4

The Eleatic School

THE SCHOOL OF ELEA is of unique historical importance. It represents the first all-out attempt in the western world to establish pure reason, with its demands of logical consistency and relatedness, as the sole criterion of truth. The main Eleatic position, established by Parmenides, reaffirmed and developed with individual approaches and twists by Zeno and Melissus, can be summarized in the two propositions, (1) *Being is one* and (2) *Being is unchanging*. These are formidably abstract avowals, and they bring us to the very limits of what can be said and asked; some would complain, indeed, that they take us quite beyond those limits. At any rate the challenge which the two Eleatic propositions have presented to subsequent philosophers—notably to the critical pluralists who are the subject of the next two chapters and to Plato—was both forceful and pervasive, and a student of Greek philosophy cannot avoid coming to terms with them. Granted the dubious nature of the questions, or purported questions, "Is ultimate reality one or many?" and "Does ultimate reality change or remain always the same?" (questions which, more than any others, have brought metaphysics into disrepute in certain quarters), we should nevertheless agree that a school of powerful and serious thinkers, such as the surviving arguments of the Eleatics show them unmistakably to be, is not likely to dedicate its mental energies for two or more generations to ques-

tions that mean nothing at all. The meanings may be partisan and one-sided, sometimes quaintly so, and perhaps no one would care to uphold them today as offering a suitable procedure for philosophical inquiry. Nevertheless the very limitations of Eleaticism serve to delineate its monistic perspective the more clearly; and monism has long been, whatever its guises and combinations, one of the dominant ideas, even to its opponents, in the range of human thought.

i. Parmenides

The founder of the philosophy in question was Parmenides of Elea, by the name of which city the philosophy came to be designated. Even if, as an ancient tradition asserts, Parmenides may have studied in his younger days under Xenophanes, the temperaments of the two men are vastly different, as will be evident to anyone who compares their respective groups of utterances, and the alleged connection between the lively religious monotheism of the one and the abstract metaphysical monism of the other is too tenuous to be of any service in suggesting a view as to their relations.

In trying to date Parmenides we are pulled in one direction by Diogenes Laertius' report that he flourished in the sixty-ninth Olympiad, which is to say 504 to 500 B.C., and in the contrary direction by Plato's statement that Parmenides had visited Athens while Socrates was a very young man (T 1, 2). Since we know, by deduction from Socrates' own statement in the *Apologia*, that he himself was born about 469 B.C., and since he could hardly have been less than eighteen or nineteen at the time of the philosophical encounter which Plato elaborates in his dialogue the *Parmenides*, we must suppose that Parmenides' visit to Athens occurred close to 450 B.C. Although in T 2 Plato speaks loosely of Parmenides as "very old" at that time, in T 1 he calls him

"elderly" and gives his age as sixty-five. It seems unlikely that Plato would have specified the exact age of so eminent a man unless it were known to be true; and the vaguer remark which in the *Theaetetus* he attributes to Socrates (T 2) is doubtless meant to suggest the impression made upon a nineteen-year-old youth by so venerable a man. Proceeding on the evidence of T 1, then, we must estimate that Parmenides was born close to 515 B.C.; which would knock out, of course, the statement (T 15) that he flourished between 504 and 500. But considering Plato's strong interest in the Eleatic philosophy and the occasional participation by Eleatic visitors in the Socratic discussions (cf. T 5) it seems reasonable to accept Plato's dates as the more probable ones. As a result we may take it as likely that Parmenides' poem *On Nature* was completed at some time after 480 and probably between 470 and 460 B.C.

The poem, composed in the epic meter of dactylic hexameters, begins with a symbolic description of what was presumably a unique and central experience in Parmenides' life—the passage out of darkness into light, away from illusion and into the presence of the Goddess of Truth. It is she who speaks forth the doctrines of the poem. That is not to say, however, that Parmenides is a passive hearer; he, too, is the speaker of the divinely received words, and he utters them on the authority of "true belief"—at once the rational intuition of his own mind and the yielding of his individual mind to the impersonal demands of rational self-evidence. The Goddess is a symbol, yes, but as with all deeply felt symbols there is continuity and interplay between image and meaning, between what is described and what is meant. Any attempt to sever the two aspects would at once reduce the description to triviality and subtly shift the focus of the doctrine. The passage from illusion to truth is not a trick to be mastered, nor a task for the conscious mind alone; it is, when genuine, a conversion of the whole self away from the trivial and toward the newly found point of ultimate concern. Plato in his parable of the cave

in *The Republic* and Dante at the outset of *The Divine Comedy* offer two of the most familiar symbolic accounts of this kind; Parmenides, hampered by the limitations of a more primitive language and with a less practiced literary skill, attempts in his opening lines to say much the same thing. But of course no two such experiences are ever the same, and it is never certain when and how far a particular symbolic description will speak inwardly to a particular reader.

After graciously welcoming the newly arrived postulant and assuring him of the divine nature of the forces that have guided his conversion, the Goddess makes her opening statement of the two "ways"—the two modes of consciousness between which man is capable of choosing: the way of strict rational coherence ("well-rounded truth") and the way of popular opinion, of custom, of yielding uncritically to familiar belief. The way of truth is rigorous; the fullest formulation of it is contained in the long passage (Fr. 7) which has been preserved for us by the ever admirable labors of Simplicius. The core of its meaning is put into a single word: *Esti*, "Is." Greek syntax permits, as English normally does not, the use of the verb without an expressed subject; our English linguistic habits make us want to say "It is," and then the purity of the utterance is spoiled, for the "it" appears to raise a question. Any such question is illegitimate, however, a mere by-product of our modern syntax, distorting the precarious meaning of the Greek. The truth which the Goddess is declaring lies in the simple verb "is," and to the Greek mind this word tends to stand in natural contrast to the word "becomes." Now as pointed out in the General Introduction, the verb "becomes," no less than the verb "is," tends in Greek to blend two usages—the absolute and the copulative. "Becomes" (*genetai*) taken absolutely means "comes-to-be"; taken copulatively it means "turns into," as when we might say of the sky at sunset "the blue becomes red." The meanings, as shown earlier, are never entirely separable, for when blue changes into red there is a coming-to-be of red. What the Goddess declares is

that in neither of its aspects can the word "become" describe what is real; that it expresses only popular prejudice, something like what Bacon calls an idol of the tribe, and that in reality there is no becoming—i.e., there is no changing from this to that, and there is no coming-to-be.

In attempting to utter so imposingly abstract a doctrine Parmenides is obliged to use metaphors; for in passing from simple and concrete affairs to complex and remote ones our preëxisting language is never adequate, and we have to stretch familiar words and images to new demanding uses. Consider, for example, in Sections A and C of Fragment 7, the metaphoric use of the ideas of Justice (*Dikê*), Necessity (*Anangkê*), and Natural Law (*Themis*), and read what the Glossary has to say about the independent meaning of these words. Other functional uses of metaphor can be discovered with a little exploration.

But it is not enough for a man to know the way of truth, the Goddess warns; it is needful also to learn about "the opinions of mortals which lack true belief"—in order to be able to appraise them judiciously and not be taken in by them. Sound advice no doubt, and a welcome antidote to the uncompromising strictness of the True Way. But now we meet with a difficulty. Men have established the habit, we are told, of "naming two thought-forms," described as fire and earth, or the bright and the dark (Fr. 9), light and night (Fr. 10), but *one* of these "ought not to be named." Does this mean that the fiery bright belongs to the way of truth while its contrary the dense dark belongs to the way of opinion? Is it the latter alone that "ought not to be named"? Taking the qualities symbolically we might find such an interpretation plausible, for it has long been the practice of man to connect the sun and the visible brightness of the upper sky (the *aether*) with the intellectual ideas of truth and wisdom. But if we consider the antithesis in its logical import, we clearly cannot affirm one member of the pair while denying the other. The opposites light and dark belong equally to the world of becoming; if the reality of that

world is denied, then light and darkness together (not just one of them) must fall into the shadowland of opinion. It does not seem that the difficulty is sufficiently resolved in the surviving Fragments.

FRAGMENTS

THE JOURNEY

1. The steeds that draw my chariot were conducting me to the farthermost reach of my desire, bringing me at length on to the resounding road of the Goddess, along which he who knows is borne through all cities. Along this road I was carried—yes, the wise horses drew me in my chariot while maidens led the way. The axle, urged round and round by the whirling wheels on either side, glowed in the sockets and gave forth a singing hum. The handmaidens of the sun, who had left the realms of night and had thrown back their veils from their faces, were driving the chariot speedily toward the light.

We came to the gates of day and night, which are fitted between a lintel above and a stone threshold below. Although the gates are of aetherial substance they have the strength of mighty doors when closed, and retributive Justice secures them with bolts that both punish and reward. But the maidens cajoled her with gentle words and soon managed to persuade her to pull back the bolts from the gates. When these gates were flung back on their hinges, which were nailed to bronze posts on either side, a wide expanse was revealed through the open doorway: it showed a broad avenue, along which the maidens steered my horses and chariot. The Goddess greeted me kindly, and taking my hand in hers she spoke these words:

"Welcome, my son, you who come to our abode with immortal charioteers at the reins! It is no evil fate that has set you on this road, but Right and Justice have brought you here, far away from the beaten paths of men. It is needful that you learn of all matters—both the unshaken heart of well-rounded truth and the opinions of mortals which lack true belief. For it is needful that by passing everything under review you should learn this also—how to judge of mere seeming." (1)

THE WAY OF TRUTH

2. [The Goddess speaks further:] *"Never shall it be proven that not-being is. From that path of inquiry restrain your mind. Do not let custom, born of everyday experience, tempt your eyes to be aimless, your ear and tongue to be echoes. Let reason be your judge when you consider this much disputed question. The heart when left to itself misses the road."* (7)

3. *"Gaze steadfastly at things which, though far away, are yet present to the mind. For you cannot cut off being from being: it does not scatter itself into a universe and then reunify."* (4)

4. *"It is indifferent to me at what point I begin, for in any case I must return again to that from which I set out."* (5)

5. *"Come, then, listen to my word and take heed of it: I will tell you of the two roads of inquiry which offer themselves to the mind. The one way, that It Is and cannot not-be, is the way of credibility based on truth. The other way, that It Is Not and that not-being must be, cannot be grasped by the mind; for you cannot know not-being and cannot express it."* (2)

6. *"It is necessary both to say and to think that being is. For to be is possible and not-to-be is impossible. I bid you consider this, and I warn you against another path, along which mortals wander ignorantly, with divided minds and scattered thoughts, so befuddled and helpless as to resemble the deaf and blind. There are crowds of them, without discernment, maintaining that to be and not to be are the same and not the same, and that everything is in a state of movement and countermovement."* (6)

7. *(A) "There remains, then, but one word by which to express the [true] road: Is. And on this road there are many signs that What Is has no beginning and never will be destroyed: it is whole, still, and without end. It neither was nor will be, it simply is—now, altogether, one, continuous. How could you go about investigating its birth? How and whence could it have grown? I shall not allow you to say or think of it as coming from not-being, for it is impossible to say or think that not-being is. Besides, what could have stirred up activity so that it should arise from not-being later rather than earlier?*

Necessarily therefore, either it simply Is or it simply Is Not. Strong conviction will not let us think that anything springs from Being except itself. Justice does not loosen her fetters to let Being be born or destroyed, but holds them fast. Thus our decision must be made in these terms: Is or Is Not. Surely by now we agree that it is necessary to reject the unthinkable unsayable path as untrue and to affirm the alternative as the path of reality and truth. (8: 1-18)

(B) "How could What Is be something of the future? How could it come-to-be? For if it were coming-to-be, or if it

were going to be in the future, in either case there would be a time when it is not. Thus coming-to-be is quenched, and [by similar reasoning] destruction is unthinkable. (8: 19-25)

(C) "Moreover it is immovable, held so in mighty bonds. And it is without beginning and end, because both creation and destruction have been driven away by true belief. Remaining always the same and in the same place by itself, it stays fixed where it is. For strong Necessity holds it in bonds of limit, which constrain it on all sides; Natural Law forbids that Being should be other than perfectly complete. It stands in need of nothing; for if it needed anything at all it would need everything. (8: 26-33)

(D) "Thinking and the object of thought are the same. For you will not find thought apart from being, nor either of them apart from utterance. Indeed, there is not anything at all apart from being, because Fate has bound it together so as to be whole and immovable. Accordingly, all the usual notions that mortals accept and rely on as if true—coming-to-be and perishing, being and not-being, change of place and variegated shades of color—these are nothing more than names. (8: 34-41)

(E) "Since there has to be limit, Being is complete on every side, like the mass of a well-rounded sphere, equally balanced in every direction from the center. Clearly it cannot be greater in any direction than in any other, inasmuch as there is no not-being to prevent it from reaching out equally, nor is it the nature of Being to be more here and less there. The All is inviolable. Since it is equal to itself in all directions, it must be homogeneous within the limits." (8: 42-49)

8. *Thought and being are the same.* (3)

THE WAY OF OPINION

9. [The Goddess continues:] *"Here I bring to a close my trustworthy rational discourse concerning truth. Learn next about the opinions of men, as you listen to the deceptive ordering of my words. For men have established the habit of naming two thought-forms; therein they have erred, because one of the forms ought not to be named. They have distinguished the thought-forms as opposed in character and as having properties which set them apart from each other. On the one hand there is the fire of the upper sky, gentle, rarefied, and everywhere identical with itself; on the other hand there lies opposed to it utter darkness, dense and heavy. I shall tell you about this supposed arrangement as men understand it, in order that your knowledge of such matters may not be inferior to theirs."* (8: 50-61)

10. *"When all things have been named light and night [according to the distinction that is supposed to exist between them] then everything must be full of light and of obscure darkness at once, and of both equally, since neither of them has anything in common with the other."* (9)

11. *"You shall come to know the nature of the sky, and the signs of the sky, and the unseen works of the pure bright torch of the sun and how they came into being. You shall learn the nature of the round-faced moon and its wandering works. You shall know also the encompassing empyrean, whence it arose, and how Necessity grasped and chained it so as to fix the limits of the stars."* (10)

12. "[You shall learn] how earth and sun and moon and the sky that is common to all, how the Milky Way and outermost Olympus and all the burning power of the stars arose." (11)

13. The smaller orbits are filled with unmixed fire; those next to them are filled with darkness, although an allotted measure of light accompanies them. In their midst is the divinity who steers everything; she it is who rules over love-unions and painful births everywhere, prompting female to join with male and male with female. (12)

14. First of all the gods she devised Eros. (13)

15. [The moon], as she wanders around the earth, shines at night with a light that is not her own. . . . She is always gazing towards the rays of the sun. (14, 15)

16. When woman and man mix the seeds of love together, the power that results from the mingling of different bloods, if it preserve harmony, fashions a well-formed body. But if there is hostility between the seeds that intermingle, so that they do not produce a unity in the newly formed body, then the growing embryo will be badly disturbed by the conflict of the seeds. (18)

17. On the right boys, on the left girls. (17)

18. The mind of man is constituted according to the blending of the very complex bodily parts in each instance. In all men and on all occasions it is the same: thinking consists in the composition of bodily parts. For it is an excess in the body that constitutes thought. (16)

19. Thus according to common opinion things came into being, thus they are now, and thus at length after they have reached maturity they will perish. To each kind of thing men have assigned a distinctive name. (19)

TESTIMONIA

FROM PLATO:

T 1. Antiphon said Pythadorus had told him that Zeno and Parmenides once came to Athens for the great Panathenaea. At that time Parmenides was already elderly, about sixty-five years of age, with white hair and a handsome and noble countenance, while Zeno was about forty, tall and good-looking. It is said that they had at one time been lovers. On that visit they were lodging at the house of Pythadorus outside the wall; and Socrates and a number of others came there, mainly in order to hear Zeno's writings, which the visitors had brought with them to Athens for the first time. Socrates was then a very young man. (*Parmenides* 127B-C)

T 2. *Socrates:* Parmenides seems to me, in the words of Homer, a man toward whom one feels reverence tinged with awe. When I was but a youth and he was a very old man I conversed with him, and he struck me as having a wonderful depth of mind. I fear that perhaps we fail to understand what he said, and even more to understand his reasons for saying it. (*Theaetetus* 183B)

T 3. *Socrates:* When you want to clarify a point do you like to begin with a long explanation of your own or do you prefer to proceed by raising questions? I was present once when Parmenides used the latter method, and the discussion that he elicited was really admirable. I was a young man at that time, and he was very old. (*Sophist* 217C)

T 4. *Socrates:* There are some who teach the very opposite of the doctrine [of perpetual change] and who declare: "It is immovable and its name is the All." This and other such dissenting doctrines are taught by Melissus, Parmenides, and their associates: they maintain that everything is one and stationary

and entirely self-contained, since there is no empty place into which to move. (*Theaetetus* 180A)

T 5. *An unnamed visitor from Elea:* The Eleatic group in our part of the world, starting with Xenophanes or even earlier, says that all things, although many in name, are really one. (*Sophist* 242D)

FROM ARISTOTLE:

T 6. If there is only one first-principle in the universe and it is changeless, as Parmenides and Melissus say . . . (*Physica* 184b 16)

T 7. All these thinkers set up as first-principles some pair of opposites, despite the fact that they declare the All to be unchanging; for even Parmenides sets up hot and cold as first-principles, calling them fire and water. (*ibid.* 188a 19)

T 8. Whereas Melissus speaks of the Whole as unlimited, Parmenides offers a more acceptable view in declaring that the Whole is limited and extends equally in every direction from the center. (*ibid.* 207a 16)

T 9. Parmenides seems to have conceived of reality as one by definition, whereas Melissus conceived of it as one materially; therefore the former takes it as limited, the latter as unlimited. (*Metaphysica* 986b 19)

T 10. On the ground that not-being, as contrasted with being, is nothing at all, Parmenides is forced to conclude that Being is one and that there is nothing else. But again, like the others, he posits two basic principles, the hot and the cold, or, as he calls them, fire and earth; and of these he puts the hot on the side of Being, the cold on the side of Not-Being. (*ibid.* 986b 29)

T 11. None of those who have affirmed that the All is a unity have grasped clearly the meaning of that kind of causal

explanation, except perhaps Parmenides, and he in so far as he virtually postulates not a single cause but two. (*ibid.* 984b 2)

T 12. That which is other than Being is not; hence, by Parmenides' argument, it must follow that all things are Being, and hence one. (*ibid.* 1001a 32)

T 13. When dealing with apparent coming-to-be Parmenides described the being and not-being which it involves as fire and earth. (*De Generatione et Corruptione* 318b 17)

T 14. Certain earlier thinkers maintained that What Is must necessarily be one and immovable: they argue that since the void does not exist What Is cannot be moved, and that there cannot be a plurality of things because there is no void to keep them apart. (*ibid.* 325a 3)

FROM LATER GREEK SOURCES:

T 15. Parmenides, son of Pyres and a native of Elea, was a pupil of Xenophanes. But although he listened to Xenophanes' teachings Parmenides was no follower of his. According to Sotion's account he also associated with Ameinias the Pythagorean, who although poor was a most worthy man. After the death of Ameinias, whose teachings were more to his taste, Parmenides, who was of good family and quite wealthy, built him a shrine. It was Ameinias and not Xenophanes who led him to adopt the peaceful life of a student.

Parmenides was the first to declare that the earth is spherical and is situated at the center. He maintained that there are two elements, fire and earth, the one playing the role of craftsman, the other of material. The coming-to-be of man he explained as originating from the sun. Heat and cold he regarded as more basic than the sun, and indeed as the basic constituents of everything. Soul and mind he held to be identical. He divided philosophy into two parts, the one dealing with truth, the other with opinion.

He flourished in the sixty-ninth Olympiad [504-500 B.C.]. It is said that he was the first to discover the identity of Hesperus and Phosphorus [the evening and morning appearances of the planet Venus]: at least so Favorinus says in the fifth book of his *Memorabilia,* although some others attribute the discovery to Pythagoras. On the authority of Speusippus in his treatise *On Philosophers* it is said that Parmenides held a legislative office in his native city. According to Favorinus in his *Miscellaneous History* Parmenides was the first to use the "Achilles and the Tortoise" argument. (Diogenes Laertius IX. 3)

T 16. Declaring that the All is eternal and yet undertaking to explain the coming-to-be of things, Parmenides tries to work out his views in a double manner. From the standpoint of truth he postulates that the All is one, ungenerated, and in the form of a sphere; while in terms of popular opinion he explains the generation of phenomena by two first-principles, fire and earth, the latter being identified with matter, the former with cause and agent. (Theophrastus, *Physical Opinions*)

T 17. In the first book of his *Physical Opinions* Theophrastus summarizes Parmenides' view as follows: Whatever is other than being is not-being; not-being is nothing whatever; therefore being is one. (Simplicius *Commentaria*)

T 18. Parmenides holds that the All is one and eternal, without beginning, and spherical in shape. However, he does not escape the opinion of the many, for he speaks of fire and earth as first-principles, earth being the material and fire the active cause. He declares that the world will come to an end, but he does not say how. The All is eternal, he says, without beginning, spherical, homogeneous, independent of place, unchanging, and limited. (Hippolytus *Refutatio*)

T 19. Parmenides taught that there are "crowns," or concentric orbits,—one of rarefied matter, another of dense, and others containing various mixtures of light [rare] and dark

[dense]. A solid wall, he said, forms the periphery, and under it is a crown of fire; the innermost center of all the crowns is solid, and is immediately surrounded by a ring of fire. Of the mixed crowns the one that is nearest the center is the source of motion and generation; this is what he has described as "the goddess who steers and who holds the keys"; he characterizes her as Justice and as Necessity. (Aëtius)

T 20. On the whole Parmenides has said nothing definite about sensation, except that rational awareness exists according as one or other of the two basic elements is in excess. For according as the hot or the cold predominates so does the understanding come-to-be [and diminish]. A better and purer understanding is derived from the hot; but it, too, requires a certain proportion. [Fr. 18 is quoted.]

Since he holds that thinking and perceiving are the same, it follows that remembering and forgetting also come about as a result of the mixture. He does not explain, however, what happens if the elements [the hot and the cold] enter into the mixture in equal amounts—i.e., whether or not thinking will then occur, and what its disposition will then be. (Theophrastus *De Sensu* I. 3)

T 21. He says it is owing to its complete lack of fire that a corpse does not perceive light, heat, and sound; that it does, however, perceive cold and silence and similar qualities. In general, he holds, all being involves a certain degree of knowing. (*ibid.* I. 4)

FROM A LATIN SOURCE:

T 22. Parmenides devised the theory that there is a sort of contrivance like a "crown," as he called it,—an orb of light with continuous heat, arching the sky. He spoke of this as a god. . . . Moreover he raised war, discord, desire, and other such transient things to the status of gods. (Cicero *De Natura Deorum* I. 28)

ii. Zeno

Zeno of Elea, the most eminent disciple of Parmenides, flourished about the middle of the fifth century B.C. Evidently he was a man who combined cleverness and fortitude to an unusual degree; the one virtue being shown by the skill of his arguments, the other by the well attested tale of his accepting death by torture rather than reveal the names of the friends who had conspired with him unsuccessfully to overthrow a local tyrant. He was about twenty-five years younger than Parmenides, according to Plato, and devoted himself largely to devising arguments to confute opponents of the doctrine of the One.

Zeno's method of counter-attack consisted in undertaking to prove that the thesis of pluralism, the not unusual assumption that a plurality of things does really exist, runs into even greater absurdities than Parmenides' own doctrine. In order to do so he employed, and some say he first invented, the method of *reductio ad absurdum*—the form of argument which then or soon afterwards came to be called the *epicheirêma.* Aristotle, in Book VII of his *Topica,* defines an *epicheirêma* as "a dialectical syllogism"; that is to say, a connected piece of reasoning which takes as its initial premise not an independently chosen proposition, but something which an opponent has affirmed and which the disputant undertakes to break down. Zeno is said to have devised forty different *epicheirêmata* in support of one or another aspect of Parmenides' monism. He carried his destructive method of argument so far and so effectively as to draw from Seneca a few centuries later the remark: "If I accede to Parmenides there is nothing left but the One; if I accede to Zeno, not even the One is left."

Unfortunately not much is available that can be accepted as direct quotation of Zeno's actual words. The ever resourceful

Simplicius, in his commentary on Aristotle's *Physica,* has quoted the three passages which constitute the Fragments that follow. Zeno's more celebrated arguments, those concerning spatial movement, are not preserved in his own words, but only as paraphrased by later philosophers, particularly Aristotle. The loss of the exact words is comparatively unimportant, however, because the logical shape of the argument is what counts, and this is discoverable from the paraphrase which Aristotle has given in the sixth book of his *Physica* (T 2).

FRAGMENTS

1. *If things are many they must be finite in number. For they must be as many as they are, neither more nor less; and if they are as many as they are, that means they are finite in number.*

On the other hand, if things are many they must be infinite in number. For there are always other things between any that exist, and between these there are always yet others. Thus things are infinite in number. (3)

2. *If a thing exists, then either it has magnitude or it does not.*

A. *Say it has no magnitude. Then if added to another existing thing it would not make the latter any larger. That is to say, if something without magnitude is added to another thing, the other thing cannot thereby increase in magnitude. It follows that the thing added is nothing. For if something does not lessen the thing it is subtracted from, and does not increase the thing it is added to, then surely that something is nothing.*

B. *[We conclude from the foregoing argument that] if anything lacks size [and bulk] it does not exist. If something*

exists, then, its parts must have size and bulk, and moreover they must be at a certain distance from each other. By the same reasoning each part of a part must have size and bulk, and the same is true of each lesser part, and so on. In short, the same reasoning holds good without limit: no part, however small, can be the ultimate part, nor will any part ever lack parts of its own. Therefore, if things are many, they must be both small and large—so small as to have no size, so large as to be infinite. (2, 1)

3. *If anything is moving, it must be moving either in the place in which it is or in a place in which it is not. However, it cannot move in the place in which it is [for the place in which it is at any moment is of the same size as itself and hence allows it no room to move in], and it cannot move in the place in which it is not. Therefore movement is impossible.* (—)

4. *If place existed, it would have to be* in *something, i.e., in a place.* (—)

TESTIMONIA

FROM PLATO:

T 1. I see, Parmenides, said Socrates, that Zeno wishes to associate himself with you not only in friendship but also in his writings. What he has written represents virtually the same position as your own, but by altering the form of his arguments he tries to delude us into thinking he says something new. For you in your verses declare that the All is One, and you set forth admirable proofs in support of your thesis; while he, on the

other hand, says that the All is not many, and he too adduces many weighty proofs in support. One of you affirms unity, the other denies plurality. Your expressions are so diverse that on the surface your arguments appear to have nothing in common, although you are really both saying almost the same thing. Such ingenuity of expression is quite beyond the power of most of us.

Yes Socrates, Zeno replied, but you have not quite grasped the true purport of my writings. In pursuing arguments you are like a Spartan hound tracking his quarry, but it escapes your notice that my treatise is not by any means so pretentious as to have been written with the aim you ascribe to it. I was not trying to dress it up to make it appear a great performance in men's eyes. The appearance that you speak of is mere accident. Actually the purpose of my writings has been to support the argument of Parmenides against those who try to make him look foolish by deriving absurd consequences from his doctrine that all is one. What my arguments are designed to do is turn the tables on those who believe in plurality; I try to show that on close examination their thesis involves more absurd consequences than the doctrine of the One. In just that argumentative spirit I wrote my book when I was a young man, but after it was written someone stole it, so that I did not have the option of deciding whether or not I wanted to make it public. (*Parmenides* 128A-E)

FROM ARISTOTLE:

T 2. Zeno argues fallaciously that since a body is [defined to be] at rest when it is in a place of the same size as itself, and since a [supposedly] moving body would be at any given instant in just such a place, it follows that the arrow in flight does not move at all. This is a false conclusion, however; for time is not made up of instantaneous moments. . . . Actually there are

four logical conundrums which Zeno has formulated with regard to spatial movement, and there is need to find solutions to them.

The first of his arguments denies that movement exists on the ground that a moving body would have to go half the distance before it could go the entire distance.

The second is the so-called "Achilles" argument. It declares that even the swiftest runner will never overtake the slowest, because the pursuer must first reach the point from which the pursued has set out [at which moment the latter will have reached a new point, which the pursuer will then have to reach, and so on], so that the slower runner will always be some distance ahead. The argument is essentially the same as the one that depends on repeated bisection; the difference is that in this one we are not limited to dividing the distance into halves.

The third is the argument that an arrow in flight is really stationary. The proof rests upon the assumption that time is composed of instantaneous moments; if this is not granted there will be no syllogism.

The fourth argument deals with two equally spaced columns of men in the stadium marching in opposite directions, the one column starting from the outset of the race-course and the other from the turning-point. Marching at equal speeds they pass an equally placed column of stationary men. [On the ground that the two moving columns pass each other, man for man, in half the time that the men of each moving column take to pass those of the stationary column] the conclusion is drawn that the half is equal to the whole. The fallacy lies . . . in failing to distinguish between a comparison with something moving and a comparison with something at rest. (*Physica* 239b 5 ff.)

T 3. It is not hard to solve Zeno's difficulty that if place is something it must be *in* something; . . . for the vessel is not part of its contents. (*Physica* 210b 20, 28)

FROM LATER GREEK SOURCES:

T 4. Zeno was a citizen of Elea. Apollodorus in his *Chronology* speaks of him as the son of Teletagoras by birth but of Parmenides by adoption. At any rate he was a pupil of Parmenides and was his special friend. Aristotle attributes to Zeno the discovery of dialectic.

He was a man of excellent character both as philosopher and as citizen. His extant books bear the marks of a deep intellect. As a citizen he plotted the overthrow of Nearchus the tyrant but was arrested. On being questioned after his arrest as to who his accomplices were who smuggled arms into Lipara he gave the names of the tyrant's own friends, in order to deprive him of supporters.

Zeno was as indifferent to worldly reputation as Heraclitus had been. He spent his life in his native town of Elea, whose only outstanding virtue was the rearing of brave men, preferring it to the splendors of Athens which he visited very rarely. He flourished in the seventy-ninth Olympiad [464-460 B.C.].

Zeno was the first to propound the "Achilles" argument, although Favorinus ascribes its origin to Parmenides. Some of the beliefs that he held are as follows. [From the standpoint of appearance] there are many universes, but there is no empty space between them. The nature of things arose out of the pairs hot and cold, dry and moist, and these get transformed into one another. Man's coming-to-be is from the earth, and the soul is formed by a union of the qualities just mentioned, so blended that no single element predominates. (Diogenes Laertius IX. 25-29)

T 5. Aristotle regarded Parmenides' pupil Zeno as the originator of dialectic. (Sextus Empiricus, *Against the Logicians* I. 7)

T 6. A puzzle which Zeno the Eleatic propounded to Pro-

tagoras the Sophist. Tell me, Protagoras, he said, does one grain of millet make a noise when it falls? Or at any rate does one-tenth of a grain? On receiving a negative reply Zeno went on: Does a bushel measure of millet make a noise when it falls? Protagoras assented, and Zeno continued: But surely what is true of a quantity of millet must be true of its components—that is, of the single grain and even the ten-thousandth part of a grain. Must there not be some noise, then, in every case? For surely the noise must be proportionate to the conditions that produce the noise. It follows, then, that since a bushel measure of millet makes a noise, a single grain and a ten-thousandth part of a grain must also make a noise. (Simplicius *Commentaria*)

iii. Melissus

Melissus, the last of the eminent Eleatics, was a native of Samos. During his lifetime he won renown as a naval strategist and hero, when as admiral of the Samian fleet he was chiefly responsible for the decisive naval victory of 442 B.C. which enabled Samos to throw off the Athenian yoke.

As an author Melissus produced a book entitled *On Nature and Being,* in which he appears to have upheld the strict monism of Eleaticism but with a tone and with approaches that are his own. Experience, he argues, testifies to ongoing change, in which light gives way to dark, dark to light, moist to dry, dry to moist, and so on. But can such testimony be true? Look at what lies before you, he demands, and consider what it is that experience immediately presents to you. In terms of some given perceptual experience you discover, let us say, that being is moist. It *seems* moist, there is no doubt about that. But can it really *be* moist?

At this point the traditional Eleatic procedure would be to argue, by abstract dialectic, that if you mean "moist as distinguished from dry" then you are saying that something is not dry, and to say that anything "is not" is self-contradictory. Melissus proceeds differently. Think what you mean by the distinction between "is" and "seems," he demands. The seeming comes and goes; but if a thing really *is* moist and not merely *seems* so, then it is moist essentially. If moist is the very essence of the thing, then time cannot remove or alter that quality. What "is" moist, as distinguished from what "seems" moist, must therefore be moist always and unremittingly, for all eternity. Thus, even while retaining the basic Eleatic affirmations, Melissus comes closer than any of his predecessors to adopting an outlook and method of approach that we might nowadays describe as epistemological.

FRAGMENTS

1. *Anything that ever was must always have been and will always be. For if it had come into being, then before its coming-to-be it must have been nothing. But if ever there was nothing it would have been impossible out of nothing for anything to arise.* (1)

2. *Well then, since what is real could not have come into being, it not only now is but always was and always will be; and since it has neither beginning nor end it is [temporally] unlimited.*

If it had come-to-be, then indeed it would have both a beginning and an end—a beginning, because its coming-to-be must have occurred at one moment of time rather than another; an end, because what has come-to-be will eventually terminate. Such is not the case, however. It never began and it

5

Qualitative Pluralism

THE STRENGTH OF PARMENIDES' influence upon Greek philosophical thought is shown not only in the writings of his followers but also by thinkers and schools of thought that either rejected or seriously qualified his monism. One principle in particular—the cosmological axiom *Ex nihilo nihil fit,* that nothing can be produced out of nothing, that Being cannot arise out of Not-Being—stands at the forefront of the Eleatic legacy. It may well be, as various interpreters have held, that the *ex nihilo* principle is to be found implicitly in the Milesian attempts to explain change; but there is no record of anyone before Parmenides having declared the principle, and surely if anyone had done so either Aristotle or the doxographers would have mentioned the fact. Heraclitus, in postulating that change is the fundamental reality rather than something derivative to be explained, was in effect denying the *ex nihilo* principle, and thereby he provided a challenge which the strongly logical mind of Parmenides seized upon and opposed. The result of this first great clash of opposing ideas in Greek thought was to set up a fundamental problem demanding solution. It was the problem of how to "save the appearances" of everyday experience without violating the principle of *ex nihilo*—the problem of reconciling the inescapable testimony of experience, that qualitative change does somehow occur, with the peremptory demand of

logic (as conceived by Parmenides and his followers and subsequent opponents alike) that absolute coming-to-be must be rejected as an utter impossibility.

Despite their various disagreements the non-Eleatic philosophers after Parmenides agree upon a general principle of procedure. In one way or another their solution consists in postulating that reality, however they define it, does not change; and by contraposition that whatever does change is merely appearance. They must then, of course, devise a plausible explanation of the relation between the unchanging Real and the changing appearances. Of the various attempts, between Parmenides' time and the death of Aristotle in 322 B.C., five are most noteworthy: (1) the qualitative pluralism of Empedocles and Anaxagoras, (2) the atomism of Leucippus and Democritus, (3) the Pythagorean doctrine, in its later form, of certain pairs of opposites as ontologically intermediate between the One and the manifold world, (4) Plato's doctrine of unchanging Forms and changing appearances, and (5) Aristotle's analysis (in *Physica* I. 7) of change as triadic. The last two developments lie outside the scope of the present volume; the first three are to be examined in this and the next two chapters.

The first of the five solutions to be considered is that of qualitative pluralism. Despite the greater familiarity, to our own ways of thinking, of atomism on the one hand and Platonic idealism on the other, both of which deny that qualities are ontologically real, it should be realized that a qualitative explanation was the most typically Greek of any of the five types, and other things equal it would tend to have the greatest plausibility for the Greek mind. To think of blue and red, hot and cold, moist and dry as real states of existence, indeed more real than the abstract and quantitative concepts which are nowadays adduced to explain them, is natural for a child, for a primitive man, and probably for all of us when we are taken offguard in our everyday, non-theoretical moods. The Greeks, when not dissuaded by the logical asceticism of Eleatic and post-Eleatic abstractionists, took qualities at face

value, despite their impermanence and frequent unreliability. Empedocles and Anaxagoras sought what was to their minds the most reasonable solution of the post-Eleatic problem when they undertook, each in his individual way, to provide an explanation in terms of qualities themselves. Three requirements were implicitly acknowledged by them both. (1) The ontologically real qualities must be plural; for the attempts by Thales and Anaximenes to explain in terms of a single quality had failed to provide any explanation of how the manifold variety of things could arise out of that one quality, and thus their theories were vulnerable to Parmenides' criticism. (2) Whatever qualities are postulated as ontologically real must be accepted as having permanent existence, neither coming-to-be nor perishing, and hence neither increasing nor diminishing in amount. (3) The fundamental qualities operate by intermixing and separating, and the changing world as we perceive and know it is the result of that mixture and separation.

i. Empedocles

Empedocles was a native of Akragas in Sicily, more often called by the Latin version of its name, Agrigentum. The traditional dates of his lifetime are 484 to 424 B.C. He practiced medicine, and in his native Sicily he founded a school of medicine which became known as the Sicilian school. He was the author of two books: the one, *On Nature,* scientific in purport (as science was then understood); the other, entitled *Purifications,* of a more rhapsodical and religious character, prophetic rather than investigative in tone.

Setting out from an acceptance of Parmenides' principle that What Is cannot be created or destroyed, but rejecting his denial of plurality, Empedocles postulates four basic physical realities—fire, air, water, and earth, the traditional "four elements" of popular cosmology. He describes them as "roots" of things; and the metaphor, considered in the light of his biological interests, suggests that he may have thought of the visible world as growing from the four roots somewhat on the analogy of a tree with luxuriant foliage and fruit in relation to the roots hidden underneath. If his metaphor of roots does indicate some such way of thinking, we must then recognize two elements in his theory—an essentially chemical concept of mixture and an essentially biological concept of growth. From the former standpoint the world of manifold particulars is produced by an intermingling of the elements in different proportions. Considered in that perspective alone the manifold objects of perception are mere appearances—except perhaps in those ideal instances when one of the four elements is encountered in its purity. When, on the other hand, the elements are considered as roots, out of which the manifold particulars of experience grow like the foliage of a tree, there is no longer any opposition between the real and the apparent. In the case of a tree the foliage is no less real than the roots, although it is less permanent. Much of the distinctive character of Empedocles' approach to natural problems seems to come from the tensive relation between these two modes of envisaging the relation between elements and phenomena.

Although the idea of potentiality was not developed as a precise abstract concept before Aristotle, the gist of the idea, clothed in one kind of concrete imagery or another, is probably as old as human thinking. After all, men are always interested in growth and development, in possibilities and the not-yetness of situations. No doubt Thales' maxim, "All things are full of gods," and Anaximander's "the Unlimited" represented the idea of potentiality expressed as two different concrete universals. Empedocles in speaking and thinking of the four basic elements as roots is expressing the idea of potentiality in yet another guise. Potentiality is a biologically centered concept, drawing much of its experiential meaning from the observation of growing organisms; and it is perhaps no accident that it was Aristotle, the greatest zoologist of ancient

times, who gave to the idea of potentiality its first clear definition. Empedocles, as a physician and an observer of nature's curiosities, was sensitive to biological categories, even though he lacked both a suitable vocabulary and a methodological tradition; and the biologically oriented metaphor of "roots" was his way of expressing his sense of undetermined possibilities of change and growth in the natural world.

Viewed in this manner the idea of roots coheres with that other major tenet of Empedocles' philosophy, the opposition of Love and Strife. Aristotle, in his zest for schematizing the ideas of his philosophical predecessors, overstressed the difference between the four roots and the love-strife antithesis, characterizing the former as "material causes," the latter as a pair of "telic causes." That plain differentiation will serve the interpreter well enough up to a point, and there is nothing to contradict it in such Fragments as 15 and 16 or in such a Testimonium as T 29. Difficulties arise, however, when we reflect on his indication that the elements grow (Fr. 33), and on his personification of the elements (Fr. 12) in relation to Aëtius' testimony that "he calls the elements gods" (T 33) and in relation to the arresting statement (Fr. 50) that divine forces ("daemons") joined in sexual union and thus produced variety and novelty in the world. We seem to be close here to the strange doctrine which Simplicius attributes to Thales, that "all things are blended with gods."

Now the nature of divinity is such that it cannot remain unambiguously plural; it tends to evince some aspect of unity as well. The conception of God as the perfectly rounded Sphere (Frs. 23, 24), unencumbered by anthropomorphic traits (Fr. 26), expresses perhaps the ultimate conceptual reach of Empedocles' religious thought. But how is Divinity as the perfect sphere related to Divinity as the power of love and harmony symbolized by Aphrodite? As a guiding notion one might suggest that God the Sphere represents the harmony of divine perfection conceived in its essential nature, whereas God as the power of Love represents the harmony of divine perfection in the making. At all events Empedocles' conception of ultimate divine nature, while it implies perfection, does not imply omnipotence. The essential antagonist, "dreadful Strife," is no less real than Love is real. Their warfare is never ended; now the one prevails, now the other. The ancient notion of cosmic cycles becomes reenvisaged in those terms: long periods when the universe is tending toward adjustment, harmony, peaceful togetherness, and even (it would seem) a blending of diversities to such a degree that only the primordial diversity of the four elements remains; preceded and followed by long periods in which strife and the force of competing individuations give rise to the most manifold diversities, which endure and propagate until they have run their allotted course; and their alternation repeats itself through endless time.

Among Empedocles' ideas regarding specific operations of nature some readers will find a particular interest in his primitive pre-Darwinism expressed in Frs. 47, 48. Anaximander had already speculated on the significance of fish fossils embedded in inland quarries, and on that basis he had proposed the general hypothesis that the human race had somehow evolved from lower forms, particularly from marine animals. And now, half a century later, Empedocles speculates on the "how" of the process, and he seems to have attained, by a kind of inspired guess, to a rough version of the hypothesis of natural selection. Over two millennia before Darwin, and lacking anything like Darwin's wealth of systematized data, Empedocles conceived the possibility that many diverse species might have arisen by sheer chance, that many and perhaps most of them were ill-adapted for survival, and that only the well-adapted species survived in the long run, so that their characteristics were transmitted to later generations and eventuated in the characteristics with which we are now familiar. Of course his particular examples of maladaptation are fantastic—heads put on backwards, eyes in odd places, half-human half-bestial figures, and the like. Such fanciful details are not surprising when it is remembered

that the only known paleontological data were a few fish fossils. But the vitality of scientific imagination (not the whole of science, yet an essential part of it) which from such sparse materials could leap to so comprehensive a hypothesis that would one day be justified, is enough to assure Empedocles of an honored place among the early contributors to the development of natural science in the western world.

FRAGMENTS

ON METHOD

1. *Meagerly scattered among the body's members are the means of acquiring knowledge, and many are the evils that burst in and blunt the edge of attentive thought. The life of mortals is so mean a thing as to be virtually un-life; their doom is swift, they are blown away and vanish like smoke. Each one forms opinions according to what he has chanced to experience as he drifts about, yet each vainly boasts of knowing the general nature of things. Such universal matters, however, are beyond the reach of sight and hearing, and even beyond the mind's grasp.* (2)

2. *Avert from my tongue the madness of such men, O gods, and let pure streams of speech flow forth from my reverent lips. And you, O Muse, white-armed and virgin, whom many invoke, come forth from the house of Piety in your well equipped chariot, bringing me such words as are right and proper for ephemeral creatures to hear. You will not be urged, by some mortal ambitious to scale the heights of wisdom, to tell more than is fitting.* (3)

3. *Come now, with all your powers discern how each thing*

manifests itself, trusting no more to sight than to hearing, and no more to the echoing ear than to the tongue's taste: rejecting none of the body's parts that might be a means to knowledge, but attending to each particular manifestation. (3, ctd.)

4. *Stepping from summit to summit, not plodding along a single track to the end.* (24)

5. *What is right may properly be uttered even twice.* (25)

BASIC PRINCIPLES

6. *They are fools, with no ability to reach out with their thoughts, who suppose that what formerly Was Not could come into being, or that What Is could perish and be utterly annihilated.* (11)

7. *From what utterly Is Not it is impossible for anything to come-to-be, and it is neither possible nor conceivable that What Is should utterly perish. For it will always be, no matter how it may be disposed of.* (12)

8. *And I shall tell you something more. There is no birth in mortal things, and no end in ruinous death. There is only mingling and interchange of parts, and it is this that we call "nature."* (8)

9. *When these elements are mingled into the shape of a man living under the bright sky, or into the shape of wild beasts or plants or birds, men call it birth; and when these things are separated into their parts men speak of hapless death. I follow the custom and speak as they do.* (9)

10. *In the All there is nothing empty and nothing overstuffed.* (13)

11. *In the All there is nothing empty; whence, then, could there be any increase?* (14)

THE FOUR ELEMENTS

12. Hear first the four roots of all things: shining Zeus, life-giving Hera, Aïdoneus, and Nestis who with her tears fills the springs from which mortals draw the water of life. (6)

13. Pay heed and I will tell you the first-principle of the sun; moreover I will explain the sources from which everything that we now behold has sprung—earth, billowy sea, moist air, and giant sky that binds all things in its embrace. (38)

14. Earth, riding at anchor in the safe harbors of Aphrodite, comes together in right proportions with Hephaestos, with moisture, and with widely gleaming air, perhaps with a little more of one, a little less of another. Thus are created [such things as] blood and the manifold forms of flesh. (98)

15. But if you are deficient in belief with regard to these matters—how out of water, earth, air, and sun, mingled together, there arose the forms and colors of all mortal things by the unifying power of Aphrodite. . . . (71)

GENESIS AND CHANGE

16. Twofold is the process of which I shall tell. At one time there grew to be a single One out of many, while at another time it divided itself to make many out of One. Two-sided is the coming-to-be of perishable things, and two-sided is their passing away. The uniting of all things both creates and destroys; while the contrary phase involves both growth and scattering as things become divided [in the process of individuation]. And this thoroughgoing interchange never ceases: at times all

things are united by the power of Love, while at other times they are repulsed and borne apart by the hostile force of Strife. Thus in so far as their nature consists in growing out of many into one and then being parted asunder again out of one into many, they are changeable and have no lasting life; but in so far as they never cease from continuously interchanging, in that respect they are unalterable as they continue on their course.

But come now, hearken to my words; learning will enlarge your mind. As I said before, while stating the boundaries of my discourse, I shall tell of a twofold process. For at one time there grew to be a single One out of many, while at another time there came to be many by division out of One—fire, water, earth, and the lofty height of air. Apart from these and in balanced relation to them is dreadful Strife; while Love resides in their midst, throughout their length and breadth. Envision her with your mind, instead of sitting with glazed eyes. Mortals can know and recognize her, for she is implanted within their bodies. It is thanks to her that mortals enjoy thoughts of amity and do works of peace. They call her by the names Joy and Aphrodite. She moves in and out among men in such a way that no one ever catches sight of her. Nevertheless my ordered discourse does not deceive. Pay heed to it.

All of these are equal and of the same age, but each has its own kind of activity and its own character, and each gains ascendancy when its time comes round. Nothing is added to them nor taken away from them. For if they were continually perishing, they would at last no longer exist. And since there is nothing else, how could anything be added that would cause them to increase? And how could anything perish, since there is nothing empty? No, these are the only things that are; and

by interpenetrating they become one thing in one place and another in another. (17)

17. *[Such basic things as] sunbeams and earth, sky and sea, are at one with the parts that compose them, even though thrown in different guises to mortals' apprehension. Those things in which such affinity is most active are better adapted for mixing, being united in love by Aphrodite. But such things as are most different in origin, in form, and in type of mixing, are hostile; being children of Strife they are indisposed to unite and such unions as take place among them are baleful.* (22)

18. *Come now, look at the things that bear witness to what I said formerly, in case there was anything defective in my earlier account. Behold the sun, sending warmth and brightness everywhere, and the countless things perpetually bathed by his radiance; there is also the rain-cloud, dark and cold on all sides; and there is the earth, from which solid bodies, the foundations of things, come forth. When Hostility is at work, all these things are distinct in form and separated; but they come together in Love, and are desired by one another. Thence have sprung all the things that ever were, are, or shall be—trees and men and women, beasts and birds and water-dwelling fishes, and even such honored beings as the long-lived gods. In reality there are only the basic elements, but interpenetrating one another they mix to such a degree that they assume different characteristics.* (21)

19. *When painters wise and skilled in their craft are preparing sumptuous votive altars in a temple, they use pigments of many colors and blend them judiciously, now a little more of this and now of that; thereby they produce likenesses of all things—of trees, of men and women, of beasts and birds and water-dwelling fishes, and even of such honored beings as the long-lived gods. The way in which all the actual things of the world have come into existence, although they are incalculably more numerous, is essentially no different from this; let not your mind fall into the error of supposing otherwise, since you have heard the tale from a divine source.* (23)

COSMIC HARMONY AND ITS ANTAGONIST

20. *These two forces, Strife and Love, existed in the past and will exist in the future; nor will boundless time, I believe, ever be empty of the pair.* (16)

21. *Now one prevails, now the other, each in its appointed turn, as change goes incessantly on its course. These alone truly are, but interpenetrating one another they become men and tribes of beasts. At one time they are brought together by Love to form a single order, at another they are carried off in different directions by the repellant force of Strife; then in course of time their enmity is subdued and they all come into harmony once more. Thus in the respect that by nature they grow out of many into one, then divide from one into many, they are changing things and their life is not lasting, but in respect of their perpetual cycle of change they are unalterable and eternal.* (26)

22. *As things came together in harmony, Strife withdrew to the outermost region.* (36)

23. *In that condition neither can the sun's swift limbs be distinguished, no, nor shaggy mighty earth, nor the sea; because all things are brought so close together in the perfect circularity of the Sphere.* (27)

24. *Equal on all sides and utterly unlimited is the Sphere; which rejoices in its circular solitude.* (28)

25. *There is no discord and no unseemly strife in his limbs.* (27a)

26. *There is no pair of wings branching forth from his back, he has no feet, no nimble knees, no genitals; he is spherical and equal on all sides.* (29)

27. *When, in the fullness of time set by the primordial oath, Strife had grown to greatness in the limbs [of the Sphere] and was flaunting his demands for honors and privileges. . . .* (30)

28. *Then all of God's limbs in turn began to quake.* (31)

COSMIC PROCESS

29. *But now I shall go back again over the pathway of my verses already set forth, drawing a new word out of the old. When Strife had fallen to the lowest depth of the vortex and Love had reached its very center, then all things came together so as to be one single whole. This unity was attained not all at once, but according to the wishes of the things that were uniting, as they came some from one direction, some from another. Yet along with the things that became mixed and unified there were many things that remained unmixed—all, in fact, of which Strife retained possession; for Strife had not yet retreated entirely from them to the outermost limit of the circle, but he had departed from some things while in others he remained. But in the same degree that Strife was flowing out a gentle immortal stream of blameless Love was pouring in. Straightway what had previously been immortal became mortal, [i.e.,] what had been unmixed became mixed—an exchanging of paths. And as the mingling went on, innumerable kinds of mortal creatures in great diversity of forms were produced and scattered forth—a wonder to behold!* (35)

30. *Bounteous Earth, in the melting-pot of her broad bosom, received two portions from bright Nestis [Moisture], four from Hephaestos [Fire], and with eight parts in all, which she fitted together with the divine cement of right proportion, she created white bones.* (96)

31. *At that time Kypris [Aphrodite], who was engaged in preparing forms, after she had moistened the earth with water, gave it to swift fire to harden it.* (73)

32. *Know that effluences flow from all things that have come-to-be.* (89)

33. *Fire expands by means of fire, earth increases her own bulk, and air increases air.* (37)

34. *Thus sweet caught hold of sweet, bitter rushed to bitter, sour went to sour, and warm mingled with warm.* (90)

PHENOMENA OF NATURE

35. *The sun flashes back from Mount Olympus with serene countenance.* (44)

36. *The sunlight is gathered together and circulates around the vast heaven.* (41)

37. *It is the earth that makes the night by getting in the way of the sun's beams.* (48)

38. *The sharp-darting sun and the gentle moon.* (40)

39. There circles about the earth a borrowed light. . . . (45)

40. . . . as the hub of a wheel circles about the extreme center. (46)

41. She cuts off his rays as he goes above her, and casts a shadow on the earth which corresponds to the breadth of the pale-faced moon. (42)

42. [Whereas fire tends naturally upwards,] the air (aether) *plunged into the earth with its long roots.* (54)

43. That the depths of the earth and the height of the vast sky are unlimited is a foolish notion that has been unthinkingly passed from tongue to tongue by the many. (39)

44. Many fires burn beneath the earth. (52)

45. Sea is the earth's sweat. (55)

46. Iris [the rainbow] brings from the sea a wind and a great storm. (50)

EVOLUTION OF LIVING FORMS

47. There sprang up on the earth many heads without necks, arms wandering unattached to shoulders, and eyes straying about in want of foreheads. Isolated limbs were wandering about. (57, 58)

48. Many creatures were born with faces and chests turned in different directions. There were offspring of oxen with faces of men, while on the other hand there were human offspring that had the faces of oxen. And there were creatures in which the masculine and feminine natures were combined, the result of which was sterility. (61)

49. There were shambling creatures with innumerable heads. (60)

50. As daemon copulated with daemon things came together by pure chance, with the result that many novelties sprang into being. (59)

51. Listen now to my account of how fire, by separating, caused the night-born offspring of men and of tearful women to arise; for mine is no trifling or foolish tale. First there sprang up out of the earth whole-natured forms having a due share of both water and fire. The fire, desiring to reach up to its like, produced growth in the creatures, even before they had developed shapely limbs, voices, and generative organs. (62)

ORGANIC PHYSIOLOGY

52. This [the universal contest between Strife and Love] is manifest in the human body. At one time, in blooming life's high season, all bodily members are brought together by Love; at another, severed by Strife's cruel power, they wander separate and alone on the margins of life. Thus it is with plants and with water-dwelling fishes, with animals whose lairs are on the hillsides, and with seabirds that sail on wings. (20)

53. All living beings breathe in and out in the following manner. There are bloodless tubes of flesh which extend along the surface of their bodies. At the mouths of these the outer skin is punctured with numerous pores, so small and closely packed as to keep the blood from flowing out but still such as to let the air pass through. When the fluid blood recedes from these pores the air rushes impetuously in, and when the blood pulsates back again the air is breathed out. It is like when a

girl, playing with a clepsydra of gleaming brass, takes the mouth of the pipe in her fair hands and dips it into the liquid mass of shining water: the water does not flow into the vessel, because the mass of air within, pressing on the numerous perforations, holds it back until she uncovers the compressed stream; but when the air gives way, an equivalent amount of water enters. Likewise when water occupies the depth of the bronze vessel and the small opening with its narrow passage is blocked by the human hand, the outside air, striving to get in, presses on the surface and holds the water back behind the gates of the murmuring tube, until she releases her hand. As soon as she does so, an equivalent amount of water rushes off as the air enters—the opposite of what happened before. In the same way, when the fluid blood that surges through the limbs pulsates backwards into the body's interior, at once the stream of air surges swiftly in, and when the blood returns the air is breathed out again in equal amount. (100)

54. *All creatures share in breathing and smelling.* (102)

55. *It is in the warm parts of the womb that males are born; which is the reason why men tend to be dark, hairy, and more rugged.* (67)

PERCEPTION AND THOUGHT

56. *As when someone preparing to set forth on a journey through a stormy night procures a lantern and lights it at the brightly blazing hearth-fire, a lantern fitted with protection against the blowing winds, which its flashing beams scatter, being finer than they; so it is that the primal fire was originally entrapped within the membranes and delicate tissues of the round eyeball. These are pierced by ingenious passages in such a way as to prevent the abundant surrounding water of the eye from entering, while at the same time allowing the fire, by reason of its superior fineness, to pass through.* (84)

57. *Out of these* [*the four elements?*] *divine Aphrodite fashioned the tireless eyes. She fitted them together with rivets of love. Their beneficent flame is mixed with only a slight amount of earth.* (86, 87, 85)

58. *One vision is produced by the two eyes.* (88)

59. *It is by earth that we see earth, by water water, by air divine air, and by fire destroying fire; by love we perceive love, and hate by dreadful hate.* (109)

60. *Out of these* [*the four elements?*] *all things are formed and fitted together; it is by means of them that men think, suffer, and enjoy.* (107)

61. *The heart dwells in a sea of blood which flows back and forth around it. That encircling blood is what men experience as thought.* (105)

62. *It is by chance that men have come to have conscious thought.* (103)

63. *According as men live differently the thoughts that come to their minds are different.* (108)

64. *The notion that men exist, enjoy and suffer only during their so-called lifetime, and that before they received human shape and after their dissolution they are nothing at all, is a notion that no wise man would entertain in his heart.* (15)

SCATTERED OBSERVATIONS

65. *Water fits readily into wine, but it will not mix with oil.* (91)

66. Wine is the water that has seeped through the bark and has been purified in the wood. (81)

67. It is moisture that makes evergreens flourish with abundance of fruit throughout the entire year. (77)

68. In heavy-backed sea-dwelling shellfish, in snails, and in strong-skinned turtles you can see instances of where the earthy part swells at the skin's uppermost surface. (76)

69. The black color at the bottom of rivers arises from the shadow; a similar phenomenon is found in hollow caves. (94)

70. One and the same thing are hair, leaves, thick feathers of birds, and the scales that grow on claws. (82)

71. The hair of hedgehogs takes the form of sharp-pointed bristles on their backs. (83)

72. Tracking out the traces of animals' limbs from the scent which their feet have left in the soft grass. (101)

ADMONITION AND PROMISE TO A DISCIPLE

73. It is too readily the way of petty minds to disbelieve their superiors. Hear and understand the truths of this book, and let my reasoned argument penetrate your innermost heart, as my trustworthy Muse bids you. (4)

74. If, supported by your steadfast mind, you will contemplate these matters with serious devotion and faultless care, then you shall have during your lifetime all those blessings [of which I have spoken] and many others too. For such blessings grow up by their own power in the heart, where each man's true nature resides. If, on the contrary, you strive after things of another kind, as men tend to do who let countless trivialities blunt the precision of their thoughts, then those blessings will desert

you when the time comes round; for blessings, insofar as they partake of thought and wisdom, desire to return to their own kind. (110)

75. And you shall learn the cures for all evils, and protection against old age; it is for you alone that I will bring this about. You shall be able to stop the force of the untiring winds that sweep over the earth and destroy crops; or, at your pleasure, you shall summon them back again. Out of dark storms you shall produce drought, and out of summer drought you shall bring pouring rains from the sky to nourish the trees. You shall be able to lead out of Hades the spirit of a man who is dead. (111)

THE BOOK CALLED PURIFICATIONS

INVOCATION

76. O Kalliopeia, immortal Muse, if when looking down on ephemeral things you have ever deigned to notice my endeavors, stand by me once again, I pray, while I utter a worthy discourse about the blessed gods. (131)

77. Friends, I know well that truth resides in what I shall utter; but it is hard for men to accept it, for they are hostile to beliefs that challenge their ways of thinking. (114)

ON DIVINITY

78. Blessed is the man who has gained the riches of divine wisdom; wretched is he whose heart holds dim opinions about the gods. (132)

79. It is not possible to reach out to God with our eyes, nor to take hold of him with our hands—the two most usual ways of persuasion that lead into men's minds. (133)

80. He has no human head fitted on to his body, nor does a pair of wings branch out from his back; he has no feet, nor hairy parts. He is purely mind, holy and ineffable, flashing through the whole world with swift thoughts. (134)

THE ANCIENT AGE OF INNOCENCE

81. [In those days] there was not any Arês, nor Kydoimos (Uproar), nor royal Zeus, nor Kronos, nor Poseidon. There was only Queen Kypris (Aphroditê). Men worshiped her with holy offerings, with painted figures, with perfumes having skillfully contrived fragrance, pure myrrh and sweet-smelling frankincense, and with libations of brown honey poured on the ground. The altars did not reek with bull's blood, and the practice of eating the raw limbs after ripping out the life was held in utter abomination. (128)

82. All creatures, beasts and birds alike, were tame and gentle to man, and friendly feelings were kindled everywhere. (130)

THE PRESENT AGE OF STRIFE

83. A land without joy, where bloodshed and wrath and agents of doom are active; where plagues and corruption and floods roam in the darkness over the barren fields of Atê. (121)

84. Ah, wretched unblessed race of mortals! Such were the strifes and groanings out of which you were born. (124)

85. A father seizes a dear son, who has changed his outward shape, and slays him in ritual, so great is his folly. He is deaf to the beseeching cries of the victims as they are driven to the sacrifice; he slays them and prepares the evil feast. In like manner a son disposes of his father, a daughter of her mother; tearing out the life they devour the kindred flesh. (137)

86. Such a one will never be welcome in the vaulted palace of aegis-bearing Zeus, nor even in the house of Hades. (142)

87. Accordingly the weight of your wickedness makes you frantic, and you cannot ease your bitterly troubled souls. (145)

REINCARNATION

88. A daemon-goddess wraps them in a strange garment of flesh. (126)

89. [She] took them and changed them from living creatures into dead ones. (125)

90. From what high place of honor and bliss have I fallen, so that I now go about among mortals here on earth? (119)

91. In the past I have been a boy and a girl, a bush, a bird, and a dumb water-dwelling fish. (117)

92. I wept and mourned when I discovered myself in this unfamiliar land. (118)

93. We have come into this low-roofed cavern. (120)

94. There is an oracle of Necessity, an ancient decree of the gods, eternal and tightly sealed by broad oaths: that whenever anyone defiles the body sinfully with blood, or has fallen into the way of Strife, or has broken his oath, such a man, [when he becomes] a daemon endowed with a long stretch of life, must wander thrice ten thousand seasons shut off from the

abode of the blessed, during which period he is reborn in all sorts of mortal shapes, exchanging one grievous kind of existence for another. The force of air swirls him into the sea, the sea spits him out on to dry earth, the earth tosses him into the beams of the fiery sun, and the sun flings him back again into the eddies of air. All seize him, and all reject him. Such a man am I, alas, a fugitive from the gods and a wanderer at the mercy of frenzied Strife. (115)

95. *When reincarnated as animals they become lions, such as make their lairs on the hills, sleeping on the bare ground; or they become laurel trees with goodly foliage.* (127)

ETHICAL JUDGMENTS

96. *What is lawful is not binding only on some and not binding on others. Lawfulness extends everywhere, through the wide-ruling air and the boundless light of the sky.* (135)

97. *Fast from wickedness!* (144)

98. *Will you not cease from the evil noise of bloodshed? Do you not see that you are devouring one another in heedlessness of mind?* (136)

99. *Abstain entirely from laurel leaves.* (140)

100. *Wretches, utter wretches, keep your hands away from beans.* (141)

101. *Alas that some day of doom did not destroy me before my lips committed the sin of wrong devouring!* (139)

THE PROPHET ON EARTH

102. *Hail, friends! You who inhabit the great city looking down on the yellow rocks of Akragas and extending up to the citadel; who exercise yourselves with good works, offering a harbor to worthy strangers and being ignorant of meanness: I greet you. I come among you no longer as a mortal but as an immortal god, rightly honored by all, and crowned with fillets and floral garlands. When I enter a flourishing town, with my attendant youths and maidens, I am received with reverence; great throngs of people press upon me, seeking benefits. Some desire a revelation; others, who have long been pierced by various kinds of painful illness, want me to tell them effective remedies.* (112)

103. *But why do I stress such matters, as if there were anything surprising in the fact that I am superior to mortal perishable men?* (113)

104. *In the course of time there come to earth certain men who are prophets, bards, physicians, and princes; such men later rise up as gods, extolled in honor, sharing hearth and table with the other immortals, freed from human woes and human trials.* (146, 147)

105. *There was among them a man of rare knowledge, highly skilled in all kinds of wise words, possessing the utmost wealth of wisdom. Whenever he reached out with all his mind, he was easily aware of every particular thing that exists, spanning even ten or twenty generations of men.* (129)

TESTIMONIA

FROM PLATO:

T 1. *Socrates:* Evidently, then, you believe in Empedocles' theory of effluences?

Meno: Indeed I do.

Socrates: And of passages [in the sense-organs] to which the effluences come and through which they pass?

Meno: Yes.

Socrates: And that certain of the effluences fit into certain of the passages while others are either too large or too small?

Meno: Exactly.

Socrates: And is it agreed that there is such a thing as sight?

Meno: Yes.

Socrates: Well, so Empedocles in offering us these notions seems to be telling us, in Pindar's words, "Read my meaning." I take it to be something like this: "Color is an effluence from shapes commensurate with sight and perceptible by it."

Meno: That, Socrates, is admirably stated. (*Meno* 76c)

FROM ARISTOTLE:

T 2. One may postulate a plurality, as when Empedocles says that matter (*hylê*) consists of four bodies (*sôma*). . . . The trouble with such a view is, we see things being generated from one another in such a way as to suggest that neither fire nor water goes on always retaining its own bodily identity. (*Metaphysica* 989a 21)

T 3. Empedocles supposes four elements, adducing earth as a fourth to those already mentioned. These, he holds, always remain existent and never come-to-be; increase and diminution he explains as the compounding into and the separation out of one another. (*ibid.* 984a 8)

T 4. Anaxagoras and Empedocles are opposed with respect to the elements. The latter declares that fire, earth, and the other things of the same rank are the elements of bodies and that everything is composed of them. (*De Caelo* 302a 28)

T 5. Some, such as Empedocles, say at the outset that there are four [elements]. But in practice he reduces them to two, by making a contrast between fire and the other three. (*De Generatione et Corruptione* 330b 19)

T 6. He was the first to state that there are four material elements. In practice, however, he treats them not as four but as two—fire by itself, as contrasted with earth, air, and water taken together. (*Metaphysica* 985a 33)

T 7. As for the source of motion, Empedocles took issue with his predecessors in not regarding it as one but dividing it into two contrary forces. (*ibid.* 985a 29)

T 8. Empedocles says that things are sometimes in motion and sometimes at rest: when Love is producing the One out of many and Strife is producing many out of the One, things are in motion, but in the intervening periods they are at rest. (*Physica* 250b 27)

T 9. If Strife had not been present in things, he says, then all would have been one; for it is when things come together in unity that Strife retreats into the background. (*Metaphysica* 1000b 1)

T 10. If one studies Empedocles critically in order to get at his real meaning and not be blocked by his obscure language, it will be found that Love is the cause of good things and Strife of evil things. Thus one might truly say that in a sense Empedocles was the first to speak of evil and good as first-principles. (*ibid.* 985a 5)

T 11. Empedocles' argument breaks down when he makes Friendship (*philia*) the chief good. For he treats this as a first-principle in a double sense: as moving cause, in that it draws things together, and as matter, in that it is part of the mixture. (*ibid.* 1075b 2)

T 12. Empedocles posits Strife as the kind of first-principle which causes destruction; nevertheless it would seem that Strife is the begetter of everything that exists except the One. (*ibid.* 1000a 26)

T 13. Empedocles is not entirely consistent with respect to the causes of things. At any rate [he admits that] Love often sets apart and Strife often combines. For when the All is differentiated into its elements by Strife, then fire and each of the other elements collects itself into oneness; on the other hand, when the elements are brought together into the One by Love, then each thing is drawn away from its own individuality. (*ibid.* 985a 21)

T 14. Some say that there are alternating periods of coming-to-be and perishing, and that this alternation goes on unceasingly. Such is the view of Empedocles of Akragas and Heraclitus of Ephesus. (*De Caelo* 279b 14)

T 15. Empedocles begins [his description of the cosmic process] at a period after Love has been in the ascendancy. He could not think of a universe simply as constructed out of separate parts which were to be united by the power of Love, for the separateness of the constituent parts of the world as we know it presupposes a previous state of unity and togetherness. (*ibid.* 301a 16)

T 16. Empedocles says that air is separated upwards not with uniform regularity but as it may chance; which is the point of the remark in his *Cosmogony:* "At one time it happened to run in that way, but frequently in other ways." He says also that the parts of animals developed very largely by chance. (*Physica* 196a 21)

T 17. Others, such as Empedocles, take the view that like seeks like. (*Ethica Nicomachea* 1155b 7)

T 18. When he was asked why a certain dog always used

the same tiles for sleeping, Empedocles replied that there must be a likeness between the dog and the tiles, the likeness explaining why the dog was drawn to them. (*Magna Moralia* 1208b 11)

T 19. It would be absurd if someone such as Empedocles were to suppose he was offering a clear-cut statement in describing the sea as the sweat of the earth. Such a metaphorical way of speaking, while suitable for the purposes of poetry, contributes nothing whatever to our knowledge of nature. (*Meteorologica* 357a 24)

T 20. Empedocles says that the light from the sun has to pass through the intervening space before it reaches the earth and our organs of vision. (*De Sensu* 446a 26)

T 21. Some, such as Empedocles, say that the rotating movement of the heavens impedes the movement of the earth, like water in a rotating vessel. (*De Caelo* 295a 17)

T 22. Of those who deny the existence of a void there are some, such as Anaxagoras and Empedocles, who make no attempt to explain clearly the meaning of heavy and light. Those who do make such an attempt, if they still deny the existence of a void, are unable to explain what heavy and light are in themselves—in other words, why some things move downwards and others upwards. (*ibid.* 309a 19)

T 23. Empedocles was in error in going on to say that plants grow downwards with their roots because earth goes naturally down but that they themselves grow upwards because fire goes naturally up. (*De Anima* 415b 28)

T 24. Anaxagoras and Empedocles say that plants are moved by desire, even declaring that they have perception and can feel pleasure and pain. Empedocles and others said that plants have intelligence and knowledge. (*De Plantis* 815a 15, b 17)

T 25. Some believe that each impression is taken in from the last outward agent through certain pores, and that this is how we see, hear, and exercise our other perceptions. They explain our ability to see through air, water, and other translucent substances on the ground that such substances contain numerous pores, too small to be seen and very close together; the more numerous the pores, they say, the greater the translucency. The theory has been held by Empedocles among others. (*De Generatione et Corruptione* 324b 26)

T 26. Many difficulties are involved in saying, as Empedocles does, that each thing is known by the corporeal elements it contains, each being known by a like element [in the sense-organ]. (*De Anima* 410a 28)

FROM LATER GREEK SOURCES:

T 27. Empedocles, a native of Akragas [Agrigentum] was, according to Hippobolus, the son of Meton and grandson of Empedocles. Timaeus, in the fifteenth book of his *Histories,* confirms this statement and adds that the elder Empedocles, the poet's grandfather, was a distinguished man. Likewise Heraclides, in his treatise *On Diseases,* declares that the family was an illustrious one and adds that the grandfather bred race horses. Eratosthenes, in his chronicle of Olympic Games, cites Aristotle as authority for the statement that the father of Meton was a victor in the seventy-first Olympiad. . . . The knowledge that he was a citizen of Akragas in Sicily is based upon his own testimony [Fr. 102].

Timaeus further declares that Empedocles had been a pupil of Pythagoras but that he had been convicted of publishing some of the Pythagorean verses, for which reason he was disbarred from the discussions held by the school. Neanthes tells that down to the time of Philolaus and Empedocles all Pythagoreans were admitted to the school discussions. But after Empedocles had revealed some of the teachings to the public by speaking of them in his poem they passed an edict that he should not be allowed to hear any more of them.

Theophrastus says that Empedocles was an admirer of Parmenides and imitated him in his own verses after Parmenides had published his treatise *On Nature.* On the other hand Hermippus asserts that Empedocles was not so much an admirer of Parmenides as of Xenophanes, with whom he lived for a time and whose verses he imitated, before he became connected with the Pythagoreans. Alcidamas in his treatise *Natural Science* declares that Zeno and Empedocles were both pupils of Parmenides at about the same time and afterwards left him, Zeno to develop his own philosophy, Empedocles to become the pupil of Anaxagoras and Pythagoras, emulating the one in his investigations of nature, the other in the nobility of his life and bearing.

Aristotle in his *Sophist* calls Empedocles the founder of oratory, Zeno of dialectic. Satyrus in his *Lives* says that Empedocles ranked high both as physician and as orator, and that even Gorgias of Leontini, a man prominent in oratory and author of a treatise on that art, had once been his pupil.

The city of Akragas had at that time, according to Timaeus, a populaton of eight hundred thousand. Speaking of his fellow-citizens Empedocles remarked, "The citizens of Akragas eat as sparingly as if they were going to die tomorrow, but they build their houses as sturdily as if they were going to live forever." His poem *Purifications* was recited at Olympia by the rhapsode Cleomenes: so Favorinus tells in his *Memorabilia.*

Aristotle says that Empedocles was a champion of freedom to such a degree that he was an opponent of every kind of restrictive law; and Xanthus in writing about him tells that he refused the royal power when it was offered to him, evidently because he preferred the frugal life. (Diogenes Laertius VIII. 51-77)

T 28. Empedocles the natural philosopher, by blocking up a certain mountain gorge which had permitted the south wind to blow a fatal pestilence down upon the plains, was believed to have shut the plague out of the country. (Plutarch *Moralia* 515C)

T 29. Empedocles of Akragas considers the elements of things to be four: namely, fire, air, water, and earth. They produce change, he says, by combining and separating. What sets them in motion is Love and Strife, alternately the one bringing them into union and the other dissolving them. (Theophrastus, quoted by Simplicius)

T 30. Fire is of a disintegrating and separating nature, while water is adhesive and retentive, holding and glueing together by its moisture—a fact to which Empedocles alludes in calling fire "destructive strife" and water "tenacious love." (Plutarch *Moralia* 952B)

T 31. According to Empedocles, things do not remain continually in fixed situations, nor do the elements have fixed boundaries, but all things partake of one another. (Aëtius)

T 32. By Zeus he means the heavenly fire and the aether, by life-giving Hera the moist air, by Aidonius the earth, and by Nestis who from her springs supplies mortals with the water of life he means something like water and the moisture of seeds. (*ibid.*)

T 33. He calls the elements gods, and their intermixture the universe. (*ibid.*)

T 34. Empedocles says that the universe arises and perishes through the alternating forces of love and strife. (*ibid.*)

T 35. According to Empedocles the elements are composed of tiny particles, the tiniest possible, which are, one might say, elements of the elements. He says that these particles are of the same kind as the larger elements of which they are part. (*ibid.*)

T 36. Empedocles, comparing all the different senses, says that perception occurs by means of a fitting into the pores of each sense-organ. Thereby they do not perceive one another's objects, the pores of some sense-organs being too wide and of others too narrow for a given kind of sense-object to fit into them, so that some things go through without touching while others are unable to enter.

He explains vision as follows. Within the eye are fire and water; the surrounding membranes are composed of earth and air, through which the light, being finer, enters in much the same way it does in the case of lanterns. Pores of fire and water are placed alternately; the fire-pores receive bright objects and the water-pores dark objects, the colors adjusting themselves to the pores. It is by effluences that the colors reach and enter the organs of vision.

Hearing is the result of noise coming from outside. When [the outer ear] is set in motion by the sound, there is an echo inside; thus the process of hearing is like one bell echoing another.

Thinking and perceiving are the same. It is mainly by blood that we think, for in blood all the elements are mingled.

Those in whom a fair and equal proportion of parts have been mixed—neither too diverse [nor too similar], neither too small nor too large—such men have the best intelligence and the most accurate perceptions. Some men are good orators, others are good craftsmen, according as the well-proportioned mixture is in the hands or in the tongue; and similarly as regards other powers. (Theophrastus *De Sensu* 7)

T 37. He says that desire arises in animals [including human animals] from a lack of the things that would render them complete. (Aëtius)

T 38. He says that the embryo resides in the belly without breathing, and that the animal's first breath occurs at the mo-

ment of birth, when part of the moisture of the embryo is transformed into air, which is then supplemented by air coming into the lungs from outside. (*ibid.*)

T 39. Death, he says, consists in a separation of the fiery particles of matter from out of the mixture of which the soul is composed, so that death of the body and death of the soul occur simultaneously; and sleep he explains as a temporary separation of this kind. (*ibid.*)

T 40. Empedocles declares that what gave our souls their being and first-principle was not a mingling of blood and breath; but that the body, earth-born and mortal, was shaped by the soul, which came to it from elsewhere, for which reason he describes birth as a journey. (Plutarch *Moralia* 607D)

T 41. The soul he declares to be a mixture primarily of air and aether. (Aëtius)

T 42. He holds that pure men who partake of the elements in a pure way are divine. (*ibid.*)

T 43. Empedocles holds that there are two fates, or spirits, which take each of us into their care at birth and guide us. They may appear as Chthonia and far-seeing Heliope [Earth maiden and Sun maiden], or as bloody Deris and grave-eyed Harmonia [Discord and Attunement], or as Callistro and Aeschra [Beauty and Ugliness], or as Thoösa and Denaea [Quickness and Sluggishness], or as lovely Nemertes and dark-eyed Asapheia [Truth and Uncertainty]. Their seeds are mingled at our birth, and thus there grow up in us instinctive tendencies of great unevenness. (Plutarch *Moralia* 474B)

T 44. He holds that the first generation of animals and plants lacked perfection because they were concocted out of ill-fitting parts; that the second generations were formed of parts mutually suitable; that the third had parts grown into one whole; while the fourth consisted not of ingredients which kept their own natures such as earth and water, but of substances that had already become blended together. (Aëtius)

T 45. Some say that the sea is, as it were, a sort of sweat from the earth; for when the earth is warmed by the sun it gives forth moisture; moreover it is salt, just as the earth is salt. (Theophrastus, quoted by Simplicius)

T 46. The sky, he says, is formed by air being congealed by fire into crystalline form, and it embraces whatever is of the nature of fire or of air on either of the earth's hemispheres. (Aëtius)

T 47. The sun's eclipse he explains as caused by the moon rising in front of it. (*ibid.*)

T 48. Empedocles regards the moon as a mass of air congealed in the same way as hail and contained within a sphere of fire. (Plutarch *Moralia* 922C)

T 49. Empedocles holds that the moon is framed by air rolled up into a cloud, whose form is baked into solidity by an admixture of fire; that it has the shape of a disc, and that it gets its light from the sun. (Aëtius)

T 50. According to Empedocles the cause of the lightning flash is the kindling and extinction of light as it suddenly has contact with the compressed air of a cloud; thunder is the crashing noise produced by the break-up of the cloud. (*ibid.*)

FROM LATIN SOURCES:

T 51. Empedocles, among his other mistakes, was especially wrong in his conception of the gods. He ascribes divinity to the four elements of which he says everything consists; but surely we can see that those elements are born and die, and moreover that they are devoid of sense. (Cicero *De Natura Deorum* I. 29)

14. The soul is established in the body through number; which is to say, through immortal and incorporeal harmony. (22)

15. The body is loved by the soul, because without the body the soul cannot get sense-impressions. After the soul has been separated from the body in death, its existence in the world is incorporeal. (*ibid.*)

16. Number is the ruling and self-creating bond which maintains the everlasting stability of the things that compose the universe. (23)

8
The Sophists

THE ADVENT OF THE SOPHISTS marks a new turning in ancient Greek philosophy. Metaphysical thought in its development from Thales to Anaxagoras on the one hand and to the Atomists on the other shows a fairly logical, almost a dramatic pattern. First there are the naive attempts to find the ultimate explanation of things in a single, perceptually recognizable kind of substance; out of them a growing interest in the "how"—in the finding of a principle by which to explain change; then the bold declaration of Heraclitus that change itself is the ultimate reality and the ultimate basis for all explanation; the equally bold counter-declaration by Parmenides that change, being intellectually unacceptable, simply "is not"; and finally the three main and diverse attempts to reconcile the manifest fact of change with the Eleatic principle that what is ultimate is necessarily changeless. Greek philosophy was soon to proceed, spurred and directed by the philosophical genius of Plato, far beyond this compact group of inquiries and solutions; but Plato's achievements of penetration and subtlety were made possible by his having brought man and the problems of human essentiality into the very heart of the metaphysical problem. Plato might be called, in a sense, a metaphysical anthropologist. What Plato might still have accomplished without the example and goad of Socrates we do not know, nor what Socrates

might have been and done without the challenge and contrariety of the Sophists. At all events, taking the known facts as they are, we cannot ignore the fresh humanistic interest which the Sophists, by their radical emphasis upon the problems of man and his activities, obliquely contributed to the subsequent development of Greek philosophy.

That is not to say that the problems of man had been altogether ignored in earlier philosophies. But the pithy remarks about man and his destiny by such writers as Heraclitus and Empedocles are secondary to and generally derivative from their metaphysical systems. In both the Pythagorean and the Hippocratic philosophies there is a more pronounced humanistic concern, but in the one it is limited to the confines of a school-community and cult, in the other it is particularized by the exacting demands of medical practice. Both of these movements effected a partial modification of the older aristocratic faith that a man's essential *aretê* must have been transmitted by patrilinear inheritance and had originally been instilled by a divine progenitor—a view which has left its traces in the myth of Asclepius as the archetypic ancestor of all physicians and in the brotherhood clause in the so-called Hippocratic Oath. In any case it was left to the Sophists to go the whole way in secularizing and democritizing the ideal of *aretê*.

Protagoras of Abdera (ca. 480-411 B.C.) was the acknowledged initiator of the Sophistic movement. The word *sophistês* is composed by adding to the word for wisdom a suffix connoting a man who practices a profession, and who is thus in some way an expert; a sophist therefore means something like a "wisdom expert." There is a paradoxical shock in both the Greek and the English versions of the idea; for while there can perhaps be experts in any finite field of activity or inquiry, which is to say persons with the know-how to achieve specific results, it is as meaningless to speak of an expert in wisdom as to speak of an expert in goodness. Nevertheless Protagoras and his followers did in fact make the claim.

It is instructive to observe what happened to the idea of wisdom at the hands of the Sophists, as a result of their doctrine, and their energetic practice of it, that "wisdom can be taught." In traditional Greek thought wisdom was taken as one of the four cardinal human virtues, the others being temperance, courage, and justice. The general idea of *aretê* (inadequately rendered "virtue" or "specific excellence," or in a human context as "human excellence") was an idea, indeed an ideal, of supreme appeal and attractiveness to the Greek mind. Outside the area of human affairs it might refer to the distinguishing excellence of any species, natural or otherwise—the strength of a lion, the fleetness of a rabbit, the sharp cutting edge of a pruning hook enabling it to clip branches effectively. Within the human context it was almost synonymous with that other high-ranking Greek word *kalokagathia*—built from the words *kalos* (beautiful, admirable), *kai* (and), *agathos* (good). These two main value-words, *aretê* and *kalokagathia,* were applied to man in his wholeness, composed of body, psyche, and mind—to a victor at the Olympic games, provided he were both an athlete and something more, to a Parmenides and a Socrates, who were both thinkers and outstandingly more.

Involved in the meaning of *aretê* there was always an element or at least an overtone of political reference. A Greek of the fifth century B.C. lived in a *polis*—a civilized community the size of a small city but with the political autonomy (in most cases at most times) of a state. In such a situation a youth would grow to manhood feeling his constant interrelatedness with the life and aims of his *polis* and knowing that the principal road to success was likely to lie in a political (not, as in most cases today, a commercial) direction. The virtue, the *aretê,* the human excellence that the youth would wish to develop for himself would be personal and political at once. Naturally enough it was apt to include the glamor of outward displays with their tangible benefits, such as the winning of debates before the Assembly, no less than, per-

haps somewhat more than, a pure development of the inward virtues. It was a rarer voice that issued from time to time a reminder that the most genuine riches are to be found within rather than outside: Heraclitus (Fr. 8); the Delphic maxim, "Know thyself"; Socrates' "The unexamined life is not worth living."

When Pericles assumed power in Greece in the middle of the fifth century the political aspect of the ethical problem took on a new relevance and a new tone. Under his leadership Athens entered into the larger political life of Greece, changing from the older self-sufficient city-state to a more dynamic imperial state. As Werner Jaeger remarks, a rationalization of Athenian life thereby began to take place, and the rationalization of political education at the hands of the Sophists was only a part of it.

The principal skill which the Sophists taught, and of which an ambitious Greek youth would be eager to acquire mastery, was the ability to win debates and to influence public opinion through the art of persuasive speech. At least the two leading Sophists, Protagoras and Gorgias, evidently performed such teaching with marked success: for both of them lived to be very old and in their long careers they amassed considerable wealth; moreover both of them produced successful orators, statesmen, and other men of eminence from among their pupils. The visible and tangible evidences of their success could not be denied.

The temptation was, as sometimes happens with successful men, to push their claims of success too far, failing to distinguish between the specific skills which they were demonstrably able to teach and that general human excellence which, while it may make use of, can never be reduced to a matter of know-how. Protagoras claimed for the sophist the ability to teach *aretê* by essentially the same method as he might teach the rules of grammar and the art of oratory. Ethics was thus, for him, but one field of investigation among others. Gorgias added to this a doctrine of ethical pluralism—that there are different virtues, not one human virtue in general, and that the different virtues are of varying

importance according to one's station in life: a soldier needs courage, a lawgiver needs practical wisdom and justice, a philosopher needs contemplative wisdom. It was mainly Socrates who critically attacked Protagoras' claim, by his double insistence that virtue is essentially one, finding its unity in wisdom, and that virtue in the full human sense cannot be taught but can only be encouraged and challenged to grow. Subsequently Plato, in the third and fourth books of *The Republic,* undertook to meet Gorgias' ethical pluralism, by defining the sense in which the virtues pertain to different political classes and the sense in which a healthy republic requires human virtue in all its citizens, whatever their special aptitudes and special duties.

i. Protagoras

FRAGMENTS

1. *Man is the measure of all things: of things that are, that they are; of things that are not, that they are not.* (1)

2. *All matter is in a state of flux. A fluctuating thing may retain its shape, however, because the changes may be such that the additions compensate for the losses. It is our sense-impressions of the thing that get modified, because affected by age and other bodily conditions.* (Quoted by Sextus Empiricus).

3. *There are intelligible principles inherent in the matter of every phenomenon; because matter is essentially the sum of all the seemings that it has for any and all persons.* (ibid.)

4. *Learning requires both natural endowment and self-*

discipline. It has to begin when one is young. It does not take root in the soul unless it goes deep. (3, 11)

5. *Skill without concern, and concern without skill, are equally worthless.* (10)

6. *As for the gods, I have no way of knowing either that they exist or that they do not exist; nor, if they exist, of what form they are. For the obstacles to that sort of knowledge are many, including the obscurity of the matter and the brevity of human life.* (4)

TESTIMONIA

FROM PLATO:

T 1. [*Protagoras is imagined to be speaking.*] Consider, Socrates, why it is that men inflict punishment on a wrongdoer, and you will see that in doing so they implicitly agree that human excellence (*aretê*) can be acquired. A sensible man in inflicting punishment does not do so in order to avenge a past wrong that is beyond recall, but looks rather toward the future, in that he wishes to deter both the culprit and those who witness his punishment from doing any further wrong in the future. Those who administer punishment, then, do so for the sake of prevention, which is tantamount to admitting that virtue (*aretê*) is capable of being taught.

But where are the teachers, you ask? In a sense it is like asking who teaches children to speak their own language, for in that too there are no specific teachers to be found. Consider, too, how the sons of artisans learn the craft of their fathers. Up to a point they learn it from the father as well as from the father's friends and fellow-craftsmen. But as they become ready for more advanced instruction it will probably be harder for

them to find suitable teachers than it was when they were novices. The same is true in the teaching of virtue or of anything else. What we do [when we want advanced instruction] is to look for a teacher who excels us even moderately in the kind of excellence we want, and we are glad when we can find such a one.

Well, that is the way in which I regard my own teaching—as the activity of a man who is somewhat more competent than the rest in helping his fellow-men attain to what is good and admirable. I give my pupils full value for their money, as they themselves agree. To make sure of doing so I have adopted the following condition of payment. After receiving instruction from me a pupil may, if he chooses, pay the fee that I have set; but if he thinks it too high, he has only to go to the temple and declare under oath how high a value he sets on what he has learned, and he may then pay accordingly. (*Protagoras* 324A, 327E)

T 2. *Socrates:* Protagoras has said, as you will doubtless recall, that man is the measure of all things—of things that are, that they are; of things that are not, that they are not. Presumably you have read the statement?

Theaetetus: Oh yes, often.

Socrates: Well, he means something like this, doesn't he?—that particular things are for me just what they appear to me to be, and are for you just what they appear to you to be. For you and I are men.

Theaetetus: Yes, that is surely what he means.

Socrates: Then, since so wise a man is not likely to be talking nonsense, let us pursue his meaning. It is sometimes the case, isn't it, that one of us feels cold while the other, although blown by the same wind, does not? Or that one of us feels mildly chilly while the other feels very cold?

Theaetetus: That is true.

Socrates: And when such a situation occurs are we to de-

scribe the wind itself as cold or not cold? Or shall we accept Protagoras' solution, that it is cold for him who feels it cold and is not cold for him who does not feel it so?

Theaetetus: The latter, I should think.

Socrates: And it does in fact sometimes appear cold to one observer and not cold to another simultaneously?

Theaetetus: Yes.

Socrates: In the case of qualities like warm and cold, do "it appears" and "it is perceived" have the same meaning?

Theaetetus: Evidently so.

Socrates: Protagoras means, then, that perception is always of something existent, and that the knowledge which it imparts is infallible?

Theaetetus: That seems clear.

(*Theaetetus* 152A)

T 3. [*Protagoras is represented as speaking.*] Of course I don't deny that there is such a thing as wisdom and that wise men exist. But what I mean by a wise man is one who can alter people's ways of judging so that what appears and is to them bad now will appear and will be to them good. It is like the case of some food which appears and is bitter to a sick man but appears and is quite the opposite to a man in health. It should not be said that either of the two men is more knowing or more ignorant than the other; they are simply different. Still, we agree that the one state is preferable to the other, and so we think that the sick man had better be changed into a healthy state. That's how it is with education (*paedeia*): its aim is to change men from a worse to a better condition. But whereas the physician brings about the change by means of drugs, the sophist does so by means of words.

The point is not that a man who thinks what is false is taught to think what is true. It is not possible to think what is false; because one can only think what he experiences, and what he experiences is true. Consider, however, the case of a man

who has got into a bad [i.e., unhealthy] condition of soul and whose thoughts reflect that condition: if he can be brought to a good [i.e., healthy] condition of soul, his thoughts will be correspondingly better. The resulting appearances are sometimes ignorantly spoken of as "true"; I, however, do not call them truer than the earlier ones but simply better. Consequently, my dear Socrates, instead of comparing us sophists to jumping frogs as you did, you might better have recognized us to be a kind of physician.

Farmers in curing sickly plants simply try to replace unhealthy modes of assimilation by healthy modes. [No question of truth or falsity in such cases.] In like manner responsible rhetors seek to improve their city-state (*polis*) by instilling [in its citizens] workable notions of what is right in place of unhealthy ones.

My position, then, is that whatever seems right and admirable to a particular city-state is truly right and admirable—during the period of time in which that opinion continues to be held; and that it is the wise man's task, when the people are afflicted with unsound beliefs, to substitute others so that they seem true and therefore *are* true. Thus the sophist, who trains his pupils on the same principle, thereby shows his wisdom and justifies his claim to a large fee when the course of training is over. It is in this sense, and in this sense only, that some men are wiser than others; which does not affect the truth of the proposition that there is no such thing as thinking falsely. (*Theaetetus* 166D)

FROM ARISTOTLE:

T 4. There is a doctrine of Protagoras in which he said that man is the measure of all things. He was saying, in other words, that each individual's private impression is absolutely true. But if that position is adopted, then it follows that the

same thing is and is not, that it is both good and bad, and similarly for other contradictions; because, after all, a given thing will seem beautiful to one group of people and ugly to another, and by the theory in question each of the conflicting appearances will be "the measure." (*Metaphysica* 1062b 13)

T 5. When Protagoras says that man is the measure of all things he presumably means the man who has both rational understanding of the matter and perceptual acquaintance with it. On this interpretation, since we do in fact accept thought and perception as the two "measures" of whatever we are dealing with, Protagoras in making so provocative a statement is really not saying anything at all. (*ibid.* 1053b 20)

T 6. If it is equally possible to affirm and to deny anything whatever on any subject, then a given thing will be at once a ship, a wall, and a man: which is the necessary conclusion for those who hold the theory of Protagoras. (*ibid.* 1007b 20)

T 7. In actual fact the circle touches the ruler not at a point [but along a tiny length], as Protagoras used to declare in arguing against the geometers. (*ibid.* 998a 3)

T 8. They were right who rejected the kind of training that Protagoras offered; for this art was a deceptive one, in that it could not establish real probabilities but merely specious plausibilities. (*Rhêtorikê* 1402a 25)

T 9. Protagoras classifies nouns as masculine, feminine, and nondescript. (*ibid.* 1407b 7)

FROM LATER GREEK SOURCES:

T 10. Protagoras was born at Abdera, as Heraclides of Pontus states in his treatise *On Laws,* when remarking that Protagoras had made laws for the city of Thurii. He and Prodicus of Ceos gave public readings, charging fees for admission. He had once studied under Democritus.

Protagoras was the first to declare that there are two opposing sides to every question, and he was the first to build arguments on that basis. He began one of his writings with the words: [Fr. 1]. He used to maintain that soul is nothing apart from sense-experiences, and that everything is true. He began another of his writings thus: [Fr. 6]. Because he had begun his book in this way the Athenians banished him from their city; moreover they burnt his writings in the marketplace, after sending a herald to collect all copies of them that were in anyone's possession.

He was the first to demand a fee of a hundred minae; he was also the first to distinguish the tenses of verbs, to stress the importance of seizing the "opportune moment" (*kairos*), to set up contests in debating, and to teach tricks of argument to pleaders on both sides of a question. He was the first to introduce the Socratic type of argument; in practicing it, however, he tended to neglect the rational meaning in favor of verbal quibble, and thereby he gave birth to the tribe of eristics [controversialists, verbal quibblers] who are now to be met with everywhere.

We learn from Plato's *Euthydemus* that the so-called argument of Antisthenes, ostensibly demonstrating that contradiction is impossible, was first employed by Protagoras; and we learn from Artemidorus in his reply to Chrysippus that Protagoras was the first to teach the art of refuting whatever proposition might be offered. It was he who first classified the types of sentence into four: as expressing wish, question, answer, or command.

We are told by Aristotle in his treatise *On Education* that Protagoras invented the shoulder-strap on which porters can set their burdens. As a matter of fact he himself had once been a porter, as Epicurus mentions somewhere; and it was while working at this occupation that he attracted the attention of Democritus, who noticed how skillfully he tied up his bundles of wood.

The works of his which now survive are these: *The Art of Eristic; On Wrestling; On Mathematics; On the Commonwealth; On Ambition; On Virtues; On the Ancient Arrangement; On Those in Hades; On the Misdeeds of Men; Maxims;* and *A Book for Legal Advocates, with Opposing Sets of Arguments.*

There is a story that once when he sought to collect his fee from Euathlus, who had studied with him [and had agreed to pay if and only if he won his first case at law], Euathlus protested: "But I haven't yet pleaded a case." "Very well, then," Protagoras replied, "I will sue you. And if I win you will have to pay me by the judgment of the court, whereas if *you* win you will have to pay me by the terms of our agreement."

Some say that Protagoras lived to be ninety. Apollonius, however, says he died at seventy after a forty-year career as a sophist, and assigns his *floruit* to the 84th Olympiad [444-441 B.C.]. (Diogenes Laertius IX. 50-56)

T 11. Protagoras of Abdera, the sophist, had studied under Democritus in their native city. Then, during Xerxes' invasion of Greece, he associated with magi from Persia. The Persian magi do not extend their teachings to non-Persians except by the command of their king. But Protagoras' father, whose name was Maeander, was one of the wealthiest men in Thrace; he entertained Xerxes in his home and presented him with gifts. As a result he obtained Xerxes' royal permission for his son to study under the magi.

When Protagoras declares his ignorance of whether or not the gods exist, I suspect he derived that heresy under the influence of Persian education. For while the magi invoke gods in their secret ceremonies, they avoid any public profession of belief in divine beings, not wishing it to be supposed that their own powers are dependent on an outside source.

Because of his remark about the gods Protagoras was cast out by the Athenians. Some say that he was brought to trial and

was solemnly outlawed "from the entire earth"; others say he was banished without the formality of a trial. At any rate he wandered about among islands and mainlands, until at length, while sailing in a small boat and trying to evade the Athenian triremes which were deployed over all the seas, he was drowned.

Protagoras first introduced the custom of charging a fee for lectures. Thereby he bequeathed to the Greeks a practice which is by no means a bad one, since we set greater store on what costs money than on what comes free.

Plato recognized that while Protagoras spoke with impressive eloquence the underlying thought was far from impressive, and even the expression was sometimes unduly long-winded. In the course of a long myth Plato gives a caricature of Protagoras' style. (Philostratus, *Lives of the Sophists* 494-495)

T 12. In a certain letter Epicurus tells of how Protagoras the sophist, from being a porter and hewer of wood, became the private secretary of Democritus. The latter had been struck by the distinctive movements of Protagoras as he piled wood, and so adopted him into his household, giving him his first start in life. Subsequently Protagoras taught reading and writing in a provincial village, and thereupon he began to develop his skill as a sophist. (Athenaeus, *The Deipnosophists* VIII. 354)

T 13. It is told of Protagoras that he once made a whimsical agreement with his pupil Euathlus. He stipulated an inordinately high fee for the course of lessons, but with the proviso that Euathlus was to pay it only if he should be successful in the first case he pleaded in court, and not otherwise. Euathlus, who was of a shrewd and cunning mind, having easily mastered all the rhetorical tricks by which to soften judges and confound adversaries, and having by now learnt all he wanted to from Protagoras, became reluctant to put the matter of payment to the test, and put his teacher off with specious excuses, for a long while neither paying nor openly refusing to do so. At length Protago-

ras had the young man haled into court, and after explaining to the judges what the conditions of the agreement were, he propounded to Euathlus the following dilemma:

"If I win the case you will have to pay me by the decision of the judges, and if *you* win you will still have to pay me because of the terms of our agreement; thus win or lose you are equally condemned. So what are you expecting to gain?"

But Euathlus, as an accomplished disciple of so subtle a teacher, turned Protagoras' own argument against him. "Whatever the outcome of the suit," he said, "I am freed of having to pay what you demand. For either I win the case and thus am cleared by the court's decree, or I am beaten and thus am cleared by the terms of our original bargain." (Apuleius *Florida* 18)

ii. Gorgias

FRAGMENTS

1. *Our struggle in life requires two virtues, bravery and wisdom—readiness to endure a danger and skillful knowledge of how to manage it.* (8)

2. *In contending against adversaries, destroy their seriousness with laughter and their laughter with seriousness.* (12)

3. *While a friend may often choose to serve his friend by unjust actions, he will never expect unjust actions from his friend in return.* (21)

4. *Tragedy produces a deception in which the deceiver is more honest than the non-deceiver and the deceived is wiser than the undeceived.* (23)

5. *Being is unrecognizable unless it manages to seem, and seeming is feeble unless it manages to be.* (26)

6. *The bright jewel of a city is courage; of a human body it is beauty; of the soul, wisdom; of human action, virtue; of speech, truth. To lack the quality in each case is to lack the specific excellence.* (11)

7. *She [known as Helen of Troy] acted as she did either (i) by a combination of chance, necessity, and the will of the gods, or (ii) because she was abducted by force, or (iii) because she was seduced by persuasion.*

If the first is the true explanation, then not Helen but her accuser is deserving of censure. For no human purpose can thwart the purpose of a god: the stronger cannot be thwarted by the weaker, and a god is superior to a man in power, in wisdom, and in everything else. Therefore if Helen's action is to be attributed to a god and thus to chance, she is not to blame.

If again, she was carried off by force and was lawlessly and unrighteously outraged, it is clear that not she but her assailant was in the wrong. The barbarian who barbarously abducted her should indeed be condemned, punished, and disgraced; but she, bereft of her country and her friends, is deserving rather of pity than of blame.

Finally, if it was speech that persuaded her by seducing her soul, her defence is no less easy. Speech is a powerful force which can achieve the most divine results with a very minimum of bodily effort: it is able to dispel fear, allay grief, arouse joy, and stimulate pity. Persuasion by speech is on a par with abduction by force: Helen in being persuaded was compelled, and hence it was not she but her seducer who was to blame. (11, ctd.)

8. If all men had full memory of the past, awareness of the present, and foresight into the future, speech would not be as effective as it is. But since in fact men have little ability to remember the past, observe the present, or foretell the future, speech works easily; with the result that most speakers on most subjects offer only opinion as counsellor to the soul. But opinion is delusive and inconstant, and those who rely on it run grave risks. (*ibid.*)

9. When persuasion joins with speech it can affect the soul in any way it wishes. Consider first how astronomers, using "speech and argument" (logos), *manage to dispel men's former opinions [about things of the sky and upper air] and to implant other opinions which had formerly seemed incredible and inconsistent with plain facts. Consider next how at a court trial an advocate's plea can succeed in swaying the listeners, not because of the truth of what he says but by the sheer power of speech and its skillful composition. And thirdly consider those contests between philosophical disputants, in which mental agility is what determines the acceptance of opinions.* (*ibid.*)

10. The power of speech over the disposition of the soul is comparable with the effect of drugs on the disposition of the body. As drugs can expel certain humors from the body and thereby make an end either of sickness or of life, so likewise various words can produce grief, pleasure, or fear, which act like drugs when they give rise to bad persuasions in the soul. (*ibid.*)

11. Men who neglect philosophy while busying themselves with ordinary affairs are like the Suitors [in the Odyssey*] who desired Penelope but went to bed with her maids.* (29)

TESTIMONIA

FROM PLATO:

T 1. *Gorgias:* Whenever there is a political election it is the orators who are successful in giving advice and getting their opinions acted upon.

Socrates: That is what baffles me, Gorgias; in fact it is precisely why I have been asking you again and again to explain to me what the power of rhetoric is. For when we reflect on its power to influence men's opinions it seems to be something almost supernatural.

Gorgias: Oh Socrates, if only you knew the full extent of its power—how it comprises in itself virtually all the other arts! Let me give you a telling example. On many occasions I have accompanied my brother or some other physician on visits to their patients. Sometimes a patient would be reluctant to take the medicine or to submit to cautery; and when the doctor was unable to persuade him it was I who succeeded—by no other means than the art of rhetoric. I'll go further and declare that if both a rhetor and a medical doctor were to visit some city, any city at all, and were to take part in a debate before the assembly as to which of them ought to be appointed the city's medical director, the doctor would get nowhere in the debate whereas the speech expert would be elected if he wished to be. It would be the same if he were contending with a practitioner in any other field whatever: the rhetor could always get himself elected against any rival candidate, for there is no subject on which he could not speak more persuasively than other men in the populace, whatever their craft or profession. That shows you what the power of rhetoric can perform.

Of course, Socrates, there is also the further question of how the art of rhetoric is to be employed, just as there is in the case of any other trained skill. Such special abilities to perform ought not to be used promiscuously. Suppose that a man has developed a skill in boxing or wrestling or armored combat to such an extent that he surpasses everyone, friend and foe alike: of course that does not give him the right to go about beating up his friends or knifing them. And if a man who had undergone training in a school of athletics, where he developed a strong physique and learned the art of boxing, were then to go home and strike his father and mother, or his other relatives and his friends, surely it would not be reasonable to get angry at his trainers and teachers and seek to have them exiled because of what he did. For when they taught him skill in boxing it was with a view to its rightful use against enemies and thugs; the pupil and not the teacher was the one who perverted that skill to wrong ends. Accordingly it is not the teachers who are wicked, nor is the art itself to be condemned and declared wicked, but only those who misuse it, I should think.

The same argument applies equally to rhetoric. It is true that a rhetor is able to refute everyone else and on any subject, in such a way that he can win the support of the crowd and so accomplish virtually any result he may wish. But that does not entitle him to destroy the standing of physicians or of other able men, just because he could do so if he chose. He should use his rhetorical skill fairly, as in the case of the trained athlete. (*Gorgias* 456A)

T 2. *Protarchus:* When I was attending Gorgias' lectures I heard him repeatedly declare that the art of persuasion was superior to all other arts because it gained power over its objects not by force but by their willing submission. (*Philebus* 58A-B)

FROM ARISTOTLE:

T 3. The paid teachers of eristical [contentious] argumentation adopted a method of teaching like that of Gorgias. They would assign their pupils speeches to be learnt by heart, some of which were rhetorical, some eristical. In the latter the arguments of the competing sides would be included in what was to be memorized. (*De Sophisticis Elenchis* 183b 37)

T 4. In ceremonial oratory a speaker can decorate his speech from time to time with stray bits of eulogy. Which was doubtless what Gorgias had in mind when he remarked that [in making a speech] he was never at a loss for something to say. (*Rhêtorikê* 1418a 33)

T 5. Some metaphors have a too labored theatricality, as when Gorgias speaks of "events that are green and full of sap" or of "a foul deed sowed and an evil harvest reaped." On the other hand his rebuke to the swallow who let drop on him as she flew overhead was effectively theatrical in the best sense: "Shame on you, Philomela!" he said. (*ibid.* 1406b 8, 15)

T 6. In his treatise *On the Olympic Games* he says, "Men of Greece, you deserve to be admired." His praise was addressed to those who had instituted the solemn Olympic festivals. (*ibid.* 1414b 31)

FROM LATER GREEK SOURCES:

T 7. Sicily gave birth to Gorgias in the city of Leontini, and we may trace the art of the sophists back to him, who may be called its father. In much the same way that Aeschylus can be regarded as the father of tragedy because he introduced such innovations as appropriate costumes, padded buskins to increase height, messengers who report events occurring offstage, etc.,

so Gorgias may be seen as related to his predecessors in his own craft. For in his energy, his use of paradox, his inspired manner of speaking, and his adoption of an exalted style for great themes, he set an example for later sophists to follow. He distinguished himself also by his device of breaking off a sentence and making an abrupt transition, producing an effect that gave pleasure by its very insolence; by adorning his style with poetic language that was not only ornamental but also deeply impressive; and by his ability to improvise with the greatest facility. When in later years he gave discourses at Athens he won, as was to be expected, hearty applause from the crowd. Not only crowds, however, but also illustrious men yielded to his influence—among them Critias and Alcibiades in their youth, and Thucydides even as a mature man.

At the religious festivals of Greece, moreover, Gorgias played a distinguished part. He declaimed his *Pythian Oration* from the altar; as a result of which a gold statue of him was set up and dedicated in the temple of the Pythian god. His *Olympic Oration* was of fundamental importance for the state. In it, perceiving that Greece was divided against itself, he wrote with a view to reconciling the factions: he sought to turn their united energies against the barbarians, urging them to regard not one another's cities, but the barbarians' territories, as the booty to be won in war. His *Funeral Oration* was delivered at Athens in honor of those who had fallen in the war and whom the Athenians wished to honor with public funerals and panegyrics; it was most ingeniously constructed.

It is said that although Gorgias lived to be 108 years old, his body was not debilitated by age, but that to the very end of his life he remained in health, his senses as keen as a young man's. (Philostratus, *Lives of the Sophists* 492-494)

T 8. At that time the Sicilian city of Leontini, whose citizens had some kinship with the Athenians although politically

it was a colony of Chalcis, found itself under attack by the Syracusans. Gravely encumbered and distressed by the war, and fearing to be overwhelmed by the superior forces of the enemy, the Leontinians sent an embassy to Athens, asking for prompt aid in order to rescue their city from danger.

At the head of the embassy they had appointed Gorgias the rhetor, because of his preeminent skill in speech. He was the first to have established rhetoric as an art, and he had developed so high a reputation as a teacher of it, which is to say as a sophist, that he commanded a fee of one hundred minae per pupil.

On arrival at Athens Gorgias was conducted to the Assembly, where he made a speech urging an alliance. The Athenians, who were clever by nature and had a taste for eloquence, were astonished at the novelty of his diction. It was the first time they had heard a speaker employ rhetorical tropes artistically combined with antitheses, balanced periods, controlled rhythms, parallel endings, and the like. The effect was so novel that it was received with enthusiasm, although nowadays it would seem mannered, repetitious, and ridiculously extravagant. At any rate, he thereby succeeded in persuading the Athenians to enter into an alliance with the Leontinians; and amidst wide acclaim for his rhetorical skill he took ship for Leontini. (Diodorus Siculus XII. 53)

T 9. It was Gorgias who founded the art of impromptu oratory. He would make a public appearance in the theater at Athens and say boldly to anyone, "Propose me a theme." He was the first to issue such a challenge, by which he virtually boasted that he had all knowledge at his fingertips and could speak on any subject that might be proposed, trusting simply to the "inspiration of the moment" (*kairos*). (Philostratus, *op. cit.* 482)

T 10. It is reported that Gorgias, after reading the dialogue

of Plato that bears his name, remarked to friends, "How beautifully Plato knows how to satirize!" It is also reported that after reading from Plato's dialogue aloud as part of a public lecture Gorgias remarked that neither had he ever spoken the words attributed to him nor had he heard Plato mention them before. (Athenaeus, *The Deipnosophists* XI. 505)

T 11. Although Gorgias of Leontini belonged to the same philosophical circle as those who had abolished the criterion, he did not employ the same mode of attack as Protagoras. In his book *Concerning Not-Being,* whose subtitle is *Concerning Nature,* he undertakes to set up three propositions in succession: first that nothing exists, secondly that even if anything existed it could not be known by men, and thirdly that even if anything could be known by anyone it could not be communicated to anyone else. (Sextus Empiricus, *Against the Logicians* I. 65)

The argument supporting the first argument, as presented by Sextus Empiricus in what looks like direct quotation, is unduly long, involved, and conceptually fussy, containing repetitions and quibbles which serve no valid purpose. Consequently the remainder of T 11 is not a full translation but a somewhat abbreviated paraphrase of Sextus.

Gorgias opens the argument with a trilemma: "If anything is, then either Not-being is, or Being is, or a mixture of the two is." [Or, translated differently:] "If anything exists, then either the non-existent exists, or the existent exists, or a mixture of the two exists." Gorgias has no difficulty in refuting the first as inconsistent. He then refutes the third on the ground that there can be no mixture of the two because not-being has just been proved not to be—or, the non-existent has just been proved not to exist! These maneuvers leave only the second of the three alternatives to be considered.

So Gorgias now proceeds to argue as follows. If Being is (exists), then two questions arise: it is either infinite (eternal) or finite (having had a beginning in time) or a mixture of the two; and again, it is either one or many. The development of the first of these two "problems" turns upon a confusion between eternity and the spatially unlimited, and a corresponding confusion between original coming-to-be and spatial finitude. The second of the "problems" is handled by distinguishing four ways of being "one"—as a unit, as a continuum, as a magnitude, and as a physical body. He devises a seeming objection to each of the four alternatives: for instance, that a physical body cannot be "one," inasmuch as it has three dimensions!

There follows, as given by Sextus, Gorgias' defence of his second and third propositions. Here it makes for a little more clarity in English translation to employ the terminology of existence rather than that of being, even though the Greek is still *to on.* For it is confusing to contrast "what is thought" with "what is," but somewhat more intelligible to contrast it with "what exists."

It is now to be demonstrated that even if anything exists ("is") it is unknowable and even unthinkable by man. Gorgias argues: Since the objects of thought are not themselves the existents about which we are inquiring, it follows that those existents are something other than thought. Clearly there is a distinction between our thoughts themselves and the supposed existents to which they refer; for if someone thinks of a man flying or a chariot traveling over the sea, it does not follow that the man is really flying or that the chariot is traveling over the sea.

Moreover, if "to be thought" were itself a property of the existent, then "not to be thought" would be a property of the non-existent; for existent and non-existent are opposites, and it is the nature of opposites to have opposite properties. But it is not true that "not to be thought" is a property of the non-existent; for Scylla and Chimaera and many other non-existents are thought. It follows, then, that even if something is existent, it does not thereby have the property of being thought.

Finally, if something is grasped by thought as existing, its existence cannot be communicated to another person. For suppose it to be true that there are externally existent objects which we apprehend by sight, by hearing, and by sense-perception generally—visual objects by sight and audible objects by hearing, never the other way round—how can the character of these objects of perceptual experience be indicated to another person? For the means by which we indicate is speech (*logos*), and speech is not identical with the things that are spoken about. Therefore what we indicate to the person whom we address is not existing things but merely speech, which is something different from them. Just as a visible object will not become audible nor an audible object visible, so likewise an externally existent object will not become of the nature of speech; hence, not being speech, its nature cannot be communicated to another person.

After his lengthy statement of the foregoing arguments Sextus then comments: "If we accept Gorgias' arguments the criterion of truth is swept away, for there cannot be a criterion of what neither exists nor can be known nor can be communicated." (Sextus Empiricus, *Against the Logicians* I. 65-85)

iii. Fragments from Other Sophists

PRODICUS OF CEOS

1. *Sophists reside in the borderland between philosophy and statesmanship.* (6)

2. *Desire doubled is love; love doubled is madness.* (7)

THRASYMACHUS OF CHALCEDON

1. *Justice is simply the advantage of the stronger.* (Plato, *Republic* 338)

2. *The gods evidently do not see human affairs: if they did they would not neglect to bestow justice on mankind, for it is the greatest of blessings and yet men make little use of it.* (8)

ANTIPHON (PROBABLY OF ATHENS)

1. *Justice consists in not transgressing the laws of the city in which one dwells. The best way of combining one's own interests and the demands of justice is to act according to justice when there are witnesses but according to nature when one is alone and unobserved. For the authority of the laws is imposed artificially, but the authority of nature is intrinsically binding. The former is established by general consent, not by natural growth, whereas action according to nature has nothing to do with general consent. Hence if a man transgresses the laws he can escape penalty and disgrace by avoiding detection. If, on the other hand, he defies possibility by transgressing the laws inherent in nature, the injury that results to him will not be lessened by going undetected nor increased by being generally known; for such injury is due not to opinion but to truth.* (44)

2. *In all men the mind has leadership over the body—with respect to health, to sickness, and to everything else.* (2)

3. *It [truth] is infinite in the sense that it needs nothing and receives no addition from anywhere.* (10)

4. *Time is both a conception* (noêma) *and a measure* (metron), *not a substance* (hypostasis). (9)

5. *If one were to bury a bed and the rotting wood were to sprout, the thing that sprouted would be wood but not a bed.* (Aristotle *Physica* 193a 12)

CRITIAS OF ATHENS

1. *He was no simpleton who remarked that chance favors the man of wise prudence.* (21)

2. *If you will discipline yourself to make your mind self-sufficient you will thereby be least vulnerable to injury from things outside.* (40)

3. *An ill-tempered man gets vexed over trifles, and vexed too much or too long about graver matters.* (42)

4. *But is rich stupidity a better housemate than wise poverty?* (29)

5. *Time is unwearied and full in its eternal flowing, and is generated by itself alone.* (18)

6. [*O Time,*] *thou who art self-begotten, weaving the nature of everything into the rhythmic turn of the sky: around thee in perpetual dance go the light of day, the shimmering darkness of night, and the unnumbered throng of stars.* (19)

7. *After the shadow falls Time grows old most rapidly.* (26)

9

Hippocratic Medical Philosophy

In addition to and largely independent of the explicit philosophical theories—the recognized philosophers and schools of philosophy, such as those studied in the foregoing eight chapters—there are always present in any culture various marks of implicit philosophy. By implicit philosophy is meant that which expresses itself not so much in definite propositions and arguments supporting them, but rather as the not fully probed assumptions, overtones, and outcomes of modes of living and shared aspirations. Ancient medicine, in particular, is often thus implicitly philosophical. Medical practice may give rise, in a reflective physician, to wonder about the essential nature of the human body, and hence about the human mind, which appears to have been generated out of the body's more developed activities and yet is able to win some degree of control over it. Thus medical theory on the one hand is rooted in human needs, sometimes needs of the greatest urgency, while on the other hand it points toward unsolved questions about human life which in their fuller implications are metaphysical.

The most considerable body of medical writings that has come down from ancient Greece is that associated with the name of Hippocrates (460-390 B.C.). On his native island of Cos Hippocrates founded what was probably the first school of medicine dedi-