogenes believed in the existence of many *kosmoi* at once, or a series that decayed and was reborn. But the one sequential cosmic life is much more probable (64 A 6, A 17).
  
- viii. For an attempt at the riddle see Guthrie II, 372.
  
- ix. These two paragraphs are based on B 4, B 5 and B 7 with their context as cited by Guthrie, II, 365-366. The reader should notice the first formulation of the “identity of indiscernibles.”
  
- x. The *Great Diakosmos* of Leukippos was almost certainly available to Diogenes; many of the works of Demokritos will not have been out yet.
  
- xi. See *KR* # 615, p. 441; or *KRS* # 612, pp. 447-8.
  
- xii. For “Sokrates” see 64 C 1 (*Clouds* 227-36).
  
- xiii. As we have seen already, sense-perception requires conscious *attention*. Diogenes met the challenge of Protagoras — it seems — by postulating a *normal* condition of the sensing organism. The sensible object *truly has* those sense-qualities that are perceived by organs

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which are functioning properly. Other observers may have perceptions that are relatively *mistaken* (cf. 64 A 23 and B 5).

- xiv. See *KR* # 616, p. 442; or *KRS* # 613, p. 448.
- xv. See also Guthrie, II, 377 note 2.
- xvi. See *KR* # 615, p. 441 (or *KRS* # 612, pp. 447-8); compare A 29.
- xvii. We find this theory also in Demokritos — 68 A 144. It was not really very “peculiar”; it was based on the discovery of fleshy growths in the wombs of ruminant mammals.
- xviii. The theory about the beginning of breathing may have been suggested by Philolaos — see Chapter 12 [at note 57]. In any case, it provides a bearable interpretation for the rather paradoxical report of Philolaos’ theory.
- xix. *Clouds*, 381.
- xx. See *The Trojan Women*, 884-9.
- xxi. *Clouds* 264-7, 828-31; Philemon, fragment 91.