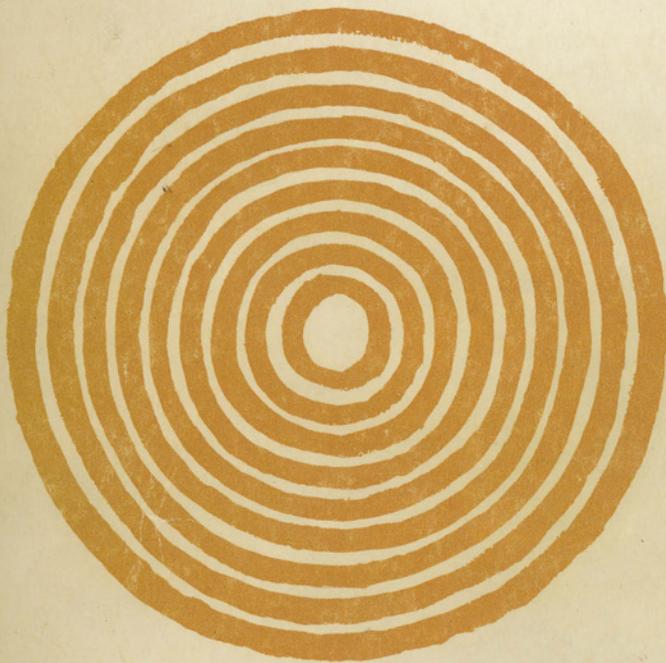


THE
PRESOCRATIC
PHILOSOPHERS



G. S. KIRK & J. E. RAVEN

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THE PRESOCRATIC
PHILOSOPHERS

A
CRITICAL HISTORY WITH A
SELECTION OF TEXTS

BY

G. S. KIRK

*Fellow of Trinity Hall and Reader in Greek
in the University of Cambridge*

&

J. E. RAVEN

*Fellow of King's College and Lecturer in Classics
in the University of Cambridge*



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assertions to the contrary it is as well to subject the evidence to a careful scrutiny. Pherecydes may have written his book no earlier than Anaximander, but its matter is likely to be in part traditional, and therefore not irrelevant to the state of cosmogonical speculation even before Thales. On some points reference will be made to the comparative mythology of earlier near-eastern cultures, especially Babylonian, Egyptian, and Hittite. There are strong similarities between some of the Greek theogonical and cosmogonical stories and the theogonical myths of the great river-civilizations and their neighbours; these similarities help to explain some details of Greek accounts down to and including Thales. Translations of the main non-Greek texts are most conveniently to be found in *Ancient Near Eastern Texts relating to the Old Testament*, ed. J. B. Pritchard (Princeton, 2nd ed. 1955), which will be referred to as Pritchard *ANET*. Useful summaries, both in the Pelican series, are H. Frankfort and others, *Before Philosophy*,¹ and O. R. Gurney, *The Hittites*.

Nothing will be said in this chapter about the development of the concept of the soul. The Homeric idea of the *psyche* or breath-soul as an insubstantial image of the body, giving it life and surviving it in a wretched, bloodless existence in Hades, is too familiar to need description here. Rohde's *Psyche*, E. R. Dodds' *The Greeks and the Irrational* (Berkeley, 1951), or chapter 5 of Jaeger's *Theology of the Early Greek Philosophers* (Oxford, 1947), give a good account of the popular, pre-philosophical idea of the soul. Pythagoras was possibly the first Greek explicitly to treat the soul as something of moral importance, and Heraclitus first clearly indicated that knowledge of the soul was relevant to knowledge of the structure of the cosmos. Yet the conception that the substance of the soul was related to *aither*, or to the substance of the stars, seems from fifth-century B.C. poetical contexts to have existed for some time already as part of the complex body of popular beliefs, alongside the distinct Homeric concept of a breath-soul. These antecedents will be summarized in the chapters on Thales, Anaximenes, Heraclitus and Empedocles (see pp. 95 ff., 159 ff., 200, 205 ff., 360). The main object of the earliest deliberate efforts to explain the world remained the description of its *growth* from a simple, and therefore fully comprehensible, beginning. Matters concerned with human life seemed to belong to a different type of enquiry, in which the old inherited assumptions, though sometimes

¹ American title: *The Intellectual Adventure of Ancient Man*.

προγόνους εἰδόσιν . . . Γῆς τε καὶ Οὐρανοῦ παῖδες Ὠκεανός τε καὶ Τηθύς ἐγενέσθη, τούτων δὲ Φόρκυς Κρόνος τε καὶ Ῥέα καὶ ὄσοι μετὰ τούτων . . .

But the Orphic verses of 14, though established by Plato's time, are not necessarily as early in origin as the seventh or even the sixth century B.C. In any case, the view which they express does not necessarily differ greatly from that of the Hesiodic *Theogony*—as Plato may have perceived. There, Okeanos, Tethys and the other Titans are born to Gaia and Ouranos at a comparatively late stage from the point of view of cosmogonical production, but it is in their generation that the regular reproduction, by bisexual means, of fully personal figures (as opposed to world-constituents like Tartaros or Pontos) begins. 15, in which 'offspring of the gods' shows that Plato is describing an Orphic view, indicates that according to one Orphic account Okeanos and Tethys were the parents of the Titans (including the theogonically vital pair Kronos and Rhea), and not their coevals as in the *Theogony*. That is probably another reason for πρῶτος in the Orphic verses of 14: Okeanos and Tethys are the first fully anthropomorphized couple (though Okeanos, of course, is very much a border-line case), and prior even to Kronos and Rhea. Hesiod had assigned less importance to Okeanos than might reasonably have been expected, especially in view of the well-known Homeric passages 9 and 10; so the Orphic versions presumably emended the Hesiodic account to the extent of putting Okeanos and Tethys one generation earlier than the Titans. Certainly there is no evidence here for assuming a peculiarly Orphic attribution of cosmogonical importance to Okeanos.

The evidence does not prove (or even, it might be felt, suggest) that there existed in Greece at a comparatively early date a systematic doctrine of the cosmogonical priority of Okeanos. Hesiod gives no indication of it, and later suppositions seem to be based on the two unusual Homeric passages, which are left as the only direct evidence for any such cosmogonical theory. They *might* have meant no more than that water is essential for life, though this would be rather odd. It was seen under section (i) that the idea of an encircling river Okeanos may well have been adapted

and Tethys were born as children of Ge [earth] and Ouranos [sky], and their children were Phorkys, Kronos, Rhea and their companions . . .

from Egyptian or Babylonian beliefs. It was part of those beliefs, too, that the world *originated* from primeval water (see n. 1 on p. 13); the isolated Homeric passages could, then, be a reference to that basic near-eastern assumption, as Plutarch assumed in 70. The absence of any other such reference (at any rate until Thales) suggests that the Homeric ones were idiosyncratic—even, perhaps, pedantic; there are other indications that the composer of the episode in which they occur had special cosmogonical and theological interests. The concept of the encircling river had, of course, become assimilated in Greece at a far earlier date.

3. NIGHT

(i) *In Homer*

16 Homer *Il.* 14, 258 (Hypnos speaks)

... καὶ κέ μ' ἄιστον ἄπ' αἰθέρος ἔμβαλε πόντῳ (sc. Ζεύς)
 εἰ μὴ Νύξ δμῆτειρα θεῶν ἐσάωσε καὶ ἀνδρῶν·
 τὴν ἰκόμην φεύγων, ὃ δὲ παύσατο χωόμενός περ·
 ἄζετο γὰρ μὴ Νυκτὶ θοῆ ἀπροθύμια ἔρδοι.

This is the only place in the Homeric poems where Night is fully personified. Again, as with the two special Okeanos passages, it occurs in the episode of the Deceit of Zeus; and again there is an unusual implication of special power or priority among the gods. Zeus' respect for Night here is certainly strange, and quite unparalleled in Homer and Hesiod. In view of later interpretations it might suggest that the poet of this episode knew some story about Nyx as a cosmogonical figure. But the reference is an isolated one, and *could* be no more than a poetical development of the idea implicit in the phrase Νύξ δμῆτειρα θεῶν, 'Night subduer of the gods': even gods are overcome by sleep, hence even the virtually all-powerful Zeus hesitates to offend Night, the mother of sleep, lest she should subdue him on some unsuitable occasion. (It must be remarked, however, that he evidently had no hesitation about offending Hypnos himself, if he was prepared in the present passage to fling him out of heaven.)

16 ... and he [Zeus] would have cast me from the aither into the sea, out of sight, had not Night, subduer of gods and men, saved me; to her did I come in flight, and Zeus ceased, angry though he was; for he was in awe of doing what would be displeasing to swift Night.

(ii) *An archaic cosmogonical concept according to Aristotle*

17 Aristotle *Met.* N4, 1091b4 ...οἱ δὲ ποιηταὶ οἱ ἀρχαῖοι ταύτη ὁμοίως, ἢ βασιλεύειν καὶ ἄρχειν φασὶν οὐ τοὺς πρῶτους οἶον Νύκτα καὶ Οὐρανὸν ἢ Χάος ἢ Ὠκεανόν, ἀλλὰ τὸν Δία. (Cf. *Met.* Λ6, 1071b27 οἱ θεολόγοι οἱ ἐκ Νυκτὸς γεννῶντες: also *ibid.* 1072a8.)

Aristotle thus accepted that there were poets and writers about the gods who put Night 'first', or who generated from Night. He may well have had the Homeric passage, 16, in mind; but this alone would hardly motivate his inclusion of Night, and it seems probable that he was thinking primarily of the post-Hesiodic cosmogonies, compiled mainly in the sixth and fifth centuries, to be described under (iii). In these, Night, which was produced at a very early stage (though not the first) in the Hesiodic cosmogonical account (24), and was classed with Gaia, Okeanos and Ouranos in other more casual references in the *Theogony* (20 and 106f.), is elevated to the first stage of all, either by herself or jointly with other substances, Air or Tartaros. It is natural that both Day and Night should come into being as soon as Sky and Earth have separated, to occupy the gap between the two.¹ It is clear from *Met.* Λ6, 1071b27 that by τοὺς πρῶτους in 17 Aristotle meant 'absolutely first', not simply 'at an early stage'; though all the four figures mentioned are important in the Hesiodic account, and we have no knowledge of any cosmogony which gave absolute priority to Ouranos.

¹ Among the offspring of Night in a subsequent passage of Hesiod, *Theog.* 211 ff., are the Μοῖραι and Νέμεσις. This might seem to suggest that Night had a primordial distributive capacity (since the idea of distribution underlies both these personifications), in a διάταξις or assignment of parts of the cosmos to different gods. Such a distribution is mentioned in Homer (again associated with the Deceit of Zeus): 18 Homer *Il.* 15, 189

τριχθὰ δὲ πάντα δέδασται, ἕκαστος δ' ἔμμορε τιμῆς·
ἦτοι ἐγών (sc. Poseidon) ἔλαχον πολὴν ἄλα ναίεμεν αἰεὶ
παλλομένων, Ἄϊδης δ' ἔλαχε ζόφον ἠερόεντα,
Ζεὺς δ' ἔλαχ' οὐρανὸν εὐρὺν ἐν αἰθέρι καὶ νεφέλησι·
γαῖα δ' ἔτι ξυνή πάντων καὶ μακρὸς Ὀλυμπος.

17 ...the ancient poets similarly, inasmuch as they say that not the first figures have rule and kingship (Night and Ouranos or Chaos or Okeanos, for example), but Zeus.— (...those writers about the gods who generate from Night.)

18 In three parts were all things divided, and each got his share of honour: I indeed gained the grey sea to dwell in for ever, when the lots were shaken, and Hades gained misty darkness, and Zeus the broad sky among aither and clouds; but earth and tall Olympus belonged in common to all.

So in Hesiod, *Theog.* 112f. and 881 ff. (the latter passage after the subjection of the Titans and the probably interpolated Typhoeus; cf. the division of the heavens by Marduk after the defeat of Tiamat in the Babylonian Creation-epic, *ANET* 67). Yet this happens at a relatively late stage in cosmogony; and Moira and Nemesis are probably associated with Night merely because, like her other children (Death, Grief, etc.), they can be regarded as baleful and intractable powers.

(iii) *Night in cosmogonies assigned to Orpheus, Musaeus, Epimenides*

19 Damascius *de principiis* 124 (DK I B 12) ἡ δὲ παρὰ τῶ Περιπατητικῶ Εὐδήμῳ ἀναγεγραμμένη ὡς τοῦ Ὀρφέως οὔσα θεολογία πᾶν τὸ νοητὸν ἐσιώπησεν. . . ἀπὸ δὲ τῆς Νυκτὸς ἐποίησατο τὴν ἀρχήν, ἀφ' ἧς καὶ Ὅμηρος, εἰ καὶ μὴ συνεχῆ πεποιήται τὴν γενεαλογία, ἴστησιν· οὐ γὰρ ἀποδεκτέον Εὐδήμου λέγοντος ὅτι ἀπὸ Ὠκεανοῦ καὶ Τηθύος ἄρχεται. . . .

20 Philodemus *de pietate* 47 a (DK 3 B 5) ἐν δὲ τοῖς εἰς Ἐπιμενίδην (sc. ἀναφερομένοις ἔπεισιν) ἐξ Ἀέρος καὶ Νυκτὸς τὰ πάντα συστήναι, (ὥσπερ καὶ) Ὅμηρος (ἀποφαί)νετ' Ὠκεανὸν ἐκ Τηθύος τοὺς θεοὺς γεννᾶν. . . . (Cf. also **40**.)

21 Philodemus *de pietate* 137, 5 ἐν μὲν τισιν ἐκ Νυκτὸς καὶ Ταρτάρου λέγεται τὰ πάντα, ἐν δὲ τισιν ἐξ Αἴδου καὶ Αἰθήρος· ὁ δὲ τὴν Τιτανομαχίαν γράφας ἐξ Αἰθήρος φησίν, Ἀκουσίλαος δὲ ἐκ Χάους πρώτου τᾶλλα· ἐν δὲ τοῖς ἀναφερομένοις εἰς Μουσαῖον γέγραπται Τάρταρον πρῶτον (καὶ Ν)ύκτα.

19 (on which see also pp. 40ff.) shows that Eudemus did not explain the priority of Night in the Orphic cosmogony as being dependent on the Homeric passage, **16**. This was because he considered that Homer clearly assigned cosmogonical priority to Okeanos and Tethys (**9**, **10**). Damascius here goes counter to Eudemus, and may mean to imply that the Orphic account was to some extent indebted to Homer.¹ But the crux of the matter

19 *The theology ascribed to Orpheus in Eudemus the Peripatetic kept silence about the whole intelligible realm. . . but he made the origin from Night, from whom Homer too (even though he does not describe the succession of generations as continuous) establishes the beginning of things; for we must not accept it when Eudemus says that Homer begins from Okeanos and Tethys. . . .*

20 *In the verses ascribed to Epimenides all things are composed from Air and Night; as Homer, also, declared that Okeanos begets the gods from Tethys. . . .*

21 *In some sources all things are said to come from Night and Tartaros, and in some from Hades and Aither; the author of the Titanomachy says they came from Aither, and Acusilaus says that the other things come from Chaos, which was the first; while in the verses ascribed to Musaeus it is written that Tartaros and Night were first.*

According to 33, q.v., Night gave birth to Ouranos and Gaia: this seems to have been a secondary rebirth of some kind, see p. 40. The detail is not stressed, and in fact Phanes is the real creator-god; the relation of Night to sky and earth seems to be an incidental refinement. Another Orphic succession (Kern fr. 107) is Chaos-Okeanos-Nyx-Ouranos-Zeus. This, again, may merely imply a rearrangement of Hesiod in the light of Homer. Chrysippus, who is said to have 'accommodated' to Stoicism ideas ascribed to Orpheus and Musaeus, described Night as the first goddess (Chrys. *ap.* Philodemum *piet.* 13, 16; 14, 18, DK 2B 14).

² On Epimenides see pp. 44 f.: the hexameter cosmogony and theogony to which his name was later attached was probably not by him (as Philodemus evidently suspected), but it may nevertheless have originated in the sixth century B.C. Damascius, too, stated that *Aer* and Night were Epimenides' first principles, and gave Eudemus as his source for this (40). Philodemus, therefore, who must also have relied on Eudemus' standard history of theology, provides in 20 an earlier confirmation of Damascius' reliability.

³ The name of Musaeus, the mythical disciple of Orpheus and eponymous author of oracle-literature, tended to become attached to any kind of other-worldly verses—including, evidently, a theogonical poem like that assigned to Epimenides. The late sixth century B.C. is a plausible *terminus ante quem* for such a poem and ascription: compare the case of Onomacritus, who according to Herodotus VII, 6 (DK 2B 20a) was banished from Athens by Hipparchus when, having been entrusted with the collection and arrangement of Musaeus' oracles, he was found to have inserted a spurious one.

⁴ Acusilaus was a genealogist who might well have given a summary, and of course unoriginal, account of the first ancestors; though some of the material assigned to him was later suspected. According to Damascius (DK 9B 1) he made a limited rearrangement of the Hesiodic figures which came after Chaos; but he is almost entirely irrelevant to the history of early Greek philosophy, and scarcely deserves the space accorded him in DK.

A new and important consideration may be introduced here. After the episode of the defeat of the Titans in the *Theogony* comes a series of passages (726–819) which have been widely recognized as additions to the 'original' text; they are in fact short variant descriptions of the underworld. These variants, or some of them, may of course be no later than the rest of the poem, though not composed for the place where they are now found. The probability is, however, that most of them were specially composed to 'improve' on the integral references to the underworld. If this is the case they belong to the later part of the seventh century at the earliest, while the early sixth century seems a likelier period for their composition. Now in most of these variants Night is, quite naturally, given some prominence: see for example 2, where Night surrounds the 'throat' of Tartaros, and above are the roots of the

οὐς τέκε κυσαμένη Ἐρέβει φιλότῃ μιγεῖσα. 125
 Γαῖα δέ τοι πρῶτον μὲν ἐγένεατο ἴσον ἑαυτῇ
 Οὐρανὸν ἀστερόενθ', ἵνα μιν περὶ πάντα καλύπτῃ,
 ὄφρ' εἴη μακάρεσσι θεοῖς ἔδος ἀσφαλὲς αἰεὶ.
 γέινεατο δ' Οὐρεα μακρά, θεῶν χαρίεντας ἐναύλους
 Νυμφέων, αἱ ναίουσιν ἄν' οὐρεα βησσηέντα. 130
 ἢ δὲ καὶ ἀτρύγετον πέλαγος τέκεν, οἴδιματι θυῖον,
 Πόντον, ἄτερ φιλότῃτος ἐφιμέρου· αὐτὰρ ἔπειτα
 Οὐρανῷ εὐνηθεῖσα τέκ' ὤκεανὸν βαθυδίην,
 Κοῖον τε Κριόν θ' Ὑπερίονά τ' Ἰαπετόν τε. . . .²

¹ Line 118, ἀθανάτων οἱ ἔχουσι κάρη νιφόντος Ὀλύμπου, is inorganic and quite inappropriate here, and has been omitted. It occurs in the medieval mss., but is absent from quotations by Plato (*Symposium*, 178B) and ps.-Aristotle (*MXG* 1, 975a 11), as well as by Sextus Empiricus and Stobaeus. Line 119 was also omitted in these quotations (as, apparently, in the copy used by Zeno of Citium: *SVF* 1, 104-5), and a scholiast remarks ἀθετεῖται ('it is marked as spurious'); yet it is quoted in its correct place by Chalcidius (in *Tim.* 122), who omitted 118. Plato's continuation of 117 by 120 is not necessarily significant; he was solely interested in Eros, and quoted what was relevant to Eros and no more. The scholiast's doubt, and post-Platonic omissions, may have originated in Plato's omission; or the line may have been felt to be incongruous, having been added at the time when the variant descriptions of Hades accrued (p. 23).

² The list of Titans is completed in the lines that follow; Gaia's subsequent offspring are patently non-cosmological. At 154 ff. comes the story of the mutilation of Kronos (32). At 211 ff. there is a reversion to the production of personified abstractions, e.g. by Night and Strife, but they have no cosmological significance.

The author of the *Theogony* decided to trace back the ancestry of the gods to the beginning of the world, and 24 is his account of the earliest stages, in which the production of cosmic constituents like Ouranos (sky) gradually leads to the generation of vague but fully anthropomorphic mythical persons like the Titans. This poetical cosmogony, composed presumably at some time during the seventh century B.C., was not, however, invented by Hesiod: its occasional irrationality and reduplication of stages indicate that it is a

and bore after mingling in love with Erebus. And Earth first of all brought forth starry Ouranos [sky], equal to herself, to cover her completely round about, to be a firm seat for the blessed gods for ever. Then she brought forth tall Mountains, lovely haunts of the divine Nymphs who dwell in the woody mountains. She also gave birth to the unharvested sea, seething with its swell, Pontos, without delightful love; and then having lain with Ouranos she bore deep-eddying Okeanos, and Koios and Krios and Hyperion and Iapetos. . . .

There has been dispute about which region of the world is represented by Χάος in line 700. Either (a) it represents the whole or part of the underworld: there is a parallel for this usage at *Theogony* 814 (28), in one of the added variants (see pp. 23f.); or (b) it represents the region between earth and aither. But (a) would be difficult: why should the *heat* penetrate to the underworld (the concussion of missiles does so at 681 ff., but that is natural and effective)? The Titans are not in the underworld, but on Mount Othrys (632); we have been told that the flash reaches the upper air, and it is relevant to add that the heat, also, filled the whole intermediate region. The following lines imagine earth and sky as clashing together—again, the emphasis is certainly not on the underworld. An objective judge would surely conclude that Χάος at line 700 describes the region between earth and sky.

In view of the basic meaning of χάος (as a gap, i.e. a bounded interval, not 'void' or anything like that),¹ and of one certain fifth-century usage as the region between sky and earth, and of another use of the word in the *Theogony* in which the meaning is probably the same, serious attention must be paid to an interpretation propounded most notably by Cornford (e.g. *Principium Sapientiae* 194f.), that Χάος γένετ' in the first line of 24 implies that the gap between earth and sky came into being; that is, that the first stage of cosmogony was the separation of earth and sky. This would not be consistent with one existing and indubitable feature of the cosmogony, the postponement of the birth of Ouranos until a second stage, at lines 126f. (Production from Chaos, lines 123ff., and from Gaia, 126ff., may take place simultaneously.) Apart from this peculiarity, the other conditions fit the proposed interpretation: earth, with its appendage Tartaros, appears directly the gap is made; so does Eros, which in its most concrete form as rain/ semen exists between sky and earth according to poetical references.² It seems not improbable that in the Hesiodic scheme the explicit description of the formation of Ouranos has been delayed through the confused use of two separate accounts (a confusion which can be paralleled from other details of the scheme), and that it is implied in line 116 at the very first stage of cosmogony. The separation of sky and earth is certainly reduplicated in the *Theogony*, in a fully mythopoeic form, in the story of the mutilation of Kronos (32); though reduplication of accounts of a different

logical character (quasi-rationalistic and mythopoeic) is easier to accept than reduplication on the same, quasi-rationalistic level.

¹ A comparison has often been drawn between χάος and *ginnunga-gap* in the Nordic cosmogony. This *gap* (which, however, preceded the creation of the giant from whom earth and sky were made) has been taken to imply simply an indefinite empty space: but it is important to observe that in Snorri's schematization it is conceived as being terminated by the realm of ice (*Niflheim*) to the north and that of fire (*Muspellsheim*) to the south. This certainly does not invalidate the supposition that χάος implies primarily a region of vast size, but secondarily and implicitly its boundaries.

² Not in Homer or Hesiod; most notably in **26** *Aeschylus fr.* 44, 1-5 (from the *Danaids*)

ἔρᾱ μὲν ἀγνὸς οὐρανὸς τρῶσαι χθόνα,
 ἔρως δὲ γαῖαν λαμβάνει γάμου τυχεῖν.
 οὐβρος δ' ἀπ' εὐνατῆρος οὐρανοῦ πεισῶν
 ἔκυσε γαῖαν· ἡ δὲ τίκτεται βροτοῖς
 μήλων τε βοσκᾶς καὶ βίον Δημήτριον.

This idea of the rain actually fertilizing the earth may be of great antiquity.

Cornford's interpretation may be helped by the verb used to describe the first stage of cosmogony: not ἦν but γένητ', perhaps implying that Χάος was not the eternal precondition of a differentiated world, but a modification of that precondition. (It is out of the question that Hesiod or his source was thinking of the originative substance as coming into being out of nothing.) The conception that earth and sky were originally one mass may have been so common (see pp. 32-4) that Hesiod could take it for granted, and begin his account of world-formation at the first stage of differentiation. This would be, undoubtedly, a cryptic and laconic procedure; and it seems probable that something more complicated was meant by Χάος γένητ' than, simply, 'sky and earth separated'—though I am inclined to accept that this was originally implicit in the phrase. The nature of the gap between sky and earth, after their first separation, may well have been somehow specified in the popular traditions on which Hesiod was presumably drawing. There was, conceivably, an attempt to imagine what would be the appearance of things when there was simply dark sky, and earth, and the gap between. Here we must turn for assistance to two of the variants (see p. 23) on the description of the underworld, appended to the Titanomachy in the *Theogony*.

26 *Holy sky passionately longs to penetrate the earth, and desire takes hold of earth to achieve this union. Rain from her bedfellow sky falls and impregnates earth, and she brings forth for mortals pasturage for flocks and Demeter's livelihood.*

long before Homer and Hesiod, and outside Greece; (b) that Phoenicia had its own versions of myths about the early history of the gods, in the second millennium B.C., and was a meeting-place of cultures. It is also true that in the theogony attributed to Sanchuniathon, after the cosmogonical summary, there is one detail (a deity, Eliun, in the generation before Ouranos) which does not correspond with Hesiod and does correspond with the cognate Hittite account of the 2nd millennium (see pp. 36f.). But this may be a detail of the genuine and ancient local cosmogonical tradition, which could be incorporated at any date: it does not prove that every part of the whole farrago assigned to Sanchuniathon (Hermes Trismegistus and all) has any claim to incorporate ancient material. In particular, it does not even begin to suggest that the cosmogonical account is anything but what it appears to be, i.e. a Hellenistic eclectic pastiche of Hesiod and later cosmogonical sources (there is a possible mention of an egg). To use it as a means of interpreting Χάος in the *Theogony*, and of showing that the idea of an originative windy darkness was already established for Hesiod to assimilate, must be considered interesting rather than scientific.

THE SEPARATION OF EARTH AND SKY IN GREEK LITERATURE

29 Euripides fr. 484 (from *Melanippe the Wise*)

κούκ ἐμὸς ὁ μῦθος ἀλλ' ἐμῆς μητρὸς πάρα,
ὡς οὐρανὸς τε γαῖα τ' ἦν μορφή μία·
ἐπεὶ δ' ἐχωρίσθησαν ἀλλήλων δίχα.
τίκτουσι πάντα κἀνέδωκαν εἰς φάος,
δένδρη, πετεινά, θήρας, οὓς θ' ἄλλη τρέφει,
γένος τε θνητῶν.

30 Diodorus I, 7, 1 (DK 68 B 5, 1) κατὰ γὰρ τὴν ἐξ ἀρχῆς τῶν ὄλων σύστασιν μίαν ἔχειν ἰδέαν οὐρανὸν τε καὶ γῆν, μεμειγμένης αὐτῶν τῆς φύσεως· μετὰ δὲ ταῦτα διαστάντων τῶν σωμάτων ἀπ' ἀλλήλων τὸν μὲν κόσμον περιλαβεῖν ἄπασαν τὴν ὀρωμένην ἐν αὐτῷ σύνταξιν . . .¹

31 Apollonius Rhodius I, 496

Graph ἤειδεν δ' ὡς γαῖα καὶ οὐρανὸς ἠδὲ θάλασσα
τὸ πρῖν ἐπ' ἀλλήλοισι μιῇ συναρηρότα μορφῇ

29 And the tale is not mine but from my mother, how sky and earth were one form; and when they had been separated apart from each other they bring forth all things, and gave them up into the light: trees, birds, beasts, the creatures nourished by the salt sea, and the race of mortals.

30 For by the original composition of the universe sky and earth had one form, their natures being mingled; after this their bodies parted from each other, and the world took on the whole arrangement that we see in it . . .

31 He sang how earth and sky and sea, being formerly connected with each other in one

νείκεος ἐξ ὀλοοῖο διέκριθεν ἀμφὶς ἕκαστα·
 ἦδ' ὡς ἔμπεδον αἰὲν ἐν αἰθέρι τέκμαρ ἔχουσι
 ἄστρα σεληναῖη τε καὶ ἡέλιοιο κέλευθοι . . .²

¹ The cosmogony and anthropogony in this first book of Diodorus (who, shortly after this passage, quoted 29) were ascribed by Diels to Democritus. There is no mention of atoms, as Cornford noted; but some details of later stages may nevertheless come from the Μικρὸς διάκοσμος (p. 403 and n.). The development of society is similar to that described by Protagoras in the Platonic dialogue. The whole account is eclectic, but its main features are of fifth-century origin and predominantly Ionian character; as such it may well embody traditional cosmogonical ideas.

² Orpheus is the singer. The cosmogony has nothing in common with special 'Orphic' accounts (§5): Apollonius would naturally put into Orpheus' mouth the most primitive-sounding version that he knew.

It has been suggested above that the implied, although not emphasized, first stage of the Hesiodic cosmogony was the separation of sky and earth. That this idea was familiar enough in Greece is shown by 29-31. Only 29, admittedly, is even as early as the fifth century; but it is particularly important as explicitly describing the separation of sky and earth as being passed on from mother to child, i.e. as a popular and traditional account. No scientific parallel is known; though the idea may have been merged with specialized Ionian theories as in 30 and its continuation.

SEPARATION IN NON-GREEK SOURCES

The splitting of earth from sky is a cosmogonical mechanism that was widely used, long before the earliest known Greek cosmogonical ideas, in the mythological accounts of the great near-eastern cultures. (It is in fact common to many different cultures: cf., most notably, the Maori myth of the separation of Rangi (sky) and Papa (earth) by their constricted offspring, a close parallel to 32.) Thus a gloss from the end of the first millennium B.C. on the Egyptian Book of the Dead explains that 'Re began to appear as a king, as one who was before the liftings of Shu had taken place, when he was on the hill which is in Hermopolis' (ANET 4). Shu is the air-god which is sputtered out by Re and lifts the sky-goddess, Nut, from the earth-god, Keb. In the Hurrian-Hittite 'Song of Ullikummi' (ANET 125; Gurney, *The Hittites*, 190-4) Upelluri,

form, through destructive strife separated apart each from the other; and how stars, moon and the sun's paths have forever in the aither a firm boundary. . . .

the Hittite account. The Greek version was not derived specifically from the Hittite, of course: there was a widely diffused common account, with many local variants, of which the Hittite tablet gives one version and Hesiod another—a version, moreover, which had suffered the vicissitudes of transmission to a younger and very different culture.

¹ For the Kumarbi-tablet see *ANET* 120-1; Gurney, *The Hittites*, 190-2; R. D. Barnett, *JHS* 65 (1945) 100f.; H. G. Güterbock, *Kumarbi* (Zürich 1946), 100ff.; *AJA* 52 (1948) 23 ff. The 'Song of Ullikummi' (see pp. 33f.) records, on separate tablets, the further doings of Kumarbi while he is king in heaven; that sky and earth had been separated is plainly implied there.

5. ORPHIC COSMOGONIES

Several variations in cosmogony were ascribed to Ὀρφικοί, 'Orphics'. These might be described as people who, uniting elements from the cult of Apollo on the one hand (as Καθάριστος, the purifier) and from Thracian reincarnation beliefs on the other, thought that the soul could survive if it were kept pure, and elaborated a partly individual mythology, with Dionysus as a central figure, to illustrate this theory. The Thracian Orpheus, with his sexual purity, his musical powers, and his power of prophecy after death, represented the combination of the two elements. Orphic beliefs were recorded in sacred accounts, ἱεροὶ λόγοι. Now this description would certainly be true, say, of the third century B.C.; but there has been much controversy about how early there appeared a distinct class of people with well-defined and individual beliefs of this kind. W. K. C. Guthrie has a sober discussion of the subject in chapter XI of *The Greeks and their Gods* (London, 1950): his view, which has many supporters, is that the Orphic doctrine was already set out in sacred books in the sixth century B.C. I. M. Linforth, however, in *The Arts of Orpheus* (Berkeley, 1941), analysed all the extant texts mentioning Orpheus and Orphics, and showed that, at any rate until 300 B.C., the description 'Orphic' was applied to all sorts of ideas connected with practically every kind of rite (τελετή). There were writings attributed to Orpheus, as indeed to Musaeus and Epimenides (see pp. 21 ff.), as early as the sixth century B.C.; Herodotus knew of Orphics and Pythagoreans sharing a taboo in the fifth; Orphic oracle- and dispensation-mongers were familiar to Plato, and 'so-

called Orphic accounts' to Aristotle. But the corpus of individual sectarian literature (of which descriptions of Hades, accounts of theogony and cosmogony, hymns, etc., are known to us) cannot for the most part be traced back earlier than the Hellenistic period, and in its present form mostly belongs to the Roman period. The inscribed metal sheets from graves in Magna Graecia and Crete, with instructions of an Orphic character for the soul of the dead man, again do not much precede Hellenistic times. The conclusion to be drawn from the available evidence seems to the present writer to be, as Linforth held, that there was no exclusively Orphic body of belief in the archaic period. However, Orpheus was then beginning to be treated as the patron saint of rites and ritual ways of life; and his name, like that of his legendary disciple Musaeus, became attached to theogonical literature of this period. Beliefs about reincarnation were becoming current in the Greek world, particularly in the west, and some adherents of these beliefs were calling themselves Ὀρφικοί by the fifth century. The formation of an exclusive sect with a definite body of relevant sacred literature came later.

In the present context, however, it is not necessary to try to establish a hypothesis on the Orphic question in general. The problem is primarily whether the *cosmogonical* ideas ascribed to the Orphics could have affected, or did affect, the development of philosophical thought in the sixth and fifth centuries.

Some elements of Orphic cosmogony were obviously derived from the Hesiodic *Theogony*, which influenced nearly all subsequent mythological thought on the subject. Thus both Chaos and Night will be seen to have had considerable importance in Orphic contexts. These elements passed through the medium of late archaic accounts like those of 'Epimenides', 'Musaeus' and Acusilaus (p. 23 nn. 2-4), and became gradually embedded in an individual Orphic mythological complex. Other elements are almost certainly later in origin, and in some cases show awareness of the details of oriental cult and iconography.¹ (This is a case of a learned adaptation of specific foreign information, not of the quite distinct process of the gradual assimilation of a widely-diffused general idea.) There are many scholars, however (including e.g. Gruppe, Mazon, Nestle), who have nevertheless followed an ancient tendency to regard all beliefs described as 'Orphic', including these cosmogonical beliefs, as of great antiquity. The

evidence set out below should demonstrate the subjective nature of any such tendency. The one unusual idea is that of the *egg* as a secondary theologonical mechanism.

¹ Most conspicuously, Time, Χρόνος, as a primary cosmogonical figure may derive from the Iranian hypostatization *Zvran Akarana* (unending time). But this Iranian concept finds its earliest testimony in a late 4th-century B.C. Greek reference, by Eudemus as reported in Damascius, and there is no reason to think that it was formulated as early as the Greek archaic period. 'Time' is a sophisticated cosmogonical concept in Plato's *Timaeus*; it was also personified, probably as an etymology of Kronos, by Pherecydes of Syros as early as the sixth century, though probably not with a profound abstract significance (see n. 1 on p. 46 and n. 1 on p. 56). Its oriental derivation in the Orphic accounts is indicated by its concrete shape as a multi-headed winged snake. Such multipartite monsters, as distinct from simpler fantasies like centaurs and perhaps gorgons, are orientalizing in character, mainly Semitic in origin, and begin to appear in Greek art around 700 B.C. They were, of course, extremely popular as decoration during the seventh and the first quarter of the sixth centuries. (Minoan art, too, had had its monsters, mainly dog-headed deities and other relatively simple theriomorphic creations.) That the winged-snake form of Time is much later, in its Greek appearances, than the Orientalizing period in art is chiefly suggested by the identification of an *abstraction* with such a form. This shows an acquaintance with rather complex oriental (especially Assyrian or Babylonian) modes of thought—something very different from the mere borrowing of a pictorial motif, or even the assimilation of a fully concrete myth-form. Such extravagances of the imagination evoked little sympathy in the Greek mind before the Hellenistic period. (It should be added, however, that some scholars see no objection to taking the winged-snake Chronos as archaic in date.)

NEOPLATONIST ACCOUNTS OF ORPHIC COSMOGONIES

The later Neoplatonists (fourth to sixth centuries A.D.), and in particular Damascius, with their long schematic allegorizations of earlier mythological accounts, are the main source for Orphic versions of the formation of the world. These writers are more reliable than appears at first sight, since much of their information was derived from summaries of Eudemus' great Peripatetic history of theology. In some cases fragments of late Orphic poetry can be adduced to confirm details of the Neoplatonic descriptions, which are tiresomely diffuse (and are therefore schematized in (ii) and (iii) below) and are expressed in the peculiar terminology of that school. Four different accounts of a cosmogony specifically named as Orphic are extant.

(i) *Derivation from Night*

Damascius in **19** (q.v.) stated that according to Eudemus 'the theology ascribed to Orpheus. . . made the origin of things from Night'. According to the Rhapsodies,¹ Night was the daughter of Phanes (see n. 1 on p. 22 and n. 3 on p. 41), himself descended from Chronos. She was given prophetic powers by Phanes, succeeded him as ruler, and seems somehow to have given birth for a second time to Gaia and Ouranos.² The secondary and repetitive nature of this production of sky and earth, and the obvious intention to make Phanes the ultimate creator of the world, suggest that Night's cosmogonical priority (as distinct from her undoubted position as a venerable figure among the gods) is here mainly the result of the derivative and syncretistic character of the Orphic theogony. Eudemus' judgement, however, is independent of these later developments, and must clearly be assessed in the light of Aristotle's references (**17**) to writers about the gods who generated from Night. On pp. 20 and 24 it is conjectured that these references are to sixth-century adaptations and elaborations of the Hesiodic *Theogony*, and that no earlier, autonomous doctrine is implied. Two such elaborations are ascribed to Epimenides and Musaeus in **20** and **21**; it was inevitable that similar systems should be associated also with Orpheus, if not in the sixth century B.C., then in the fifth or fourth. It appears probable that it was to this kind of derivative theogony that Eudemus referred.

¹ The so-called Orphic Rhapsodies (ἱεροὶ λόγοι ἐν ῥαψωδίας κῶ according to the Suda s.v. Ὀρφεύς), of which many fragments survive (Kern, fr. 59–235), mostly through quotation in Neoplatonist works, are a late compilation of hexameter verses of varying date of composition. None of them are certainly pre-Hellenistic and most are probably much later. Their name indicates their heterogeneous origin; it is significant that no author before the full Christian period seems to have heard of these verses, and it seems highly probable that their elaboration into an Orphic *Iliad* was not taken in hand until the third or fourth century A.D. Genuinely archaic beliefs might, of course, be embedded in some of these verses, late as they are in composition and collection.

² **33** Orph. Rhaps. fr. 109 Kern (from Hermias) (Νύξ) ἡ δὲ πάλιν Γαίαν τε καὶ Οὐρανὸν εὐρύν ἐτικτε / δεῖξέν τ' ἐξ ἀφανῶν φανεροῦς οἱ τ' εἰσι γενέθλην. But Phanes had already created Olympus, sun, moon and earth (fr. 89, 96, 91–3, 94 Kern, from the Rhapsodies), and sky is also presupposed.

33 And she [Night], again, bore Gaia and broad Ouranos, and revealed them as manifest, from being unseen, and who they are by birth.

THE EGG IN EARLIER GREEK SOURCES, NOT SPECIFICALLY ORPHIC

39 Aristophanes *Birds* 693 (the chorus of birds speak)

Χάος ἦν καὶ Νύξ Ἐρεβός τε μέλαν πρῶτον καὶ Τάρταρος εὐρύς,
 Γῆ δ' οὐδ' Ἄηρ οὐδ' Οὐρανός ἦν· Ἐρέβους δ' ἐν ἀπείροσι κόλποις
 τίκει πρῶτιστον ὑπηνέμιον Νύξ ἢ μελανόπτερος ὦόν,
 ἐξ οὗ περιτελλομέναις ὥραις ἔβλασταν Ἐρωσ ὁ ποθεινός,
 στίλβων νῶτον πτερύγοιιν χρυσαῖν, εἰκῶς ἀνεμῶκεσι δίναις. 697
 οὗτος δὲ Χάει πτερόεντι μιγείνυ νυχίῳ κατὰ Τάρταρον εὐρὺν
 ἐνεόττευσεν γένος ἡμέτερον, καὶ πρῶτον ἀνήγαγεν ἐς φῶς.
 πρότερον δ' οὐκ ἦν γένος ἀθανάτων πρὶν Ἐρωσ ξυνέμειξεν ἅπαντα·
 ξυμμειγνυμένων δ' ἐτέρων ἐτέροις γένετ' Οὐρανός Ὡκεανός τε
 καὶ Γῆ πάντων τε θεῶν μακάρων γένος ἀφθιτον. ὧδε μὲν ἔσμεν
 πολὺ πρεσβύτατοι πάντων μακάρων.

40 Damascius *de principiis* 124 (DK 3B5; from Eudemus) τὸν δὲ
 Ἐπιμενίδην δύο πρῶτας ἀρχάς ὑποθέσθαι Ἀέρα καὶ Νύκτα . .
 ἐξ ὧν γεννηθῆναι Τάρταρον . . ἐξ ὧν δύο Τιτᾶνας¹ . . ὧν μιχθέντων
 ἀλλήλοις ὦόν γενέσθαι . . ἐξ οὗ πάλιν ἄλλην γενεάν προελθεῖν.

¹ The manuscript has δύο τινός, but Kroll's emendation to δύο Τιτᾶνας (accepted by Kranz in DK) is indicated by the etymology implied in the Neoplatonist parenthesis that follows the disputed word, τὴν νοητὴν μεσότητά οὕτω καλέσαντα, διότι ἐπ' ἀμφω 'διατείνει' τό τε ἄκρον καὶ τὸ πέρας. The other omissions in the text as printed above are Neoplatonic paraphrases which throw no light on the interpretation.

39 was written in 414 B.C. or shortly before. 40 lays claim to a still earlier date, but Philodemus in 20 evidently suspected the authenticity of the attribution of this verse theogony to Epimenides. There was considerable doubt about Epimenides' historical position,

39 *First of all was Chaos and Night and black Erebus and wide Tartaros, and neither Ge nor Aer nor Ouranos existed; in the boundless bosoms of Erebus black-winged Night begets, first, a wind-egg, from which in the fulfilment of the seasons ardent Eros burgeoned forth, his back gleaming with golden wings, like as he was to the whirling winds. Eros, mingling with winged, gloomy Chaos in broad Tartaros, hatched out our race and first brought it into the light. There was no race of immortals before Eros mingled all things together; but as one mingled with another Ouranos came into being, and Okeanos and Ge and the unfading race of all the blessed gods. Thus we are by far the oldest of all the blessed ones.*

40 *Epimenides posited two first principles, Air and Night . . from which Tartaros was produced . . from all of which two Titans were produced . . from whose mutual mingling an egg came into being . . from which, again, other offspring came forth.*

¹ This sense of τροπαί is absolutely unparalleled and highly improbable, especially since τροπαί ἡλίοιο are mentioned three times in the Hesiodic *Works and Days*, always meaning solstice. But (a), as well as (b), is virtually impossible: for even though τροπαί ἡλίοιο can, and indeed does, mean 'solstice' or 'solstices', it cannot conceivably in any kind of Greek mean a device (whether a cave or anything else) for marking or observing solstices.

² There were other actual Ortygiæ as well as Delos (to which the name is only applied in contexts which could have been affected by learned speculation on 49): notably the island forming part of Syracuse, and a precinct near Ephesus. Ὀρτυγίη means 'of the quail' (ὄρτυξ), and might be applied to any locality at which quails habitually rested in their migrations between Egypt and the north. A difficulty in identifying Ortygiæ with Delos is that the two places are distinguished in the Homeric Hymn to Apollo (16); but the passage is suspect on other grounds. A far more serious difficulty, and one that has been widely ignored, is that of identifying Συρίη, with a short upsilon, with Σύρος, which has a long upsilon. The connexion of Syrie with Syracuse is also philologically improbable. Miss H. L. Lorimer (*Homer and the Monuments* 80ff.) argued for Συρίη referring to Sýria (which, she maintained, might have been naïvely taken for an island), and for τροπαί meaning 'sunrise', i.e. the east. But it seems impossible that Syria should be termed an island; and the Phoenicians would hardly have been conceived as spending a whole year trading with a place so near their own country (cf. *Od.* 15, 455).

³ ὅθι τροπαί ἡλίοιο could describe either Syrie or Ortygiæ. Here an observation of Miss Lorimer's is of great importance: the only other place in Homer where Ortygiæ is mentioned is *Od.* 5, 123, where Orion, having been carried off by Eos, is slain in Ortygiæ by Artemis. The implication is that Ortygiæ was the dwelling-place of Eos, the dawn, and therefore that it lies in the east. Miss Lorimer thought that solstices could not carry a directional meaning. But, since solstices would normally be observed at sunrise (by the bearing method), 'where the summer solstice is' would signify the general direction in which the sun rises at the summer solstice, namely north-east by east; while 'where the winter solstice is' would signify south-east by east. The summer solstice is the important one for record purposes, and the mention of the solstice, by itself, might naturally bring to mind the north-east by east direction. Thus the intention of the Homeric phrase is to indicate the general direction of this probably mythical Ortygiæ. It is worth adding that the dwelling-place of Eos was often conceived as being *Aia*, and that *Aia* was commonly identified with Colchis; and Colchis does in fact lie roughly north-east by east from the centre of the Ionian coastline.

THE CONTENTS OF PHERECYDES' BOOK

(i) *The primeval deities; initial creation by Chronos; the recesses*

50 Diogenes Laertius I, 119 σῶζεται δὲ τοῦ Συρίου τό τε βιβλίον ὃ συνέγραψεν οὗ ἡ ἀρχή· (Fr. 1) Ζᾶς μὲν καὶ Χρόνος ἦσαν

50 *There is preserved of the man of Syros the book which he wrote of which the begin-*

αἰεὶ καὶ Χθονίη· Χθονίη δὲ ὄνομα ἐγένετο Γῆ, ἐπειδὴ αὐτῇ Ζᾶς γῆν
γέρας διδοῖ.

51 Damascius *de principiis* 124 bis Φερεκύδης δὲ ὁ Σύριος Ζάντα
μὲν εἶναι αἰεὶ καὶ Χρόνον καὶ Χθονίαν τὰς τρεῖς πρώτας ἀρχάς. . . τὸν
δὲ Χρόνον ποιῆσαι ἐκ τοῦ γόνου ἑαυτοῦ πῦρ καὶ πνεῦμα καὶ ὕδωρ. . .
ἐξ ὧν ἐν πέντε μυχοῖς διηρημένων πολλὴν ἄλλην γενεὰν συστήναι
θεῶν, τὴν πεντέμυχον καλουμένην, ταῦτόν δὲ ἴσως εἰπεῖν πεντέκοσμον.

52 Porphyrius *de antro nymph.* 31 . . . τοῦ Συρίου Φερεκύδου
μυχούς καὶ βόθρους καὶ ἄντρα καὶ θύρας καὶ πύλας λέγοντος καὶ
διὰ τούτων αἰνιττομένου τὰς τῶν ψυχῶν γενέσεις καὶ ἀπογενέσεις.

Zas and Chronos and Chthonie 'always existed': this resolves the difficulty of creation *ex nihilo*. An analogous declaration is seen, some two generations later, in Heraclitus' world-order, which no god or man made, but always was, and is, and shall be (220); also in Epicharmus fr. 1 (DK 23 B 1—probably genuine), where the case is explicitly argued. But already in the sixth century B.C. the divinity assigned to Anaximander's ἄπειρον and Anaximenes' air probably implies that these, too, had always existed. It is surprising to find this concept stated so explicitly, and in a theogonical context, at this relatively early date. Yet the gods who always existed are probably conceived as original forms (by etymology) of conventional figures from the traditional theogony; and one of them is 'Time', which might naturally be felt, without any deep abstract reflexion, to have been unborn. Thus Pherecydes was not trying to solve a logical difficulty about creation so much as to substitute a new first stage, dependent on etymology and particularly on a new understanding of Kronos the father of the gods, for the imprecise, if more rationalistic, 'Chaos came into being' of Hesiod.

The names are unusual. Ζᾶς (accusative Ζάντα) is obviously an etymological form of Ζεὺς, and is perhaps intended to stress the

ning is: 'Zas and Chronos always existed and Chthonie; and Chthonie got the name of Ge, since Zas gave her Ge as a present [or prerogative].'³

51 Pherecydes of Syros said that Zas always existed, and Chronos and Chthonie, as the three first principles. . . and Chronos made out of his own seed fire and wind [or breath] and water. . . from which, when they were disposed in five recesses, were composed numerous other offspring of gods, what is called 'of the five recesses', which is perhaps the same as saying 'of five worlds'.

52 . . . when Pherecydes, the man of Syros, talks of recesses and pits and caves and doors and gates, and through these speaks in riddles of the becomings and deceases of souls.

element $\zeta\alpha$ - (an intensive prefix), as in $\zeta\acute{\alpha}\theta\epsilon\omicron\varsigma$, $\zeta\acute{\alpha}\eta\varsigma$; though there is some possibility that the form $\zeta\alpha\varsigma$ is intended to link the sky-god Zeus with the earth-goddess Ge, whose Cyprian form is $\zeta\acute{\alpha}$. $\chi\theta\omicron\nu\acute{\iota}\eta$, from $\chi\theta\acute{\omega}\nu$, is presumably intended to represent Earth in a primitive role, perhaps as the abode of chthonic daimons, and at all events with stress on the *underparts* of the earth. As for $\chi\rho\acute{\omicron}\nu\omicron\varsigma$, it has been argued, notably by Wilamowitz, that the true reading must be $\kappa\rho\acute{\omicron}\nu\omicron\varsigma$: Kronos played an important part in Pherecydes' theogony according to one extant fragment, 58, and 'Time' is a surprisingly sophisticated cosmogonical concept for the sixth century B.C. But $\chi\rho\acute{\omicron}\nu\omicron\varsigma$, which is widely supported in the sources, is almost certainly correct; the other two figures are etymologizing variants of well-known theogonical figures, and we naturally anticipate a similar case with the third figure. The substitution of $\chi\rho\acute{\omicron}\nu\omicron\varsigma$ for $\kappa\rho\acute{\omicron}\nu\omicron\varsigma$ is just what we should expect here.¹ It appears likely that by the later stages of the theogony the primeval trio assumed their familiar form as Zeus, Kronos and Hera.² That Pherecydes was addicted to etymologies emerges clearly from our scanty evidence: thus, in addition to the idiosyncratic derivations of names already discussed, $\chi\acute{\alpha}\omicron\varsigma$ was perhaps connected by him (as later by the Stoics) with $\chi\acute{\epsilon}\epsilon\theta\alpha\iota$ (p. 59 n.), and so interpreted as water; Rhea was called 'Pῆ (DK 7B9), and perhaps connected with $\rho\acute{\epsilon}\iota\nu$ etc.; Okeanos was called Ogenos (54); the gods called a table $\theta\upsilon\omega\rho\acute{\omicron}\varsigma$, 'watcher over offerings' (DK 7B12).

¹ Wilamowitz roundly declared that 'Time', as a cosmogonical god in the sixth century, was impossible. Certainly the abstraction implied in the $\chi\rho\acute{\omicron}\nu\omicron\varsigma$ δίκη (Solon, see 113), or $\tau\acute{\eta}\nu$ τοῦ $\chi\rho\acute{\omicron}\nu\omicron\varsigma$ τάξις (Anaximander, see 112), is less startling in its implications, as are the $\chi\rho\acute{\omicron}\nu\omicron\varsigma$ ὁ πάντων πατήρ of Pindar *Ol.* 2, 17 and the hypostatized Time of tragedy; though the two last instances provide some parallel. The Iranian cosmogonical Time, *Zuran Akarana*, was introduced as a refinement of Mazdaism and cannot be assumed earlier than the fourth century B.C. (n. on p. 39), though the possibility of oriental influence in this respect cannot be entirely discounted. The Chronos of the late Orphic cosmogonies was presented in a Hellenistic shape, and cannot be taken as any kind of parallel or precedent for the sixth century B.C. The connexion of Kronos with Chronos was certainly made by later Orphics (cf. e.g. Kern *Orph. Frag.* fr. 68), but according to Plutarch (*Is. Osir.* 32) this was a common Greek identification: we cannot say whether or not Pherecydes was the originator. That he did intend to relate them is stated by Hermias and Probus (DK 7A9), probably after Stoic sources. In any event one should not exaggerate (as Wilamowitz did) the depth of abstraction, and of metaphysical content, implied by the

presence of Chronos in 50. Pherecydes probably took the Kronos of legend, asked himself what the etymology was, and arrived at the obvious answer, Chronos or Time—a familiar and simple concept which is plainly somehow involved in cosmogony.

² Chthonie gets the name of Ge, Earth, at a subsequent stage, presumably when Zas presents her with the cloth embroidered with earth in 54. But at that point she apparently takes over the control and guardianship of marriages; this was Hera's prerogative (as Γαμηλία) according to the general view, and in so far as Chthonie-Ge is the wife of Zas-Zeus she is also thought of as becoming Hera. (Demeter, who is much closer to Ge, was in charge of certain female activities, as Θεσμοφόρος, but not of marriage; she may, however, provide a connecting link.) Hera was probably not an earth-goddess in origin, but there are other isolated cases where she replaces Gaia; for example, she appears to be the mother of Typhaon in the Homeric Hymn to Apollo, 351f., also in Stesichorus (*Et. Magn.* 772. 50); cf. 53, and Virgil *Aen.* iv, 166.

Damascius in 51 is following Eudemus. Chronos makes fire, wind and water out of his own seed,¹ and this is implied to take place at an early stage. The episodé cannot be invented, though it would not be surprising if some details of it were distorted. One is reminded of Egyptian cosmogonical accounts in which the first world-constituents are produced by the onanism of a primeval god, notably that of Atum-Re mentioned in the Memphis theology (*ANET* 5); and also of the mutilation of Ouranos by Kronos in 32, where certain mythological figures are begotten by Ouranos' member and the blood from it. The idea that the human seed is creative, and therefore that a primary deity's seed is cosmogonically creative, is neither surprising nor illogical. What is surprising here, however, is the things which are thus created: they smack of fifth-century four-element theory, earth being omitted because already accounted for in the very name of Chthonie-Ge. πνεῦμα looks suspiciously anachronistic, even though Anaximenes emphasized its importance at roughly this period (pp. 149ff.). These substances cannot have formed the raw material of later cosmic arrangement: for according to 51 what they produce is not a world but deities of some kind. In fact, I would suggest that the seed producing fire, wind (πνεῦμα) and water is probably a later rationalizing interpretation, perhaps Stoic in origin but based on the Aristotelian concept (itself to some extent indebted to Diogenes of Apollonia, cf. 619 *fin.*) that the human σπέρμα, seed, contains σύμφυτον πνεῦμα, innate breath, which is also described as being 'hot' and aetherial (cf. e.g. *Generation of animals* B3, 736b33ff.). In accounts of early Stoic physiology, too, the seed is described as

¹ Plato probably had Pherecydes in mind in 62 *Sophist* 242 C-D μῦθόν τινα ἕκαστος φαίνεται μοι διηγείσθαι παισίν ὡς οὔσιν ἡμῖν, ὁ μὲν ὡς τρία τὰ ὄντα, πολεμεῖ δὲ ἀλλήλοις ἐνίοτε αὐτῶν ἅττα πη, τοτὲ δὲ καὶ φίλα γιγνόμενα γάμου τε καὶ τόκους καὶ τροφὰς τῶν ἐγγόνων παρέχεται. . . . We cannot assume, however, that all the incidents mentioned here are consciously derived from Pherecydes.

CONCLUSION

In spite of all uncertainties, Pherecydes is clearly a notable figure in the history of Greek cosmogonical speculation. As Aristotle implied (42), he combines the mythological approach with a more objective one. The assertion that three deities always existed implies a rational amendment to the traditional genealogical pattern; yet the method of creation pursued by Chronos is as crudely anthropomorphic as anything in Hesiod. The details of the allegory of the decorated cloth, if correctly interpreted, are part of the stock of pure myth; at the same time the allegory itself, which is of the highest interest both for its originality and for its beauty, shows that Pherecydes accepted the naïve but not unempirical view of the structure of the world which was outlined in § 1. His interest in etymology, and consequent handling of the first gods, is the first clear manifestation of a way of thinking conspicuous in Aeschylus and Heraclitus, and it evidently still impressed the Orphic eclectics of three and more centuries later. Pherecydes was an individualist both in his handling of the traditional stories of the gods and in his use of uncommon motifs. There is practically no indication of special near-eastern influence, except conceivably in the seven recesses. There is, however, one respect in which his narrative is closer to oriental accounts than to Greek ones. It is evident that in his book many incidents concerning the three pre-existing deities were related before the cosmogony proper (that is, the formation of earth and Ogenos) was reached. This may be compared with the Babylonian creation-myth, for example, where the splitting of Tiamat to form sky and earth comes only at the end of a long saga of the gods; and con-

62 *Each seems to me to tell us a kind of story, as though we were children, one saying that existing things are three, and that certain of them in some way fight with each other at times, and at times they become good friends and provide marriages and births and nurturings of their offspring. . . .*

64 Herodotus I, 170 (from 66) . . . Θαλέω ἀνδρὸς Μιλησίου . . . τὸ ἀνέκαθεν γένος ἑόντος Φοίνικος . . .

The story of Thales' Phoenician ancestry, barely mentioned by Herodotus in 64 (though 63 makes it appear as though he had said more; the references in Douris and Democritus are otherwise unknown), was later much elaborated, partly, no doubt, to support the common theory of the eastern origins of Greek science. If Thales drew the attention of the Milesians to the navigational value of the Little Bear, used earlier by Phoenician sailors (see 80), this would add to the force of Herodotus' comment. The probability is that Thales was as Greek as most Milesians.¹

¹ Cf. 65 Herodotus I, 146 . . . Μινύαι δὲ Ὀρχομένιοι σφι (sc. the Ionian colonists) ἀναμειχᾶται καὶ Καδμεῖοι καὶ Δρύοπες . . . Thus Thales' 'Phoenician' ancestors were probably Cadmeians from Boeotia and not full-blooded Semites. His father, Examyces, seems to have had a Carian name. Herodotus went on to say that even the ostensibly purest Ionian families were mixed by intermarriage with Carian women.

PRACTICAL ACTIVITIES

66 Herodotus I, 170 χρηστὴ δὲ καὶ πρὶν ἢ διαφθαρεῖναι Ἴωνίην Θαλέω ἀνδρὸς Μιλησίου ἐγένετο (sc. ἡ γνώμη), τὸ ἀνέκαθεν γένος ἑόντος Φοίνικος, ὃς ἐκέλευε ἐν βουλευτήριον Ἴωνας ἐκτῆσθαι, τὸ δὲ εἶναι ἐν Τέω (Τέων γὰρ μέσον εἶναι Ἴωνίης), τὰς δὲ ἄλλας πόλιας οἰκομένας μηδὲν ἤσπον νομίζεσθαι κατὰ περ εἰ δῆμοι εἶεν.

67 Herodotus I, 75 ὡς δὲ ἀπίκετο ἐπὶ τὸν Ἄλυν ποταμὸν ὁ Κροῖσος, τὸ ἐνεῦθεν, ὡς μὲν ἐγὼ λέγω, κατὰ τὰς εὐούσας γεφύρας διεβίβασε τὸν στρατόν, ὡς δὲ ὁ πολλὸς λόγος Ἑλλήνων, Θαλῆς οἱ ὁ Μιλήσιος διεβίβασε. ἀπορέοντος γὰρ Κροίσου ὅπως οἱ διαβήσεται τὸν ποταμὸν ὁ στρατός (οὐ γὰρ δὴ εἶναι κω τοῦτον τὸν χρόνον τὰς γεφύρας ταύτας) λέγεται παρεόντα τὸν Θαλῆν ἐν τῷ

64 . . . of Thales, a man of Miletus . . . being a Phoenician by ultimate descent . . .

65 . . . Minyans from Orchomenus are mixed with them [the Ionian colonists], and Cadmeians and Dryopes . . .

66 Useful also was the opinion, before the destruction of Ionia, of Thales, a man of Miletus, being a Phoenician by ultimate descent, who advised the Ionians to have a single deliberative chamber, saying that it should be in Teos, for this was in the middle of Ionia; the other cities should continue to be inhabited but should be regarded as if they were demes.

67 When he came to the Halys river, Croesus then, as I say, put his army across by the existing bridges; but, according to the common account of the Greeks, Thales the Milesian transferred the army for him. For it is said that Croesus was at a loss how his army should cross the river, since these bridges did not yet exist at this period; and that Thales, who was

στρατοπέδῳ ποιῆσαι αὐτῷ τὸν ποταμὸν ἐξ ἀριστερῆς χειρὸς ῥέοντα τοῦ στρατοῦ καὶ ἐκ δεξιῆς ῥέειν, ποιῆσαι δὲ ὧδε· ἄνωθεν τοῦ στρατοπέδου ἀρξάμενον διώρυχα βαθέαν ὀρύσσειν ἄγοντα μνηοειδέα, ὅκως ἂν τὸ στρατόπεδον ἰδρυμένον κατὰ νότου λάβοι, ταύτη κατὰ τὴν διώρυχα ἐκτραπόμενος ἐκ τῶν ἀρχαίων ῥεέθρων, καὶ αὐτὶς παραμειβόμενος τὸ στρατόπεδον ἐς τὰ ἀρχαῖα ἐσβάλλοι, ὥστε ἐπεῖτε καὶ ἐσχίσθη τάχιστα ὁ ποταμὸς ἀμφοτέρῃ διαβρατὸς ἐγένετο.

Herodotus provides important evidence for Thales' activities as statesman and engineer (also as astronomer, 76). Such versatility seems to have been typical of the Milesian thinkers, whom it is tempting to consider too exclusively as theoretical physicists. Thales, especially, became a symbol for ingenuity of a mathematical and geometrical kind: ἄνθρωπος Θαλῆς ('the man's a Thales'), says a character in Aristophanes (*Birds* 1009) of Meton the town-planner; and Plato (*Rep.* 600A) coupled him with Anacharsis. Herodotus, it is true, did not believe the story in 67 about Thales diverting the river Halys, but he did not deny that this is the sort of thing Thales might have done. There probably were crossings over the Halys, but Croesus' army might not have found them: Herodotus was rightly cautious, although the grounds of his suspicion were not certainly correct. He went on to mention a variant account by which the river was totally diverted into a new bed; the story, therefore, may have been widespread. The circumstantial and restrained nature of the version of 67 suggests that it contained a kernel of truth.

TRADITION OF A VISIT TO EGYPT

68 Aetius I, 3, 1 Θαλῆς . . . φιλοσοφῆσας δὲ ἐν Αἰγύπτῳ ἦλθεν εἰς Μίλητον πρεσβύτερος.

69 Proclus in *Euclidem* p. 65 Friedl. (from Eudemus) (DK II A 11) Θαλῆς δὲ πρῶτον εἰς Αἴγυπτον ἔλθων μετήγαγεν εἰς τὴν Ἑλλάδα τὴν θεωρίαν ταύτην (*sc.* τὴν γεωμετρίαν) . . .

present in the army, made the river, which flowed on the left hand of the army, flow on the right hand also. He did so in this way: beginning upstream of the army he dug a deep channel, giving it a crescent shape, so that it should flow round the back of where the army was encamped, being diverted in this way from its old course by the channel, and passing the camp should flow into its old course once more. The result was that as soon as the river was divided it became fordable in both its parts.

68 Thales . . . having practised philosophy in Egypt came to Miletus when he was older.

69 Thales, having first come to Egypt, transferred this study [geometry] to Greece . . .

70 Plutarch *de Is. et Osir.* 34, 364D οἶονται δὲ καὶ Ὅμηρον ὥσπερ Θαλῆν μαθόντα παρ' Αἰγυπτίων ὕδωρ ἀρχὴν ἀπάντων καὶ γένεσιν τίθεσθαι.

It was the custom to credit the sixth-century sages (notably, for example, Solon) with visits to Egypt, the traditional fountain-head of Greek science. Thales as the earliest known Greek geometer had a special reason for being associated with the home of land-measurement.¹ The implication of 68 that he spent a considerable time there is unique and not persuasive. That he did visit Egypt, however, is possible enough: several of his achievements are quite plausibly located there (e.g. 81; see also p. 86), and Miletus' relations with its colony Naucratis were so close as to make a visit by any prominent citizen, trader or not, perfectly feasible. The reference to Homer in 70 is, of course, to the Okeanos-passages 9 and 10: Plutarch knew that in some Egyptian mythological cosmogonies water played an essential part, and we shall in fact see (pp. 90f.) that Thales probably derived his idea that the earth floats on water from earlier near-eastern, and possibly Egyptian, mythological accounts.

¹ Cf. 71 Herodotus II, 109 δοκίει δέ μοι ἐνθεῦτεν (sc. from re-measurement of holdings after the annual flood of the Nile) γεωμετρὴν εὐρεθεῖσα εἰς τὴν Ἑλλάδα ἐπανελθεῖν.

Further, Thales appears in Aetius as the holder of a theory about the flooding of the Nile which is one of three already recorded by Herodotus:

72 Herodotus II, 20 (there are two particularly improbable theories about the cause of the flood) τῶν ἡ ἑτέρη μὲν λέγει τοὺς ἐτησίας ἀνέμους εἶναι αἰτίους πληθῦειν τὸν ποταμόν, κωλύοντας ἐς θάλασσαν ἐκρέειν τὸν Νεῖλον.

73 Aetius IV, 1, 1 Θαλῆς τοὺς ἐτησίας ἀνέμους οἶεται πνέοντας τῇ Αἰγύπτῳ ἀντιπροσώπους ἐπαίρειν τοῦ Νεῖλου τὸν ὄγκον διὰ τὸ τὰς ἐκροὰς αὐτοῦ τῇ παροιδῆσει τοῦ ἀντιπαρήκοντος πελάγους ἀνακόπτεσθαι.

70 They think that Homer also, like Thales, made water principle and birth of all things through learning from the Egyptians.

71 It seems to me that geometry was discovered from this source (sc. re-measurement of holdings after the Nile flood) and so came to Greece.

72 Of these, one theory says that the Etesian winds are the cause of the river flooding, by preventing the Nile from running out into the sea.

73 Thales thinks that the Etesian winds, blowing straight on to Egypt, raise up the mass of the Nile's water through cutting off its outflow by the swelling of the sea coming against it.

Aetius probably depends on a lost Peripatetic treatise, of which traces have survived in other sources (Diels *Doxographi Graeci* 226f.): therefore his information may be reliable and not, as is nevertheless possible, a purely speculative ascription. If Thales did advance this theory then he may have seen the Nile himself; though it should be remembered that he could easily have got the relevant information (that the Etesian winds blow in Egypt too), and even the idea, from Milesian traders.

ANECDOTES ABOUT THALES AS THE TYPICAL PHILOSOPHER

74 Plato *Theaetetus* 174A . . . ὥσπερ καὶ Θαλῆν ἀστρονομοῦντα, ὃ Θεόδωρε, καὶ ἄνω βλέποντα, πεσόντα εἰς φρέαρ, Θραῦττά τις ἐμμελής καὶ χαρίεσσα θεραπαινὶς ἀποσκῶψαι λέγεται, ὡς τὰ μὲν ἐν οὐρανῷ προθυμοῖτο εἰδέναι, τὰ δ' ὄπισθεν αὐτοῦ καὶ παρὰ πόδας λαυθάνοι αὐτόν.

75 Aristotle *Politics* A11, 1259a9 ὀνειδίζοντων γὰρ αὐτῷ διὰ τὴν πενίαν ὡς ἀνωφελοῦς τῆς φιλοσοφίας οὐσης, κατανοήσαντά φασιν αὐτόν ἐλαιῶν φορὰν ἐσομένην ἐκ τῆς ἀστρολογίας, ἐπιχειμῶνος ὄντος, εὐπορήσαντα χρημάτων ὀλίγων ἀρραβῶνας διαδοῦναι τῶν ἐλαιουργείων τῶν τ' ἐν Μιλήτῳ καὶ Χίῳ πάντων, ὀλίγου μισθωσάμενον αὐτ' οὐδενὸς ἐπιβάλλοντος. ἐπειδὴ δ' ὁ καιρὸς ἦκε, πολλῶν ζητουμένων ἅμα καὶ ἐξαίφνης, ἐκμισθοῦντα ὄν τρόπον ἠβούλετο πολλὰ χρήματα συλλέξαντα ἐπιδείξει ὅτι ῥάδιόν ἐστι πλουτεῖν τοῖς φιλοσόφοις ἢ βούλωνται, ἀλλ' οὐ τοῦτ' ἐστὶ περὶ ὁ σπουδάζουσιν. (Cf. also Diog. L. I, 26 (DK I I A I), from Hieronymus of Rhodes, and Cicero *Div. I*, 49, I I I.)

Neither of these stories is likely to be strictly historical, even though they originated in the fourth century B.C. at the latest, before the great period of fictitious biography in the third and second

f 74 . . . just as, Theodorus, a witty and attractive Thracian servant-girl is said to have mocked Thales for falling into a well while he was observing the stars and gazing upwards; declaring that he was eager to know the things in the sky, but that what was behind him and just by his feet escaped his notice.

x 75 For when they reproached him because of his poverty, as though philosophy were no use, it is said that, having observed through his study of the heavenly bodies that there would be a large olive-crop, he raised a little capital while it was still winter, and paid deposits on all the olive presses in Miletus and Chios, hiring them cheaply because no one bid against him. When the appropriate time came there was a sudden rush of requests for the presses; he then hired them out on his own terms and so made a large profit, thus demonstrating that it is easy for philosophers to be rich, if they wish, but that it is not in this that they are interested.

centuries. They well demonstrate how at a comparatively early date Thales had become accepted as the typical philosopher: though 74, one of the oldest versions of the absent-minded professor theme, would have had more point if applied to someone not so notoriously practical in his interests as Thales. The detail of the witty slave-girl is added to make the whole situation more piquant; possibly it is a vestige of a separate and mildly malicious joke at the philosopher's expense. Plato liked making fun of the Presocratics, a truth frequently overlooked in the interpretation of certain less obvious passages. The story in 75 may have gained currency, even before Aristotle, as a standard reply to the reproach of unpracticality implied in 74. It might have had a slight basis of truth (though Aristotle did not think so): details like the addition of Chios to Miletus are possibly too elaborate for the wholly invented anecdote. At all events, anyone reading this book might draw some consolation from such a clear and influential formulation of one of the classical defences of abstruse studies.

THE PREDICTION OF THE ECLIPSE, AND OTHER ASTRONOMICAL ACTIVITIES

76 Herodotus I, 74 διαφέρουσι δέ σφι (*sc.* Medes and Lydians) ἐπ' ἴσης τὸν πόλεμον τῷ ἔκτω ἔτει συμβολῆς γενομένης συνήνεικε ὥστε τῆς μάχης συνεστεώσης τὴν ἡμέρην ἑξαπίνης νύκτα γενέσθαι. τὴν δὲ μεταλλαγὴν ταύτην τῆς ἡμέρης Θαλῆς ὁ Μιλήσιος τοῖσι Ἴωσι προηγόρευσε ἕσσεσθαι, οὔρον προθέμενος ἐνιαυτὸν τοῦτον ἐν τῷ δὴ καὶ ἐγένετο ἡ μεταβολή.

77 Diogenes Laertius I, 23 δοκεῖ δὲ κατὰ τινὰς πρῶτος ἀστρολογῆσαι καὶ ἡλιακὰς ἐκλείψεις καὶ τροπὰς προειπεῖν, ὡς φησὶν Εὐδημος ἐν τῇ περὶ τῶν ἀστρολογουμένων ἱστορίᾳ· ὅθεν αὐτὸν καὶ Ζενοφάνης καὶ Ἡρόδοτος θαυμάζει. μαρτυρεῖ δ' αὐτῷ καὶ Ἡράκλειτος καὶ Δημόκριτος.

76 *In the sixth year of the war, which they [Medes and Lydians] had carried on with equal fortunes, an engagement took place in which it turned out that when the battle was in progress the day suddenly became night. This alteration of the day Thales the Milesian foretold to the Ionians, setting as its limit this year in which the change actually occurred.*

77 *Some think he was the first to study the heavenly bodies and to foretell eclipses of the sun and solstices, as Eudemus says in his history of astronomy; for which reason both Xenophanes and Herodotus express admiration; and both Heraclitus and Democritus bear witness for him.*

78 Dercyllides *ap.* Theon. Smyrn. p. 198, 14 Hiller Εὐδημος ἱστορεῖ ἐν ταῖς Ἀστρολογίαις ὅτι Οἰνοπίδης εὗρε πρῶτος τὴν τοῦ ζωδιακοῦ λόξωσιν [Diels; διάζωσιν ms.] καὶ τὴν τοῦ μεγάλου ἐνιαυτοῦ περίστασιν, Θαλῆς δὲ ἡλίου ἐκλειψιν καὶ τὴν κατὰ τὰς τροπὰς αὐτοῦ περίοδον, ὡς οὐκ ἴση ἀεὶ συμβαίνει.

The prediction of the eclipse must have been based on a long series of empirical observations, not upon a scientific theory of the true cause of eclipses. The cause was unknown to Thales' immediate successors in Miletus and therefore, presumably, to him. If the contrary was implied by Eudemus in 78 (it is asserted by Aetius, e.g. II, 24, 1, DK I I A 17 a), then Eudemus was guilty of drawing a wrong conclusion from the undoubted fact of Thales' prediction. The Babylonian priests had made observations of eclipses of the sun, both partial and total, for religious purposes, at any rate since 721 B.C.; and by the sixth century they had probably established a cycle of solstices (or less plausibly of lunations) within which eclipses might occur at certain points. It is overwhelmingly probable that Thales' feat depended on his access to these Babylonian records; we know that many cultivated Greeks visited Sardis at this period,¹ and relations with Ionia were naturally particularly close. Some scholars have argued that Thales' information more probably came from Egypt, with which he had other contacts; but there is no evidence that sufficiently detailed observations, over a long enough period, were made and recorded by the Egyptian priests. Even on the Babylonian data it could not be predicted that an eclipse would be visible at a particular point. Priests were despatched to different parts of the Babylonian empire when a possible eclipse was due, and even within this large area the expected phenomenon was sometimes not visible. Further, no precise date could be predicted, only broad limits of time. Thus Thales appears to have said that an eclipse was likely to occur within a certain year.² It was pure chance that it happened on the day of the battle and so seemed especially remarkable, and to some degree a matter of luck that it was visible near the Ionian area at all.

78 Eudemus relates in the *Astronomy* that Oenopides first discovered the obliquity of the Zodiac and the cycle of the Great Year, and Thales the eclipse of the sun and the variable period of its solstices.

was not made free-swinging until Anaximander); at the most they had semi-orbits, and the ratio of diameter to celestial path would be twice that given.¹

¹ The determination of this ratio was a recurrent problem in Greek astronomy, which might naturally come to be associated with the earliest known astronomer. The ratio suggested in Diogenes, 1/720th, implies a sexagesimal measurement of the circle of the ecliptic such as was adopted by the Babylonians: so A. Wasserstein, *JHS* 75 (1955) 114-16. Cf. Hdt. II, 109 (99), also II, 4.

One further observation is attributed to Thales, again with a possible implication that he may be indebted to foreign sources:

80 Callimachus *Iambus* I, 52, fr. 191 Pfeiffer (DK I I A 3 a)

. . . ἦν γὰρ ἡ νίκη
 Θάλητος, ὅς τ' ἦν ἄλλα δεξιὸς γνώμην
 καὶ τῆς Ἀμάξης ἐλέγετο σταθμῆσασθαι
 τοὺς ἀστερίσκους, ἧ πλέουσι Φοίνικες.

This is part of the apocryphal story of the cup (in some versions, tripod) which had to be presented to the wisest man living: Thales was the first, and in some versions also the final choice, but he modestly sent it on to Bias, and he to others of the Seven Sages. The 'little stars of the Wain' are the Little Bear (cf. Aratus *Phaen.* 39, with scholium); this constellation, because its revolution is smaller, provides a more accurate fixed point than the Great Bear or Wain as a whole (as opposed to the Pole star itself). σταθμᾶσθαι strictly means 'to measure', but sometimes, more vaguely, 'to mark out, define' (Σ on Pindar *Ol.* 10, 53). The probable meaning is that Thales defined the Little Bear, and drew the attention of Milesian sailors to its navigational usefulness. Diogenes Laertius, I, 23, interpreted the lines of Callimachus as meaning simply that Thales 'discovered' the Little Bear. Ionian sailors may previously have neglected it, since for all except long open-sea crossings the more conspicuous Great Bear was adequate.

Thus the ἀστρολογία, the study of heavenly bodies, mentioned as characteristic of Thales by Plato (74) and Aristotle (75),¹ seems to have comprised these activities: the lucky prediction of an eclipse, probably with the aid of Babylonian tables; the measurement of solstices and their variations, possibly undertaken in part

80 . . . for the victory belonged to Thales, who was clever in judgement, not least because he was said to have measured out the little stars of the Wain, by which the Phoenicians sail.

information in 84, that the work was also ascribed to one Phokos of Samos, almost settles the matter: any astronomical work of archaic appearance might naturally be ascribed to Thales, but works actually by Thales would not be alternatively ascribed to men of comparative obscurity. It is possible that the 'Nautical star-guide' was a genuine sixth-century work similar to the hexameter Ἀστρολογία of Cleostratus of Tenedos (DK ch. 6) or the so-called Hesiodic Ἀστρονομίη (DK ch. 4): so Diels and others have assumed. It is also possible that it was a Hellenistic forgery. Diogenes in 84 is a little worried by Callimachus' mention in 80 of a particular nautical star-aid ascribed to Thales; but this need not have been described by Thales in writing. However, there is nothing inherently improbable in Thales having recorded such aids to navigation, a plausible enough activity for a practical sage in a maritime centre: but it was probably not in the 'Nautical Star-guide' known to the Hellenistic world that he did so. The other works mentioned in 84, on the solstice and the equinox (only the latter in 85), are unlikely, from their similar contents, to have been separate books. Simplicius in 83, and those recorded in 84 who thought that Thales left no book, evidently did not accept this work as genuine. Thales studied the solstices according to Eudemus in 77 and 78, and it would be on the ground of this known interest that such a work would be ascribed to him. Once again, however, it must be remembered that observations of solstices and of star-risings and -settings were widely made in the archaic period, and also set down in verse, partly in the attempt to establish a satisfactory calendar: see Cleostratus fr. 4 (DK 6B4) and the Hesiodic *Astronomy* (DK 4B1-5). Observations about the Hyades and the setting of the Pleiades were also attributed to Thales (Σ on Aratus 172, Pliny *N.H.* xviii, 213; DK 11B2, 11A18); the latter observation, incidentally, was accurate for the latitude of Egypt, not that of Greece.

The evidence does not allow a certain conclusion, but the probability is that Thales did not write a book; though the ancient holders of this view might have been misled by the absence of a genuine work from the Alexandrian library, and also by the apophthegmatic nature of the wisdom assigned to the Seven Sages in general.

In fact, all we know about Thales' views on water (apart from that the earth floats on it) is that, in a hearsay and probably much abbreviated and somewhat distorted form, they appeared to the not over-discriminating Aristotle to fit his own idea of a material ἀρχή. Yet it is possible, contrary to Aristotle's automatic assumption, that Thales declared earth to *come from* water (i.e. to be solidified out of it in some way) without therefore thinking that the earth and its contents *are* somehow water, that they have any continuing relation to it (beyond the fact that the earth floats on water) except that of a man to his remote ancestors: for Thales, we may conjecture, was still to some extent influenced by the genealogical view of cosmogony best exemplified in Hesiod (24). See further pp. 92f.

¹ Theophrastus' abbreviated account of Thales' material principle is given by Simplicius, *Phys.* p. 23, 21 Diels (= Theophr. *Phys. Op.* fr. 1), DK 11A 13. It is a close parallel of Aristotle in 87, using in many parts the same phraseology. It adds one more conjectural reason for Thales' choice of water, that corpses dry up (τὰ νεκρούμενα ξηραίνονται): this perhaps came from Hippon (see next n.), who is probably credited with a similar argument in Anon. Lond. xi, 22 (DK 38A 11), i.e. in a Peripatetic source. The addition occurs also in Aetius.

The reasons conjectured by Aristotle in 87 for the importance attached by Thales to water as a constituent of things are mainly physiological.¹ From the analogy of his immediate successors we might have expected Thales to have adduced meteorological reasons, more conspicuously, in support of the cosmic importance of water.² Yet we must beware of exaggerated generalizations like that implied in Burnet's view that sixth-century thinkers were almost exclusively interested in meteorological (in the strict sense, including astronomical) phenomena. It is undoubtedly true that the *scientific* study of medicine began in the fifth century B.C., and that analogies between the world and details of human structure become much commoner then. Yet chapter 1 has shown the strongly genealogical colouring of much pre-philosophical Greek speculation, and also the importance of the analogy of physiological reproduction. In the case of Thales there are reasons for thinking that his explanation of the world was influenced not only by this variegated traditional background of earlier Greek quasi-mythological cosmogonical versions, but also by a specific cosmological idea derived directly, perhaps, from further east.

could have made the entirely new inference that water is the continuing, hidden constituent of all things. Certainly his near successor Anaximenes believed that all things were made of air (but he had thought of a way in which this could be so: air takes on different forms when compressed or rarefied), and it is invariably assumed that he was extending and refining a line of thought initiated by Thales. It would be imprudent entirely to reject this assumption, which goes back to Theophrastus and Aristotle. The physiological reasons instanced by Aristotle, that all living things depend on water for nourishment, that the sperm is moist, and so on, although conjectural, are of a kind that might well have struck Thales. With other indications (e.g. the Homeric statement that the surrounding Okeanos is the source of all springs and rivers, 5) they could have led him to the conclusion that water, as well as being the cosmogonical source, is also involved in the very essence of the developed world. On the other hand, one must remain aware of the possibility that Aristotle was simply making his own kind of inference, in the absence of other information, from Thales' belief that the world originated from water and that water still plays a major part in the cosmos by supporting the earth.

¹ Thales would have accepted Simplicius' judgement (*Phys.* 458, 23, DK I I A 13) that water was, for him, ἀπειρον; though for Thales this would mean 'limitless', i.e. of indefinite extent, and not 'infinite', and be a natural assumption rather than a consciously propounded theory. Simplicius was more seriously misleading in asserting (*Phys.* 180, 14) that Thales, like Anaximenes, generated by means of the condensation and rarefaction of his material principle. This is a purely schematic judgement based on an over-rigid dichotomy in Aristotle (106). Theophrastus only found the device explicitly used in Anaximenes: see 145.

Two things, then, have emerged from the present discussion: (i) 'all things are water' is not necessarily a reliable summary of Thales' cosmological views; and (ii) even if we do accept Aristotle's account (with some allowance, in any event, for his inevitably altered viewpoint), we have little idea of *how* things were felt to be essentially related to water.

(ii) *Even apparently inanimate things can be 'alive'; the world is full of gods*

91 Aristotle *de an.* A2, 405a19 εἶοικε δὲ καὶ Θαλῆς, ἐξ ὧν ἀπομνημονεύουσι, κινητικόν τι τὴν ψυχὴν ὑπολαβεῖν, εἴπερ τὴν λίθον ἔφη ψυχὴν ἔχειν ὅτι τὸν σίδηρον κινεῖ.

91 *Thales, too, seems, from what they relate, to have supposed that the soul was something kinetic, if he said that the (Magnesian) stone possesses soul because it moves iron.*

92 Diogenes Laertius I, 24 Ἄριστοτέλης δὲ καὶ Ἱππίας φασὶν αὐτὸν καὶ τοῖς ἀψύχοις μεταδιδόναί ψυχῆς, τεκμαιρόμενον ἐκ τῆς λίθου τῆς μαγνήτιδος καὶ τοῦ ἡλέκτρου.

93 Aristotle *de an.* A5, 411a7 καὶ ἐν τῷ ὄλῳ δέ τινες αὐτὴν (*sc.* τὴν ψυχὴν) μεμειχθαί φασιν, ὅθεν ἴσως καὶ Θαλῆς φήθη πάντα πλήρη θεῶν εἶναι.

The two passages from Aristotle's *de anima* allow us to conjecture, but no more, about Thales' vision of the whole world as somehow alive and animated. Aristotle himself was reporting second-hand evidence, and his statements are jejune and cautious (although in 91 εἴπερ need not, and probably does not, express doubt, while ἴσως in 93 qualifies ὅθεν and not the assertion that follows). The concluding words of 93, 'all things are full of gods', occur also in Plato, in a probably conscious but unattributed quotation.¹ 92 cites the sophist and polymath Hippias as an earlier source than Aristotle for Thales' attribution of motive power to Magnesian (magnetic) stone, to which is added amber, which becomes magnetic when rubbed. Presumably the addition is from Hippias, who may well have been Aristotle's source here.²

¹ 94 Plato *Laws* 10, 899b ἐστ' ὅστις ταῦτα ὁμολογῶν ὑπομενεῖ μὴ θεῶν εἶναι πλήρη πάντα; The context deals with souls being called gods, but contains no explicit reference to Thales. It is quite in Plato's style to introduce, rather laboriously, a familiar phrase to enlighten an unfamiliar argument of his own, without naming the author. His use of the words in question is important, in any case, because it shows that they are not simply an Aristotelian summary. They could (in direct speech) be a genuine quotation from Thales; they have a totally different appearance from the banal apophthegms hopefully assigned to Thales in Demetrius of Phaleron's collection (*ap.* Stob. III, 1, 172, DK 10, 3). Aristotle repeated them, with the substitution of ψυχῆς for θεῶν and without attribution, at *G.A.* Γ 11, 762a21.

² Snell, in an important and elusive article, *Philologus* 96 (1944) 170-82, shows that Hippias was quite possibly the source of Aristotle's other remarks on Thales, including the comparison with older ideas on Okeanos etc. (12, cf. 14). The fragment of Hippias quoted by Clement, DK 86B6, shows that he made a collection of key passages on similar topics from Homer, Hesiod, Orphic writings, and Greek and other prose-sources. He was therefore the earliest systematic doxographer.

92 Aristotle and Hippias say that he gave a share of soul even to inanimate [lit. soulless] objects, using Magnesian stone and amber as indications.

93 And some say that it [soul] is intermingled in the universe, for which reason, perhaps, Thales also thought that all things are full of gods.

94 Is there anyone who will accept this and maintain that all things are not full of gods?

All that Aristotle seems to have known in 91 was that Thales thought that magnetic stone possesses soul because it is able to move iron; but the further inference, that for Thales the soul was something motive, is clearly legitimate. Soul, whether it was associated with breath, blood, or spinal fluid, was universally regarded as the source of consciousness and life. A man is alive, he can move his limbs and so move other things; if he faints, it means that his soul has withdrawn or become incapacitated; if he dies, it has become permanently so, and the 'soul' that goes squeaking down to Hades in Homer is a mere shadow, because it is dissociated from the body and can no longer produce life and movement. It is a common primitive tendency to regard rivers, trees and so on as somehow animated or inhabited by spirits: this is partly, though not wholly, because they seem to possess the faculty of self-movement and change, they differ from mere stocks and stones. Thales' attitude was not primitive, of course, but there is a connexion with that entirely unphilosophical animism. It should be noted, however, that his examples are of a different order: magnetic stone looks as unalive as could be, and cannot move or change itself, only a certain kind of external object. Thus Thales appears to have made explicit, in an extreme form, a way of thinking that permeated Greek mythology but whose ultimate origins were almost pre-articulate. Now it is possible that our second piece of specific information, 93, is a generalization based on this very conclusion that certain kinds of apparently inanimate object are alive, possess soul, because they have a limited power of movement. 'All things are full of gods':¹ the chief distinguishing marks of the gods are that they are immortal, they enjoy perpetual life, and that their power (their life-force, as it were) is unlimited, it extends both over the animate and over the inanimate world. Thus the assertion may well imply (since even apparently dead things like stone may possess soul of a kind) that the world as a whole manifests a power of change and motion which is certainly not even predominantly human, and must, both because of its permanence and because of its extent and variation, be regarded as divine, as due to the inherence of some form of immortal ψυχή.²

¹ Or of daimons, according to the paraphrase in Aetius after Theophrastus:

95 Aetius I, 7, 11 Θάλῆς νοῦν τοῦ κόσμου τὸν θεόν, τὸ δὲ πᾶν ἔμψυχον

95 *Thales said that the mind of the world is god, and that the sum of things is besouled,*

ἅμα καὶ δαιμόνων πλήρες· διήκειν δὲ καὶ διὰ τοῦ στοιχειώδους ὕγρου δύναμιν θείαν κινητικὴν αὐτοῦ. The juxtaposition of the two statements from Aristotle is not significant. The last sentence is Stoic in form and content; the first clause (Θαλῆς . . . θεόν), too, is entirely anachronistic, and probably due to Stoic reinterpretation. It was repeated by Cicero, *N.D.* 1, 10, 25, who added that god, as mind, made the world out of water. A considerable number of recognizably fictitious opinions, like this one, were attributed to Thales by puzzled or unscrupulous doxographers and biographers. Compare, perhaps, the 30,000 daimons of Hesiod *Erga* 252 ff.

² The claim by Choerilus of Iasus (3rd–2nd c. B.C.) and others, recorded in Diog. L. 1, 24 (DK 11A1), that according to Thales the soul was immortal, obviously arose as an illegitimate conclusion from this kind of argument, and is again due to Stoic perversion (primarily) of the type of 95. Thales could have distinguished clearly between the human ψυχή and the divine life-force in the world as a whole, at the same time as implicitly recognizing their underlying connexion.

The precise nature of Thales' belief that all things are full of gods is obviously not determinable. Even along the line of interpretation suggested above there is one notable uncertainty: did Thales make the bold induction, from the observation about Magnesian stone and amber, that *all* apparently inanimate things really possess soul to some degree? Or was Burnet right in maintaining (*EGP* 50) that 'to say the magnet and amber are alive is to imply, if anything, that other things are not'? Formally this is an illegitimate contention (since only a part of what Thales said is known), and in itself the fragmentary observation implies nothing either way. Nor does the assertion that all things are full of gods, even if it is closely connected with the observation about magnetic stone, necessarily imply that the universal induction was made; for just as one can say in English 'this book is full of absurdities' without meaning that every single thing in it is absurd, so πλήρης in Greek could mean 'containing a great number of', as well as 'absolutely filled out by'. *A priori*, it perhaps seems more probable that Thales meant that all things in sum (rather than each single thing) were interpenetrated by some kind of life-principle; although there would be many kinds of matter from which this life-principle, with its kinetic power, might be absent. The point was that the range of soul, or of life, was much greater than it appeared to be. Thales was giving an explicit and individual statement of a broad presupposition common to all the early physicists, that the world

and full of daimons; right through the elemental moisture there penetrates a divine power that moves it.

was somehow alive, that it underwent spontaneous change, and (what irritated Aristotle) that there was therefore no need to give any special account of natural change. This presupposition is still sometimes called 'hylozoism'; but this name implies too strongly that it is something uniform, determinable, and conscious. In fact the term applies to at least three possible and distinct attitudes of mind: (a) the assumption (conscious or not) that all things absolutely are in some way alive; (b) the belief that the world is interpenetrated by life, that many of its parts which appear inanimate are in fact animate; (c) the tendency to treat the world as a whole, whatever its detailed constitution, as a single living organism. (a) is an extreme, but in view of the universalizing tendency of Greek thought not an impossible, form of the general presupposition; in a way it might be said to be exemplified by Xenophanes. Thales' belief, it has been suggested, approaches closer to (b). (c) is implicit in the old genealogical view of the world's history described in chapter 1, which still persisted to a large extent under the new rationalized form of philosophical cosmogony. Aristotle is seen at his most perspicuous in 118, where, perhaps with Thales especially in mind, he shows himself aware of the possibility of this kind of attitude.¹

¹ The spears in the *Iliad* (11, 574 etc.) which are 'eager to devour flesh', and other similar cases, are sometimes cited as an indication that the animistic view was an old one. Animism is, of course, as old as man himself, and it arises out of the failure to objectify one's experience of the outside world, a technique which requires some practice. The Homeric expressions are better described as a literary conceit, like the pathetic fallacy—a deliberate rejection of the technique.

CONCLUSION

Thales was chiefly known for his prowess as a practical astronomer, geometer, and sage in general. His prediction of the eclipse was probably made feasible by his use of Babylonian records, perhaps obtained at Sardis; he also probably visited Egypt. His theory that the earth floats on water seems to have been derived from near-eastern cosmogonical myths, perhaps directly; water as the origin of things was also a part of these myths, but had been mentioned in a Greek context long before Thales. His development of this concept may in itself have seemed to Aristotle sufficient warrant for saying that Thales held water to be the ἀρχή, in its Peripatetic sense of a persisting substrate. Yet Thales could indeed

¹ Especially since the two words are applied to the structure of the natural world, in a description of philosophical contemplation, by Euripides (fr. 910 Nauck²): 'observing the unageing structure of immortal Nature', ἀθανάτου καθορῶν φύσεως κόσμον ἀγήρω.

(vi) *The Indefinite is not in eternal motion, nor is it a mixture*

(These further points concerning the Indefinite are discussed under 'Cosmogony', pp. 126ff.)

THE EXTANT FRAGMENT OF ANAXIMANDER

112 Simplicius *Phys.* 24, 17 (repeated from 103A) . . . ἑτέραν τινὰ φύσιν ἄπειρον, ἐξ ἧς ἅπαντας γίνεσθαι τοὺς οὐρανοὺς καὶ τοὺς ἐν αὐτοῖς κόσμους. ἐξ ὧν δὲ ἡ γένεσις ἐστὶ τοῖς οὔσι, καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι 'κατὰ τὸ χρεῶν· διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν', ποιητικωτέροις οὕτως ὀνόμασιν αὐτὰ λέγων.

(i) *Extent*

Simplicius is undoubtedly quoting from a version of Theophrastus' history of earlier philosophy, and from the section on the material principle, περὶ ἀρχῆς. The concluding clause, a judgement on Anaximander's style, shows that what immediately precedes is still a direct quotation. Thus κατὰ τὴν τοῦ χρόνου τάξιν, which many have held to be a Theophrastean paraphrase of κατὰ τὸ χρεῶν, should provisionally be accepted as original.² διδόναι – ἀδικίας is certainly original, and well exemplifies the poetical style noted by Theophrastus. κατὰ τὸ χρεῶν, too, should probably be accepted as by Anaximander: χρεῶν retained a marked poetical colouring (except in the special usage χρεῶν ἐστὶ) until the expression τὸ χρεῶν became popular in the Hellenistic period as a circumlocution for death. It is the most plausible restoration in Heraclitus fr. 80, κατ' ἔριν καὶ χρεῶν (for χρεώμενα), to give a similar phrase to the one under discussion. The preceding words, ἐξ ὧν – εἰς ταῦτα γίνεσθαι, have been much disputed. The use of the abstracts γένεσις and φθορά, well established in Peripatetic but not (from the other extant evidence) in Presocratic vocabulary,

112 . . . some other apeiron nature, from which come into being all the heavens and the worlds in them. And the source of coming-to-be for existing things is that into which destruction, too, happens, 'according to necessity; for they pay penalty and retribution to each other for their injustice according to the assessment of Time', as he describes it in these rather poetical terms.

The underlined words here are commonly accepted as a direct quotation from Anaximenes. There must, however, have been some alteration and some re-wording: for the sentence is not in Ionic (cf. 141), and it contains one word, συγκρατεῖ, which could not possibly have been used by Anaximenes, and another, κόσμον, which is unlikely to have been used by him in precisely this sense.¹ That the sentence does, however, represent some kind of reproduction of a statement by Anaximenes is shown by Aetius' comment that 'air' and 'breath [*or* wind]' have the same meaning here, and also by the fact that the comparison with the soul complicates the simple Aristotelian criticism which Aetius is reproducing, that Anaximenes did not specify a moving cause. On the other hand the use of φησί, 'he says', does not guarantee a direct quotation in this kind of writing. περιέχει, of air enfolding all things, is quite likely to be Anaximenean, cf. 110; while the concept of the soul as breath (one suspects that πνεῦμα, not ἄήρ, originally stood in the first clause) is certainly an archaic one—compare the Homeric distinction between the life-soul, which normally seems to be identified with the breath, and the sensory and intellectual soul normally called θυμός. τὸν κόσμον could have replaced e.g. simply ἅπαντα, 'all things'. The degree of re-wording, then, probably is not very great; unfortunately we cannot determine whether, or how far, it affected the exact point and degree of comparison.

¹ συγκρατεῖν is otherwise first used in Plutarch (twice), then in 2nd-cent. A.D. medical writers and Diog. L. (of restraining the breath etc.); also in the *Geoponica* and the Christian fathers. It is an unnatural compound which could only have occurred in the Κοινή; it is really a compendium for συνέχειν καὶ κρατεῖν. This is illustrated in Plut. *Vit. Phoc.* 12, συνεκράτει τὸ μαχιμώτατον τῆς δυνάμεως: he kept control of his troops by keeping them together (on a hill-top). κόσμος originally means 'order', and it is probably not established in the meaning 'world-order' until the second half of the fifth century B.C. It must have been used in *descriptions* of the order apparent in nature much before then, and probably by early Pythagoreans; Pythagoras himself is credited with using κόσμος = οὐρανός, but this is perhaps an over-simplification (Diog. L. viii, 48). Heraclitus' κόσμον τόνδε (220) is probably transitional to the later and widely accepted usage, which appears unequivocally for the first time in Empedocles fr. 134, 5. (This passage was omitted by an oversight from the discussion in Kirk, *Heraclitus, the Cosmic Fragments* 312-14, and the conclusions there should be modified accordingly.)

As it stands the comparison is not very clear: 'Breath and air enclose (surround) the whole world in the way that our soul, being

THE ASSOCIATION OF XENOPHANES WITH ELEA

166 *Plato Sophist* 242 D (DK 21A29) τὸ δὲ παρ' ἡμῖν Ἑλεατικὸν ἔθνος, ἀπὸ Ζενοφάνους τε καὶ ἔτι πρόσθεν ἀρξάμενον, ὡς ἑνὸς ὄντος τῶν πάντων καλουμένων οὕτω διεξέρχεται τοῖς μύθοις.

167 *Aristotle Met.* A5, 986b18 Παρμενίδης μὲν γὰρ ἔοικε τοῦ κατὰ τὸν λόγον ἑνὸς ἀπτεσθαι, Μελίσσος δὲ τοῦ κατὰ τὴν ὕλην· διὸ καὶ ὁ μὲν πεπερασμένον, ὁ δ' ἀπειρόν φησιν εἶναι αὐτό· Ζενοφάνης δὲ πρῶτος τούτων ἐνίσσας (ὁ γὰρ Παρμενίδης τούτου λέγεται γενέσθαι μαθητῆς) οὐθὲν δισσαφήνισεν. . . . (For continuation see 177.)

It is commonly assumed in the doxographers that Xenophanes spent a part at least of his life in Elea, and that he was the founder of the Eleatic school of philosophy. This is exemplified in **165**. That he was Parmenides' master stems from Aristotle in **167**, and was categorically asserted by Theophrastus according to Simplicius (**168**). Yet Aristotle's judgement possibly arises from Plato's remark in **166**. This remark was not necessarily intended as a serious historical judgement (one may compare the statements in the *Theaetetus* (152 D-E, 160 D) that Homer and Epicharmus were the founders of the Heraclitean tradition), as is confirmed by the addition of the words καὶ ἔτι πρόσθεν, 'and even before'. The connexion between Xenophanes and Parmenides obviously depends on the superficial similarity between the motionless one deity of the former and the motionless sphere of Being in the latter—although it will be seen that Parmenides' theoretical construction was reached in a quite different way from Xenophanes', a way which is in fact incompatible. The extreme example of the treatment of Xenophanes as an Eleatic is seen in the pseudo-Aristotelian *de Melisso Xenophane Gorgia* (DK 21A28), a treatise written probably about the time of Christ in which Xenophanes' god is explained in fully Eleatic terms, and the inference is drawn from Aristotle's judgement in **167** that it was neither limited as in

166 Our Eleatic tribe, beginning from Xenophanes and even before, explains in its myths that what we call all things are actually one.

167 For Parmenides seems to fasten on that which is one in definition, Melissus on that which is one in material; therefore the former says that it is limited, the latter that it is unlimited. But Xenophanes, the first of these to postulate a unity (for Parmenides is said to have been his pupil), made nothing clear. . . .

Xenophanes' monistic conception was not 'physical' in the normal sense.¹ Xenophanes was not, like Anaximenes or Heraclitus, primarily engaged in giving a comprehensive explanation of the natural world. He was interested, without doubt, particularly in theology, and many of his remarks on physical topics are connected with that; others may have been ironical rejections of previous theories, and others again would naturally reflect the interest which many educated Greeks must have felt about natural problems at this time. Such remarks, together with comments on particular poets and thinkers (e.g. 169; cf. also DK 21A22), could have been expressed in separate poems in a variety of metres—though the extant theological and physical fragments are nearly all in hexameters. There may have been a separate collection of convivial songs in elegiacs.

¹ Cf. 168 Simplicius *Phys.* 22, 26 *μῖαν δὲ τὴν ἀρχὴν ἦτοι ἐν τῷ ὄν καὶ πᾶν* (καὶ οὔτε πεπερασμένον οὔτε ἀπείρουν οὔτε κινούμενον οὔτε ἡρεμοῦν) *Ξενοφάνην τὸν Κολοφώνιον τὸν Παρμενίδου διδάσκαλον ὑποτίθεσθαι φησιν ὁ Θεόφραστος, ὁμολογῶν ἑτέρας εἶναι μᾶλλον ἢ τῆς περὶ φύσεως ἱστορίας τὴν μνήμην τῆς τούτου δόξης.* Theophrastus is here misled by Aristotle in 177 into thinking that Xenophanes' one god is definitely non-physical, and is the whole of existence like the Parmenidean Being. But he can hardly have thought this if there was a poem which in any way resembled the works of the Milesians.

HIS IMPORTANCE

Widely different views have been held on the intellectual importance of Xenophanes. Thus Jaeger (*Theology* 52) writes of his 'enormous influence on later religious development', while Burnet (*EGP* 129) maintained that 'he would have smiled if he had known that one day he was to be regarded as a theologian'. Burnet's depreciation is certainly much exaggerated. Yet it is plain that Xenophanes differed considerably from the Milesians or Heraclitus or Parmenides. He was a poet with thoughtful interests, especially about religion and the gods, which led him to react against the archetype of poets and the mainstay of contemporary education, Homer. His attacks on Homeric theology must have had a deep influence both on ordinary men who heard his poems and on other

168 *Theophrastus says that Xenophanes the Colophonian, the teacher of Parmenides, supposed the principle to be single, or that the whole of existence was one (and neither limited nor unlimited, neither in motion nor at rest); and Theophrastus agrees that the record of Xenophanes' opinion belongs to another study rather than that of natural philosophy.*

thinkers; Heraclitus' attack on blood-purification and images (244), for example, was presumably influenced by him. His positive description of deity conceivably lay behind Aeschylus' description of divine power in the *Supplikes* (176). The assessment of the true relative merits of poets and athletes (fr. 2) was developed by Euripides in the *Autolycus* (fr. 282 Nauck, DK 21C2); this is a less specialized instance of Xenophanes' rational intellectualism. Nor is it safe to exaggerate his non-scientific character on the grounds of his theological interest; the study of gods was not divorced from that of nature, and the deduction from fossils (pp. 177 ff.), whether or not it reflects original observation, shows careful and by no means implausible argument from observed fact to general hypothesis—a procedure notoriously rare among the Presocratics. Some of his other physical statements are unutterably bizarre, but we cannot tell how serious they were meant to be. He was a critic rather than an original dogmatic, not a specialist but a true σοφιστής or sage, prepared to turn his intelligence upon almost any problem (though as it happens we know of no political pronouncements)—which is why Heraclitus attacked him in 193. His opinions on almost all subjects deserve careful attention.

THEOLOGY

(i) *Attacks on (a) the immorality, (b) the anthropomorphic nature, of the gods of the conventional religion*

169 Fr. 11, Sextus *adv. math.* ix, 193

πάντα θεοῖς ἀνέθηκαν Ὅμηρός θ' Ἡσίοδος τε
ὄσσα παρ' ἀνθρώποισιν ὄνειδεα καὶ ψόγος ἐστίν,
κλέπτειν μοιχεύειν τε καὶ ἀλλήλους ἀπατεύειν.

170 Fr. 14, Clement *Strom.* v, 109, 2

ἀλλ' οἱ βροτοὶ δοκέουσι γεννᾶσθαι θεοῦς,
τὴν σφετέρην δ' ἐσθῆτα ἔχειν φωνὴν τε δέμας τε.

171 Fr. 16, Clement *Strom.* vii, 22, 1

Αἰθιοπές τε (θεοῦς σφετέρους) σιμοὺς μέλανάς τε
Θρηκῆς τε γλαυκοὺς καὶ πυρροὺς (φασὶ πέλεσθαι).

169 *Homer and Hesiod have attributed to the gods everything that is a shame and reproach among men, stealing and committing adultery and deceiving each other.*

170 *But mortals consider that the gods are born, and that they have clothes and speech and bodies like their own.*

171 *The Ethiopians say that their gods are snub-nosed and black, the Thracians that theirs have light blue eyes and red hair.*

172 Fr. 15, Clement *Strom.* v, 109, 3

ἀλλ' εἰ χεῖρας ἔχον βόες (ἵπποι τ') ἢ λέοντες,
ἢ γράψαι χεῖρεςσι καὶ ἔργα τελεῖν ἄπερ ἄνδρες,
ἵπποι μὲν θ' ἵπποισι βόες δέ τε βουσὶν ὁμοίως
καὶ (κε) θεῶν ἰδέας ἔγραφον καὶ σώματ' ἐποίουν
τοιαῦθ' οἷόν περ καὶ τοὶ δέμας εἶχον (ἕκαστοι).¹

¹ 171 is convincingly reconstructed by Diels from an unmetrical quotation in Clement. The supplements in 172 are respectively by Diels, Sylburg and Herwerden; the text as in DK. Line 1 of 170 is an iambic trimeter.

Xenophanes' criticisms are clear enough: first, the gods of Homer and Hesiod are often immoral—this is patently true; second, and more fundamental, there is no good reason for thinking that the gods are anthropomorphic at all. Xenophanes brilliantly perceives, first that different races credit the gods with their own particular characteristics (this is an early example of the new anthropological approach which is seen in Herodotus and culminated in the φύσις-νόμος distinction); second, as a *reductio ad absurdum*, that animals would also do the same. The conclusion is that such assessments are subjective and without value, and that the established picture in Homer ('according to whom all have learned', fr. 10) of gods as men and women must be abandoned.

(ii) *Constructive theology: there is a single non-anthropomorphic deity*

173 Fr. 23, Clement *Strom.* v, 109, 1

εἷς θεός, ἔν τε θεοῖσι καὶ ἀνθρώποισι μέγιστος,
οὔτι δέμας θνητοῖσιν ὁμοίος οὐδὲ νόημα.

174 Fr. 26 + 25, Simplicius *Phys.* 23, 11 + 23, 20

αἰεὶ δ' ἐν ταύτῳ μίμνει κινούμενος οὐδέν
οὐδὲ μετέρχεσθαί μιν ἐπιτρέπει ἄλλοτε ἄλλη,
ἀλλ' ἀπάνευθε πόνοιο νόου φρενὶ πάντα κραδαίνει.

172 *But if cattle and horses or lions had hands, or were able to draw with their hands and do the works that men can do, horses would draw the forms of the gods like horses, and cattle like cattle, and they would make their bodies such as they each had themselves.*

173 *One god, greatest among gods and men, in no way similar to mortals either in body or in thought.*

174 *Always he remains in the same place, moving not at all; nor is it fitting for him to go to different places at different times, but without toil he shakes all things by the thought of his mind.*

175 Fr. 24, Sextus *adv. math.* IX, 144οὔλος ὄρα, οὔλος δὲ νοεῖ, οὔλος δὲ τ' ἀκούει.¹

¹ Diog. L. IX, 19 (DK 21A1) implies that the concluding words are not οὔλος δὲ τ' ἀκούει but οὐ μέντοι ἀναπνεῖ. This is probably a later version by someone interested in Pythagorean cosmology.

'Greatest among gods and men' in 173 should not be taken literally; men are mentioned by a 'polar' usage, as in Heraclitus fr. 30 (220), where this world-order was made by 'none of gods or men'. This is simply an emphatic device, and for the same reason the plural of 'gods' need not be intended literally. In fact Xenophanes wrote of 'gods' in other places also, e.g. in 191; partly, no doubt, this was a concession, perhaps not a fully conscious one, to popular religious terminology. It seems very doubtful whether Xenophanes would have recognized other, minor deities as being in any way related to the 'one god', except as dim human projections of it. The one god is unlike men in body and thought—it has, therefore (and also in view of 175), a body; but it is motionless,² for the interesting reason that it is 'not fitting' for it to move around. Xenophanes thus accepts the well-established Greek criterion of *seemliness*. Not only is it unfitting for the god to move, but movement is actually unnecessary, for the god 'shakes all things by the active will proceeding from his insight'.² This insight is related to seeing and hearing, but like them is accomplished not by special organs but by the god's whole unmoving body. This remarkable description was reached, probably, by taking the very antithesis of the characteristics of a Homeric god. That thought or intelligence can affect things outside the thinker, without the agency of limbs, is a development—but a very bold one—of the Homeric idea that a god can accomplish his end merely by implanting, for example, Infatuation ("Ἄτη) in a mortal. That it was nevertheless a possible idea is shown by its acceptance and expansion by Aeschylus.³

² It was probably because of its motionless unity that Xenophanes' god was identified with Parmenides' Being, and later absorbed some of its properties. As early as Timon of Phlius it is called 'equal in every way' (ἴσον ἀπάντη, cf. μεσσόθεν ἰσοπαλές πάντη in Parmenides, 351), and so becomes credited with spherical shape. Xenophanes may have described it as 'all alike' (ὁμοίην in Timon fr. 59, DK 21A35), since this is implicit in the whole of it functioning in a particular way as in 175; its sphericity goes beyond the fragments and is highly dubious.

175 *All of him sees, all thinks, and all hears.*

² This translation is based on K. von Fritz, *CP* 40 (1945) 230, who has a good discussion of the sense of νόος and φρήν. The phrase νόου φρενί looks more curious than it is: it is obviously based on νόει φρεσί and νοέω φρεσί at *Iliad* 9, 600 and 22, 235 respectively. Further, κραδαίνει can only mean 'shakes', which suggests that Xenophanes had in mind *Il.* 1, 530, where Zeus shakes great Olympus with a nod of his head. These are other indications that Xenophanes' god is more Homeric (in a negative direction) than it seems.

³ **176** Aeschylus *Supplices* 96-103 (Ζεύς) / Ἰάπτει δ' ἐλπίδων / ἀφ' ὑπιπύργων πανώλεις / βροτούς, βίαν δ' οὔτιν' ἐξοπλίζει, / πᾶν ἄπονον δαιμονίων. / ἦμενος δν φρόνημά πως / αὐτόθεν ἐξέπραξεν ἔμ-/πας ἑδράνων ἀφ' ἄγνων. In some ways this reminds one of Solon; we cannot be quite sure that Xenophanes' view of deity was as original as it now seems to be.

(iii) *Is the one god coextensive with the world?*

177 Aristotle *Met.* A5, 986b21 (for what precedes see **167**)
 . . . Ζενοφάνης δὲ πρῶτος τούτων ἐνίσας (ὁ γὰρ Παρμενίδης τούτου λέγεται γενέσθαι μαθητῆς) οὐθὲν διεσαφήνισεν, οὐδὲ τῆς φύσεως τούτων οὐδετέρας (*sc.* formal or material unity) ἔοικε θιγεῖν, ἀλλ' εἰς τὸν ὄλον οὐρανὸν ἀποβλέψας τὸ ἐν εἶναι φησι τὸν θεόν.

Xenophanes arrived at the concept of one god by reaction from Homeric anthropomorphic polytheism; Parmenides arrived at the sphere of Being by logical inference from a purely existential axiom. The processes are absolutely different, and, as has already been emphasized, Parmenides is unlikely to have been a pupil of Xenophanes, even though he might have noted the older poet's view with some interest. Aristotle obviously could not understand what Xenophanes meant by his one motionless god, but complained that he 'made nothing clear' and went on to dismiss both him and Melissus as being 'rather too uncouth' (μικρὸν ἀγροϊκό-τεροι). This puzzlement of Aristotle's suggests that Xenophanes did not produce a discursive elaboration of his theological views, which might not, indeed, have gone very far beyond the extant fragments on the subject. Aristotle's implication that the one god was neither immaterial (as he thought Parmenides' One to be) nor

176 (*Zeus*) hurls mortals in destruction from their high-towered expectations, *but puts forth no force: everything of gods is without toil. Sitting, he nevertheless at once accomplishes his thought, somehow, from his holy resting-place.*

177 . . . *but Xenophanes, the first of these to postulate a unity (for Parmenides is said to have been his pupil), made nothing clear, nor does he seem to have touched the nature of either of these [sc. Parmenides' formal unity or Melissus' material unity]; but with his eye on the whole heaven he says that the One is god.*

material like Melissus' One (cf. 167) was due to the presence of both corporeal and apparently non-corporeal elements in Xenophanes' description—the body, δέμας, on the one hand (173), and the shaking of all things by intellect on the other (174). It is significant here that Aristotle did not adduce Anaxagoras' Nous (which was the ultimate source of movement and the finest kind of body, and which permeated some but not all things) in illustration of Xenophanes' deity. Instead he made the cryptic remark that Xenophanes 'with his eye on the whole world said that the One was god' (for οὐρανός can hardly mean 'first heaven' here). This clearly implies that god is identical with the world, which is what Theophrastus seems to have assumed (168). But Aristotle must be wrong here: how could the god be motionless if it is identical with a world which is itself implied to move (174)? It is probable, indeed, that although Xenophanes' god is not a direct development from the cosmogonical tradition, yet it is to some extent based upon the Milesian idea of a divine substance which, in the case of Thales and Anaximenes, was regarded as somehow permeating objects in the world and giving them life and movement. Yet Xenophanes cannot have precisely worked out the local relationship of the god on the one hand and the manifold world (which he cannot have intended to reject) on the other. Aristotle, by treating him as a primitive Eleatic, misled the whole ancient tradition on this point. If Xenophanes had even implied that the god lay *outside* the world, then Aristotle or his elaborators could have seized upon this as an anticipation of the Prime Mover. The conclusion seems to be that Xenophanes' god was conceived as the negation of Homeric divine properties, and was not precisely located—any more than the old Homeric gods were thought by Xenophanes' contemporaries to be necessarily located on Olympus. It had a body of sorts because totally incorporeal existence was inconceivable, but that body, apart from its perceptual-intellectual activity, was of secondary importance, and so perhaps was its location.

PHYSICAL IDEAS

(i) *The heavenly bodies*

178 Hippolytus *Ref.* I, 14, 3 τὸν δὲ ἥλιον ἐκ μικρῶν πυριδίων ἀθροισμένων γίνεσθαι καθ' ἐκάστην ἡμέραν, τὴν δὲ γῆν ἄπειρον

178 *The sun comes into being each day from little pieces of fire that are collected, and the*

εἶναι καὶ μήτε ὑπ' ἀέρος μήτε ὑπὸ τοῦ οὐρανοῦ περιέχεσθαι. καὶ ἀπείρους ἡλίους εἶναι καὶ σελήνας, τὰ δὲ πάντα εἶναι ἐκ γῆς.

179 Ps.-Plutarch *Strom.* 4 (DK 21 A 32) τὸν δὲ ἡλίον φησι καὶ τὰ ἄστρα ἐκ τῶν νεφῶν γίνεσθαι.

180 Aetius II, 20, 3 Ζενοφάνης ἐκ νεφῶν πεπτρωμένων εἶναι τὸν ἡλίον. Θεόφραστος ἐν τοῖς Φυσικοῖς γέγραφεν ἐκ πυριδίων μὲν τῶν συναθροισζομένων ἐκ τῆς ὑγραῖς ἀναθυμιάσεως, συναθροισζόντων δὲ τὸν ἡλίον.

181 Fr. 32, Σ BLT in *Iliadem* II, 27
ἦν τ' Ἴριον καλέουσι, νέφος καὶ τοῦτο πέφυκε,
πορφύρεον καὶ φοινίκεον καὶ χλωρὸν ἰδέσθαι.

182 Aetius II, 24, 9 Ζενοφάνης πολλοὺς εἶναι ἡλίους καὶ σελήνας κατὰ κλίματα τῆς γῆς καὶ ἀποτομὰς καὶ ζώνας, κατὰ δὲ τινα καιρὸν ἐκπίπτειν τὸν δίσκον εἰς τινα ἀποτομὴν τῆς γῆς οὐκ οἰκουμένην ὑφ' ἡμῶν καὶ οὕτως ὥσπερ κενεμβρατοῦντα ἐκλειψιν ὑποφαίνειν· ὁ δ' αὐτὸς τὸν ἡλίον εἰς ἀπειρον μὲν προϊέναι, δοκεῖν δὲ κυκλεῖσθαι διὰ τὴν ἀπόστασιν.

There is a divergence in the doxographical accounts of the constitution of the heavenly bodies: were they a concentration of fiery particles as the sun is said to be in **178**, the second part of **180**, and ps.-Plutarch a few sentences before **179**; or ignited clouds as is said of sun and stars in **179**, of the sun in **180**, and of the stars, which are said to re-kindle at night like embers, in Aetius II, 13, 14, DK 21 A 38? Theophrastus is named in **180** as supporting the former view, but the latter also, which is widely represented in the

earth is infinite and enclosed neither by air nor by the heaven. There are innumerable suns and moons, and all things are made of earth.

179 *He says that the sun and the stars come from clouds.*

180 *Xenophanes says that the sun is made of ignited clouds. Theophrastus in the Physical philosophers wrote that it is made of little pieces of fire collected together from the moist exhalation, and themselves collecting together the sun.*

181 *What they call Iris [rainbow], this too is cloud, purple and red and yellow to behold.*

182 *Xenophanes said there are many suns and moons according to regions, sections and zones of the earth, and that at a certain time the disc is banished into some section of the earth not inhabited by us, and so treading on nothing, as it were, produces the phenomenon of an eclipse. The same man says that the sun goes onwards ad infinitum, but seems to move in a circle because of the distance.*

a naïve but understandable view which Xenophanes probably intended as an implied criticism of the dogmatic theories of the Milesians on this subject. Aristotle (*de caelo* B13, 294a21, DK21A47) criticized Xenophanes and others for holding this view, on the grounds that they were being idle in not seeking a proper explanation. The first part of 183 is such an obvious statement of fact that it cannot have been intended as anything else; which confirms our interpretation of the second part. Ps.-Plutarch (*Strom.* 4, DK21A32) and Hippolytus in 178 state that the earth is not totally enclosed (περιέχεσθαι) by air. This is presumably a further deduction from 183.

(iii) *Water, or sea, and earth*

- 184 Fr. 29, Simplicius *Phys.* 189, 1
γῆ καὶ ὕδωρ πάντ' ἔσθ' ὅσα γίνοντ' ἠδὲ φύονται.
- 185 Fr. 33, Sextus *adv. math.* x, 34
πάντες γὰρ γαίης τε καὶ ὕδατος ἐκγενόμεσθα.
- 186 Fr. 30, Σ Genav. in *Iliadem* 21, 196
πηγὴ δ' ἐστὶ θάλασσο' ὕδατος, πηγὴ δ' ἀνέμοιο·
οὔτε γὰρ ἐν νέφεσιν (γίνοιτό κε ἴς ἀνέμοιο
ἐκπνειοντος) ἔσωθεν ἄνευ πόντου μεγάλοιο
οὔτε ῥοαὶ ποταμῶν οὔτ' αἰ(θέρος) ὄμβριον ὕδωρ,
ἀλλὰ μέγας πόντος γενέτωρ νεφέων ἀνέμων τε
καὶ ποταμῶν.

The idea that everything, men included, is composed of and originates from water and earth is a naïve popular one: flesh and bone may be compared with earth and stone, blood with water. Compare our burial service, 'earth to earth, ashes to ashes, dust to dust'; and *Iliad* 7, 99, 'but may you all become earth and water'. Further, the surface of the earth, that which lies by our feet (183), is obviously broadly composed of earth and sea. Xenophanes takes this simple apprehension and develops it into a rudimentary

184 *All things that come-to-be and grow are earth and water.*

185 *For we all came forth from earth and water.*

186 *Sea is the source of water, and source of wind; for neither (would there be the force of wind blowing forth from) inside clouds without the great ocean, nor river-streams nor the showery water from the upper air: but the great ocean is begetter of clouds and winds and rivers.*

physical theory in 186 (where the main supplement is by Diels): sea, which is the most extensive form of water, is noted as the source of all rivers as in Homer (see 5)—but also of rain and of clouds (which Anaximander had assumed to be condensations of the exhalation from the sea) and of the winds which appear to issue from clouds. This importance attached to the sea gains significance from the observation and deduction to be described in the next section, that the earth's surface in its present form must have developed from sea.

(iv) *The earth's surface becomes sea once again*

187 Hippolytus *Ref.* I, 14, 5 ὁ δὲ Ξενοφάνης μίξιν τῆς γῆς πρὸς τὴν θάλασσαν γίνεσθαι δοκεῖ καὶ τῷ χρόνῳ ὑπὸ τοῦ ὕγρου λύεσθαι, φάσκων τοιαύτας ἔχειν ἀποδείξεις, ὅτι ἐν μέσῃ γῆ καὶ ὄρεσιν εὐρίσκονται κόγχαι, καὶ ἐν Συρακούσαις δὲ ἐν ταῖς λατομίαις λέγει εὐρίσθαι τύπον ἰχθύος καὶ φυκῶν [Gomperz; φωκῶν mss.], ἐν δὲ Πάρῳ τύπον δάφνης ἐν τῷ βάθει τοῦ λίθου, ἐν δὲ Μελίτῃ πλάκας συμπάντων τῶν θαλασσίων. (6) ταῦτα δὲ φησι γενέσθαι ὅτε πάντα ἐπηλώθησαν πάλαι, τὸν δὲ τύπον ἐν τῷ πηλῷ ξηραυθῆναι. ἀναίρεισθαι δὲ τοὺς ἀνθρώπους πάντας ὅταν ἡ γῆ κατενεχθεῖσα εἰς τὴν θάλασσαν πηλὸς γένηται, εἶτα πάλιν ἄρχεσθαι τῆς γενέσεως, καὶ ταύτην πᾶσι τοῖς κόσμοις γίνεσθαι καταβολήν [H. Lloyd-Jones; καταβάλλειν mss., μεταβολήν Diels, DK].

188 Fr. 37, Herodian π. μον. λέξ. 30, 30

καὶ μὲν ἐνὶ σπεάτεσσι τεοῖς καταλείβεται ὕδωρ.

The deduction based upon fossils is a remarkable and impressive one. The enumeration of different occurrences is in itself unusually scientific; the assertion ascribed to Xenophanes in the Aristotelian *Mirabilia* (DK 21A48), that Stromboli tended to erupt in the seventeenth year, shows a similar method. Not that the poet himself need have observed fossils in all three places—fossil-impressions

187 *Xenophanes thinks that a mixture of the earth with the sea is going on, and that in time the earth is dissolved by the moist. He says that he has demonstrations of the following kind: shells are found inland, and in the mountains, and in the quarries in Syracuse he says that an impression of a fish and of seaweed has been found, while an impression of a bay-leaf was found in Paros in the depth of the rock, and in Malta flat shapes of all marine objects. These, he says, were produced when everything was long ago covered with mud, and the impression was dried in the mud. All mankind is destroyed whenever the earth is carried down into the sea and becomes mud; then there is another beginning of coming-to-be, and this foundation happens for all the worlds.*

188 *And in some caves water drips down.*

might naturally arouse popular curiosity, and so become known; though it is notable that two of the three places were in Xenophanes' Sicilian orbit. (Paros has been doubted on geological grounds; but its north-eastern part is neither marble nor schist, and could have contained fossils. The Director of the Institute for Geology, Athens, confirms that plant fossils have recently been found there.) We cannot even be sure that the observations were first made in Xenophanes' lifetime; they might conceivably have been available to Anaximander. However, Xenophanes may reasonably be accepted as the first to draw attention to their real significance. The conjecture that the earth's surface had once been mud or slime was again not new; this was a Milesian theory possibly originating with Thales and certainly held by Anaximander, who believed that life started from mud. The fossils, however, seemed to be positive proof. It has been seen (pp. 139 f.) that Alexander attributed to Anaximander (as well as to Diogenes) the belief that the sea is diminishing and will eventually dry up. In Anaximander, however, there is no positive information that the process is a cyclical one. Hippolytus in 187 *ad fin.* definitely ascribes a cyclical theory to Xenophanes: the earth must once have been mud because plants once existed in what is now rock, fishes in what is now dry land, and men are destroyed when it turns back to mud; then they are produced anew, and this happens for all the arrangements of the earth's surface. Thus Xenophanes accepted that living creatures come from mud, after Anaximander; but while Anaximander seems to have seen their destruction as arising from extreme drought, for Xenophanes it was due to flood; it has already been suggested that myths of great catastrophes, notably the flood of Deucalion and Pyrrha and the earth-scorching of Phaethon, may have provided a precedent for this kind of theory. This divergence between the two thinkers was connected with divergent interpretations of the present trend of change in the earth's surface: for Anaximander it was drying up, for Xenophanes it was already turning back into sea or mud. This might have been a conscious correction on the part of the latter; it may not be coincidence that the sea was receding round Miletus, but in Sicily was supposed to have engulfed the land-bridge which became the Messina strait.

The cyclical transformations between earth and sea—neither of which, however, can have been completely eliminated—were

clearly related to the assertions in 184 and 185 that things come from earth and sea; while the products of sea in 186 showed that sea is surprisingly potent. 188, fragmentary as it is, may be intended to illustrate the passage between the two basic materials: Diels and others have thought of stalactitic caves, i.e. of water turning to earth (rock not being clearly differentiated), while Deichgräber (*Rh. M.* 87 (1938) 16) thought that both this and the reverse process might be meant; certainly, damp caves can appear to produce moisture from earth. This, like much else, remains uncertain (for example, at what stage is the drying-up of the sea reversed?). The clear exposition of a cyclical theory supported by concrete evidence is indisputable, and once again shows that Xenophanes must be seriously reckoned with. The way in which such a cyclical theory could encourage the doxographers in an innumerable-world interpretation is demonstrated by the ambiguous use of κόσμοις in 187 (there properly 'world-arrangements', i.e. of the earth's surface, but appearing to mean 'separate worlds').

XENOPHANES' EMPHASIS ON THE LIMITATIONS OF HUMAN KNOWLEDGE

189 Fr. 34, Sextus *adv. math.* vii, 49 and 110, cf. Plutarch *aud. poet.* 2, 17^E

καὶ τὸ μὲν οὖν σαφὲς οὐτὶς ἀνὴρ ἴδεν οὐδέ τις ἔσται
εἰδῶς ἀμφὶ θεῶν τε καὶ ἄσσα λέγω περὶ πάντων·
εἰ γὰρ καὶ τὰ μάλιστα τύχοι τετελεσμένον εἰπῶν,
αὐτὸς ὁμῶς οὐκ οἶδε· δόκος δ' ἐπὶ πᾶσι τέτυκται.

190 Fr. 35, Plutarch *Symp.* ix, 7, 746^B

ταῦτα δεδοξάσθω μὲν εἰκότα τοῖς ἐτύμοισι. . .

191 Fr. 18, Stobaeus *Anth.* i, 8, 2

οὔτοι ἀπ' ἀρχῆς πάντα θεοὶ θνητοῖσ' ὑπέδειξαν,
ἀλλὰ χρόνῳ ζητούντες ἐφευρίσκουσιν ἄμεινον.

189 *No man knows, or ever will know, the truth about the gods and about everything I speak of: for even if one chanced to say the complete truth, yet oneself knows it not; but seeming is wrought over all things [or fancy is wrought in the case of all men].*

190 *Let these things be opined as resembling the truth. . .*

191 *Yet the gods have not revealed all things to men from the beginning; but by seeking men find out better in time.*

192 Fr. 38, Herodian π. μον. λέξ. 41, 5
 εἰ μὴ χλωρὸν ἔφυσε θεὸς μέλι, πολλὸν ἔφρασκον
 γλύσσονα σῦκα πέλεσθαι.

It has been suggested by K. Deichgräber (*Rh. M.* 87 (1938) 23 ff.) that Xenophanes in his utterances on the shortcomings of human knowledge is developing a common poetical contrast between the comparative ignorance of the poet and the all-knowledge of the Muse whom he calls on to assist him: cf. e.g. Homer *Il.* 2, 485 f., Pindar *Paean* 6, 51 ff. Yet this contrast is merely a special form of that between the capacity of the gods in general and the limitations of men, which is re-stated, after Xenophanes, by Heraclitus in fr. 78 (208) and by Alcmaeon in fr. 1 (285). In Xenophanes himself it is implicit, too, in the assertion of **173** that the one god is unlike men either in body or in thought. Parmenides, when he came to propose dogmatic views which could not be corroborated from human experience, gave them the form of a divine revelation. Yet there is no indication that Xenophanes claimed anything like a revelation; **191** suggests that arduous investigation is rewarded, and the probability is that he, like Heraclitus, felt himself to be in a special state of knowledge for this reason. Deichgräber also thought that **189** was intended as the prooemium of the physical doctrine, not of the constructive theology; but it seems most unlikely that the plural of ἀμφὶ θεῶν should be taken literally to mean 'about the gods of conventional religion'; the phrase means simply 'about theology'. The assumption of two distinct poems is, it has been suggested, a dubious one; and this is confirmed by the linking of 'theology' and 'what I say about all things'. The constructive description of the one god must ultimately have come within the scope of **189**: it was the antithesis of the mistaken Homeric concept, but, though it might be 'like the truth', in the words of **190**, it could not be taken as absolutely certain. Even Xenophanes' special position as one who had given much attention to the subject could not ensure that. However, Xenophanes did not suggest that one could not be certain that a belief was *wrong*; and his destructive criticism of the Homeric gods, based as it was on a demonstrated subjectivity, might be accepted as true.

192 shows that Xenophanes thought about problems of relationship, which were to be especially significant for Heraclitus

192 *If god had not made yellow honey, men would consider figs far sweeter.*

HERACLITUS OF EPHEBUS

DATE AND LIFE

193 Diogenes Laertius IX, 1 (DK 22A1) 'Ηράκλειτος Βλόσωνος ἢ, ὡς τινες, 'Ηράκωντος 'Εφέσιος. οὗτος ἤκμαζε μὲν κατὰ τὴν ἐνάτην καὶ ἐξηκοστὴν ὀλυμπιάδα. μεγάλῳφρων δὲ γέγονε παρ' ὄντιναοῦν καὶ ὑπερόπτης, ὡς καὶ ἐκ τοῦ συγγράμματος αὐτοῦ δῆλον, ἐν ᾧ φησι· (Fr. 40) Πολυμαθὴ νόον ἔχειν οὐ διδάσκει· 'ΗΣίοδον γὰρ ἂν ἐδίδαξε καὶ Πυθαγόρην αὐτίς τε Ζενοφάνεά τε καὶ 'Εκαταῖον. . . (3) . . . καὶ τέλος μισανθρωπήσας καὶ ἐκπατήσας ἐν τοῖς ὄρεσι διητᾶτο, πῶας σιτούμενος καὶ βοτάνας. καὶ μέντοι καὶ διὰ τοῦτο περιτραπεῖς εἰς ὕδρον κατῆλθεν εἰς ἄστυ καὶ τῶν ἰατρῶν αἰνιγματωδῶς ἐπυσθάνετο εἰ δύναιτο ἐξ ἐπομβρίας αὐχμὸν ποιῆσαι· τῶν δὲ μὴ συνιέντων αὐτὸν εἰς βούστασιν κατορύξας τῇ τῶν βολίτων ἀλέα ἤλπισεν ἐξατμισθῆσθαι. οὐδὲν δὲ ἀνύων οὐδ' οὕτως ἐτελεῦτα βίους ἔτη ἐξήκοντα.

The information that Heraclitus was at his *acme*, i.e. aged forty, in Ol. 69 (504-501 B.C.) was doubtless taken from the chronographer Apollodorus: Heraclitus' middle age is placed about forty years after Anaximenes' assumed *acme* and Xenophanes' departure from Colophon. (According to Sotion (Diog. L. IX, 5, DK 22A1) some people said that Heraclitus 'heard' Xenophanes. That there was some influence is probable enough, but the critical tone of fr. 40, quoted in **193**, does not suggest a formal master-pupil relationship.) There is no need seriously to doubt Apollodorus' dating here, since Heraclitus mentioned Pythagoras and Hecataeus as well as Xeno-

193 *Heraclitus son of Blosson (or, according to some, of Herakon) of Ephesus. This man was at his prime in the 69th Olympiad. He grew up to be exceptionally haughty and supercilious, as is clear also from his book, in which he says: 'Learning of many things does not teach intelligence; if so it would have taught Hesiod and Pythagoras, and again Xenophanes and Hecataeus.' . . . Finally he became a misanthrope, withdrew from the world, and lived in the mountains feeding on grasses and plants. However, having fallen in this way into a dropsy he came down to town and asked the doctors in a riddle if they could make a drought out of rainy weather. When they did not understand he buried himself in a cow-stall, expecting that the dropsy would be evaporated off by the heat of the manure; but even so he failed to effect anything, and ended his life at the age of sixty.*

phanes,¹ and was perhaps indirectly referred to by Parmenides (345, cf. p. 272; also fr. 8, 55 ff., 353). Attempts have sometimes been made to place Heraclitus' philosophical activity later than the Apollodoran dating would reasonably suggest, after 478 B.C. (and even, most improbably, after Parmenides); but they have not won acceptance, and rest on implausible hypotheses such as that no trace of self-government (suggested by the information of fr. 121 that the Ephesians had exiled Heraclitus' friend Hermodorus) would be possible in Ephesus until after its liberation from Persia around 478. Heraclitus might have lived longer than Apollodorus' sixty years (at which age Anaximenes also, and Empedocles according to Aristotle, were said to die); but we may nevertheless provisionally accept that he was in his middle years at the end of the sixth century and that his main philosophical activity had ended by about 480.

¹ The past tense in fr. 40, 'would have taught', need not mean that all those mentioned were dead (Xenophanes at any rate lived until after 478), but it implies that they were all widely known at the time of writing. Another fragment, 129 (261; it may be to some extent re-worded but is not spurious, see p. 219 n.), implies that Pythagoras was already dead; he is said to have 'flourished' in 532/1 B.C. (p. 217), and perhaps died between 510 and 505. The Suda places Hecataeus' birth as late as 520-516 B.C.

The rest of 193 is quoted as a sample of the kind of biographical fiction that proliferated round the name of Heraclitus. We are also told by Diogenes that he refused to make laws for the Ephesians but preferred playing with children in the temple of Artemis. Most of these stories are based on well-known sayings of Heraclitus; many were intended to make him look ridiculous, and were invented with malicious intent by Hellenistic pedants who resented his superior tone. For example, extreme misanthropy is deduced from his criticisms of the majority of men (e.g. 197), vegetarianism from a mention of blood-pollution in 244, the fatal dropsy from his assertion 'it is death for souls to become water' in 232. He was known as an obscure propounder of riddles, and this is made out to have cost him his life: the doctors, whom he appeared to criticize in fr. 58 (p. 190), do nothing to save him. He is said to have buried himself in dung because he had said in fr. 96 that corpses are more worthless than dung; 'being exhaled' refers to his theory of exhalations from the sea. The only details about Heraclitus' life which it might be safe to accept as true are that he spent it in

Ephesus, that he came of an old aristocratic family,¹ and that he was on bad terms with his fellow-citizens.

¹ Cf. 194 Diog. L. ix, 6 σημείον δ' αὐτοῦ τῆς μεγαλοφροσύνης Ἀντισθένης φησὶν ἐν Διαδοχαῖς· ἐκχωρήσαι γὰρ τὰ δελφῶ τῆς βασιλείας. There is no apparent reason why this information should be fictitious. Strabo, 14, p. 633 Cas. (DK 22 A 2), said that the descendants of Androclus founder of Ephesus were still called 'kings', and had certain privileges like that of front seats at the games.

'THE OBSCURE'

Timon of Phlius, the third-century B.C. satirist, called Heraclitus ἀνικτῆς, 'riddler' (Diog. L. ix, 6). This legitimate criticism of his style later gave rise to the almost invariable epithet σκοτεινός, *obscurus* in Latin (Cicero *de finibus* II, 5, 15, etc.). Another common description in the Roman period was 'the weeping philosopher'. This latter judgement is entirely trivial, being founded partly on humorous references to the idea that all things flow like rivers (cf. e.g. Plato *Crat.* 440 C, believers in flux are like people with catarrh), and partly on Theophrastus' well-known attribution to Heraclitus of μελαγχολία (Diog. L. ix, 6), by which, however, he meant 'impulsiveness' (see Aristotle's description at *Eth. Nic.* H 8, 1150 b 25) and not 'melancholy' in its later and its modern sense.

HERACLITUS' BOOK

195 Diogenes Laertius ix, 5 τὸ δὲ φερόμενον αὐτοῦ βιβλίον ἐστὶ μὲν ἀπὸ τοῦ συνέχοντος Περὶ φύσεως, διήρηται δὲ εἰς τρεῖς λόγους, εἷς τε τὸν περὶ τοῦ παντός καὶ πολιτικόν καὶ θεολογικόν. (6) ἀνέθηκε δ' αὐτὸ εἰς τὸ τῆς Ἀρτέμιδος ἱερόν, ὡς μὲν τινες, ἐπιτηδεύσας ἀσάφεστερον γράψαι ὅπως οἱ δυνάμενοι προσίοιεν αὐτῷ καὶ μὴ ἐκ τοῦ δημῶδους εὐκαταφρόνητον ἦ... τοσαύτην δὲ δόξαν ἔσχε τὸ σύγγραμμα ὡς καὶ αἰρετιστὰς ἀπ' αὐτοῦ γενέσθαι τοὺς κληθέντας Ἑρακλειτεῖους.

Ancient biographers and historians of philosophy assumed that all the Presocratics wrote one or more books (though there was doubt

+ 194 *Antisthenes in his Successions quotes as a sign of his [Heraclitus'] arrogance that he resigned the hereditary 'kingship' to his brother.*

195 *The book said to be his is called 'On Nature', from its chief content, and is divided into three discourses: On the Universe, Politics, Theology. He dedicated it and placed it in the temple of Artemis, as some say, having purposely written it rather obscurely so that only those of rank and influence should have access to it, and it should not be easily despised by the populace... The work had so great a reputation that from it arose disciples, those called Heracliteans.*

over Thales, see pp. 84 ff.). They certainly assumed that Heraclitus wrote one, and Diogenes tells us that its title was 'On nature'. This title was regularly assigned to works by those whom Aristotle and the Peripatetics called 'natural philosophers', and cannot be regarded as necessarily authentic in all cases: see n. on p. 102. The division into three sections is unlikely to have been original, and suggests that Diogenes or his source was thinking of an edition or collection of sayings, probably made in Alexandria, which followed a Stoic analysis of the parts of philosophy. Diels maintained that Heraclitus wrote no consecutive book, but merely gave repeated utterance to a series of carefully-formulated opinions or γνῶμαι. This view has found few supporters, but could be correct. The surviving fragments have very much the appearance of oral pronouncements put into a concise and striking, and therefore easily memorable, form; they do not resemble extracts from a continuous written work. The obstacle to this view is fr. 1 (197), a structurally complicated sentence which looks very like a written introduction to a book. Possibly when Heraclitus achieved fame as a sage a collection of his most famous utterances was made, for which a special prologue was composed. In any event the fragments we possess (and not all those in DK are fully authentic) were for the most part obviously framed as oral apophthegms rather than as parts of a discursive treatise; this was in keeping with Heraclitus' oracular intentions (see p. 212). The suggestion in 195 that the 'Heracliteans', also mentioned by Plato and Aristotle, were devotees of the book is almost certainly guesswork; its importance lies in its implication that there was no 'school' of direct followers at Ephesus.¹ No follower of note is known until Cratylus, an older contemporary (probably) of Plato, who developed a debased form of Heracliteanism by exaggerating, and combining together, the Ephesian's belief in the inevitability of change and his belief (quite a common one in his time) in the significance of names.

¹ In spite of 196 Plato *Theaet.* 179D πολλοῦ καὶ δεῖ φαύλη εἶναι (sc. ἡ μάχη), ἀλλὰ περὶ μὲν τὴν Ἰωνίαν καὶ ἐπιδίδωσι πάμπολυ. οἱ γὰρ τοῦ Ἡρακλείτου ἑταῖροι χορηγοῦσι τούτου τοῦ λόγου μάλα ἔρρωμένως. (Cf. *ibid.* 179E, . . . αὐτοῖς μὲν τοῖς περὶ τὴν Ἐφεσον.) This whole passage is intentionally humorous, as indeed are most of Plato's remarks about

196 (The battle) is far from being a slight one, but in the region of Ionia it is even greatly increasing. For the companions of Heraclitus minister to this argument with might and main. (Cf. . . . to those around Ephesus.)

Heraclitus, and the local references need not be intended literally; anyone using what Plato would consider to be a Heraclitean type of argument might be ironically associated with Ephesus. Plato's most extreme Heraclitean acquaintance, at any rate, namely Cratylus, was neither an Ephesian nor from Ionia.

SPECIAL DIFFICULTIES OF INTERPRETATION

As has been seen, Heraclitus was renowned in antiquity for his obscurity: his pronouncements were undeniably often cryptic, probably intentionally so, and little serious attempt seems to have been made by Plato and Aristotle to penetrate to his real meaning. Theophrastus, on whom the later doxographical tradition depends, unfortunately based his interpretation on Aristotle's. He does not appear to have had access to a complete book by Heraclitus, or even (to judge, for example, from the omission of all but the barest reference to Heraclitus in Theophrastus' *de sensu*) to a fully representative collection of separate utterances; in fact he complained that Heraclitus' pronouncements were either unfinished or inconsistent. The Stoics further distorted the account. They adopted Heraclitus as their ancient authority, chiefly on physical matters, and in some respects produced an accurate development of his ideas; for example in their ideal of ὁμολογουμένως ζῆν, living in accord with Nature (cf. e.g. 198). In other respects, however, they radically re-adapted his views to meet special requirements of their own—for example in their attribution to him of the idea of *ekpyrosis*, the periodical consumption of the whole world by fire. Our sources subsequent to the founder of Stoicism, Zeno of Citium, accepted this particular interpretation of Heraclitus, which can be reconciled with some of the extant sayings and may have been encouraged by Theophrastus, but is incompatible with others and wholly at variance with the basic Heraclitean concept of measure in natural change: see further pp. 196-9 and n. on p. 202.

As for Plato and Aristotle, there is little *verbatim* quotation of Heraclitus in either, nor were they really interested in the accurate *objective* assessment of early predecessors. Plato occasionally mentions him, mainly in a humorous or ironical way and with emphasis on a view freely attributed to him in the dialogues, that 'all things are in flux'—πάντα ῥεῖ or πάντα χωρεῖ. According to Aristotle at *Met.* A6, 987a32, Plato was influenced in youth by the emphasis laid by Cratylus on this kind of view. But all Presocratic thinkers were struck by the dominance of change in the world of our

experience. Heraclitus was obviously no exception, indeed he probably expressed the universality of change more clearly than his predecessors; but for him it was the obverse idea of the *measure* inhering in change, the stability that persists through it, that was of vital importance. Plato may have been genuinely misled, especially by fifth-century sophistic exaggerations, in his distortion of Heraclitus' emphasis here; and Aristotle accepted the Platonic flux-interpretation and carried it still further. Other references to Heraclitus in Aristotle attack him for denying the law of contradiction in his assertions that opposites are 'the same'. Again, this is a misinterpretation by Aristotle, who applied his own high logical standards anachronistically: by 'the same' Heraclitus evidently meant not 'identical' so much as 'not essentially separate', or 'belonging to one single complex'.

In view of these defects in the authors of the ancient assessment it is safer to attempt the reconstitution of Heraclitus' thought, in the first instance, on the basis of the extant genuine fragments. Even so one cannot hope for more than a very limited understanding, mainly because Heraclitus, as Aristotle found, did not use the categories of formal logic, and tended to describe the same thing (or roughly the same thing) now as a god, now as a form of matter, now as a rule of behaviour or principle which was nevertheless a physical constituent of things.

HERACLITUS' THOUGHT

(1) *Men should try to comprehend the underlying coherence of things: it is expressed in the Logos, the formula or element of arrangement common to all things*

197 Fr. 1, Sextus *adv. math.* VII, 132 τοῦ δὲ λόγου τοῦδ' ἔόντος
αἰεὶ ἀξύνετοι γίνονται ἄνθρωποι καὶ πρόσθεν ἢ ἀκοῦσαι καὶ ἀκού-
σαντες τὸ πρῶτον· γινομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε
ἀπίροισιν εἰκάσι, πειρώμενοι καὶ ἐπέων καὶ ἔργων τοιοῦτων
ὁκοίων ἐγὼ διηγέυμαι κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων
ὁκῶς ἔχει· τοὺς δὲ ἄλλους ἀνθρώπους λανθάνει ὁκόσα ἐγερθέντες
ποιοῦσιν ὁκῶσπερ ὁκόσα εὐδοντες ἐπιλανθάνονται.

197 *Of the Logos which is as I describe it men always prove to be uncomprehending, both before they have heard it and when once they have heard it. For although all things happen according to this Logos men are like people of no experience, even when they experience such words and deeds as I explain, when I distinguish each thing according to its constitution and declare how it is; but the rest of men fail to notice what they do after they wake up just as they forget what they do when asleep.*

198 Fr. 2, Sextus *adv. math.* VII, 133 διὸ δεῖ ἐπεσθαι τῷ <ξυνῶ>· τοῦ λόγου δ' ἐόντος ξυνοῦ ζῶουσιν οἱ πολλοὶ ὡς ἰδίαν ἔχοντες φρόνησιν.¹

199 Fr. 50, Hippolytus *Ref.* IX, 9, 1 οὐκ ἐμοῦ ἀλλὰ τοῦ λόγου ἀκούσαντας ὁμολογεῖν σοφόν ἐστὶν ἐν πάντα εἶναι.

¹ διὸ δεῖ ἐπεσθαι τῷ κοινῶ· ξυνός γὰρ ὁ κοινός· τοῦ... mss. ξυνός and κοινός are different words for the same idea, the former being the normal epic and Ionic form and that used by Heraclitus. The later form was evidently given in a gloss, and then this gloss replaced the original word, though the appended explanation remained.

These sayings make it plain that Heraclitus regarded himself as having access to, and trying vainly to propagate, an all-important truth about the constitution of the world of which men are a part. The great majority fail to recognize this truth,¹ which is 'common'—that is, both valid for all things and accessible for all men, if only they use their observation and their understanding² and do not fabricate a private and deceptive intelligence. What they should recognize is the *Logos*, which is perhaps to be interpreted as the unifying formula or proportionate method of arrangement of things, what might almost be termed the structural plan of things both individual and in sum. The technical sense of λόγος in Heraclitus is probably related to the general meaning 'measure', 'reckoning' or 'proportion'; it cannot be simply Heraclitus' own 'account' that is in question (otherwise the distinction in 199 between ἐμοῦ and τοῦ λόγου is meaningless), although the *Logos* was revealed in that account. The effect of arrangement according to a common plan or measure is that all things, although apparently plural and totally discrete, are really united in a coherent complex (199) of which men themselves are a part, and the comprehension of which is therefore logically necessary for the adequate enactment of their own lives. Yet 'formula', 'proportionate arrangement' and so on are misleadingly abstract as translations of this technical sense of λόγος: the *Logos* was probably conceived by Heraclitus as an actual constituent of things, and in many respects it is co-extensive with the primary cosmic constituent, fire (see p. 200). It must constantly be remembered that no firm distinc-

198 *Therefore it is necessary to follow the common; but although the Logos is common the many live as though they had a private understanding.*

199 *Listening not to me but to the Logos it is wise to agree that all things are one.*

tion between different modes of existence had yet been envisaged, and that what to us is obviously non-concrete and immaterial, like an arrangement, might be regarded before Plato as possessing the assumed ultimate characteristic of 'being', that is, concrete bulk. To put it in another way, the arrangement would not be fully distinguished from the thing arranged, but would be felt to possess the same concreteness and reality as the thing itself.

¹ Men are attacked for this failure in many other extant fragments: see fr. 17, 19, 28, 34, 56, 72. But nothing substantial is added there to the content of 197, 198, 199. Analogous rebukes are also hurled at individuals—Homer, Hesiod, Xenophanes, Hecataeus, Archilochus and Pythagoras: see e.g. 193, where the ground of criticism is that such men (of whom Pythagoras comes in for special attack elsewhere, cf. e.g. 261) pursued the wrong kind of knowledge, πολυμάθη or the mere collection of disparate and unrelated facts.

² Cf. 200 Fr. 55, Hippolytus *Ref.* ix, 9, 5 ὄσων ὄψις ἀκοή μάθησις, ταῦτα ἐγὼ προτιμέω. But observation must be checked by understanding, φρόνησις: this is shown by 201 Fr. 107, Sextus *adv. math.* vii, 126 κακοὶ μάρτυρες ἀνθρώποισιν ὀφθαλμοὶ καὶ ὄτα βαρβάρους ψυχὰς ἔχόντων. Here 'barbarian souls' are those that cannot understand the language of, cannot correctly interpret, the senses, but are misled by superficial appearances. An analogous distinction between mere sensation and the intelligent interpretation of sense-data was later made by Democritus (pp. 423f.).

(2) *Different types of example of the essential unity of opposites*

202 Fr. 61, Hippolytus *Ref.* ix, 10, 5 θάλασσα ὕδωρ καθαρώτατον καὶ μιαρώτατον, ἰχθύσι μὲν πότιμον καὶ σωτήριον, ἀνθρώποις δὲ ἄποτον καὶ ὀλέθριον.

203 Fr. 60, Hippolytus *Ref.* ix, 10, 4 ὁδὸς ἄνω κάτω μία καὶ ὡστή.

204 Fr. 111, Stobaeus *Anth.* iii, 1, 177 νοῦσος ὑγιεινὴ ἐποίησεν ἡδὺ καὶ ἀγαθόν, λιμὸς κόρον, κάματος ἀνάπαυσιν. X

205 Fr. 88, [Plutarch] *Cons. ad Apoll.* 10, 106E ταῦτό τ' ἐνὶ ζῶν καὶ τεθηγκὸς καὶ τὸ ἐγρηγορὸς καὶ τὸ καθεῦδον καὶ νέον καὶ γηραιόν. X

200 *The things of which there is seeing and hearing and perception, these do I prefer.*

201 *Evil witnesses are eyes and ears for men, if they have souls that do not understand their language.*

202 *Sea is the most pure and the most polluted water; for fishes it is drinkable and salutary, but for men it is undrinkable and deleterious.*

203 *The path up and down is one and the same.*

204 *Disease makes health pleasant and good, hunger satiety, weariness rest.*

205 *And as the same thing there exists in us living and dead and the waking and the*

τάδε γὰρ μεταπεσόντα ἐκεῖνά ἐστι κάκεινα [πάλιν] μεταπεσόντα ταῦτα.

These fragments exemplify four different kinds of connexion between evident opposites:

(i) In **202** the same thing produces opposite effects upon different classes of animate object; so also fr. 13 (pigs like mud <but men do not>) and fr. 9 (donkeys prefer rubbish to gold, <men gold to rubbish>).

(ii) In **203**¹ different aspects of the same thing may justify opposite descriptions; so also fr. 58 (cutting and burning <which are normally bad> call for a fee when done by a surgeon) and fr. 59 (the act of writing combines straight, in the whole line, and crooked, in the shape of each letter).

(iii) In **204** good and desirable things like health or rest are seen to be possible only if we recognize their opposites, sickness or weariness; so probably fr. 23 (there would be no right without wrong).

(iv) In **205** certain opposites are said to be essentially connected (literally, to be 'the same', a pregnant expression) because they succeed, and are succeeded by, each other and nothing else. So in fr. 126 the hot substance and the cold form what we might call a hot-cold continuum, a single entity (i.e. temperature). So also fr. 57: night and day, which Hesiod had made parent and child, are, and must always have been, essentially connected and co-existent.

These four kinds of connexion between opposites can be further classed under two main headings: (a) i–iii, opposites which inhere in, or are simultaneously produced by, a single subject; (b) iv, opposites which are not susceptible of simultaneous distinction in relation to different objects, or parts of the subject, but are connected through being different stages in a single invariable process.

¹ This seems the most probable interpretation of 'the road up and down'. Theophrastus and a few of his followers applied the phrase to the interchanges between world-masses in the cosmic process, and most modern scholars have done the same. But the same words 'one and the same' are used of evident opposites in the formally similar fr. 59; and Hippolytus, a reliable source of *verbatim* quotations from Heraclitus who seems to have

sleeping and young and old: for these things having changed round are those, and those having changed round are these.

used a good handbook in which sayings of Heraclitus were grouped by subject, certainly took 'the road up and down' as another illustration of the unity of opposites and not as a cosmological metaphor, to which indeed it is not completely appropriate. We should think of an actual road or path, which is called 'the road up' by those who live at the bottom, 'the road down' by those at the top. Vlastos, *AJP* 76 (1955) 349 n. 26, objects to this interpretation on the grounds of its 'banality'; but it only appears banal to us because of its familiarity, and fr. 59, for example, undoubtedly has precisely the same quality.

These and similar reflexions (cf. also fr. 103, 48, 126, 99), on objects conventionally treated as entirely separate from and opposed to each other, evidently persuaded Heraclitus that there is *never* any real absolute division of opposite from opposite. (For a re-statement of this view by Anaxagoras see p. 381.)

(3) *Each pair of opposites thus forms both a unity and a plurality. Different pairs are also found to be inter-connected*

206 Fr. 10, [Aristotle] *de mundo* 5, 396b20 συλλάψεις ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνᾶδον διᾶδον· ἐκ πάντων ἐν καὶ ἕξ ἐνὸς πάντα.¹

207 Fr. 67, Hippolytus *Ref.* ix, 10, 8 ὁ θεὸς ἡμέρη εὐφρόνη, χειμῶν θέρος, πόλεμος εἰρήνη, κόρος λιμός [πάναντία ἅπαντα, οὗτος ὁ νοῦς]. ἄλλοιοῦται δὲ ὄκωσπερ <πῦρ> ὀπτόταν συμμιγῆ θυώμασιν ὀνομάζεται καθ' ἡδονὴν ἐκάστου. [πῦρ suppl. Diels.]

¹ συλλάψεις is textually slightly preferable to συνάψεις, which would mean 'things in contact'. A more important question is whether the word is subject or predicate. Snell showed that it is subject, contrary to the common view; neither 'wholes' and 'not wholes' nor 'in tune' and 'out of tune' are typical pairs of Heraclitean opposites, nor indeed are they connected by Heraclitus' regular principles.

In 206 'things taken together' must be, primarily, opposites: what one takes together with night, for example, is day. (Here we may note that Heraclitus expresses what we should call 'quality' always in terms of simple extremes, which he can then classify as opposites; so that all change can thus be regarded as that between

206 *Things taken together are whole and not whole, something which is being brought together and brought apart, which is in tune and out of tune; out of all things there comes a unity, and out of a unity all things.*

207 *God is day night, winter summer, war peace, satiety hunger [all the opposites, this is the meaning]; he undergoes alteration in the way that fire, when it is mixed with spices, is named according to the scent of each of them.*

¹ The superiority of god to man, and of the divine 'synthetic' view of things to the human chaotic view, is heavily stressed by Heraclitus: e.g.

208 Fr. 78, Origen *c. Celsum* vi, 12 ἦθος γὰρ ἀνθρώπειον μὲν οὐκ ἔχει γνώμης, θεῖον δὲ ἔχει. See also fr. 79, 82-3, and compare the Hebrew concept: 'As the heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts'—Isaiah lv. 8f. One saying specifically asserts that for god the separateness implied by opposites does not exist: **209** Fr. 102, Porphyrius in *Iliadem* 4, 4 τῷ μὲν θεῷ καλὰ πάντα καὶ ἀγαθὰ καὶ δίκαια, ἀνθρώποι δὲ ἃ μὲν ἄδικοι ὑπειλήφασιν ἃ δὲ δίκαια.

(4) *The unity of things lies beneath the surface; it depends upon a balanced reaction between opposites*

210 Fr. 54, Hippolytus *Ref.* ix, 9, 5 ἀρμονίη ἀφανῆς φανερῆς κρείττων.

211 Fr. 123, Themistius *Or.* 5, p. 69 D. φύσις κρύπτεσθαι φιλεῖ.

212 Fr. 51, Hippolytus *Ref.* ix, 9, 1 οὐ ξυνιαῖσιν ὅκως διαφερόμενον ἐσωτῶ ξυμφέρεται· παλίντονος ἀρμονίη ὅκωσπερ τόξου καὶ λύρης.¹

¹ Hippolytus, the fullest source here, and usually a reliable one, has ὁμολογεῖν (for ὁμολογέει) and παλίντροπος. ξυμφέρεται is a probable restoration from Plato's version, *Symp.* 187A, and avoids a difficult use of ὁμολογεῖν—a verb which could easily have been repeated accidentally, since Hippolytus used it twice in the infinitive just before he quoted the fragment. παλίντονος has as much support as παλίντροπος in the versions (of the second part only) by Plutarch and Porphyry, and is preferred because it gives a fully intelligible sense. G. Vlastos, *AJP* 76 (1955) 348ff., defends παλίντροπος: his strongest point is that Diog. L. ix, 7, a summary and often imprecise version of Theophrastus, has the phrase διὰ τῆς ἐναντιοτροπῆς ἡρμόσθαι. This certainly appears at first sight to be based upon παλίντροπος ἀρμονίη; yet the ἐναντιοτροπή (which would have to be ἐναντιοτροπία if derived from an adjectival form -τροπος) probably refers to the τροπαὶ of **221**, combined (as they certainly were by Theophrastus, cf. the fuller account of him in Diog. L. ix, 8) with the 'way up and down' interpreted as change between opposites. ἡρμόσθαι could be a general application of the concept of ἀρμονίη, cf. **210**. It is also possible

208 *Human disposition does not have true judgement, but divine disposition does.*

209 *To god all things are beautiful and good and just, but men have supposed some things to be unjust, others just.*

210 *An unapparent connexion is stronger than an apparent one.*

211 *The real constitution of things is accustomed to hide itself.*

212 *They do not apprehend how being at variance it agrees with itself [literally, how being brought apart it is brought together with itself]: there is a back-stretched connexion, as in the bow and the lyre.*

that there was doubt about the form of the epithet as early as Theophrastus, as there certainly was later. Objections to *παλίντροπος* are (i) can 'a turning-back connexion' really be said, even by Heraclitus, for 'a connexion *achieved* by contrary changes'? Perhaps it can—it would be possible, certainly, in Aeschylus. If this is accepted, the meaning given fits in well enough with Heraclitus' theory of natural change. Unfortunately (ii) it does not make any intelligible sense when applied, as it is, to the bow and the lyre. Vlastos suggests that the sequence of tension and relaxation of the string, which discharges the arrow or makes the note, is meant: but this sequence cannot be described as an 'adjustment' or 'connexion', in any kind of Greek. The *παλίντροπος κέλευθος* in Parmenides fr. 6 (345) is, of course, perfectly intelligible, and does not necessarily contain a reference to Heraclitus (cf. p. 272), or at any rate to this fragment.

What is stated in 210 is a general rule; comparison with 211 (where *φύσις* probably means not 'Nature' but 'a thing's true constitution'), and also with 212, suggests that the rule is intended to apply to the working of the world as a whole, as a sum of constituent parts whose connexion is not apparent at first sight. The unseen connexion of opposites is in fact stronger than other, more obvious types of connexion.¹ 212, one of Heraclitus' most familiar sayings, contains a characteristic looseness in predication: the subject of *ξυμφέρεται* is probably not *τὸ διαφερόμενον*, i.e. another example of a specific opposite, but a generalizing *διαφερόμενόν <τι>*, where 'anything being carried apart' means something like 'any discrete pair of opposites'. Thus the sense given is similar to that implicit in *συμφερόμενον διαφερόμενον* in 206: any pair, or sum of pairs, can be regarded either (a) as heterogeneous and analysable in terms of separate extremes, or (b) as tending together with itself to form a unity. Now comes an important addition: there is (*sc.* in it, i.e. it exemplifies) a connexion or means of joining (the literal sense of ἄρμονίη) through opposite tensions,² which ensures this coherence—just as the tension in the string of bow or lyre, being exactly balanced by the outward tension exerted by the arms of the instrument, produces a coherent, unified, stable and efficient complex. We may infer that if the balance between opposites were *not* maintained, for example if 'the hot' (i.e. the sum of hot substances) began seriously to outweigh the cold, or night day, then the unity and coherence of the world would cease, just as, if the tension in the bow-string exceeds the tension in the arms, the whole complex is destroyed.

¹ A number of fragments imply that it needs both faith and persistence to find the underlying truth. So e.g. 213 Fr. 18, Clement *Strom.* II, 17, 4

ἐὰν μὴ ἔλπηται ἀνέλπιστον οὐκ ἐξευρήσει, ἀνεξερευνητον ἔδον καὶ ἄπορον.
See also 247, and fr. 22, 86; compare Xenophanes (191).

² παλίντονος = 'counter-stretched', i.e. tending equally in opposite directions. A tension in one direction automatically produces an equivalent tension in the other; if not, the system collapses.

(5) *The total balance in the cosmos can only be maintained if change in one direction eventually leads to change in the other, that is, if there is unending 'strife' between opposites*

214 Fr. 80, Origen c. *Celsum* vi, 42 εἰδέναι χρῆ τὸν πόλεμον ἐόντα ξυνόν, καὶ δίκην ἔριν, καὶ γινόμενα πάντα κατ' ἔριν καὶ χρεών.¹

215 Fr. 53, Hippolytus *Ref.* ix, 9, 4 πόλεμος πάντων μὲν πατήρ ἐστι, πάντων δὲ βασιλεύς, καὶ τοὺς μὲν θεοὺς ἔδειξε τοὺς δὲ ἀνθρώπους, τοὺς μὲν δούλους ἐποίησε τοὺς δὲ ἐλευθέρους.

¹ χρεών Diels, χρεώμενα ms. The emendation is not certain, but is hard to improve; the three extra letters may be connected with the omission of three letters just before, where the unique Vatican ms. has εἰ δέ for the obvious original εἰδέναι.

Strife or war is Heraclitus' metaphor for the dominance of change in the world. It is obviously related to the reaction between opposites; most kinds of change (except for e.g. growth, which is the accretion of like to like), it may be inferred, could be resolved into change between opposites. At all events, change from one extreme to the other might seem to be the most radical possible. The 'war' which underlies all events, and is responsible for different and indeed opposed conditions of men and for their fate after death (cf. 239 and 242 for the difficult assertion about men and gods), is called δίκη, the 'indicated way' (from the same root as δεικνυμι), or the normal rule of behaviour. This must be a deliberate amendment of Anaximander's dictum (112) that things pay retribution to each other for the injustice of their alternate encroachments in the processes of natural change. Heraclitus points out that if strife—that is, the action and reaction between

213 *If one does not expect the unexpected one will not find it out, since it is not to be searched out, and difficult to compass.*

214 *It is necessary to know that war is common and right is strife and that all things happen by strife and necessity.*

215 *War is the father of all and king of all, and some he shows as gods, others as men; some he makes slaves, others free.*

opposed substances—were to cease, then the victor in every contest of extremes would establish a permanent domination, and the world as such would be destroyed.¹ Yet just as in a battle there are temporary local stoppages, or deadlocks produced by the exact balance of opposing forces, so Heraclitus must have allowed that temporary stability is to be found here and there in the cosmic battlefield, so long as it is only temporary and is balanced by a corresponding state elsewhere. This would not diminish the validity of the domination of strife (which, as for Anaximander, provides a metaphorical motive for change), but it allows the principle to be applied to the world of our actual experience, in which all things must eventually change but some things are for the time being obviously stable.

¹ Cf. 216 Aristotle *Eth. Eudem.* H 1, 1235a25 και Ἡράκλειτος ἐπιτιμᾷ τῷ ποιήσαντι ὡς ἔρις ἕκ τε θεῶν και ἀνθρώπων ἀπόλοιτο (= *Il.* 18, 107). οὐ γὰρ ἂν εἶναι ἁρμονίαν μὴ ὄντος ὀξείας και βαρέος οὐδὲ τὰ ζῶα ἄνευ θήλεος και ἄρρενος ἐναντιῶν ὄντων. Here ἁρμονία has its special sense of 'musical scale'.

(6) *The river-image illustrates the kind of unity that depends on the preservation of measure and balance in change*

217 Fr. 12, Arius Didymus *ap. Eusebium P.E.* xv, 20, +fr. 91, Plutarch *de E* 18, 392B ποταμοῖσι τοῖσιν αὐτοῖσιν ἐμβαίνουσιν ἕτερα και ἕτερα ὕδατα ἐπιρρεῖ (= fr. 12).¹ . . . σκίδνησι και . . . συνάγει . . . συνίσταται και ἀπολείπει . . . πρόσσεισι και ἄπεισι (= fr. 91).

¹ The words και ψυχαὶ δὲ ἀπὸ τῶν ὑγρῶν ἀναθυμῶνται, which follow ὕδατα ἐπιρρεῖ in Arius, are counted as part of fr. 12 by most editors; but they are out of place here and are almost certainly part of an attempt by Cleanthes to find an exhalation of soul in Heraclitus as in Zeno: see Kirk, *Heraclitus, the Cosmic Fragments* 367ff. The pairs of verbs which form fr. 91 occur in Plutarch immediately after a summary by him (in Platonic terms) of the main river-statement; see further p. 198.

According to the Platonic interpretation, accepted and expanded by Aristotle, Theophrastus, and the doxographers, this river-image was cited by Heraclitus to emphasize the absolute con-

(X) 216 *Heraclitus rebukes the author of the line 'Would that strife might be destroyed from among gods and men': for there would be no musical scale unless high and low existed, nor living creatures without female and male, which are opposites.*

217 *Upon those that step into the same rivers different and different waters flow . . . It scatters and . . . gathers . . . it comes together and flows away . . . approaches and departs.*

tinuity of change in every single thing: everything is in perpetual flux like a river. So **218** Plato *Cratylus* 402A λέγει που Ἡράκλειτος ὅτι πάντα χωρεῖ καὶ οὐδὲν μένει, καὶ ποταμοῦ ῥοῆ ἀπεικάζων τὰ ὄντα λέγει ὡς δις ἐς τὸν αὐτὸν ποταμὸν οὐκ ἂν ἐμβαίης. It is to this interpretation that Aristotle refers in **219** Aristotle *Phys.* Θ3, 253b9 καὶ φασὶ τινες κινεῖσθαι τῶν ὄντων οὐ τὰ μὲν τὰ δ' οὐ, ἀλλὰ πάντα καὶ αἰεὶ, ἀλλὰ λανθάνειν τοῦτο τὴν ἡμετέραν αἴσθησιν. Aristotle here makes explicit what is implicit in Plato, that many things (those that appear to be stable) must be undergoing *invisible* or unnoticed changes. Can Heraclitus really have thought that a rock or a bronze cauldron, for example, was invariably undergoing invisible changes of material? Perhaps so; but nothing in the extant fragments suggests that he did, and his clearly-expressed reliance on the senses, provided they be interpreted intelligently, suggests that he did not.¹ It cannot be too strongly emphasized that before Parmenides and his apparent proof that the senses were completely fallacious—a proof that was clearly a tremendous shock to his contemporaries—gross departures from common sense must only be accepted when the evidence for them is extremely strong. In the present case it is quite conceivable that Plato was misled by post-Heraclitean exaggerations and distortions of Heraclitus' emphasis on eventual change; in particular, perhaps, by Cratylus, who thought that you could not step even *once* into the same river (Aristotle *Met.* Γ5, 1010a13), and who is said by Aristotle to have influenced Plato as a young man (*Met.* A6, 987a32).²

¹ See **200, 201**. It is true that Melissus in fr. 8 (392) drew attention to the appearance that some 'stable' things do change: iron is worn away by the finger, and so on. This observation occurs in a context which perhaps has verbal references to Heraclitus (e.g. τὸ τε θερμὸν ψυχρὸν γίνεσθαι καὶ τὸ ψυχρὸν θερμὸν, cf. fr. 126). Yet there is no reason whatever to think that Melissus meant that change must in this case be *continuous*, even though it can be *invisible*. Every time the finger rubs, it rubs off an invisible portion of iron; yet when it does not rub, what reason is there to think that the iron is still changing? Melissus' point is rather that appearances show that

218 Heraclitus somewhere says that all things are in process and nothing stays still, and likening existing things to the stream of a river he says that you would not step twice into the same river. X X

219 And some say not that some existing things are moving, and not others, but that all things are in motion all the time, but that this escapes our perception.

example, is balanced by a corresponding stability elsewhere of corresponding masses of sea, and of fire or aither (the mountain being mostly earth); on which see the next section.

(7) *The world is an ever-living fire, parts of which are always extinguished to form the two other main world-masses, sea and earth. Changes between fire, sea and earth balance each other; pure, or aitherial, fire has a directive capacity*

220 Fr. 30, Clement *Strom.* v, 104, 1 κόσμον τόνδε [τὸν αὐτὸν ἀπάντων]¹ οὔτε τις θεῶν οὔτε ἀνθρώπων ἐποίησεν, ἀλλ' ἦν αἰεὶ καὶ ἔστιν καὶ ἔσται· πῦρ αἰείζωνον, ἀπτόμενον μέτρα καὶ ἀπροσβεννύμενον μέτρα.

221 Fr. 31, Clement *Strom.* v, 104, 3 πυρὸς τροπαί· πρῶτον θάλασσα, θαλάσσης δὲ τὸ μὲν ἡμισυ γῆ τὸ δὲ ἡμισυ πρηστήρ. . . (γῆ) θάλασσα διαχέεται, καὶ μετρέεται εἰς τὸν αὐτὸν λόγον ὁκοῖος πρόσθεν ἦν ἢ γενέσθαι γῆ.

222 Fr. 90, Plutarch *de E* 8, 388 D πυρὸς τε ἀνταμοιβῆ τὰ πάντα καὶ πῦρ ἀπάντων ὅκωσπερ χρυσοῦ χρήματα καὶ χρημάτων χρυσός.

223 Fr. 64, Hippolytus *Ref.* ix, 10, 6 τὰ δὲ πάντα οἰακίζει κεραυνός.

¹ Vlastos, *op. cit.* 344 ff., argues that 'the same of all' is original, and contrasts the real physical world of common experience with the deceptive private imaginings of men who do not follow the Logos (cf. 198 etc.). This would be possible enough if (what does not seem particularly probable) fr. 30 followed directly upon a reference to men's delusions; but neither Plutarch nor Simplicius, who also quote the first part of the fragment, gives the debated phrase. More important, Vlastos does not mention that Clement in the context of the quotation is following some Stoic source in endeavouring to explain away this fragment's inconsistency with the Stoic *ecpyrosis*-interpretation, by arguing that 'this world-order' in Heraclitus is the all-inclusive, eternal system, τὸν ἐξ ἀπάσης τῆς οὐσίας ἰδίως ποιὸν κόσμον as Clement had just said, and not this particular world. Thus the interpolation is very strongly motivated; see further Kirk, *Heraclitus, the Cosmic Fragments* 307 ff.

220 *This world-order [the same of all] did none of gods or men make, but it always was and is and shall be: an everliving fire, kindling in measures and going out in measures.*

221 *Fire's turnings: first sea, and of sea the half is earth, the half 'burner' [i.e. lightning or fire]. . . [earth] is dispersed as sea, and is measured so as to form the same proportion as existed before it became earth.*

222 *All things are an equal exchange for fire and fire for all things, as goods are for gold and gold for goods.*

223 *Thunderbolt steers all things.*

229 Fr. 94, Plutarch *de exil.* 11, 604A "Ἥλιος οὐχ ὑπερβήσεται μέτρα· εἰ δὲ μή, Ἐρινύες μιν Δίκης ἐπικούροι ἐξευρήσουσιν.

No extant fragment clearly reveals Heraclitus' ideas on the nature of the heavenly bodies; but Theophrastus evidently gave a moderately detailed if subjective account of his views, the non-Peripatetic parts of which there is no reason to disbelieve. Diogenes preserves the fullest version of this account, of which **227** is a part; for the rest (the stars are further from the earth than the sun, the moon nearer) see DK 22A1. The heavenly bodies are solid bowls filled with fire. This fire is maintained by moist exhalations or evaporations from the sea, which are somehow collected in them and burned as fuel.¹ This is presumably the way in which water changes into fire in the balanced interaction between world-masses described in **221**. The idea that, since moisture is evaporated by fire, fire is physically nourished by it is a naïve and popular one. Similarly the solid celestial bowls are probably a quasi-scientific elaboration of the popular myth that the sun each night sails from west to east *in a golden bowl* round the northern stream of Okeanos (see **7**, **8**). Eclipses and phases of the moon were explained by the turning away of the bowls: but no true cause (as opposed to a mere mechanism) was given, and Diogenes (ix, 11, DK 22A1), presumably still following Theophrastus, stated that Heraclitus said nothing about the constitution of the bowls. Heraclitus was probably not interested in astronomy for its own sake, and seems to have been content with adaptations of popular accounts so long as his general theory of cosmological change was preserved. **228** is consonant with Theophrastus' account of the celestial bowls: the sun is 'new' every day in the sense that its fire is replenished each night with entirely fresh exhalations. Naturally, this replenishment and consumption form a regular cycle, though one which could admit slight variations. The principle of measure in natural change is illustrated also in **229**, where the sun is restrained by Dike, the personification of normality and therefore regularity, from exceeding its measures—for example from coming too close to the earth or shining beyond its proper time.

229 *Sun will not overstep his measures; otherwise the Erinyes, ministers of Justice, will find him out.*

¹ Theophrastus and his followers usually attributed *two* exhalations, a moist and a dry one, to Heraclitus: this is most probably a misunderstanding based upon Aristotle's own dual-exhalation explanation of meteorological (as opposed, in his case, to astronomical) events. Aristotle seems to have elaborated this theory out of Heraclitus' ideas on the importance of the exhalation from the sea and other terrestrial waters; but it appears from passages in his *Meteorologica* that Aristotle considered the dry exhalation from the earth to be his own discovery (Kirk, *Heraclitus, the Cosmic Fragments* 273 ff.). Yet, because it is kindled, he can treat Heraclitus' exhalation as fiery: see p. 207 n. 1. The explanation of night and day (as well as winter and summer) as due to the alternating prevalence of the dark and bright exhalations, ascribed to Heraclitus in Diogenes' Theophrastean account, is absurd: Heraclitus knew as well as anyone that day is due to the sun, and declared in fr. 99 that 'if there were no sun, it would be night'.

(9) *Wisdom consists in understanding the way the world works*

230 Fr. 41, Diogenes Laertius IX, 1 ἐν τῷ σοφόν· ἐπίστασθαι γνῶμην, ὅκη κυβερνᾶται πάντα διὰ πάντων.¹

231 Fr. 32, Clement *Strom.* V, 115, 1 ἐν τῷ σοφόν μῦνον λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς ὄνομα.

¹ ὅτῃ κυβερνῆσαι P¹B, ὅτ' ἐγκυβερνῆσαι F; ὅτῃ ἐκυβέρνησε Diels, DK, ὀπῆ κυβερνᾶται Gigon, Walzer, ὀτῇ κυβερνᾶται Vlastos, ὅκη κυβερνᾶται scripsi. The feminine form ὀτῇ is not, in fact, found; ὅκη is one obvious source of corruption. This involves taking γνῶμην as internal accusative with ἐπίστασθαι, after Heideil: 'to be acquainted with true judgement how all things are steered through all'. This would be a development of Solon fr. 16 Diehl: γνωμοσύνης δ' ἀφανὲς χαλεπώτατόν ἐστι νοῆσαι / μέτρον, ὃ δὴ πάντων πείρατα μῦνον ἔχει ('Most hard is it to apprehend the unapparent measure of judgement, which alone holds the limits of all things'). On the other hand the Stoics took γνῶμην in Heraclitus' saying as direct object of ἐπίστασθαι (cf. Cleanthes *Hymn to Zeus* 34f.), as representing their own familiar idea of divine Reason; that they should place this interpretation on the dictum is not surprising, in any case. But that *Heraclitus* should have used γνῶμη by itself, with no definite article and no possessor expressed, to stand for Fire or Logos (cf. **223**), has seemed improbable to some. Each of the two alternative interpretations has its difficulties, but the resulting sense in each case is not very different: wisdom consists in understanding how the world works—which in any event involves understanding the divine Logos.

230 gives the real motive of Heraclitus' philosophy: not mere curiosity about nature (although this was doubtless present too)

230 *The wise is one thing, to be acquainted with true judgement, how all things are steered through all.*

231 *One thing, the only truly wise, does not and does consent to be called by the name of Zeus.*

but the belief that man's very life is indissociably bound up with his whole surroundings. Wisdom—and therefore, it might be inferred, satisfactory living—consists in understanding the Logos, the analogous structure or common element of arrangement in things, embodying the μέτρον or measure which ensures that change does not produce disconnected, chaotic plurality. Absolute understanding here can only be achieved by god (231; cf. also 209), who in some respects, therefore (but not of course in anthropomorphism and in the demand for cult), resembles the Zeus of the conventional religion. God, with his synoptic view, is thus 'the only thing that is (completely) wise'. Fire (223) and the Logos itself (199) are to a large degree co-extensive with, or different aspects of, this completely wise thing.

It remains to describe Heraclitus' views about men—their soul, institutions and ideas. But for Heraclitus this subject was in no way separate from the study of the outside world; the same materials and the same laws are found in each sphere. 230 clearly depends upon this assumption, which is implicit also in 197 (fr. 1).

(10) *The soul is composed of fire; it comes from, and turns into, moisture, total absorption by which is death for it. The soul-fire is related to the world-fire*

232 Fr. 36, Clement *Strom.* VI, 17, 2 ψυχῆσιν θάνατος ὕδωρ γενέσθαι, ὕδατι δὲ θάνατος γῆν γενέσθαι· ἐκ γῆς δὲ ὕδωρ γίνεται, ἐξ ὕδατος δὲ ψυχή.

233 Fr. 118, Stobaeus *Anth.* III, 5, 8 αὔτη ψυχὴ σοφωτάτη καὶ ἀρίστη.

234 Fr. 117, Stobaeus *Anth.* III, 5, 7 ἀνὴρ ὀκόταν μεθυσθῆ ἄγεται ὑπὸ παιδὸς ἀνήβου, σφαλλόμενος, οὐκ ἐπαίωv ὄκη βαίνει, ὑγρὴν τὴν ψυχὴν ἔχων.

235 Fr. 45, Diogenes Laertius IX, 7 ψυχῆς πείρατα ἰὼν οὐκ ἄν ἐξεύροιο, πᾶσαν ἐπιπορευόμενος ὁδόν· οὕτω βαθὺν λόγον ἔχει. ✕

232 *For souls it is death to become water, for water it is death to become earth; from earth water comes-to-be, and from water, soul.*

233 *A dry soul is wisest and best.*

234 *A man when he is drunk is led by an unfledged boy, stumbling and not knowing where he goes, having his soul moist.*

235 *You would not find out the boundaries of soul, even by travelling along every path: so deep a measure does it have.*

Anaximenes had probably drawn cosmological conclusions from the nature of the soul, which, following the Homeric view, he envisaged as breath. Heraclitus abandoned this idea in favour of another popular conception of the soul, that it was made of fiery aither. On this foundation he built up a rationalistic psychological theory, in which for the first time (unless Pythagoras himself went further in this direction than we suspect) the structure of the soul is related not only to that of the body, but also to that of the world as a whole.

The soul in its true and effective state is made of fire: in 232 soul replaces fire in a list of what might otherwise be taken for the main interactions of the world-masses (cf. 221). The implication is not only that soul is fiery, but also that it plays some part in the great cycle of natural change. It comes into being from moisture (and, if it is analogous to cosmic fire, is maintained, at least in part, by some kind of moisture—see p. 203), and is destroyed when it turns entirely into water.¹ The efficient soul is dry (233), that is, fiery. A soul that is moistened, for example by excessive drinking as in 234 (which well illustrates the still naïve character of Heraclitus' psychology), is diminished in capacity and makes its owner behave childishly, without either wits or physical strength. Thus intellect is explicitly placed in the soul. The soul, which can move to all parts of the body at need,² has limits that cannot be reached (235); probably the thought here is not so much of the problem of self-consciousness as of the soul being a representative portion of the cosmic fire—which, compared with the individual, is obviously of vast extent. Thus it could be conceived as an adulterated fragment of the surrounding cosmic fire,³ and so as the possessor in some degree of that fire's directive power (223). All this, as has been indicated, is a development of what may be reasonably taken as a popular conception of the nature of aither (cf. n. 1 on p. 200); but a simpler and more empirical indication of the fiery nature of soul was at hand, since it must have been commonly observed that warmth is associated with the living body and that the dead, soulless body is cold (so Vlastos, *op. cit.* 364f.).

¹ A Stoic re-formulation of 232, in which air is characteristically added to the three genuinely Heraclitean world-masses (to produce the four 'elements' of post-Empedoclean speculation), gives 'the death of fire is the birth of air', etc.; this appears as fr. 76 in DK, but is totally misleading

for Heraclitus. He appears to have ignored air as a major cosmic constituent, in spite of Anaximenes; though the exhalation from the sea, by which sea turns to fire, might have been termed *ἀήρ*. Aristotle (*de an.* A2, 405a24, DK 22A15) wrote that Heraclitus made soul the same as the material principle, namely 'the exhalation from which he compounds the other things'. Aristotle himself accepted two kinds of exhalation, one being fiery, so that the 'exhalation' here represents fire.

² According to the scholiast on Chalcidius (fr. 67a in DK) Heraclitus compared the soul to a spider which rushes to any part of its web which is damaged. The soul is described as 'firme et proportionaliter iuncta' to the body; the idea of proportion is appropriate to Heraclitus. Cf. on Anaximenes, pp. 158ff.

³ So Macrobius *S. Scip.* 14, 19 (DK 22A15), 'Heraclitus said that the soul is a spark of the essential substance of the stars' (*scintillam stellaris essentiae*)—the stars being no doubt conceived as concentrations of aether.

(11) *Waking, sleeping and death are related to the degree of fieriness in the soul. In sleep the soul is partly cut off from the world-fire, and so decreases in activity*

236 Fr. 26, Clement *Strom.* IV, 141, 2 ἄνθρωπος ἐν εὐφρόνῃ φάος ἀπτεται ἑαυτῷ [ἀποθανῶν] ἀποσβεσθεὶς ὄψει, ζῶν δὲ ἀπτεται τεθνεῶτος εὐδῶν [ἀποσβεσθεὶς ὄψει], ἐρηγορῶς ἀπτεται εὐδοντος. (Text as in DK, after Wilamowitz.)

237 Sextus *adv. math.* VII, 129 (DK 22A16) τοῦτον οὖν τὸν θεῖον λόγον καθ' Ἡράκλειτον δι' ἀναπνοῆς σπάσαντες νοεροὶ γινόμεθα, καὶ ἐν μὲν ὕπνοις ληθαῖοι, κατὰ δὲ ἐγερσιν πάλιν ἔμφρονες· ἐν γὰρ τοῖς ὕπνοις μυσάντων τῶν αἰσθητικῶν πόρων χωρίζεται τῆς πρὸς τὸ περιέχον συμφύιας ὃ ἐν ἡμῖν νοῦς, μόνης τῆς κατὰ ἀναπνοὴν προσφύσεως σφωζομένης οἶονεὶ τινος ρίζης, χωρισθεὶς τε ἀποβάλλει ἦν πρότερον εἶχε μνημονικὴν δύναμιν. (130) ἐν δὲ ἐρηγορῶσει πάλιν διὰ τῶν αἰσθητικῶν πόρων ὡσπερ διὰ τινων θυρίδων προκύψας καὶ τῷ περιέχοντι συμβαλῶν λογικὴν ἐνδύεται δύναμιν. . . .

236 *A man in the night kindles a light for himself when his vision is extinguished; living, he is in contact with the dead, when asleep, and with the sleeper, when awake.*

237 *According to Heraclitus we become intelligent by drawing in this divine reason [logos] through breathing, and forgetful when asleep, but we regain our senses when we wake up again. For in sleep, when the channels of perception are shut, our mind is sundered from its kinship with the surrounding, and breathing is the only point of attachment to be preserved, like a kind of root; being sundered, our mind casts off its former power of memory. But in the waking state it again peeps out through the channels of perception as though through a kind of window, and meeting with the surrounding it puts on its power of reason. . . .*

hension of the Logos (see fr. 1, 197) would mean in psychological terms that the active, fiery part of the soul has made contact with the fiery Logos-constituent of the objective situation, and has been increased by it.²

¹ Sextus went on to compare the resuscitation of the soul-fire by restored contact with the universal Logos (here expressed in Stoic-Sceptic terms) with the way in which embers glow again when brought near to a live fire. This image, already perhaps used by Xenophanes (p. 173), may well have been re-used by Heraclitus. Conceivably the word ἀγγιβασίη, 'going near to', which Heraclitus used (fr. 122) according to the Suda, belonged to the same image.

² Chalcidius, probably after Posidonius, ascribed to Heraclitus a view quite different from Sextus', according to which the soul only has contact with the cosmic reason when free in sleep from the interruption of the senses (*in Tim.* ch. 251, DK 22A20). The 'cosmic reason' is Stoic, and the rest is quite obviously (*pace* A. Delatte) Platonic; though cf. Pi. fr. 131 b.

(12) *Virtuous souls do not become water on the death of the body, but survive to join, eventually, the cosmic fire*

238 Fr. 25, Clement *Strom.* IV, 49, 3 μόροι γὰρ μέζονες μέζονας μοίρας λαγχάνουσι καθ' Ἡράκλειτον.

239 Fr. 63, Hippolytus *Ref.* IX, 10, 6 †ἔνθα δ' ἔόντι† ἐπανίστασθαι καὶ φύλακας γίνεσθαι ἐγερτὶ ζώντων καὶ νεκρῶν.

240 (Fr. 136), Σ Bodl. ad Epictetum, p. lxxxiii Schenkl
ψυχὰι ἀρηίφατοι καθαρῶτεραί ἢ ἐνὶ νοῦσοις.

The 'better portions' which are won in 238 must belong to the soul alone, since after death the body is 'more fit to be cast out than dung' (fr. 96). Therefore not all souls can equally undergo the 'death' (232) of becoming water, that is, of ceasing to be soul, which is essentially fiery. 239 (whose first words are probably corrupt) seems to suggest that certain souls survive death and become daimons; this is manifestly developed from a famous passage in Hesiod.¹ The key to Heraclitus' belief here is, I think, provided by 240, which is clearly not a *verbatim* quotation but a verse summary of perhaps considerably later date than Heraclitus himself (although we know from Diogenes Laertius IX, 16,

238 *For better deaths gain better portions according to Heraclitus.*

239 †*To him [or it], being there,† they rise up and become guardians, wakefully, of living and dead.*

240 *Souls slain in war are purer than those (that perish) in diseases.*

DK 22A 1, that Scythinus made a metrical version of Heraclitus in the late fourth or third century B.C.). It probably owes something to fr. 24, 'Gods and men honour those slain in battle', but the comparison with those who die from illness is quite new, and is unlikely to have been simply invented *after* Heraclitus. How can the souls of those dying in battle, it may be asked, be 'purer' than the souls of those dying from disease? The answer I suggest is that the latter are moistened and inefficient, and their possessors are in a semi-conscious and sleep-like condition; those slain in battle, on the contrary, are cut off at their most active, when their souls are fiery from virtuous and courageous activity.² At the moment of death the enfeebled souls of the sick lose their last residue of fieriness and become completely watery, so that they cease to exist as souls; while the souls of those slain in battle (almost instantaneously, for the most part) are predominantly fiery. It seems plausible, then, that the latter avoid the soul-death of becoming water.³ They leave the body and, we may guess, are re-united with the aitherial fire. Before this happens they probably remain for a time as disembodied daimons, after the Hesiodic pattern. But there can be no idea of individual survival apart from this, or indeed of perpetual survival as aitherial fire: for measures of that fire are constantly being drawn into the cosmological process, and undergo the changes of 221 (see n. on p. 202 for a possible soul-period of some kind). Thus Heraclitus does not appear to be indebted here to Pythagoras.

¹ 241 Hesiod *Erga* 121 ff. (of the golden race) αὐτὰρ ἐπεὶ δὴ τοῦτο γένος κατὰ γαστήρ ἐκάλυψε / τοὶ μὲν δαίμονές εἰσι Διὸς μεγάλου διὰ βουλᾶς / ἐσθλοὶ, ἐπιχθόνιοι φύλακες θνητῶν ἀνθρώπων. See also *ibid.* 252 ff. Another saying of Heraclitus preserved by Hippolytus is very obscure: it evidently has some connexion with the doctrine of opposites, but also suggests the deification of some souls (cf. 216): 242 Fr. 62, Hippolytus *Ref.* ix, 10, 6 ἀθάνατοι θνητοί, θνητοὶ ἀθάνατοι, ζῶντες τὸν ἐκείνων θάνατον τὸν δὲ ἐκείνων βίον τεθνεῶτες.

² Though it has been ingeniously suggested by W. J. Verdenius that one saying implies that θυμός, anger or emotion, entails a fiery expenditure or decrease of the soul-fire (compare 'flashing eyes', 'breathing fire', etc. in

241 *But when the earth hid this race, they are noble daimons through the counsels of great Zeus, guardians on earth of mortal man.*

242 *Immortal mortals, mortal immortals [or mortal immortals, immortal mortals; or immortals are mortal, mortals are immortal; or immortals are mortals, mortals are immortals, etc.], living their death and dying their life.*

- 250 Fr. 119, Stobaeus *Anth.* IV, 40, 23 ἦθος ἀνθρώπων δαίμων.
- 251 Fr. 43, Diogenes Laertius IX, 2 ὕβριν χρη σβεννύναι μάλλον ἢ πυρκαϊήν.
- 252 Fr. 44, Diogenes Laertius IX, 2 μάχεσθαι χρη τὸν δῆμον ὑπὲρ τοῦ νόμου ὄκωσπερ τείχεος.
- 253 Fr. 114, Stobaeus *Anth.* III, 1, 179 ξὺν νόῳ λέγοντας ἰσχυρίζεσθαι χρη τῷ ξυνοῖ πάντων, ὄκωσπερ νόμῳ πόλις καὶ πολλὴ ἰσχυροτέρως· τρέφονται γὰρ πάντες οἱ ἀνθρώπειοι νόμοι ὑπὸ ἐνὸς τοῦ θεοῦ· κρατεῖ γὰρ τοσοῦτον ὀκόσον ἐθέλει καὶ ἐξαρκεῖ πᾶσι καὶ περιγίνεται.

Heraclitus' ethical advice is gnostic in form, and for the most part similar in general content to that of his predecessors and contemporaries; sometimes it is expressed more graphically and often more savagely.¹ It stresses the importance of moderation, which itself depends upon a correct assessment of one's capacities. But this kind of advice (with which one naturally compares the Delphic maxims 'Know thyself' and 'Nothing too much') has a deeper significance in Heraclitus because of its grounding (not explicitly stated but clearly implied in 197 etc.) in his physical theories, and because of his belief that only by understanding the central pattern of things can a man become wise and fully effective: see 197, 199, 230, 237. That is the real moral of Heraclitus' philosophy, in which ethics is for the first time formally interwoven with physics.

¹ Heraclitus was undoubtedly of a strongly critical temperament, and his abuse can hardly have made him popular with his unfortunate fellow-citizens: cf. e.g. 254 Fr. 29, Clement *Strom.* V, 59, 5 ἀρεῦνται γὰρ ἐν ἀντι ἀπάντων οἱ ἄριστοι, κλέος ἀέναον θνητῶν· οἱ δὲ πολλοὶ κεκόρηνται ὄκωσπερ κτήνεα. His political ideas seem to have been anti-democratic, though perhaps from empirical rather than ideological motives: 'One man is as ten thousand for me, if he is best', he said (fr. 49), and abused the

- 250 *Man's character is his daimon.*
- 251 *Insolence is more to be extinguished than a conflagration.*
- 252 *The people must fight on behalf of the law as though for the city wall.*
- 253 *Those who speak with sense must rely on what is common to all, as a city must rely on its law, and with much greater reliance. For all the laws of men are nourished by one law, the divine law; for it has as much power as it wishes and is sufficient for all and is still left over.*
- 254 *The best choose one thing in place of all else, 'everlasting' glory among mortals; but the majority are glutted like cattle.*

Ephesians for exiling his friend Hermodorus on the ground of his exceptional ability (fr. 121). Himself of noble birth, he refused his traditional privileges (194).

Thus 'searching for oneself' in 249 leads, it may be inferred, to the discovery that the soul ranges outside oneself (see 235, 237). 250 is a denial of the view, common in Homer, that the individual often cannot be held responsible for what he does. δαίμων here means simply a man's personal destiny; this is determined by his own character, over which he has some control, and not by external and often capricious powers acting perhaps through a 'genius' allotted to each individual by chance or Fate. Helen blamed Aphrodite for her own weakness; but for Heraclitus (as indeed for Solon, who had already reacted against the moral helplessness of the heroic mentality) there was a real point in intelligent and prudent behaviour. 251 has no special overtones: it shows how conventional the practical side of Heraclitus' ethics often was, and also that he did not always think of human behaviour in terms of the *fiery* nature of the soul (for ὕβρις should involve a moistening of the soul, not its conflagration). By contrast, the insistence on respect for law in 252, though again expressed in conventional terms, takes on a far deeper significance, and is given a profound justification, in the light of 253 (which should be compared with 197, 198 and 199). Human laws are nourished by the divine universal law; they accord with the Logos, the formulaic constituent of the cosmos. 'Nourished' is mainly, but not completely, metaphorical: the contact between human laws and the Logos is indirect, though not without material basis, since good laws are the product of wise men with fiery souls (233) who thereby understood, as Heraclitus himself does, the proper relation of men with the world.

CONCLUSION

In spite of much obscurity and uncertainty of interpretation, it does appear that Heraclitus' thought possessed a comprehensive unity which (conceivably because of the lack of information about Anaximander and Pythagoras) seems completely new. Practically all aspects of the world are explained systematically, in relation to a central discovery—that natural changes of all kinds are regular and balanced, and that the cause of this balance is fire, the common constituent of things that was also termed their

THE ITALIAN SCHOOLS

The second main stage in the history of Presocratic speculation consists of the two great Italian schools, the Pythagorean and the Eleatic. The original motive and character of Italian thought differ widely from those of the Milesians. Whereas the Milesians were impelled by innate intellectual curiosity and dissatisfaction with the old mythological accounts to attempt a rational explanation of physical phenomena, the impulse underlying Pythagoreanism seems to have been a religious or emotional one. Plato himself refers to Pythagoras (*Republic* 600A-B, DK 1A, 10) as 'presiding over a band of intimate disciples who loved him for the inspiration of his society and handed down a way of life which to this day distinguishes the Pythagoreans from the rest of the world'. Such an eulogy would be scarcely appropriate to the Milesians. Again, while the Milesians sought a purely naturalistic explanation of the world, and Heraclitus represents an intermediate stage, the Pythagoreans, this time in the words of Aristotle (*Metaphysics* A8, 989b29, DK 5B 22), 'employ stranger principles and elements than the physicists, the reason being that they took them from non-sensible things'. The Pythagorean cosmology is concerned, at the outset at any rate, more with the form or structure of the world than with its mere matter.

But, as Aristotle adds in the next breath, having chosen their apparently abstract principles, 'they still concern themselves wholly with nature; they generate the universe and watch what happens to its various parts and affections and activities; and they use up their first principles and causes on these things, as if they agreed with the other physicists that Being is just so much as is sensible and is embraced within what they call the universe. And yet, as I said, they maintain causes and first principles that are adequate to lead up to the higher kinds of reality—that are indeed better fitted to them than to discussions about nature.' These sentences state very clearly what is probably the most important of all facts about the Italian schools. While the Pythagoreans were only secondarily, and the Eleatics hardly at all, interested in the material aspect of the world, and while both groups therefore start from first principles which in these days would be called abstract, both groups of thinkers alike, thanks merely to the date at which they lived, were so subject to the universal preconception that 'Being is just so much as is sensible' that they end in a corporealism hardly less total, if much more difficult to understand, than that of the Milesians. Many modern scholars find this conclusion so repugnant that they read into the Italian philosophers' theories philosophical distinctions of which all the evidence, including sometimes the actual words of the philosopher in question, seems to show that they were unaware. In the opinion of the present writer, it is only on the supposition that the only form of existence recognized by the Presocratics was existence in space, and that consequently the distinction between the corporeal and the incorporeal had not yet been clearly and explicitly drawn, that it is possible to understand what the early Italian philosophers meant.

CHAPTER VII

PYTHAGORAS OF SAMOS

LIFE AND DATE

While the developments already described were taking place in Ionia, an independent movement, initiated by Pythagoras, was gaining strength in southern Italy. Of the life of Pythagoras himself, though there are several late and unreliable works on the subject, we can be said to know very little indeed. He passed his early life in the island of Samos,¹ flourishing, according to Apollodorus, in 532/1 B.C., during the reign of the tyrant Polycrates. He is said to have left Samos to escape from the tyranny² and to have settled at Croton in southern Italy, where he appears to have risen to a position of great authority.³ Eventually, however, the Crotoniates rose in revolt against him and he withdrew to the neighbouring city of Metapontium, where he died.⁴

¹ Cf. 255 Herodotus iv, 95 (DK 14, 2) ὡς δὲ ἐγὼ πυνθάνομαι τῶν τὸν Ἑλλησποντον οἰκούντων Ἑλλήνων καὶ Πόντον, τὸν Σάλμοξιν τοῦτον ἔοντα ἄνθρωπον δουλεῦσαι ἐν Σάμῳ, δουλεῦσαι δὲ Πυθαγόρῃ τῷ Μνησάρχου . . . δοκέω δὲ πολλοῖσι ἔτεσι πρότερον τὸν Σάλμοξιν τοῦτον γενέσθαι Πυθαγόρεω.

² 256 Porphyrius V.P. 9 (DK 14, 8) γεγονότα δ' ἐτῶν τεσσαράκοντά φησιν ὁ Ἀριστόξενος καὶ ὀρώντα τὴν τοῦ Πολυκράτους τυραννίδα συντονωτέραν οὔσαν . . . οὕτως δὴ τὴν εἰς Ἰταλίαν ἀπαρσιν ποιήσασθαι.

³ 257 Diog. L. viii, 3 . . . ἀπήρην εἰς Κρότωνα τῆς Ἰταλίας, κάκει νόμους θεῖς τοῖς Ἰταλιώταις ἐδοξάσθη σὺν τοῖς μαθηταῖς, οἱ πρὸς τοὺς τριακοσίους ὄντες ἄκονόμουν ἀριστα τὰ πολιτικά, ὥστε σχεδὸν ἀριστοκρατίαν εἶναι τὴν πολιτείαν.

⁴ 258 Iamblichus V.P. 249 (DK 14, 16) ὁ μὲν οὖν Πυθαγόρας διὰ ταύτην τὴν αἰτίαν ἀπῆλθεν εἰς τὸ Μεταπόντιον κάκει λέγεται καταστρέψαι τὸν βίον. Cf. Diog. L. viii, 15.

255 According to my information from the Greeks who live beside the Hellespont and Pontus, this Salmoxis, a real man, was a slave in Samos to Pythagoras son of Mnesarchus . . . but I believe that this Salmoxis lived many years before Pythagoras.

256 Aristoxenus says that at the age of forty, seeing that the tyranny of Polycrates had grown more intense, . . . he eventually emigrated to Italy.

257 . . . He emigrated to Croton in Italy and there, by legislating for the Italians, won renown together with his pupils. They numbered nearly 300, and they administered the affairs of state so well that the constitution was virtually an aristocracy.

258 For this reason Pythagoras departed to Metapontium, where he is said to have died.

OBSCURITY OF THE TRADITION

Both Plato and Aristotle are remarkably chary of mentioning Pythagoras by name,¹ and neither tells us, in the extant works, anything of the slightest value about him. Moreover, from the way in which they speak of later Pythagorean doctrine,² it would appear that they are both alike sceptical about the historical origins of Pythagoreanism. Probably the name of Pythagoras was already, as it certainly was later, enveloped in a mist of legend.³

¹ Plato mentions him once only, at *Rep.* 600A–B, Aristotle in his extant works (but cf. note 2 below) only twice, at *Met.* A5, 986a 30 (where, however, the name of Pythagoras is probably only a later addition: cf. Ross, note *ad loc.*) and *Rhet.* B23, 1398b 14.

² Plato uses the word Πυθαγόρειος with equal reserve: it occurs only at *Rep.* 530D. Elsewhere he cites what we know to be Pythagorean doctrine anonymously. Aristotle, though he is not so shy of the word Πυθαγόρειος, frequently prefers to describe the Pythagoreans as either of Ἴταλικοί, οἱ περὶ Ἴταλίαν or (as at *Met.* 985b 23, 989b 29 etc.) οἱ καλούμενοι Πυθαγόρειοι. Aristotle, however, was sufficiently interested in Pythagoreanism to write a treatise, which is unfortunately lost, entitled Περὶ τῶν Πυθαγορείων.

³ Certainly the surviving fragments of Aristotle's lost work on the Pythagoreans already incorporate several miraculous tales; cf. also 259 Apollonius *Hist. Mir.* 6 (DK 14, 7) Πυθαγόρας Μνησάρχου υἱὸς τὸ μὲν πρῶτον διεπονείτο περὶ τὰ μαθήματα καὶ τοὺς ἀριθμούς, ὕστερον δὲ ποτε καὶ τῆς Φερεκύδου τερατοποιίας οὐκ ἀπίστη. This is probably not a quotation from Aristotle (= fr. 191 Rose), as Heidel showed (*AJP* 61 (1940) 8f.); but it may be based on Aristotle. For Pherecydes cf. pp. 50ff.

EARLY EVIDENCE ABOUT PYTHAGORAS

260 Heraclitus fr. 40, Diogenes Laertius IX, 1 πολυμαθὴ νόον ἔχειν οὐ διδάσκει· Ἡσίοδον γὰρ ἂν ἐδίδαξε καὶ Πυθαγόρην αὐτίς τε Ζενοφάνεά τε καὶ Ἑκαταῖον.

261 Heraclitus fr. 129, Diogenes Laertius VIII, 6 Πυθαγόρης Μνησάρχου ἱστορίην ἥσκησεν ἀνθρώπων μάλιστα πάντων καὶ

259 Pythagoras son of Mnesarchus at first worked strenuously at mathematics and numbers, but later could not resist the miracle-mongering of Pherecydes.

260 The learning of many things does not teach intelligence; if so it would have taught Hesiod and Pythagoras, and again Xenophanes and Hecataeus.

261 Pythagoras, son of Mnesarchus, practised scientific enquiry beyond all other men

ἐκλεξάμενος ταύτας τὰς συγγραφὰς (*sc.* e.g. Hesiod?) ἐποίησατο
 ἑαυτοῦ σοφίην, πολυμαθίην, κακοτεχνίην.¹

262 Herodotus IV, 95 (DK 14, 2) . . . τὸν Σάλμοξιν τοῦτον. . .
 Ἕλλησί τε ὁμιλήσαντα καὶ Ἑλλήνων οὐ τῷ ἀσθενεστάτῳ σοφιστῇ
 Πυθαγόρῃ. . .

263 Porphyrius *Vita Pythagorae* 30 (DK 31 B 129) (= Empedocles
 fr. 129) τούτοις καὶ Ἐμπεδοκλῆς μαρτυρεῖ λέγων περὶ αὐτοῦ
 (*sc.* Pythagoras)

ἦν δέ τις ἐν κείνοισιν ἀνὴρ περιώσια εἰδῶς,
 ὃς δὴ μήκιστον πραπίδων ἐκτήσατο πλοῦτον
 παντοίων τε μάλιστα σοφῶν <τ'> ἐπιήρανος ἔργων.
 ὅππότε γὰρ πάσησιν ὀρέξαίτο πραπίδεσσι,
 ῥεῖ' ὃ γε τῶν ὄντων πάντων λεύσσεσκεν ἕκαστον
 καὶ τε δέκ' ἀνθρώπων καὶ τ' εἴκοσιν αἰώνεσσιν.

¹ The authenticity of this fragment has been long doubted, and it was regarded by Diels (though not by Kranz) as spurious; but since the case against it rests on a misunderstanding of the word ἐκλεξάμενος, which was taken to imply that Pythagoras wrote rather than read books, there is no good reason why it should not be substantially genuine.

Despite the silence of Plato and Aristotle these fifth-century passages, to which should be added also **268** and **269**, amply suffice to prove that Pythagoras was in fact a historical, not merely a legendary, figure. The difficulty lies in establishing anything more than his bare existence; but we shall find that on the basis of what little contemporary or early evidence survives it is possible to reconstruct at least the rough outlines of his system.

THE EARLY PYTHAGOREAN COMMUNITY

Little as we know of Pythagoras himself, of his immediate followers we know even less. There can be no doubt that Pythagoras founded in Croton a sort of religious fraternity or order;² but there

and, making a selection of these writings, claimed for his own a wisdom which was really dilettantism and malpractice.

262 . . . This Salmoxis . . . who had associated with the Greeks, and especially with Pythagoras, who was not the weakest sage among the Greeks. . .

263 Empedocles too bears witness to this, writing of him: 'And there was among them a man of rare knowledge, most skilled in all manner of wise works, a man who had won the utmost wealth of wisdom; for whensoever he strained with all his mind, he easily saw everything of all the things that are, in ten, yea, twenty lifetimes of men.' (Empedocles trans. Burnet)

is no good evidence for the widely held view that it was modelled on Orphic cult-societies. It is true that Orphic and Pythagorean doctrines and practices are often compared, as they are first in the following passage:

264 Herodotus II, 81 οὐ μὲντοι ἕξ γε τὰ ἱρὰ ἐσφέρεται εἰρίνεα οὐδὲ συγκαταθάπτεται σφι (*sc.* the Egyptians). οὐ γὰρ ὄσιον. ὁμολογέουσι δὲ ταῦτα τοῖσι Ὀρφικοῖσι καλεομένοισι καὶ Βακχικοῖσι, ἔοῦσι δὲ Αἰγυπτίοισι, καὶ Πυθαγορείοισι· οὐδὲ γὰρ τούτων τῶν ὀργίων μετέχοντα ὄσιόν ἐστι ἐν εἰρινέοισι εἶμασι θαφθῆναι. ἔστι δὲ περὶ αὐτῶν ἱρὸς λόγος λεγόμενος. (*Cf.* also 270.)

Even such a relatively early passage cannot, however, be safely taken as evidence for the existence of the Orphics (or of the Pythagoreans) before, say, the middle of the fifth century B.C., and it throws no light on the question which of the two communities, if either, was indebted to the other. Of Pythagoras' earliest adherents very few are even known to us by name—a state of affairs which seems to have come about from two main reasons. In the first place, there was apparently a rule of secrecy in the community,² by which the offence of divulging Pythagorean doctrine to the uninitiated is said by later authorities to have been severely punished—with the result that there were evidently no Pythagorean writings before, at earliest, the time of Philolaus³ (i.e. the end of the fifth century B.C.). And second, even within the school itself, such was the respect paid to its founder that later discoveries made by members of the fraternity seem not to have been claimed as individual achievements but rather attributed indiscriminately to Pythagoras himself⁴—with the result that much that can hardly have been the work of Pythagoras, especially in the mathematical field, must remain anonymous. The most, therefore, that can be even attempted in the case of the Pythagoreans is to divide their doctrine into three sections, two of which cover the period from the founder to Parmenides, while the third is concerned with the generation of Pythagoreans which flourished, under the leadership of Philolaus, at the end of the fifth century.⁵

264 *But woollen articles are never taken into temples, nor are they buried with them; that is not lawful. They agree in this with the so-called Orphic and Bacchic practices, which are really Egyptian, and with the Pythagorean; for it is not lawful for one who partakes in these rites to be buried in woollen clothes. There is a sacred account given on this subject.*

¹ We hear much of the rules of the society in late and (except when quoting from a reputable source) unreliable authors (cf. e.g. Diog. L. viii, 10; Iambl. *V.P.* 81), but such evidence should be treated with reserve. It will, however, become clear from what follows that the society must have been, in part at least, a religious fraternity.

² **265** Porphyrius *Vita Pythagorae* 19 (DK 14, 8a) γενομένων δὲ τούτων μεγάλη περὶ αὐτοῦ (sc. Pythagoras) ἠύξηθη δόξα, καὶ πολλοὺς μὲν ἔλαβεν ἐξ αὐτῆς τῆς πόλεως (sc. Croton) ὁμιλητάς, οὐ μόνον ἀνδρας ἀλλὰ καὶ γυναῖκας, ὧν μίᾳ γε Θεανοῦς καὶ διεβοήθη τοῦνομα, πολλοὺς δ' ἀπὸ τῆς σύνεγγυς βαρβάρου χώρας βασιλεῖς τε καὶ δυνάστας. ἃ μὲν οὖν ἔλεγε τοῖς συνοῦσιν, οὐδὲ εἰς ἔχει φράσαι βεβαίως· καὶ γὰρ οὐδ' ἡ τυχοῦσα ἦν παρ' αὐτοῖς σιωπή. (See **271** for continuation.) This passage derives from Dicaearchus of Messene, a pupil of Aristotle. There seem to have been two motives for silence: first (see Iambl. *V.P.* 94), to insure that initiates could 'hold their peace' (ἐχεμυθεῖν); and second (see Diog. L. viii, 15), to discourage 'the utterance of all things to all men'. Diogenes is here quoting Aristoxenus of Tarentum, another pupil of Aristotle, of whose book on Pythagoreanism relatively substantial fragments are preserved by later writers, especially Iamblichus.

³ **266** Iambl. *V.P.* 199 (DK 14, 17) θαυμάζεται δὲ καὶ ἡ τῆς φυλακῆς ἀκρίβεια· ἐν γὰρ τοσαύταις γενεαῖς ἐτῶν οὐδεὶς οὐδενὶ φαίνεται τῶν Πυθαγορείων ὑπομνημάτων περιτετευχῶς πρὸ τῆς Φιλολάου ἡλικίας, ἀλλ' οὗτος πρῶτος ἐξήνεγκε τὰ θρυλούμενα ταῦτα τρία βιβλία, ἃ λέγεται Δίων ὁ Συρακούσιος ἑκατὸν μῶν πρίασθαι Πλάτωνος κελεύσαντος... (For the story of Plato's plagiarism, see p. 308.) Cf. **267** Plutarch *Alex. fort.* 1, 4, 328: οὐδὲ Πυθαγόρας ἔγραψεν οὐδὲν οὐδὲ Σωκράτης οὐδὲ Ἀρκεσίλαος οὐδὲ Καρνεάδης.

⁴ Hence arose, presumably, the favourite Pythagorean expression αὐτὸς ἔφα, 'he himself said so'; see Diog. L. viii, 46.

⁵ Iambl. *V.P.* 267 (DK 58A) gives us, it is true, a long list of the names of Pythagoreans, some few of whom are probably early; but the failure to distinguish between different generations of the school, illustrated by the inclusion in the same list of, for instance, Alcmaeon (see p. 232) and Plato's contemporary, Archytas, renders it almost worthless.

265 *After this his fame grew great, and he won many followers from the city itself (not only men but women also, one of whom, Theano, became very well known too) and many princes and chieftains from the barbarian territory around. What he said to his associates, nobody can say for certain; for silence with them was of no ordinary kind.*

266 *The strictness of their secrecy is astonishing; for in so many generations evidently nobody ever encountered any Pythagorean notes before the time of Philolaus; he first published those three notorious books, which Dion of Syracuse is said to have bought, at Plato's request, for 100 minae....*

267 *Pythagoras wrote nothing, nor did Socrates nor Arcesilaus nor Carneades.*

THE MYSTICAL SIDE OF PYTHAGORAS' TEACHING

(I) *Transmigration of souls*

268 Diogenes Laertius VIII, 36 (= Xenophanes fr. 7) . περιὶ δὲ τοῦ ἄλλοτ' ἄλλον γεγενῆσθαι Ξενοφάνης ἐν ἐλεγείᾳ προσμαρτυρεῖ, ἥς ἀρχή, νῦν αὖτ' ἄλλον ἔπειμι λόγον, δεῖξω δὲ κέλευθον.

ὁ δὲ περιὶ αὐτοῦ (*sc.* Pythagoras) φησιν οὕτως ἔχει·

καὶ ποτέ μιν στυφελιζομένου σκύλακος παριόντα φασὶν ἐποικτίραι καὶ τόδε φάσθαι ἔπος·

Παῦσαι μὴδὲ ράπιζ', ἐπεὶ ἡ φίλου ἀνέρος ἐστὶν ψυχὴ, τὴν ἔγνω φθεγξαμένης αἴων.

269 Diogenes Laertius I, 120 (= Ion fr. 4) Ἴων δ' ὁ Χίος φησὶ περιὶ αὐτοῦ (*sc.* Pherecydes)·

ὡς ὁ μὲν ἠνορέῃ τε κεκασμένος ἦδὲ καὶ αἰδοῖ καὶ φθίμενος ψυχῇ τερπνὸν ἔχει βίοντον, εἶπερ Πυθαγόρης ἐτύμως ὁ σοφὸς περιὶ πάντων ἀνθρώπων γνώμας εἶδε καὶ ἐξέμαθεν . . . (= 46).

270 Herodotus II, 123 πρῶτοι δὲ καὶ τόνδε τὸν λόγον Αἰγύπτιοι εἰσὶν οἱ εἰπόντες ὡς ἀνθρώπου ψυχὴ ἀθάνατός ἐστι, τοῦ σώματος δὲ καταφθίνοντος ἐς ἄλλο ζῶον αἰεὶ γινόμενον ἐσδύεται, ἔπειτ' ἀνὰ πάντα περιέλθῃ τὰ χερσαῖα καὶ τὰ θαλάσσια καὶ τὰ πετεινὰ αὐτὶς ἐς ἀνθρώπου σῶμα γινόμενον ἐσδύνειν, τὴν περιήλυσιν δὲ αὐτῇ γίνεσθαι ἐν τρισχιλίοις ἔτεσι. τούτῳ τῷ λόγῳ εἰσὶ οἱ Ἑλλήνων ἐχρήσαντο, οἱ μὲν πρότερον οἱ δὲ ὕστερον, ὡς ἰδίῳ ἐρωτῶν ἐόντι· τῶν ἐγὼ εἰδὼς τὰ οὐνόματα οὐ γράφω.

268 *On the subject of reincarnation Xenophanes bears witness in an elegy which begins: 'Now I will turn to another tale and show the way.' What he says about Pythagoras runs thus: 'Once they say that he was passing by when a puppy was being whipped, and he took pity and said: "Stop, do not beat it; for it is the soul of a friend that I recognized when I heard it giving tongue."'*

269 *Ion of Chios says about him (Pherecydes): 'Thus did he excel in manhood and honour, and now that he is dead he has a delightful existence for his soul—if indeed Pythagoras the wise learned and knew true opinions above all men.'*

270 *Moreover, the Egyptians are the first to have maintained the doctrine that the soul of man is immortal, and that, when the body perishes, it enters into another animal that is being born at the time, and when it has been the complete round of the creatures of the dry land and of the sea and of the air it enters again into the body of a man at birth; and its cycle is completed in 3000 years. There are some Greeks who have adopted this doctrine, some in former times, and some in later, as if it were their own invention; their names I know but refrain from writing down.*

Herodotus' refusal to mention names in 270 has been taken to indicate that he is speaking not of Pythagoras himself but of contemporaries of his own; Stein suggested Empedocles, but it seems more plausible to suppose that it was people in Athens whom Herodotus preferred not to name. It is, however, likely that the phrase οἱ μὲν πρότερον, 'some in former times', was intended to embrace both Pythagoras and certain others who were already known as Orphics (cf. 264). That Pythagoras himself did indeed believe in the transmigration of souls is anyhow pretty conclusively proved by 268. He is even said by Diogenes Laertius (VIII, 4-5, DK 14, 8) to have claimed to remember his own four previous incarnations.

(2) *Kinship of all living things*

The fragment of Xenophanes (268) shows that souls could be reincarnated in the form of other living things than man, and this in turn suggests the kinship of all living things.

265, where Porphyry is drawing on Aristotle's follower Dicaearchus, continues as follows:

271 Porphyrius, *Vita Pythagorae* 19 (DK 14, 8a) μάλιστα μέντοι γνώριμα παρὰ πᾶσιν ἐγένετο πρῶτον μὲν ὡς ἀθάνατον εἶναι φησι (sc. Pythagoras) τὴν ψυχὴν, εἶτα μεταβάλλουσαν εἰς ἄλλα γένη ζώων, πρὸς δὲ τούτοις ὅτι κατὰ περιόδους τινὰς τὰ γενόμενά ποτε πάλιν γίνεται, νέον δ' οὐδὲν ἀπλῶς ἔστι,¹ καὶ ὅτι πάντα τὰ γινόμενα ἔμψυχα ὁμογενῆ δεῖ νομίζειν. φαίνεται γὰρ εἰς τὴν Ἑλλάδα τὰ δόγματα πρῶτος κομίσαι ταῦτα Πυθαγόρας.

¹ It was presumably in connexion with the cycle of reincarnation that the Pythagoreans held the remaining doctrine here attributed to them, that of the periodic recurrence of events. The most reliable statement of this belief is in the following fragment of Eudemus: 272 Eudemus *ap. Simplic. Phys.* 732, 30 (DK 58 B 34) εἰ δὲ τις πιστεύσειε τοῖς Πυθαγορείοις, ὥστε πάλιν τὰ αὐτὰ ἀριθμῶ, κἀγὼ μυθολογήσω τὸ ραβδίον ἔχων ὑμῖν καθημένοις οὕτω, καὶ τὰ ἄλλα πάντα ὁμοίως ἔξει, καὶ τὸν χρόνον εὐλογόν ἔστι τὸν αὐτὸν

271 *None the less the following became universally known: first, that he maintains that the soul is immortal; next, that it changes into other kinds of living things; also that events recur in certain cycles, and that nothing is ever absolutely new; and finally, that all living things should be regarded as akin. Pythagoras seems to have been the first to bring these beliefs into Greece.*

272 *If one were to believe the Pythagoreans, with the result that the same individual things will recur, then I shall be talking to you again sitting as you are now, with this pointer in my hand, and everything else will be just as it is now, and it is reasonable to suppose that the time then is the same as now.*

εἴκοι. A passage in the *Theologumena Arithmeticae* (p. 52, 8 de Falco; DK 14, 8) tells us that certain later Pythagoreans, working on the basis of the intervals between Pythagoras' own earlier incarnations, believed that the human soul was reincarnated every 216 years—the precise number 216 being characteristically chosen as the cube of 6. Though such embellishments of the doctrine are doubtless late, it is not impossible that Pythagoras himself did indeed hold the belief, later adopted by the Stoics, in the periodic cycle; but it is at least as likely that the later Pythagoreans borrowed it from Empedocles (see pp. 326f.).

Unfortunately, despite the definite suggestion in the last sentence that Pythagoras had learnt these doctrines abroad, the question of their origin is hopelessly shrouded in legend. He is said by different late writers to have visited, and to have learnt from, peoples as various as the Chaldaeans, the Indian Brahmins, the Jews and even the Druids and the Celts; but all that such traditions tell us is that certain similarities were later detected between the teaching of Pythagoras and the beliefs held in countries other than Greece. Even Herodotus' suggestion in 270 that the doctrine of transmigration came from Egypt is demonstrably false—the Egyptians never held such a doctrine; and none of the other guesses about its origin are as well attested as that.

Nor are the details of the two closely related doctrines, the transmigration of souls and the kinship of all living things, at all easy to fill in. Empedocles' version, as his fr. 117 (476) proves, included at least some plants among living things, and presumably for that reason involved abstention from laurel leaves (fr. 140) and beans (fr. 141). Since, as we shall see in the next section, similar rules of abstinence are attributed to Pythagoras, it may well be that he too thought it was possible to be reincarnated as a plant; but such relatively reliable and explicit evidence as exists, most of which has already been cited, proves only that a human soul can sink as low in the scale of living things as a dog (268). It is possible, but no more than that, that in a world which he regarded as dualistic (see pp. 240ff.) Pythagoras believed that ψυχή, 'life', was somehow a unity, a single mass, a part of which was scattered in an impure form throughout the world, while another part, into which the individual soul would be reabsorbed after its final incarnation, retained its purity. Such a doctrine, however, even if it was held, seems to have had little effect on the cosmological side of Pythagoreanism (see pp. 250ff.), in which the place of the immortal soul is by no means clear.

Besides the rules that can be explained in this way there are also, however, in the various lists handed down to us, others of at least four different types. A few, such as 'be not possessed of irrepressible mirth' or 'disbelieve nothing strange about the gods or about religious beliefs', would seem to be nothing more than common ethical or religious reflexions. A larger group, some of which have already appeared in 274, are probably descended from primitive folk-taboo. Others again, such as 'sacrifice and worship without shoes on' or 'cut not your finger-nails at a sacrifice', clearly concern ritual purity. And finally some, such as 'when you rise from bed, roll the bed-clothes together and smoothe out the place where you lay', seem to owe their origin to sympathetic magic.¹

¹ The list from which these examples are taken is perhaps of sufficient interest to deserve extensive quotation: 275 Iamblichus *Protr.* 21 (DK 58 C 6) ἔστω δὲ τὰ φρασθησόμενα Σύμβολα ταῦτα· ἁ. εἰς ἱερὸν ἀπιὼν προσκυνῆσαι, μηδὲν ἄλλο μεταξὺ βιωτικῶν μήτε λέγε μήτε πράττε. β. ὁδοῦ πάρεργον οὐτε εἰσιτέον εἰς ἱερὸν οὔτε προσκυνητέον τὸ παράπαν, οὐδ' εἰ πρὸς ταῖς θύραις αὐταῖς παριῶν γένοιο. γ. ἀνυπόδητος θῦε καὶ προσκύνει. δ. τὰς λεωφόρους ὁδοὺς ἐκκλίνων διὰ τῶν ἀτραπῶν βάδιζε. . . ζ. γλώσσης πρὸ τῶν ἄλλων κράτει θεοῖς ἐπόμενος. . . η̄. πῦρ μαχαίρῃ μὴ σκάλευε. . . ι. ἀνδρὶ ἐπανατιθεμένῳ μὲν φορτίον συνέπαιρε, μὴ συγκαθαίρει δὲ ἀποτιθεμένῳ. ια. εἰς μὲν ὑπόδησιν τὸν δεξιὸν πόδα προπάρεχε, εἰς δὲ ποδόνιπτρον τὸν εὐώνυμον. ιβ. περὶ Πυθαγορείων ἄνευ φωτὸς μὴ λάλει. ιγ. ζυγὸν μὴ ὑπέρβαινε. ιδ. ἀποδημῶν τῆς οἰκείας μὴ ἐπιστρέφου, Ἐρινύες γὰρ μετέρχονται. . . ιε. ἀλεκτρυόνα τρέφε μὲν, μὴ θῦε δέ. Μηνὶ γὰρ καὶ Ἥλιῳ καθιέρωται. ιη. ἐπὶ χοίρικι μὴ καθέζου. . . κα. χελιδόνα οἰκίᾳ μὴ δέχου.

275 *Let the rules to be pondered be these:*

1. *When you are going out to a temple, worship first, and on your way neither say nor do anything else connected with your daily life.*
2. *On a journey neither enter a temple nor worship at all, not even if you are passing the very doors.*
3. *Sacrifice and worship without shoes on.*
4. *Turn aside from highways and walk by footpaths. . . .*
6. *Follow the gods and restrain your tongue above all else. . . .*
8. *Stir not the fire with iron. . . .*
10. *Help a man who is loading freight, but not one who is unloading.*
11. *Putting on your shoes, start with the right foot; washing your feet, with the left.*
12. *Speak not of Pythagorean matters without light.*
13. *Never step over a cross-bar.*
14. *When you are out from home, look not back, for the Furies come after you. . . .*
17. *Rear a cock, but do not sacrifice it; for it is dedicated to Moon and Sun.*
18. *Do not sit on a quart measure. . . .*
21. *Let not a swallow nest under your roof.*

far cited, of another side to Pythagoras' teaching are Heraclitus' references, in 260 and 261, to his πολυμαθία and ιστορία ('polymathy' and 'scientific enquiry'), and Herodotus' description of him in 262 as 'by no means the weakest sage among the Hellenes'. These passages alone, however, do suggest—what is evident also from the fact that in the fifth century the Pythagoreans were among the leading scientists—that Pythagoras was interested in science as well as in the fate of the soul. Clearly too religion and science were, to Pythagoras, not two separate departments between which there was no contact, but rather the two inseparable factors in a single way of life.¹ Unfortunately there is no reliable evidence whatever concerning the nature of Pythagoras' scientific teaching: any reconstruction must be conjectural, merely attributing to Pythagoras himself such of the later Pythagorean doctrines as could without anachronism have been held in the sixth century B.C. and may plausibly account for the subsequent spread and development of Pythagoreanism. The central notions, which held together the two strands that were later to fall apart, seem to have been those of θεωρία (contemplation),² κόσμος (an orderliness found in the arrangement of the universe)³ and κάθαρσις (purification).⁴ By contemplating the principle of order revealed in the universe—and especially in the regular movements of the heavenly bodies—and by assimilating himself to that orderliness, man himself was progressively purified until he eventually escaped from the cycle of birth and attained immortality.

¹ The widening of the basis of mathematics is suggested by 277 Proclus in *Eucl.* p. 65 Friedl. (DK 14, 6a) ἐπὶ δὲ τούτοις Πυθαγόρας τὴν περὶ αὐτὴν (sc. γεωμετρίαν) φιλοσοφίαν εἰς σχῆμα παιδείας ἐλευθέρου μετέστησεν ἄνωθεν τὰς ἀρχὰς αὐτῆς ἐπισκοπούμενος. . . Several passages in Aristotle even suggest a close connexion in Pythagoreanism between mathematics and ethics.

² The supremacy of the contemplative life is illustrated by the parable of the Festival in 278 Diog. L. viii, 8 καὶ τὸν βίον εἰκόνα πανηγύρει· ὡς οὖν εἰς ταύτην οἱ μὲν ἀγωνιούμενοι, οἱ δὲ κατ' ἐμπορίαν, οἱ δὲ γὰρ βέλτιστοι ἔρχονται θεαταί, οὕτως ἐν τῷ βίῳ οἱ μὲν ἀνδραποδώδεις, ἔφθ, φύονται δόξης καὶ πλεονεξίας θηραταί, οἱ δὲ φιλόσοφοι τῆς ἀληθείας.

277 So Pythagoras turned geometrical philosophy into a form of liberal education by seeking its first principles in a higher realm of reality. . . .

278 Life, he said, is like a festival; just as some come to the festival to compete, some to ply their trade, but the best people come as spectators, so in life the slavish men go hunting for fame or gain, the philosophers for the truth.

³ Pythagoras is said by Aetius, in a much debated passage (II, I, I; DK 14, 21), to have been the first to use the word κόσμος of the universe; but if the passage has any foundation in fact, it is most likely that Pythagoras used the word, not, as Aetius said, to mean ἡ τῶν ὅλων περιοχὴ, 'that which embraces all things', but with a special emphasis on the element of orderliness, or the arrangement: cf. p. 159 n. Pythagoras is also said by Diog. L. (I, 12), who is here quoting Heraclides, to have coined the word 'philosophy'; cf. Kirk, *Heraclitus, the Cosmic Fragments*, 395.

⁴ The notion of κάθαρσις was linked especially with music: see 279 Cramer, *An. Par.* I, 172 . . . οἱ Πυθαγορικοί, ὡς ἔφη Ἀριστόξενος, καθάρσει ἐχρῶντο τοῦ μὲν σώματος διὰ τῆς ἰατρικῆς, τῆς δὲ ψυχῆς διὰ τῆς μουσικῆς. Cf. Iamb. *V.P.* 110 and Porph. *V.P.* 30.

SCIENTIFIC ACHIEVEMENTS

The two most fundamental and universal of Pythagorean scientific doctrines are, first, the ultimate dualism between Limit and Unlimited, and second, the equation of things with numbers (see pp. 240–50). What is required, therefore, is a plausible explanation of how these two doctrines, by no means obviously interdependent, should have occurred to Pythagoras or his followers. There seems no reason to doubt the tradition that Pythagoras himself discovered—probably by measuring the appropriate lengths of string on a monochord—that the chief musical intervals are expressible in simple numerical ratios between the first four integers.¹ This single discovery would account naturally for all the most characteristic of Pythagorean doctrines. If the musical scale depends simply upon the imposition of definite proportions on the indefinite continuum of sound between high and low, might not the same principles, Limit and the Unlimited, underlie the whole universe? If numbers alone are sufficient to explain the 'consonances', might not everything else be likewise expressible as a number or a proportion? Moreover, since the first four integers contain the whole secret of the musical scale, their sum, the number 10 or the Dècad, might well 'seem to embrace', as Aristotle puts it, 'the whole nature of number' (see 289) and so come to be regarded, as it certainly was, with veneration.² It is not surprising, therefore, that both mathematics and music should have played from the outset so vital a part in Pythagoreanism. Of the various mathematical discoveries attributed to Pythagoras it is not unlikely that

279 *The Pythagoreans, according to Aristoxenus, practised the purification of the body by medicine, that of the soul by music.*

The text, however, is obviously corrupt. While Diels inserts νέος before ἐπί, Ross regards the words ἐγένετο τὴν ἡλικίαν and ἐπὶ γέροντι Πυθαγόρα, which are omitted by one ms. and ignored by Alexander, as a later addition (see his note *ad loc.*). It is true that Iamblichus *V.P.* 104 lists Alcmaeon among 'the contemporaries of Pythagoras, his young pupils in his old age'; but since the same list contains also the names of Philolaus, Archytas and Leucippus, it clearly has no value as evidence. All that can safely be said, therefore, is that there is no reason why this dating, whether it represents Aristotle's own opinion or that of an interpolator, should not be approximately correct.

² Aristotle mentions Alcmaeon by name on several occasions, but, though in 289 he guesses either that Alcmaeon borrowed from the Pythagoreans or they from him, he never suggests that Alcmaeon himself was a member of the school. Later writers are, as usual, less cautious.

³ Alcmaeon's physiological research was directed chiefly towards determining the nature of sense-perception. His theories are summed up by Theophrastus in a passage of which the most important sentences are the following: 284 Theophr. *de sensu* 25f. (DK 24A 5) τῶν δὲ μὴ τῷ ὁμοίῳ ποιοῦντων τὴν αἴσθησιν Ἀλκμαίων μὲν πρῶτον ἀφορίζει τὴν πρὸς τὰ ζῷα διαφορὰν. ἀνθρώπων γὰρ φησι τῶν ἄλλων διαφέρειν ὅτι μόνον ξυνίησι, τὰ δ' ἄλλα αἰσθάνεται μὲν, οὐ ξυνίησι δέ, ὡς ἕτερον ὄν τὸ φρονεῖν καὶ αἰσθάνεσθαι, καὶ οὐ, καθάπερ Ἐμπεδοκλῆς, ταῦτόν· ἔπειτα περὶ ἐκάστης λέγει...ἀπάσας δὲ τὰς αἰσθήσεις συνηρηθῆσθαι πῶς πρὸς τὸν ἐγκέφαλον· διὸ καὶ πηροῦσθαι κινουμένου καὶ μεταλλάττουτος τὴν χώραν· ἐπιλαμβάνειν γὰρ τοὺς πόρους, δι' ὧν αἱ αἰσθήσεις. The view that the brain is the seat of sensations was taken over from Alcmaeon in the Hippocratic treatise *de morbo sacro*, 14 and 17 (DK 24A 11). The existence of the πόροι is said by Chalcidius (*in Tim.* ch. 237, DK 24A 10) to have been proved by Alcmaeon's dissection of the eye.

⁴ The book is said by Diog. L. (with only one brief sentence between 282 and this passage) to have begun as follows: 285 Diog. L. VIII, 83 Ἀλκμαίων Κροτωνιῆτης τάδε ἔλεξε Πειρίθου υἱὸς Βροτίνῳ καὶ Λέοντι καὶ Βαθύλλῳ· περὶ τῶν ἀφανέων, [περὶ τῶν θνητῶν] σαφήνεια μὲν θεοὶ ἔχοντι, ὡς δὲ ἀνθρώποις τεκμαίρεσθαι... The fact that Brotinus (or Brontinus, as other ancient sources call him) was evidently connected with Pythagoras by some marriage tie is one of the indications that Alcmaeon was in close contact with the Pythagorean school. Leon and Bathylaus (not Bathyllus) are to be found in the list of Pythagoreans in Iamblichus *V.P.* 267 (DK 58A).

284 *Of those who think perception is of unlike by unlike Alcmaeon first defined the difference between man and animals. For man, he says, differs from other animals in that 'he only understands, while the rest perceive but do not understand', thought and perception being different, not, as Empedocles maintains, the same. Thereafter he discusses each of the senses severally... Collectively he maintains that the senses are somehow connected with the brain; and so they are incapacitated when it moves or changes its position; for it stops the passages through which sensations come.*

285 *Alcmaeon of Croton, son of Peirithous, spoke these words to Brotinus and Leon and Bathyllus. Concerning things unseen and things mortal the gods see clearly, but so far as men may conjecture...*

δ' ἐν ἑξ ἀμφοτέρων εἶναι τούτων (καὶ γὰρ ἄρτιον εἶναι καὶ περιττόν), τὸν δ' ἀριθμὸν ἐκ τοῦ ἑνός, ἀριθμοὺς δέ, καθάπερ εἴρηται, τὸν ὄλον οὐρανόν.

ἕτεροι δὲ τῶν αὐτῶν τούτων τὰς ἀρχὰς δέκα λέγουσιν εἶναι τὰς κατὰ συστοιχίαν λεγομένας·

πέρας καὶ ἄπειρον
 περιττόν καὶ ἄρτιον *odd & even*
 ἕν καὶ πλῆθος
 δεξιὸν καὶ ἀριστερόν
 ἄρρεν καὶ θῆλυ
 ἡρεμοῦν καὶ κινούμενον *resting & moving*
 εὐθύ καὶ καμπύλον *straight & curved*
 φῶς καὶ σκότος
 ἀγαθὸν καὶ κακόν
 τετράγωνον καὶ ἑτερόμηκες *square & oblong*

ὄνπερ τρόπον ἕοικε καὶ Ἀλκμαίων ὁ Κροτωνιάτης ὑπολαβεῖν, καὶ ἦτοι οὗτος παρ' ἐκείνων ἢ ἐκεῖνοι παρὰ τούτου παρέλαβον τὸν λόγον τοῦτον· καὶ γὰρ ἐγένετο τὴν ἡλικίαν Ἀλκμαίων ἐπὶ γέροντι Πυθαγόρᾳ, ἀπεφάνητο δὲ παραπλησίως τούτοις.³ φησὶ γὰρ εἶναι δύο τὰ πολλὰ τῶν ἀνθρωπίνων, λέγων τὰς ἐναντιότητας οὐχ ὥσπερ οὗτοι διωρισμένας ἀλλὰ τὰς τυχούσας, οἶον λευκὸν μέλαν, γλυκὺ πικρὸν, ἀγαθὸν κακόν, μέγα μικρόν.⁴ οὗτος μὲν οὖν ἀδιορίστως ἀπέρριψε περὶ τῶν λοιπῶν, οἱ δὲ Πυθαγόρειοι καὶ πόσαι καὶ τίνες αἱ ἐναντιώσεις ἀπεφάνησαντο. παρὰ μὲν οὖν τούτων ἀμφοῖν τοσοῦτον ἔστι λαβεῖν ὅτι τάναντία ἀρχαὶ τῶν ὄντων· τὸ δὲ ὅσαι, παρὰ τῶν ἑτέρων, καὶ τίνες αὐταὶ εἰσιν. πῶς μέντοι πρὸς τὰς εἰρημένας αἰτίαι

latter limited; and the 1 proceeds from both of these (for it is both even and odd), and number from the 1; and the whole heaven, as has been said, is numbers.

Other members of this same school say there are ten principles, which they arrange in two columns of cognates—limit and unlimited, odd and even, one and plurality, right and left, male and female, resting and moving, straight and curved, light and darkness, good and bad, square and oblong. In this way Alcmaeon of Croton seems also to have conceived the matter, and either he got this view from them or they got it from him; . . . for he expressed himself similarly to them. For he says most human affairs go in pairs, meaning not definite contraries such as the Pythagoreans speak of, but any chance contraries, e.g. white and black, sweet and bitter, good and bad, great and small. He threw out indefinite suggestions about the other contraries, but the Pythagoreans declared both how many and which their contraries are.

From both these schools, then, we can learn this much, that the contraries are the principles of things; and how many these principles are and which they are, we can learn from one of the two schools. But how these principles can be brought together under the

510 B.C. and Zeno's at about 490-485. It is of course true that the date given by Diogenes, which he probably derived from Apollodorus, does not nearly square with this; but, as Burnet points out (*EGP* 170), 'the date given by Apollodorus depends solely on that of the foundation of Elea (540 B.C.), which he had adopted as the *floruit* of Xenophanes. Parmenides is born in that year, just as Zeno is born in the year when Parmenides "flourished".' Unsatisfactory as a late Platonic dialogue may be as evidence for chronology, it can hardly be doubted that it is more reliable than this. But in any case what really matters is not so much Parmenides' precise dates as his relation to the other Presocratics. We shall see as we proceed that his poem certainly contains references to Anaximenes (see p. 275) and perhaps also to Heraclitus (see pp. 183 and 272), while both Empedocles and Anaxagoras refer often and obviously to Parmenides (cf. 414-416, 497).

LIFE

339 Diogenes Laertius IX, 21-3 (DK 28A1) Παρμενίδης Πύρητος Ἐλεάτης διήκουσε Ζενοφάνους. (τοῦτον (*sc.* Xenophanes) Θεόφραστος ἐν τῇ Ἐπιτομῇ Ἀναξιμάνδρου φησὶν ἀκοῦσαι.) ὁμῶς δ' οὖν ἀκούσας καὶ Ζενοφάνους οὐκ ἠκολούθησεν αὐτῷ. ἐκοινώνησε δὲ καὶ Ἀμεινίᾳ Διοχαίτᾳ τῷ Πυθαγορικῷ, ὡς ἔφη Σωτίων, ἀνδρὶ πένητι μὲν, καλῷ δὲ καὶ ἀγαθῷ. ᾧ καὶ μᾶλλον ἠκολούθησε καὶ ἀποθανόντος ἠρῶον ἰδρύσατο γένους τε ὑπάρχων λαμπροῦ καὶ πλοῦτου, καὶ ὑπ' Ἀμεινίου, ἀλλ' οὐχ ὑπὸ Ζενοφάνους εἰς ἡσυχίαν προεστράτη. . . (23) . . . λέγεται δὲ καὶ νόμους θεῖναι τοῖς πολίταις, ὡς φησὶ Σπεύσιππος ἐν τῷ Περὶ φιλοσόφων.¹

340 Strabo 6, p. 252 Cas. (DK 28A12) . . . Ἐλέαν. . . , ἐξ ἧς Παρμενίδης καὶ Ζήνων ἐγένοντο ἄνδρες Πυθαγόρειοι. δοκεῖ δὲ μοι καὶ δι' ἐκείνους καὶ ἔτι πρότερον εὐνομηθῆναι.

339 *Parmenides of Elea, son of Pyres, was a pupil of Xenophanes (and he, according to Theophrastus in his Epitome, of Anaximander). But though a pupil of Xenophanes, he did not follow him. He associated also, as Sotion recorded, with the Pythagorean Ameinias, son of Diochaitas, a poor but noble man, whom he preferred to follow. When Ameinias died Parmenides, who came of a distinguished family and was rich, built a shrine to him. It was by Ameinias rather than Xenophanes that he was converted to the contemplative life. . . . He is said also to have legislated for the citizens of Elea, as Speusippus records in his work On the philosophers.*

340 . . . Elea. . . , whence Parmenides and Zeno came, both Pythagoreans. I believe that through their agency the city was well governed, as it had also been even earlier.

¹ Cf. **341** Plutarch *adv. Colot.* 32, 1126A Παρμενίδης δὲ τὴν ἑαυτοῦ πατρίδα διεκόσμησε νόμοις ἀρίστοις, ὥστε τὰς ἀρχὰς καθ' ἕκαστον ἑνιαυτὸν ἐξορκοῦν τοὺς πολίτας ἐμμενεῖν τοῖς Παρμενίδου νόμοις.

These two passages, though both from late authors, preserve two traditions which are likely enough, on other grounds, to be true. That Parmenides should have taken an active part in the politics of his city is in no way surprising: several of the Presocratic philosophers did. And that he should originally have been a Pythagorean is not only not unlikely in itself, Elea being no great distance from Croton and Metapontium, but is borne out by internal evidence in his poem (see especially p. 277). Again, the statement in **339** that it was not Xenophanes but the otherwise unknown Pythagorean Ameinias who 'converted' Parmenides to the philosophic life is not the sort of thing to be invented. Aristotle himself, possibly misled by a remark of Plato's in the *Sophist* (242C-D, cf. **166**) which is not to be taken seriously, says of Parmenides that 'he is supposed to have been a pupil of Xenophanes' (*Met.* A5, 986b22, DK28A6); and Sotion, whom Diogenes is quoting in **339**, must have had some good reason—possibly the existence of the shrine erected by Parmenides in memory of Ameinias—for rejecting Aristotle's guidance and substituting for Xenophanes so obscure a figure. When it is remembered, finally, that these traditions are probably derived from such earlier authorities as the fourth-century historian Timaeus, there seems to be no good ground for rejecting the scanty evidence we possess about the life of Parmenides.

THE NATURE OF PARMENIDES' POEM

Parmenides wrote exclusively in hexameter verse—in which he was followed by Empedocles. With the exception of the allegory of the poem (and perhaps also certain passages in the 'Way of Seeming', in which divine figures were introduced), his subject-matter is of the most prosaic order. His diction, moreover, besides being far from poetical, is often exceedingly obscure: the precise meaning of some of his sentences will probably never be unambiguously agreed. Thanks to Simplicius, who, knowing that the original work was already in his day rare, transcribed large

341 *Parmenides set his own state in order with such admirable laws that the government yearly swears its citizens to abide by the laws of Parmenides.*

sections of it into his commentaries on Aristotle, we possess, probably, a higher proportion of the writings of Parmenides than of any other Presocratic philosopher. After the allegorical introduction the poem is in two parts, the 'Way of Truth' and the 'Way of Seeming'. The former, of which Diels estimated that we possess about nine-tenths, presents an unprecedented exercise in logical deduction: starting from the premise ἔστι, 'it is',—in much the same way as Descartes started from the premise 'cogito'—Parmenides proceeds, by the sole use of reason unaided by the senses, to deduce all that can be known about Being, and he ends by denying any truthful validity to the senses or any reality to what they appear to perceive. Then in the 'Way of Seeming', unexpectedly reinstating the world of appearances that he has so vehemently demolished, he appends what seems, from the relatively scanty fragments that survive, to have been a cosmogony of the traditional type. The relation between the two parts of the poem is by no means obvious and has, as we shall see, been very variously interpreted; but fortunately it is the 'Way of Truth', of which so large a proportion survives, that made Parmenides the most influential of all the Presocratics, while the 'Way of Seeming', whatever the motive that prompted Parmenides to write it, seems to have exercised comparatively little influence upon his successors (but see p. 283).

THE PROEM

342 Fr. I, Sextus *adv. math.* VII, 111 and Simplicius *de caelo* 557, 25

ἵπποι τάί με φέρουσιν ὅσον τ' ἐπὶ θυμὸς ἰκάνοι
πέμπτον, ἐπεὶ μ' ἐς ὁδὸν βῆσαν πολύφημον ἄγουσαι
δαίμονος, ἣ κατὰ πάντ' ἄστη^τ φέρει εἰδότα φῶτα·
τῇ φερόμην· τῇ γάρ με πολύφραστοι φέρον ἵπποι
ἄρμα τιταίνουσαι, κοῦραι δ' ὁδὸν ἡγεμόνευον.
ἄξων δ' ἐν χροίησιν ἴει σύριγγος ἀυτῆν
αἰθόμενος (δοιοῖς γὰρ ἐπείγετο δινωτοῖσιν
κύκλοις ἀμφοτέρωθεν), ὅτε σπερχοῖατο πέμπτειν

Muses
(theis)

342 The steeds that carry me took me as far as my heart could desire, when once they had brought me and set me on the renowned way of the goddess, who leads the man who knows through every town. On that way was I conveyed; for on it did the wise steeds convey me, drawing my chariot, and maidens led the way. And the axle blazing in the socket—for it was urged round by well-turned wheels at each end—was making the holes in the naves sing,

10 Ἡλιάδες κοῦραι, προλιποῦσαι δώματα Νυκτός,
 εἰς φάος, ὡσάμεναι κράτων ἄπο χειρῶν καλύπτρας.
 ἔνθα πύλαι Νυκτός τε καὶ Ἡματός εἰσι κελεύθων,
 καὶ σφας ὑπέρθυρον ἀμφὶς ἔχει καὶ λάνις οὐδός.
 αὐταὶ δ' αἰθήρια πλῆνται μεγάλοισι θυρέτροις·
 15 τῶν δὲ Δίκη πολυποίνος ἔχει κληίδας ἀμοιβούς. *show the way;*
 τὴν δὴ παρφάμεναι κοῦραι μαλακοῖσι λόγοισιν *πεικνυμε*
 πείσαν ἐπιφραδέως, ὥς σφιν βαλανωτὸν ὄχηα
 ἀπτερέως ὥσειε πυλέων ἄπο· ταὶ δὲ θυρέτρων
 20 χάσμ' ἀχανὲς ποίησαν ἀναπτάμεναι πολυχάλκους
 ἄξονας ἐν σύριγξιν ἀμοιβαδὸν εἰλίξασαι
 γόμοις καὶ περόνησιν ἀρηρότε· τῇ ῥά δι' αὐτέων
 ἰθὺς ἔχον κοῦραι κατ' ἀμαξιτὸν ἄρμα καὶ ἵππους.
 καὶ με θεὰ/πρόφρων ὑπεδέξατο, χεῖρα δὲ χειρὶ *δικη?*
 δεξιτερὴν ἔλεν, ὧδε δ' ἔπος φάτο καὶ με προσηύδα·
 25 ὦ κοῦρ' ἀθανάτοισι συνάορος ἠνιόχοισιν,
 ἵπποις ταῖ σε φέρουσιν ἰκάνων ἡμέτερον δῶ,
 χαῖρ', ἐπεὶ οὔτι σε μοῖρα κακὴ προὔπεμπε νέεσθαι
 τήνδ' ὁδὸν (ἦ γὰρ ἄπ' ἀνθρώπων ἐκτὸς πάτου ἐστίν),
 ἀλλὰ θέμις τε δίκη τε/ χρεῶν δέ σε πάντα πυθέσθαι
 ἡμὲν Ἀληθείης εὐκυκλέος ἀτρεμέσ ἦτορ
 30 ἠδὲ βροτῶν δόξας, ταῖς οὐκ ἔνι πίστις ἀληθής.
 ἀλλ' ἔμπης καὶ ταῦτα μαθήσεται, ὡς τὰ δοκούντα
 χρῆν' *plausi* δοκίμως εἶναι διὰ παντὸς πάντα περῶντα.² *what seems to them*

¹ πάντ' ἄσθη Sextus N, πάντ' ἄτη L, πάντα τῇ E, ζ. κατὰ πάντα τατῇ Barnett Wilamowitz (= 'stretched through all things') seems improbable, since τατός occurs elsewhere only once, in Aristotle's *Hist. An.* The reading

while the daughters of the Sun, hasting to convey me into the light, threw back the veils from off their faces and left the abode of night. There are the gates of the ways of Night and Day, fitted above with a lintel and below with a threshold of stone. They themselves, high in the air, are closed by mighty doors, and avenging Justice controls the double bolts. Her did the maidens entreat with gentle words and cunningly persuade to unfasten without demur the bolted bar from the gates. Then, when the doors were thrown back, they disclosed a wide opening, when their brazen posts fitted with rivets and nails swung in turn on their hinges. Straight through them, on the broad way, did the maidens guide the horses and the car. And the goddess greeted me kindly, and took my right hand in hers, and spake to me these words: 'Welcome, o youth, that comest to my abode on the car that bears thee, tended by immortal charioteers. It is no ill chance, but right and justice, that has sent thee forth to travel on this way. Far indeed does it lie from the beaten track of men. Meet it is that thou shouldst learn all things, as well the unshaken heart of well-rounded truth, as the opinions of mortals in which is no true belief at all. Yet none the less shalt thou learn these things also—how the things that seem, as they all pass through everything, must gain the semblance of being.'
 (After Burnet)

of N, by its suggestion that Parmenides was an itinerant philosopher, accords with the statement of Plato that Parmenides and Zeno visited Athens.

² δοκίμως Simpl. mss., δοκιμῶσ' Diels, admitting an elision unknown in hexameters. But, coming so soon after δοκοῦντα, δοκίμως surely means 'seemingly', which resolves the difficulty. περῶντα Simpl. A; περ ὄντα DEF.

This proem is not only of the utmost interest as a whole but also contains a number of important points of detail. Parmenides is clearly describing his escape from error to enlightenment, and it is most likely that, as Diels suggested, the allegorical form is borrowed from oracle- and mystery-literature. 'It is clear', writes Bowra (*Problems in Greek Poetry* 47), 'that this Proem is intended to have the importance and seriousness of a religious revelation.' Not only the passage from darkness into light but many minor details throughout the poem suggest that Parmenides desired, particularly in the Proem, to arm himself in advance, by stressing the religious nature of his revelation, with an answer to his potential critics. Bowra is probably right in concluding that these potential critics were 'his fellow Pythagoreans'.

Two points of detail call for comment. It is to be noted, in the first place, that the goddess is made to address Parmenides (l. 24) as κοῦρε, 'youth', a word which provides us with our only clue as to the date of the poem's composition. If we take this to mean that Parmenides was, at the most, not much over thirty when he wrote his poem, that would fix its date somewhere between, say, 490 and 475 B.C.; and if this estimate is right, then we have an approximate *terminus ad quem*, not only for several of the Pythagorean views already described, against which we shall see that Parmenides especially aims many of his arguments, but also, possibly, for the publication of the fundamental doctrine of Heraclitus.

The other important point concerns the phrase (l. 29) Ἀληθείης εὐκυκλέος, 'well-rounded Truth'. Truth is described as well-rounded because, presumably, wherever you pick up the chain of Parmenides' reasoning, you can follow it round in a circle, passing through each of its links in turn, back to your starting-point. Parmenides himself says almost exactly that in fragment 5:

343 Fr. 5, Proclus in *Parm.* I, 708, 16 Cousin

... ξυνὸν δέ μοι ἔστιν

ὅπποθεν ἄρξωμαι· τόθι γὰρ πάλιν ἴξομαι αὖθις.

Every attribute of reality can be deduced from every other.

343 It is all one to me where I begin; for I shall come back there again in time.

cf. Hist. Lectur., 339627

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see Diels

*Camford: the [eyes]
that is if it is im-
possible for it not
to be i.e. the other
that is not & must
necess not be*

THE WAY OF TRUTH

(i) *The premise*

344 Fr. 2, Proclus in *Tim.* I, 345, 18 Diehl

εἰ δ' ἄγ' ἐγὼν ἐρέω, κόμισαι δὲ σὺ μῦθον ἀκούσας,
 αἴπερ ὁδοὶ μοῦναι διζήσιός εἰσι νοῆσαι.
 ἢ μὲν ὅπως ἔστιν τε καὶ ὡς οὐκ ἔστι μὴ εἶναι, *that is I wish I*
 πειθοῦς ἔστι κέλευθος (Ἀληθείη γὰρ ὀπηδεῖ), *that non-Being*
 5 ἢ δ' ὡς οὐκ ἔστιν τε καὶ ὡς χρεῶν ἔστι μὴ εἶναι, *exist not -*
 τὴν δὴ τοι φράζω παναπευθέα ἔμμεν ἀταρπὸν. *that is not wish*
 οὔτε γὰρ ἂν γνοιῆς τό γε μὴ ἔόν (οὐ γὰρ ἀνυστόν) *and that Non-*
 οὔτε φράσαις. (Fr. 3) τὸ γὰρ αὐτὸ νοεῖν ἔστιν τε καὶ εἶναι. *Being must be*

The goddess begins her instruction by defining 'the only two conceivable ways of enquiry', which are directly contrary one to the other: if you accept one premise, then logic compels you to reject the other. The choice in fact, as Parmenides later puts it in its briefest form (347 l. 16), is simply this: ἔστιν ἢ οὐκ ἔστιν. Unfortunately even to translate these apparently simple words is liable to be misleading, because of the ambiguity, of which Parmenides himself was unconscious, between the predicative and the existential senses of the Greek word ἔστιν.¹ The usual translation, 'It is or it is not', too easily gives rise to the question what 'it' is. So Burnet, for instance, at the beginning of his discussion of the Way of Truth (*EGP* 178), writes: '...it is not quite obvious at first sight what it is precisely that is... There can be no real doubt that this is what we call body... The assertion that *it is* amounts just to this, that the universe is a *plenum*.' Such a conclusion is at best premature. At this early stage in his poem Parmenides' premise ἔστιν has no definite subject at all: if it is necessary to translate the sentence ἔστιν ἢ οὐκ ἔστιν, then perhaps the least misleading rendering is: 'Either a thing is or it is not.' Parmenides is attacking those who believe, as all men always had believed,

344 *Come now, and I will tell thee—and do thou hearken and carry my word away—the only ways of enquiry that can be thought of [literally, that exist for thinking, the old dative sense of the infinitive]: the one way, that it is and cannot not-be, is the path of Persuasion, for it attends upon Truth; the other, that it is-not and needs must not-be, that I tell thee is a path altogether unthinkable. For thou couldst not know that which is-not (that is impossible) nor utter it; for the same thing can be thought as can be [construction as above, literally the same thing exists for thinking and for being].*

that it is possible to make a significant negative predication; but he is enabled to attack them only because of his own confusion between a negative predication and a negative existential judgement. The gist of this difficult and important fragment is therefore this: 'Either it is right only to think or say of a thing, "it is. . ." (i.e. "it is so-and-so, e.g. white"), or else it is right to think or say only "it is not. . ." (i.e. "it is not something else, e.g. black"). The latter is to be firmly rejected on the ground [a mistaken one, owing to the confusion between existential and predicative] that it is impossible to conceive of Not-Being, the non-existent. Any propositions about Not-Being are necessarily meaningless; the only significant thoughts or statements concern Being.'

¹ Owing to this undetected ambiguity it is often difficult to decide how the word ἔστι should be accented in Parmenides' poem. I have for the most part, but not always, followed DK; where I have diverged, see the parentheses in the translation.

A page or two after the sentences quoted in the last paragraph Burnet, in discussing the effects of Parmenides' 'thorough-going dialectic', adds (p. 180): 'Philosophy must now cease to be monistic or cease to be corporealist. It could not cease to be corporealist; for the incorporeal was still unknown.' This too seems an over-simplification. It is true that the incorporeal was still unknown; but it does not follow from that that Parmenides was wishing to describe 'body' or 'a plenum'. On the contrary, the chief difficulty about Parmenides is that, while the incorporeal was still unknown, and no vocabulary therefore existed to describe it, he was none the less, as were the Pythagoreans in the choice of their first principles, feeling his way towards it. We shall see (pp. 302 ff.) that Melissus carried the advance a stage further; but it seems probable, even in the case of Parmenides, that had he been asked whether his 'Being' was solid (or 'body') his answer would have been a hesitant negative.

(ii) *Two false premises*

345 Fr. 6, Simplicius *Phys.* 117, 4

χρὴ τὸ λέγειν τε νοεῖν τ' εἶναι ἢ εἶναι ἢ ἔστι γὰρ εἶναι,
μηδὲν δ' οὐκ ἔστιν· τὰ σ' ἐγὼ φράζεσθαι ἄνωγα.

345 *That which can be spoken and thought needs must be* [construction as in 344]; *for it is possible for it, but not for nothing, to be; that is what I bid thee ponder. This is*

It must be said and thought, the "is"
exists, for Being exists. But nothing exists
not!

πρώτης γάρ σ' ἀφ' ὁδοῦ ταύτης διζήσιος (εἴργω),
 αὐτὰρ ἔπειτ' ἀπὸ τῆς, ἣν δὴ βροτοὶ εἰδότες οὐδὲν
 5 πλάττονται, δίκρανοι· ἀμηχανίη γὰρ ἐν αὐτῶν
 στήθεσιν ἰθύνει πλακτὸν νόον· οἱ δὲ φοροῦνται
 κωφοὶ ὁμῶς τυφλοὶ τε, τεθηπότες, ἄκριτα φύλα,
 οἷς τὸ πέλειν τε καὶ οὐκ εἶναι ταῦτόν νενόμισται
 κοῦ ταῦτόν, πάντων δὲ παλίντροπὸς ἔστι κέλευθος.

346 Fr. 7, Plato *Sophist* 237A and Sextus *adv. math.* VII, 114

οὐ γὰρ μήποτε τοῦτο δαμῆ εἶναι μὴ ἔοντα·
 ἀλλὰ σὺ τῆσδ' ἀφ' ὁδοῦ διζήσιος εἴργε νόημα
 μηδὲ σ' ἔθος πολῦπειρον ὁδὸν κατὰ τήνδε βιάσθω
 νωμῶν ἄσκοπον ὄμμα καὶ ἠχῆεσσαν ἀκουήν
 5 καὶ γλώσσαν, κρῖναι δὲ λόγῳ πολὺδηριν ἔλεγχον
 ἔξ ἐμέθεν ῥηθέντα.

Though Parmenides has, in 344, suggested that there are only two 'conceivable ways of enquiry', either a thing is or it is not, it now appears from these two fragments (which seem to present a continuous passage) that in addition to the true premise there are actually two premises that must be rejected. One of these, of course, is that already defined in fr. 2, the premise οὐκ ἔστι, and described as παναπευθέα, 'altogether inconceivable'; misguided as men may be, no man could confine himself to negative judgements and negative statements only. But for all that, the goddess (in 345 l. 3) warns Parmenides against treading this path, because, as she goes on to suggest (in ll. 8-9), this utterly false way can be, and constantly is, so combined with the true way that a third way, a compromise between the other two, a thing both is and is not, comes into the picture. This third way is the way on which 'ignorant mortals wander two-faced'; and they are two-faced because, as Simplicius puts it (*Phys.* 117, 3; DK 28B6), εἰς ταῦτὸ συνάγουσι τὰ ἀντικείμενα, 'they combine contraries'. It is in fact

the first way of enquiry from which I hold thee back, and then from that way also on which mortals wander knowing nothing, two-headed; for helplessness guides the wandering thought in their breasts; they are carried along, deaf and blind at once, altogether dazed—hordes devoid of judgement, who are persuaded that to be and to be-not are the same, yet not the same, and for whom the path of all things is backward-turning.

346 *For never shall this be proved, that things that are not are; but do thou hold back thy thought from this way of enquiry, nor let custom, born of much experience, force thee to let wander along this road thy aimless eye, thy echoing ear or thy tongue; but do thou judge by reason the strife-encompassed proof that I have spoken.*

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this very combination of contraries that is the basis of 'the opinions of mortals' (342 l. 30 and 353 l. 51) which provide the content of the Way of Seeming; the premise upon which the whole Way of Seeming rests is just this compromise between the true way and the utterly false way, a thing both is and is not. It has often been suggested that the last clause of 345, πάντων δὲ παλίντροπός ἐστι κέλευθος (translated 'of all things the path is backward-turning'), contains a special reference to the doctrines of Heraclitus; and so translated, it certainly is particularly appropriate to the Heraclitean belief that all things eventually change into their opposites (see pp. 195 f.).¹ But it is by no means the case that unless we see such a reference, then the last two lines of the fragment are meaningless. They need not necessarily mean anything more than that mortals as a whole (note ἄκριτα φῦλα, 'herds devoid of judgement') 'have made up their minds to believe that to be and not to be are the same and yet not the same' (i.e. they believe that that which *is* can change and become *not* what it was before. To be and not to be are the same in that they are both found in any event; and yet they are obviously opposites and are therefore, in a more exact sense, not the same), 'and they imagine that all things pass back and forth between being and not-being' (i.e. all things change from being so-and-so, e.g. hot, to not being so-and-so, and then change back again).

¹ A quite different interpretation of this last clause is attractive, taking πάντων as masculine and κέλευθος (as in 344 l. 4) as a 'way of thought', which is described as παλίντροπος because, having started out promisingly by saying ἔστι, these muddlers turn back on their tracks by adding οὐκ ἔστι. If this interpretation were adopted, the case for seeing here a reference to Heraclitus (which anyhow was largely based on the doubtful reading παλίντροπος for παλίντρονος in 212) would be further weakened.

(iii) *Deductions from the true premise:*

(a) *denial of time, the void, plurality*

The premise ἔστι is by now established as the only possibility: the only significant thought or statement is that a thing *is*. At this stage, therefore, Parmenides proceeds to consider precisely what must be the nature of the subject of the only true statement that can be made. From now onwards until the end of the Way of Truth he is concerned, in other words, to deduce all that can be deduced from his chosen premise about the properties of Being.

347 Fr. 8, Simplicius *Phys.* 145, 1 (continuing 346)

μόνος δ' ἔτι μῦθος ὁδοῖο
 λείπεται ὡς ἔστιν· ταύτη δ' ἔπι σήματ' ἕασι
 5 πολλά μάλ', ὡς ἀγένητον ἔον καὶ ἀνώλεθρόν ἐστιν,
 ἔστι γὰρ οὐλομελές τε καὶ ἀτρεμές ἡδ' ἀτέλεστον·
 οὐδέ ποτ' ἦν οὐδ' ἔσται, ἐπεὶ νῦν ἔστιν ὁμοῦ πᾶν,
 ἔν, συνεχές· τίνα γὰρ γένναν διζήσεαι αὐτοῦ;
 πῆ πόθεν αὐξηθέν; οὐδ' ἐκ μὴ ἐόντος ἐάσω
 φάσθαι σ' οὐδὲ νοεῖν· οὐ γὰρ φατὸν οὐδὲ νοητὸν
 10 ἔστιν ὅπως οὐκ ἔστι. τί δ' ἂν μιν καὶ χρέος ὤρσεν
 ὕστερον ἢ πρόσθεν, τοῦ μηδενὸς ἀρξάμενον, φῦν;
 οὕτως ἢ πάμπαν πελέναι χρεῶν ἔστιν ἢ οὐχί.
 οὐδέ ποτ' ἐκ μὴ ἐόντος ἐφήσει πίστιος ἰσχύς
 γίγνεσθαι τι παρ' αὐτό· τοῦ εἶνεκεν οὔτε γενέσθαι
 οὔτ' ὄλλυσθαι ἀνῆκε Δίκη χαλάσασα πέδησιν,
 15 ἀλλ' ἔχει· ἡ δὲ κρίσις περὶ τούτων ἐν τῷδ' ἔστιν·
 ἔστιν ἢ οὐκ ἔστιν· κέκριται δ' οὖν, ὡσπερ ἀνάγκη,
 τὴν μὲν ἔαν ἀνόητον ἀνώνυμον (οὐ γὰρ ἀληθῆς
 ἔστιν ὁδός), τὴν δ' ὥστε πέλειν καὶ ἐτήτυμον εἶναι.
 πῶς δ' ἂν ἔπειτ' ἀπόλοιτο ἔον; πῶς δ' ἂν κε γένοιτο;
 20 εἰ γὰρ ἔγεντ', οὐκ ἔστ', οὐδ' εἰ ποτε μέλλει ἔσσεσθαι.
 τὼς γένεσις μὲν ἀπέσβεσται καὶ ἀπυστος ὄλεθρος.

This passage, though it presents a continuous argument and is impossible to subdivide, leads Parmenides none the less to more than one conclusion; and each of his affirmations involves a corresponding denial. The selected premise ἔστι, being the only

347 *One way only is left to be spoken of, that it is; and on this way are full many signs that what is is uncreated and imperishable, for it is entire, immovable and without end. It was not in the past, nor shall it be, since it is now, all at once, one, continuous; for what creation wilt thou seek for it? how and whence did it grow? Nor shall I allow thee to say or to think, 'from that which is not'; for it is not to be said or thought that it is not. And what need would have driven it on to grow, starting from nothing, at a later time rather than an earlier? Thus it must either completely be or be not. Nor will the force of true belief allow that, beside what is, there could also arise anything from what is not; wherefore Justice looseth not her fetters to allow it to come into being or perish, but holdeth it fast; and the decision on these matters rests here: it is or it is not. But it has surely been decided, as it must be, to leave alone the one way as unthinkable and nameless (for it is no true way), and that the other is real and true. How could what is thereafter perish? and how could it come into being? For if it came into being, it is not, nor if it is going to be in the future. So coming into being is extinguished and perishing unimaginable.*

true premise, must, Parmenides first argues, be eternally true; there cannot ever have been a time in the past, nor will there ever be a time in the future, when the statement $\xi\sigma\tau\iota$ is anything but true. It follows, therefore, that past and future are alike meaningless, the only time is a perpetual present time, and Being must of necessity be both uncreated and imperishable. Parmenides actually adds in the course of this argument that Being must also be both $\acute{\alpha}\tau\rho\epsilon\mu\acute{\epsilon}\varsigma$, 'immovable', and $\acute{\epsilon}\nu$, $\sigma\upsilon\nu\epsilon\chi\acute{\epsilon}\varsigma$, 'one, continuous'; but unless each of these epithets is interpreted (not very plausibly, since $\sigma\upsilon\nu\epsilon\chi\acute{\epsilon}\varsigma$ unquestionably refers to space, not time, in 348 l. 25) to mean only that Being exists unalterably in one continuous present, then he is here anticipating—for 'it is all one to him where he begins' (343)—conclusions which he does not establish until later in the present fragment.

The next step in the argument, which occupies ll. 6–11, is the demolition of the concept of the void. The cosmogony of the Pythagoreans had made great use of the void: the first unit, once generated, had proceeded forthwith to take in from the surrounding Unlimited, possibly time (which Parmenides has just demolished), and certainly the void (to which he now turns his attention); and the void had from the outset fulfilled its vitally important function of keeping units apart (see pp. 252 f.). It is tempting to suppose that Parmenides, whom there is reason to suspect of being a dissident Pythagorean (cf. p. 265), aims the three questions that these lines contain at the very cosmogony that he had come to reject. At all events the Pythagoreans' answer to the second of these questions ($\pi\eta\ \acute{\pi}\acute{\omicron}\theta\epsilon\nu\ \acute{\alpha}\upsilon\xi\eta\theta\acute{\epsilon}\nu$;) could only be that their first unit had grown by 'inhaling' the void; and Parmenides' immediate demolition of that concept effectually destroys, therefore, the very basis of their cosmogony. Moreover, even granting that the first unit had indeed so developed, as the Pythagoreans maintained, into the universe as we know it, why should the process have ever begun at one moment rather than another? Being must either exist as a whole or not exist at all: that (as ll. 15–18 repeat) has already been established. Yet the Pythagoreans assert that more and more of Being is constantly coming into existence from the unreal void.

The last point established in this passage before Parmenides rounds it off with a summary is that contained in lines 12–13. Unfortunately this particular sentence is ambiguous. It could

perhaps mean simply that nothing can come from τὸ μὴ ὄν, 'that which does not exist', except Not-Being; but in view of the fact that it follows, in its context, immediately after nine lines that are concerned entirely with τὸ ὄν, 'Being' (in one of which, l. 6, τὸ ὄν is referred to as αὐτό), it seems preferable to follow Cornford (*Plato and Parmenides* 37) and translate: 'Nor will the force of belief suffer to arise out of what is not something over and above it (viz. what is).' In any case, as Cornford points out, this latter sense is unquestionably contained in another brief sentence further on in the same fragment (352 ll. 36-7).

(b) Reality is indivisible

348 Fr. 8, l. 22, Simplicius *Phys.* 145, 23 (continuing 347)

οὐδὲ διαίρετόν ἐστιν, ἐπεὶ πᾶν ἐστιν ὁμοῖον·
οὐδέ τι τῇ μᾶλλον, τό κεν εἴργοι μιν συνέχεσθαι,
οὐδέ τι χειρότερον, πᾶν δ' ἔμπλεόν ἐστιν ἔόντος.
τῷ ξυνεχῆς πᾶν ἐστιν· ἐὸν γὰρ ἐόντι πελάζει. + +

With these four lines should be read also the following fragment, the place of which in the poem as a whole is not clear:

349 Fr. 4, Clement *Strom.* v, 15, 5

λεῦσσε δ' ὁμῶς ἀπεόντα νόῳ παρεόντα βεβαίως· *homogeneous*
οὐ γὰρ ἀποτιμήσει τὸ ἐὸν τοῦ ἔόντος ἔχεσθαι + +
οὔτε σκιδνάμενον πάντῃ πάντως κατὰ κόσμον
οὔτε συνιστάμενον.

In these two short passages Parmenides reinforces his earlier denial of the void by a fresh argument which appears to be aimed both at Anaximenes and at the Pythagoreans. Anaximenes by his doctrine of condensation and rarefaction (see pp. 145 ff.), the Pythagoreans by their view of the void as χωρισμός τις τῶν ἐφεξῆς καὶ διόρισις, 'a kind of separation and definition of things in proximity' (see 315), had both alike been guilty of assuming the existence of what is not. Being, Parmenides maintains against them, is both indivisible and homogeneous.

348 *Nor is it divisible, since it is all alike; nor is there more here and less there, which would prevent it from cleaving together, but it is all full of what is. So it is all continuous; for what is clings close to what is.*

349 *Look steadfastly at things which, though far off, are yet present to thy mind; for thou shalt not cut off what is from clinging to what is, neither scattering itself everywhere in order nor crowding together.*

*This crucial: 275
to make present the absent.*

(c) *Reality is motionless, finite, like a sphere*

350 Fr. 8, l. 26, Simplicius *Phys.* 145, 27 (continuing 348)

αὐτὰρ ἀκίνητον μεγάλων ἐν πείρασι δεσμῶν
 ἔστιν ἀναρχον ἀπαυστον, ἐπεὶ γέनेσις καὶ ὄλεθρος
 τῆλε μάλ' ἐπλάχθησαν, ἀπῶσε δὲ πίστις ἀληθῆς.
 ταῦτόν τ' ἐν ταύτῳ τε μένον καθ' ἑαυτό τε κείται
 30 χούτως ἔμπεδον αὔθι μένει· κρατερὴ γὰρ Ἀνάγκη
 πείρατος ἐν δεσμοῖσιν ἔχει, τό μιν ἀμφὶς ἔέργει,
 οὔνεκεν οὐκ ἀτελεύτητον τὸ ἐὸν θέμις εἶναι·
 ἔστι γὰρ οὐκ ἐπιδενές· [μὴ] ἐὸν δ' ἂν παντός ἐδεῖτο.

351 Fr. 8, l. 42, Simplicius *Phys.* 146, 15 (after 352)

αὐτὰρ ἐπεὶ πείρας πύματον, τετελεσμένον ἐστὶ
 πάντοθεν, εὐκύκλου σφαίρης ἐναλίγκιον ὄγκω,
 μεσσόθεν ἰσοπαλές πάντη· τὸ γὰρ οὔτε τι μείζον
 45 οὔτε τι βαιότερον πελέναι χρεόν ἐστι τῆ ἢ τῆ.
 οὔτε γὰρ οὐκ ἐὸν ἔστι, τό κεν παῦοι μιν ἰκνεῖσθαι
 εἰς ὁμόν, οὔτ' ἐὸν ἔστιν ὅπως εἶη κεν ἐόντος
 τῆ μᾶλλον τῆ δ' ἦσσον, ἐπεὶ πᾶν ἔστιν ἄσυλον·
 οἱ γὰρ πάντοθεν ἴσον, ὁμῶς ἐν πείρασι κύρει.

These two passages are actually separated by eight lines of summary, but by temporarily omitting those eight lines the argument is shown to be so continuous that they are best treated together. Parmenides is of course inevitably repetitive, because, as we saw (343), his arguments are so closely linked one with another that each attribute of Being can be deduced from any other. But even allowing for his habitual repetitiveness, we can

350 *But, motionless within the limits of mighty bonds, it is without beginning or end, since coming into being and perishing have been driven far away, cast out by true belief. Abiding the same in the same place it rests by itself, and so abides firm where it is; for strong Necessity holds it firm within the bonds of the limit that keeps it back on every side, because it is not lawful that what is should be unlimited; for it is not in need—if it were, it would need all.*

351 *But since there is a furthest limit, it is bounded on every side, like the bulk of a well-rounded sphere, from the centre equally balanced in every direction; for it needs must not be somewhat more here or somewhat less there. For neither is there that which is not, which might stop it from meeting its like, nor can what is be more here and less there than what is, since it is all inviolate; for being equal to itself on every side, it rests uniformly within its limits.*

hardly fail to notice, in these sixteen lines, the recurrent emphasis placed on the conception of limit, πεῖρας. Now Limit, as one of the two fundamental Pythagorean principles, stood at the top of the left-hand column in the Table of Opposites (see 289); and among the concepts listed in that column was one, namely unity, which Parmenides has already accepted as consistent with his premise. Moreover, there is another point in these two passages that Parmenides is evidently concerned to stress: Being—or the One—is ἀκίνητον, 'motionless', ἐν ταύτῳ μένον, 'resting in the same place', ἔμπεδον, 'stable', and ἰσοπαλές, 'equally poised'. It is in fact, in Pythagorean terminology, ἡρεμοῦν, 'at rest', as opposed to κινούμενον, 'in motion'. It begins to look almost as if Parmenides, having been reared in the Pythagorean school, had come to feel that the fatal flaw in Pythagoreanism was its dualism. At all events he seems so far, while denying the existence of those two manifestations of the Unlimited, time and the void, to be applying to his Being those attributes from the left-hand column of the Table of Opposites that can be apprehended by the sole use of reason as opposed to the senses.

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SUMMARY OF THE WAY OF TRUTH

352 Fr. 8, l. 34, Simplicius *Phys.* 146, 7 (continuing 350)

ταῦτόν δ' ἔστι νοεῖν τε καὶ οὔνεκεν ἔστι νόημα.
 35 οὐ γὰρ ἄνευ τοῦ ἔόντος, ἐν ᾧ πεφατισμένον ἔστιν,
 εὐρήσεις τὸ νοεῖν· οὐδὲν γὰρ (ἢ) ἔστιν ἢ ἔσται
 ἄλλο πάρεξ τοῦ ἔόντος, ἐπεὶ τό γε Μοῖρ' ἐπέδησεν
 οὐλον ἀκίνητόν τ' ἔμμεναι· τῷ πάντ' ὄνομ' ἔσται
 40 ὅσσα βροτοὶ κατέθεντο πεποιθότες εἶναι ἀληθῆ,
 γίγνεσθαι τε καὶ ὄλλυσθαι, εἶναι τε καὶ οὐχί,
 καὶ τόπον ἀλλάσσειν διὰ τε χροᾶ φανὸν ἀμείβειν.

These eight lines, which belong properly between 350 and 351, give a summary recapitulation of the main steps in the argument

352 *What can be thought is only the thought that it is.* [The infinitive by itself seldom bears the sense of the infinitive with article—i.e. 'thinking'; the construction must be the same as in 344 and 345—that is: *the only thing that exists for thinking is the thought that it is.*] *For you will not find thought without what is, in relation to which it is uttered; for there is not, nor shall be, anything else besides what is, since Fate fettered it to be entire and immovable. Wherefore all these are mere names which mortals laid down believing them to be true—coming into being and perishing, being and not being [i.e. both at once], change of place and variation of bright colour.*

The same is thinking and the thought for the sake of which it is thought.

of the Way of Truth. Lines 34-6 repeat the conclusion reached at the end of 344; lines 36-7 confirm lines 12-13 of fragment 8, 347; lines 37-8 summarize very briefly the content of 350 and 351; and lines 38-40 revert to lines 19-21 of this same fragment, 347. It is only in the last clause, *διὰ τε χροά φανὸν ἀμείβειν*, 'and change of bright colour', that we find a new point. Change of colour is presumably specified as being a type of change that does not involve change of place; both locomotion and qualitative change are 'mere names'.

TRANSITION TO WAY OF SEEMING

353 Simplicius *Phys.* 30, 14 *μετελθὼν δὲ ἀπὸ τῶν νοητῶν ἐπὶ τὰ αἰσθητὰ ὁ Παρμενίδης, ἥτοι ἀπὸ ἀληθείας, ὡς αὐτὸς φησιν, ἐπὶ δόξαν, ἐν οἷς λέγει*

(Fr. 8, l. 50) *ἐν τῷ σοι παύω πιστὸν λόγον ἠδὲ νόημα
ἀμφὶς ἀληθείης· δόξας δ' ἀπὸ τοῦδε βροτειαίς
μάνθανε κόσμον ἑμῶν ἐπέων ἀπατηλὸν ἀκούων,*

τῶν γενητῶν ἀρχάς καὶ αὐτὸς στοιχειώδεις μὲν τὴν πρώτην ἀντίθεσιν ἔθετο, ἦν φῶς καλεῖ καὶ σκότος (ἦ) πῦρ καὶ γῆν ἢ πυκνὸν καὶ ἀραιὸν ἢ ταῦτὸν καὶ ἕτερον, λέγων ἐφεξῆς τοῖς πρότερον παρακειμένοις ἔπεσιν

(Fr. 8, l. 53) *μορφὰς γὰρ κατέθεντο δύο γνώμας ὀνομάζειν,
τῶν μίαν οὐ χρεῶν ἔστιν—ἐν ᾧ πεπλανημένοι εἰσὶν—
55 τάντια δ' ἐκρίναντο δέμας καὶ σήματ' ἔθεντο
χωρὶς ἀπ' ἀλλήλων, τῇ μὲν φλογὸς αἰθέριον πῦρ,
ἠπιον ὄν, μέγ' [ἀραιὸν] ἑλαφρόν, ἑωυτῷ πάντοσε τωῦτόν,
τῷ δ' ἑτέρῳ μὴ τωῦτόν· ἀτὰρ κάκεινο κατ' αὐτὸ
τάντια νύκτ' ἄδαῆ, πυκνὸν δέμας ἐμβριθές τε.¹*

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353 *Parmenides effects the transition from the objects of reason to the objects of sense, or, as he himself puts it, from truth to seeming, when he writes: 'Here I end my trustworthy discourse and thought concerning truth; henceforth learn the beliefs of mortal men, listening to the deceitful ordering of my words'; and he then himself makes the elemental principles of created things the primary opposition of light and darkness, as he calls them, or fire and earth, or dense and rare, or sameness and difference; for he says immediately after the lines quoted above: 'For they made up their minds to name two forms, of which they must not name one only—that is where they have gone astray—and distinguished them as opposite in appearance and assigned to them manifestations different one from the other—to one the aithereal flame of fire, gentle and very light, in every direction identical with itself, but not with the other; and that other too is in itself just the opposite, dark night, dense in appear-*

60 τόν σοι ἐγὼ διάκοσμον ἔοικότα πάντα φατίζω,
 ὡς οὐ μὴ ποτέ τις σε βροτῶν γνώμη παρελάσση. ~~XX~~

^x This passage of Simplicius actually ends here, at l. 59, but elsewhere (*Phys.* 39, 8) he appends also the next two lines. [ἀραιὸν] secl. Diels.

Parmenides has now, in the Way of Truth, taught us all that reason, unaided by the senses, can deduce about Being. It is like a sphere, single, indivisible and homogeneous, timeless, changeless and, since motion is itself one form of change, motionless as well. It has in fact no perceptible qualities whatever. If Parmenides had taken the left-hand column of the Pythagorean Table of Opposites and selected from it those concepts which could be apprehended by reason alone, the result would be much what his One is; while to the right-hand column, the various manifestations of the Unlimited, he has denied any reality whatever. Such are the consequences of the exercise of reason. Now, however, in passing from the Way of Truth to the Way of Seeming, Parmenides passes, as Simplicius saw, ἀπὸ τῶν νοητῶν ἐπὶ τὰ αἰσθητά, 'from the objects of reason to the objects of sense'; and just as in the Way of Truth the objects of sense have been altogether excluded, so also, as we shall see, the Way of Seeming will exclude altogether the objects of reason. Since all objects of sense are, to Parmenides, 'mere names' without substantial existence, he is obviously compelled to base his survey of them upon the false assumptions which he himself declines to share with mortals; but at the same time his survey does not cover *all* those false assumptions. Besides allowing existence to non-existent phenomena, most men went so far as to confuse them with the objects of reason. Parmenides will not, even in what he knows and avows to be 'a deceitful ordering of words' (l. 52), follow them as far as that in their error. 238

The significance and purpose of the Way of Seeming has been very variously interpreted. Whereas Zeller for instance, following, as he thought, a suggestion by Theophrastus,¹ regarded it as a review of popular beliefs, Burnet (*EGP* 184-5) concluded that 'in the absence of evidence to the contrary' it should be regarded rather as 'a sketch of contemporary Pythagorean cosmology'. Against any such view there are several strong arguments. The +

ance and heavy. The whole ordering of these I tell thee as it seems likely, that so no thought of mortal men shall ever outstrip thee.'

contraries logically involves the rejection of the other, in the case of the objects of sense the acceptance of one involves the acceptance of the other as well. Light, for instance, can only be seen to exist in its contrast with darkness; a heavy body cannot be heavy unless there is a lighter body with which to compare it; and so with all sensible contraries.¹ The fundamental error of which men are guilty is that they have agreed to recognize the existence of these sensible opposites; and this is, of course, the error which Parmenides himself must knowingly perpetrate if he is to give an account of phenomena. Accordingly, even as he perpetrates it he declares it to be an error: 'that', he says (353, fr. 8 l. 54), 'is where they have gone astray'. But at least he will follow misguided mortals no further. If he is to introduce these sensible contraries he will not confuse them with intelligible; and so, instead of the primary pair of Pythagorean opposites, Limit and Unlimited (the former of which has been shown in the Way of Truth to be intelligible), he selects as his own primary pair one of their perceptible manifestations, φῶς and σκότος (or, as he himself calls it, νύξ), 'light' and 'darkness' (or 'night').

¹ This consideration seems sufficient to establish Simplicius' interpretation of the clause τῶν μίαν οὐ χρεῶν ἔστιν, 'two forms, of which it is not right to name one only (i.e. without the other)', as the most convincing. It is true that Cornford's translation, 'of which it is not right to name so much as one' (*Plato and Parmenides* 46), avoids the obvious difficulty of taking μίαν in the sense of ἑτέραν, and may therefore be right. But if we suppose Parmenides to mean that, whereas in the Way of Truth it is right to name one opposite and one only (the other being ἀνώνημον, 347 l. 17), in the Way of Seeming you must not name one only without also naming the other, then we not only give the sentence an additional point, of which the structure of the whole poem seems to show that Parmenides himself was fully aware, but we also give to the crucial word μίαν the significance which its obvious contrast with δύο seems to suggest.

What Parmenides has in fact done, in passing from the Way of Truth to the Way of Seeming, is to take his own sphere of reality, the One, and fill it, quite illegitimately, with the sensible opposites of light and darkness; and once he has taken that forbidden step, then he can proceed, as had the Pythagoreans with Limit and Unlimited, to broaden the scope of each of these primary opposites by describing their various manifestations.¹ Light is rare, night dense, and so on. Once one pair of sensible opposites has been admitted, then there is no insuperable difficulty in giving an

explanation of phenomena; and if only because it avoids the confusion between reason and sense, Parmenides' own explanation, even though deliberately based on error, is at least such that 'no thought of mortal men shall ever outstrip him' (353, fr. 8 l. 61).

¹ Cf. Fr. 9, which according to Simplicius comes μετ' ὀλίγα (i.e. soon after Fr. 8): 356 Simplicius *Phys.* 180, 9

αὐτὰρ ἐπειδὴ πάντα φάος καὶ νύξ ὀνόμασται
καὶ τὰ κατὰ σφετέρας δυνάμεις ἐπὶ τοῖσι τε καὶ τοῖς,
πᾶν πλέον ἐστὶν ὁμοῦ φάεος καὶ νυκτὸς ἀφάντου,
ἴσων ἀμφοτέρων, ἐπεὶ οὐδετέρῳ μετὰ μηδέν.

THE SENSIBLE OPPOSITES

357 Theophrastus *de sensu* 1 ff. (DK 28A46) περι δ' αἰσθήσεως αἱ μὲν πολλαὶ καὶ καθόλου δόξαι δὴ εἰσιν· οἱ μὲν γὰρ τῷ ὁμοίῳ ποιοῦσιν, οἱ δὲ τῷ ἐναντίῳ. Παρμενίδης μὲν καὶ Ἐμπεδοκλῆς καὶ Πλάτων τῷ ὁμοίῳ, οἱ δὲ περὶ Ἀναξαγόραν καὶ Ἡράκλειτον τῷ ἐναντίῳ. . . (3) Παρμενίδης μὲν γὰρ ὅλως οὐδὲν ἀφώρικεν ἀλλὰ μόνον ὅτι δυοῖν ὄντων στοιχείοι κατὰ τὸ ὑπερβάλλον ἐστὶν ἡ γνῶσις. ἔαν γὰρ ὑπεραίρη τὸ θερμὸν ἢ τὸ ψυχρόν, ἄλλην γίνεσθαι τὴν διάνοιαν, βελτίω δὲ καὶ καθαρωτέραν τὴν διὰ τὸ θερμὸν· οὐ μὴν ἀλλὰ καὶ ταύτην δεῖσθαι τινος συμμετρίας·

(Fr. 16) ὡς γὰρ ἕκαστος (φησὶν) ἔχει κρᾶσιν μελέων πολυπλάγκτων, τῶς νόος ἀνθρώποισι παριστᾶται· τὸ γὰρ αὐτὸ ἔστιν ὅπερ φρονεῖ μελέων φύσις ἀνθρώποισιν καὶ πᾶσιν καὶ παντί· τὸ γὰρ πλέον ἐστὶ νόημα.

τὸ γὰρ αἰσθάνεσθαι καὶ τὸ φρονεῖν ὡς ταῦτὸ λέγει· διὸ καὶ τὴν μνήμην καὶ τὴν λήθην ἀπὸ τούτων γίνεσθαι διὰ τῆς κράσεως· ἄν

356 *And when all things have been named light and night, and things corresponding to their powers have been assigned to each, everything is full of light and of obscure night at once, both equal, since neither has any share of nothingness.*

357 *The majority of general views about sensation are two: some make it of like by like, others of opposite by opposite. Parmenides, Empedocles and Plato say it is of like by like, the followers of Anaxagoras and of Heraclitus of opposite by opposite. . . Parmenides gave no clear definition at all, but said only that there were two elements and that knowledge depends on the excess of one or the other. Thought varies according to whether the hot or the cold prevails, but that which is due to the hot is better and purer; not but what even that needs a certain balance; for, says he, 'According to the mixture that each man has in his wandering limbs, so thought is forthcoming to mankind; for that which thinks is the same thing, namely the substance of their limbs, in each and all men; for that of which there is more is thought'—for he regards perception and thought as the same. So too memory and forgetfulness arise from these causes, on account of the mixture; but he never*

For just as each
has a mixture in
his wandering limbs
& his speech helps man

δ' ἰσάζωσι τῆ μίξει, πότερον ἔσται φρονεῖν ἢ οὐ, καὶ τίς ἡ διάθεσις, οὐδὲν ἔτι διώρικεν. ὅτι δὲ καὶ τῷ ἐναντίῳ καθ' αὐτὸ ποιεῖ τὴν αἴσθησιν, φανερόν ἐν οἷς φησι τὸν νεκρὸν φωτὸς μὲν καὶ θερμοῦ καὶ φωνῆς οὐκ αἰσθάνεσθαι διὰ τὴν ἔκλειψιν τοῦ πυρός, ψυχροῦ δὲ καὶ σιωπῆς καὶ τῶν ἐναντίων αἰσθάνεσθαι. καὶ ὅλως δὲ πᾶν τὸ ὄν ἔχειν τινὰ γνῶσιν.

This passage, which sets forth the most influential of the doctrines that survive from the Way of Seeming, contains two points in particular that are of interest and importance. It is noteworthy in the first place how completely Parmenides must, in the Way of Seeming, have suppressed his real convictions: the equation of perception and thought comes strangely from the author of the Way of Truth. At the same time the whole of this passage again makes clear how prominent a place was taken in the Way of Seeming by the sensible opposites: if we can trust Theophrastus' interpretation, even thought derives from the preponderance of one opposite in the body over the other. Here once again, as in the ψυχή ἄρμονία theory of the Pythagoreans (see pp. 261 f.), it is probable that we see the influence of Alcmaeon; but be that as it may, Parmenides' own theory of the perception of like by like was not without influence on his successors (cf. especially Empedocles, pp. 343 ff.).

ASTRONOMY

358 Fr. 12, Simplicius *Phys.* 39, 14 and 31, 13

αἱ γὰρ στενιότεραι (sc. στεφάναι) πληντο πυρὸς ἀκρήτοιο,
 αἱ δ' ἐπὶ ταῖς νυκτός, μετὰ δὲ φλογὸς ἴεται αἴσα·
 ἐν δὲ μέσῳ τούτων δαίμων ἢ πάντα κυβερνᾷ·
 πάντα γὰρ (ἢ) στυγεροῖο τόκου καὶ μίξιος ἄρχει
 5 πέμπουσ' ἄρσενι θῆλυ μιγῆν τό τ' ἐναντίον αὐτίς
 ἄρσεν θηλυτέρῳ.

made clear whether, if they are equally mixed, there will be thought or not, or, if so, what its character will be. But that he regards perception as also due to the opposite as such he makes clear when he says that a corpse does not perceive light, heat or sound owing to its deficiency of fire, but that it does perceive their opposites, cold, silence and so on. And he adds that in general everything that exists has some measure of knowledge.

358 *The narrower rings were filled with unmixed fire, those next to them with night, and after them rushes their share of flame; and in the midst of them is the goddess who steers all; for she it is that begins all the works of hateful birth and begetting, sending female to mix with male and male in turn with female.*

359 Aetius II, 7, 1 Παρμενίδης στεφάνας εἶναι περιπεπλεγμένας ἐπαλλήλους, τὴν μὲν ἐκ τοῦ ἀραιοῦ, τὴν δὲ ἐκ τοῦ πυκνοῦ· μικτὰς δὲ ἄλλας ἐκ φωτὸς καὶ σκότους μεταξύ τούτων. καὶ τὸ περιέχον δὲ πάσας τείχους δίκην στερεὸν ὑπάρχειν, ὕφ' ᾧ πυρώδης στεφάνη, καὶ τὸ μεσαίτατον πασῶν στερεόν, περὶ δὲ πάλιν πυρώδης (sc. στεφάνη). τῶν δὲ συμμιγῶν τὴν μεσαιτάτην ἀπάσαις (ἀρχὴν) τε καὶ (αἰτίαν) κινήσεως καὶ γενέσεως ὑπάρχειν, ἦντινα καὶ δαίμονα κυβερνήτιν καὶ κληδοῦχον ἐπονομάζει Δίκην τε καὶ Ἀνάγκην. καὶ τῆς μὲν γῆς ἀπόκρισιν εἶναι τὸν ἄερα διὰ τὴν βριασιόταν αὐτῆς ἐξατμισθέντα πίλησιν, τοῦ δὲ πυρὸς ἀναπνοὴν τὸν ἥλιον καὶ τὸν γαλαξίαν κύκλον. συμμιγῆ δ' ἐξ ἀμφοῖν εἶναι τὴν σελήνην, τοῦ τ' ἀέρος καὶ τοῦ πυρός. περιστάντος δ' ἀνωτάτω πάντων τοῦ αἰθέρος ὑπ' αὐτῷ τὸ πυρώδες ὑποταγῆναι τοῦθ' ὅπερ κεκλήκαμεν οὐρανόν, ὕφ' ᾧ ἤδη τὰ περιγεία.

It is fortunate that, since he neither believed in it himself nor, apparently, succeeded in influencing others by it, Parmenides' astronomical system is of little importance; for it is virtually impossible to reconstruct. These two passages are quoted now chiefly because they give us what little reliable information we possess about the very obscure doctrine, to which reference has already been made (p. 280), of the στεφάναι or 'bands'.¹ Two other points of interest do, however, arise from these passages. First, we see yet again how prominent are the sensible opposites in the cosmology of the Way of Seeming; and in addition to the two familiar pairs in **359**, dense and rare, light and darkness, we meet also in **358** with the new pair—another, incidentally, which figures in the Pythagorean table—male and female.² And second, we learn again, from the fact that Justice or Necessity is now described as the 'cause of movement and becoming', how totally irreconcilable are the two parts of Parmenides' poem (cf. **347** l. 14 and **350** l. 30). We

359 *Parmenides said that there were rings wound one around the other, one formed of the rare, the other of the dense; and that there were others between these compounded of light and darkness. That which surrounds them all like a wall is, he says, by nature solid; beneath it is a fiery ring; and likewise what lies in the middle of them all is solid; and around it is again a fiery ring. The middlemost of the mixed rings is the primary cause of movement and of coming into being for them all, and he calls it the goddess that steers all, the holder of the keys, Justice and Necessity. The air, he says, is separated off from the earth, vaporized owing to earth's stronger compression; the sun is an exhalation of fire, and so is the circle of the Milky Way. The moon is compounded of both air and fire. Aither is outermost, surrounding all; next comes the fiery thing that we call the sky; and last comes the region of the earth.*

should not waste time in the hopeless attempt to reconcile the two parts. For Parmenides, such inconsistency is inevitably involved in any attempt to explain, what deserves only to be negated, the evidence of the illusory senses.

¹ Aetius' account in 359, which probably summarises Theophrastus, is so condensed that the most we can safely conclude from it is as follows. Surrounding the whole system 'like a wall' is a solid firmament, and there is another solid at the centre; immediately inside the former and immediately outside the latter are two 'bands' of fire; between these two are a number of 'bands' made up of the rare and the dense, light and darkness; and in the midst of these, according to Parmenides' own words in 358 as well as Aetius' summary, is 'the goddess who steers all'. J. S. Morrison (*JHS* 75 (1955) 59ff.) has lately published a new reconstruction of the system, which reaches the conclusion that 'Parmenides' general scheme . . . whereby an upper firmament and system of elementary masses in rings is repeated below the earth is only another and more precise form of the Hesiodic picture in which the lower world, like the upper, has its firmament of bronze, and holds a reservoir of the elementary masses' (but see p. 30f.). No such reconstruction can carry complete conviction, if only because it must inevitably be based on many conjectures. A full discussion of the many problems involved would run to a length out of all proportion, in a book such as this, to the importance of the topic. Whereas the astronomy of Anaximander is an appreciable part of his contribution to thought, that of Parmenides is not.

² Fr. 17, a single line concerned with embryology, 360 Galen in *Epid.* vi, 48

δεξιτεροῖσιν μὲν κούρους, λαιοῖσι δὲ κούρας . . .

actually links two pairs found in the Pythagorean Table; but this, in the absence of further evidence, cannot safely be regarded as more than a coincidence. It is also of interest, however, as showing that Parmenides, despite his emphatic theoretical negation of the world of sense, was yet prepared to go into considerable detail in his explanation of it (cf. also DK 28A 50-4, especially 52). Presumably any account of the sensible world had at this period, perhaps owing to the influence of Alcmaeon, to take some account of physiological and embryological questions.

360 *On the right boys, on the left girls . . .*

fr. 19:

ANAXAGORAS OF CLAZOMENAE

DATE AND LIFE

487 Diogenes Laertius II, 7 (DK 59A1) λέγεται δὲ κατὰ τὴν Ζέρξου διάβασιν εἴκοσιν ἔτων εἶναι, βεβιωκέναι δὲ ἑβδομήκοντα δύο. φησὶ δ' Ἀπολλόδωρος ἐν τοῖς Χρονικοῖς γεγενῆσθαι αὐτὸν τῇ ἑβδομηκοστῇ Ὀλυμπιάδι (i.e. 500-497 B.C.), τεθνηκέναι δὲ τῷ πρώτῳ ἔτει τῆς ἑβδομηκοστῆς ὀγδοῆς (i.e. 468/7; ὀγδοηκοστῆς ὀγδοῆς Scaliger, i.e. 428/7). ἤρξατο δὲ φιλοσοφεῖν Ἀθήνησιν ἐπὶ Καλλίου (i.e. 456/5) ἔτων εἴκοσιν ὧν, ὡς φησὶ Δημήτριος ὁ Φαληρεὺς ἐν τῇ τῶν Ἀρχόντων ἀναγραφῇ, ἔνθα καὶ φασὶν αὐτὸν ἔτων διατρίψαι τριάκοντα. . . (12) . . . περὶ δὲ τῆς δίκης αὐτοῦ διάφορα λέγεται. Σωτίων μὲν γάρ φησιν ἐν τῇ Διαδοχῇ τῶν φιλοσόφων ὑπὸ Κλέωνος αὐτὸν ἀσεβείας κριθῆναι, διότι τὸν ἥλιον μύδρον ἔλεγε διάπυρον· ἀπολογησαμένου δὲ ὑπὲρ αὐτοῦ Περικλέους τοῦ μαθητοῦ, πέντε ταλάντοις ζημιωθῆναι καὶ φυγαδευθῆναι. Σάτυρος δ' ἐν τοῖς Βίοις ὑπὸ Θουκυδίδου φησὶν εἰσαχθῆναι τὴν δίκην ἀντιπολιτευομένου τῷ Περικλεῖ· καὶ οὐ μόνον ἀσεβείας, ἀλλὰ καὶ μηδισμοῦ· καὶ ἀπόντα καταδικασθῆναι θανάτῳ. . . (14) . . . καὶ τέλος ἀποχωρήσας εἰς Λάμπσακον αὐτόθι κατέστρεψεν. ὅτε καὶ τῶν ἀρχόντων τῆς πόλεως ἀξιούντων τί βούλεται αὐτῷ γενέσθαι, φάναι, τοὺς παῖδας ἐν ᾧ ἄνποθάνη μὴν κατ' ἔτος παίζειν συγχωρεῖν. καὶ φυλάττεται τὸ ἔθος καὶ νῦν. (15) τελευτήσαντα δὲ αὐτὸν ἔθαψαν ἐντίμως οἱ Λαμψακηνοί. . .

487 *He is said to have been twenty years old at the time of Xerxes' crossing, and to have lived to seventy-two. Apollodorus says in his Chronicles that he was born in the seventieth Olympiad and died in the first year of the eighty-eighth. He began to be a philosopher at Athens in the archonship of Callias, at the age of twenty, as Demetrius Phalereus tells us in his Register of archons, and they say he spent thirty years there. . . There are different accounts given of his trial. Sotion, in his Succession of philosophers, says that he was prosecuted by Cleon for impiety, because he maintained that the sun was a red-hot mass of metal, and that after Pericles, his pupil, had made a speech in his defence, he was fined five talents and exiled. Satyrus in his Lives, on the other hand, says that the charge was brought by Thucydides in his political campaign against Pericles; and he adds that the charge was not only for impiety but for Medism as well; and he was condemned to death in absence. . . Finally he withdrew to Lampsacus, and there died. It is said that when the rulers of the city asked him what privilege he wished to be granted, he replied that the children should be given a holiday every year in the month in which he died. The custom is preserved to the present day. When he died the Lampsacenes buried him with full honours.*

The problem of the date of his trial is even more difficult. A. E. Taylor (*CQ* 11 (1917) 81-7) held that (1) Plato consistently conveys the impression that Anaxagoras was an important figure in Athens before Pericles' rise to fame but not after Socrates grew up; (2) Anaxagoras could not have attained the position at Lampsacus that the last sentences of 487 suggest unless he had spent a considerable time there. He therefore concludes that 'the account given by Satyrus was right in placing his prosecution at the beginning and not at the close of Pericles' political career', i.e. *ca.* 450 B.C. On the other hand J. A. Davison (*CQ* N.S. 3 (1953) 33-45), arguing in favour of accepting both Satyrus' and Sotion's accounts, surmises that there must have been an amnesty (otherwise unattested) in *ca.* 445/4 B.C. by which Anaxagoras was permitted to return to Athens, and estimates the relevant dates as follows:

Prosecuted by Thucydides	<i>ca.</i> 456/5 B.C.
Conjectured amnesty after Thirty Years' Peace	<i>ca.</i> 445/4 B.C.
Prosecuted by Cleon	<i>ca.</i> 433-430 B.C.
Died at Lampsacus	428/7 B.C.

Fortunately, from the point of view of the historian of philosophy, the exact date of the trial (or trials) is of relatively little importance. There is ample evidence in the fragments of Anaxagoras' own book that he wrote later than either Parmenides or Zeno (see pp. 368 ff.); and it seems likely, though it is incapable of proof, that while Anaxagoras (in accordance with the more probable interpretation of 488) includes implicit criticism of Empedocles, Melissus (see p. 305) aims one of his arguments primarily, if not exclusively, at Anaxagoras. Fortunately too, the most important facts of his life are not in dispute. There can be no question that he spent a large part of his active life in Athens,¹ that he was fairly intimately associated with Pericles,² that he was prosecuted on a charge (at least among others) of impiety, and that he thereupon withdrew to Lampsacus.³

¹ Anaxagoras is said to have taught both Archelaus (see ch. xvi) and Euripides. Cf. 490 Strabo 14, p. 645 Cas. Κλαζομένιος δ' ἦν ἀνὴρ ἐπιφανὴς Ἀναξαγόρας ὁ φυσικός, Ἀναξιμένους ὁμιλητῆς τοῦ Μιλησίου· διήκουσαν δὲ τούτου Ἀρχέλαος ὁ φυσικός καὶ Εὐριπίδης ὁ ποιητής. Since

490 *Anaxagoras the natural philosopher was a distinguished Clazomenian, an associate of Anaximenes of Miletus; and his own pupils included Archelaus the natural philosopher and Euripides the poet.*

magnitude; but our atoms are not either the points or the solids of geometry, but compact bodies, which, if they were large enough, you could see and touch. . . .” . . . The atom thus ceased to be confused with the unit of number and the point of geometry, and became a purely physical body whose essential property was impenetrability.’ The answer of Leucippus and Democritus was not, however, the only possible answer to Zeno: it could equally easily have been granted that physical matter, like geometrical magnitude, was infinitely divisible. This, as is evident from 499, is the answer that Anaxagoras chose to give. ‘I grant’, he means, ‘that physical matter, like geometrical magnitude, is infinitely divisible; but physical matter composes sensible bodies, and since sensible bodies exist and have magnitude, the same must be true of physical matter. However far you subdivide matter [Zeller’s reading τομῆ for τὸ μὴ is attractive], you can never reduce it to sheer nothingness; even the smallest imaginable particle must still possess some magnitude. In consequence each thing is indeed both great and small: great because it contains an infinite number of parts, and small because those parts are themselves of an infinitesimal smallness.’ Anaxagoras’ theory of matter is in fact deliberately adopted, like that of the atomists, as an answer to Zeno; and when that answer is added to his answer to Parmenides, one half of the basis of his system is now complete. He is enabled, by his belief in the infinite divisibility of matter, to devise a cosmogony and to give an account of change which does indeed eliminate the forbidden coming-into-being of what was not.

MIND

503 Fr. 12, Simplicius *Phys.* 164, 24 and 156, 13 τὰ μὲν ἅλλα παντὸς μοῖραν μετέχει, νοῦς δὲ ἐστὶν ἄπειρον καὶ αὐτοκράτης καὶ μέμεικται οὐδενὶ χρήματι, ἀλλὰ μόνος αὐτὸς ἐφ’ ἑαυτοῦ ἐστίν, εἰ μὴ γὰρ ἐφ’ ἑαυτοῦ ἦν, ἀλλὰ τεω ἐμέμεικτο ἄλλω, μετεῖχεν ἂν ἀπάντων χρημάτων, εἰ ἐμέμεικτό τεω· ἐν παντὶ γὰρ παντὸς μοῖρα ἔνεστιν, ὥσπερ ἐν τοῖς πρόσθεν μοι λέλεκται· καὶ ἂν ἐκώλυεν αὐτὸν τὰ συμμεμειγμένα, ὥστε μηδενὸς χρήματος κρατεῖν ὁμοίως ὡς καὶ

503 *All other things have a portion of everything, but Mind is infinite and self-ruled, and is mixed with nothing but is all alone by itself. For if it was not by itself, but was mixed with anything else, it would have a share of all things if it were mixed with any; for in everything there is a portion of everything, as I said earlier; and the things that were mingled with it would hinder it so that it could control nothing in the same way as it does*

μόνον ἔοντα ἐφ' ἑαυτοῦ. ἔστι γὰρ λεπτότατόν τε πάντων χρημάτων καὶ καθαρώτατον, καὶ γνώμην γε περὶ παντὸς πάσαν ἴσχει καὶ ἴσχει μέγιστον· καὶ ὅσα γε ψυχὴν ἔχει, καὶ τὰ μείζω καὶ τὰ ἐλάσσω, πάντων νοῦς κρατεῖ. καὶ τῆς περιχωρήσιος τῆς συμπάσης νοῦς ἐκράτησεν, ὥστε περιχωρήσαι τὴν ἀρχήν. καὶ πρῶτον ἀπὸ τοῦ σμικροῦ ἤρξατο περιχωρεῖν, ἐπὶ δὲ πλέον περιχωρεῖ, καὶ περιχωρήσει ἐπὶ πλέον. καὶ τὰ συμμισγόμενά τε καὶ ἀποκρινόμενα καὶ διακρινόμενα πάντα ἔγνω νοῦς. καὶ ὅποια ἔμελλεν ἔσεσθαι καὶ ὅποια ἦν, ἄσσα νῦν μὴ ἔστι, καὶ ὅσα νῦν ἔστι καὶ ὅποια ἔσται, πάντα διεκόσμησε νοῦς, καὶ τὴν περιχώρησιν ταύτην ἦν νῦν περιχωρεῖ τὰ τε ἄστρα καὶ ὁ ἥλιος καὶ ἡ σελήνη καὶ ὁ ἀήρ καὶ ὁ αἰθήρ οἱ ἀποκρινόμενοι. ἡ δὲ περιχώρησις αὕτη ἐποίησεν ἀποκρίνεσθαι. καὶ ἀποκρίνεται ἀπὸ τοῦ ἀραιοῦ τὸ πυκνὸν καὶ ἀπὸ τοῦ ψυχροῦ τὸ θερμὸν καὶ ἀπὸ τοῦ зоφεροῦ τὸ λαμπρὸν καὶ ἀπὸ τοῦ διεροῦ τὸ ξηρόν. μοῖραι δὲ πολλὰι πολλῶν εἰσι. παντάπασι δὲ οὐδὲν ἀποκρίνεται οὐδὲ διακρίνεται ἕτερον ἀπὸ τοῦ ἐτέρου πλήν νοῦ. νοῦς δὲ πᾶς ὁμοίός ἐστι καὶ ὁ μείζων καὶ ὁ ἐλάττων. ἕτερον δὲ οὐδὲν ἔστιν ὁμοιον οὐδενί, ἄλλ' ὅτων πλεῖστα ἐνι, ταῦτα ἐνδηλότατα ἐν ἕκαστόν ἐστι καὶ ἦν.

504 Fr. 13, Simplicius *Phys.* 300, 31 καὶ ἐπεὶ ἤρξατο ὁ νοῦς κινεῖν, ἀπὸ τοῦ κινουμένου παντὸς ἀπεκρίνετο, καὶ ὅσον ἐκίνησεν ὁ νοῦς πᾶν τοῦτο διεκρίθη· κινουμένων δὲ καὶ διακρινομένων ἡ περιχώρησις πολλῶν μᾶλλον ἐποίει διακρίνεσθαι.

505 Fr. 9, *ibid.* 35, 14 . . . οὕτω τούτων περιχωρούντων τε καὶ

now being alone by itself. For it is the finest of all things and the purest, it has all knowledge about everything and the greatest power; and mind controls all things, both the greater and the smaller, that have life. Mind controlled also the whole rotation, so that it began to rotate in the beginning. And it began to rotate first from a small area, but it now rotates over a wider and will rotate over a wider area still. And the things that are mingled and separated and divided off, all are known by Mind. And all things that were to be, all things that were but are not now, all things that are now or that shall be, Mind arranged them all, including this rotation in which are now rotating the stars, the sun and moon, the air and the aether that are being separated off. And this rotation caused the separating off. And the dense is separated off from the rare, the hot from the cold, the bright from the dark and the dry from the moist. But there are many portions of many things, and nothing is altogether separated off nor divided one from the other except Mind. Mind is all alike, both the greater and the smaller quantities of it, while nothing else is like anything else, but each single body is and was most plainly those things of which it contains most.

504 And when Mind initiated motion, from all that was moved Mind was separated, and as much as Mind moved was all divided off; and as things moved and were divided off, the rotation greatly increased the process of dividing.

505 . . . as these things rotated thus and were separated off by the force and speed (of

ἀποκρινομένων ὑπὸ βίης τε καὶ ταχυτήτος. βίην δὲ ἢ ταχυτῆς ποιεῖ. ἢ δὲ ταχυτῆς αὐτῶν οὐδενὶ ἔοικε χρήματι τὴν ταχυτῆτα τῶν νῦν ἑόντων χρημάτων ἐν ἀνθρώποις, ἀλλὰ πάντως πολλαπλασίως ταχύ ἐστι.

506 Fr. 14, *ibid.* 157, 7 ὁ δὲ νοῦς, ὃς αἰεὶ ἐστι, τὸ κάρτα [so Diels: ὅσα ἐστὶ τε κάρτα Simplific. mss.] καὶ νῦν ἐστιν ἵνα καὶ τὰ ἄλλα πάντα, ἐν τῷ πολλῷ περιέχοντι καὶ ἐν τοῖς προσκριθεῖσι καὶ ἐν τοῖς ἀποκεκριμένοις.

Another Parmenidean demand with which Anaxagoras had to comply was that motion should not be simply taken for granted but explained. In place of Empedocles' Love and Strife (moral and psychological forces expressed in corporeal terms, see 424) Anaxagoras substitutes the single intellectual motive force of Mind. It too, like Love and Strife, has many of the qualities of an abstract principle. 'It has all knowledge about everything, and the greatest strength; it controls all things that have life'; and 'it set in order all things that were to be', including, of course, the cosmic revolution. Yet at the same time it is 'the finest of all things and the purest'; it is 'all alike, both the larger and the smaller quantities'; and though it is 'mixed with nothing', it is none the less present 'there, where everything else is, in the surrounding mass, and in what has been united and separated off'. Anaxagoras in fact is striving, as had several of his predecessors, to imagine and describe a truly incorporeal entity. But as with them, so still with him, the only ultimate criterion of reality is extension in space. Mind, like everything else, is corporeal, and owes its power partly to its fineness, partly to the fact that it alone, though present in the mixture, yet remains unmixed.

How Mind imparted the first rotatory movement is by no means obvious; it may be that even Anaxagoras himself had no clear mental picture of the process. It appears, however, that the area affected was at first small but is still steadily increasing. The speed of the revolution is immense, and therefore its effect on the original mixture is very powerful (505). The immediate consequence is progressive separation: the moment the rotation takes in a new

their rotation). And the speed creates the force. Their speed is like the speed of nothing that now exists among men, but it is altogether many times as fast.

506 *But Mind, which ever is, is assuredly even now where everything else is too, in the surrounding mass and in the things that have been either aggregated or separated.*

537 Fr. 21a, *ibid.* VII, 140 ὄψις γὰρ τῶν ἀδήλων τὰ φαινόμενα.

538 Theophrastus *de sensu* 27 ff. (DK 59A92) Ἀναξαγόρας δὲ γίνεσθαι μὲν (*sc.* τὰ αἰσθητὰ) τοῖς ἐναντίοις· τὸ γὰρ ὁμοιον ἀπαθὲς ὑπὸ τοῦ ὁμοίου . . . , τὸ γὰρ ὁμοίως θερμὸν καὶ ψυχρὸν οὔτε θερμαίνειν οὔτε ψύχειν πλησιάζον οὐδὲ δὴ τὸ γλυκὺ καὶ τὸ ὄξύ δι' αὐτῶν γνωρίζειν, ἀλλὰ τῷ μὲν θερμῷ τὸ ψυχρὸν, τῷ δ' ἄλμυρῷ τὸ πότιμον, τῷ δ' ὄξει τὸ γλυκὺ κατὰ τὴν ἔλλειψιν τὴν ἐκάστου· πάντα γὰρ ἐνυπάρχειν φησὶν ἐν ἡμῖν. . . ἅπασαν δ' αἴσθησιν μετὰ λύπης, ὅπερ ἂν δόξειεν ἀκόλουθον εἶναι τῇ ὑποθέσει· πᾶν γὰρ τὸ ἀνόμοιον ἀπτόμενον πόνον παρέχει. φανερόν δὲ τοῦτο τῷ τε τοῦ χρόνου πλήθει καὶ τῇ τῶν αἰσθητῶν ὑπερβολῇ.

Like the other post-Parmenidean pluralists, Anaxagoras had to give an account of perception that would re-establish its validity. These three passages are all concerned with the senses, but otherwise they have little in common. **536**, as we are told by Sextus who preserved it, was concerned with imperceptible gradations of colour, and its general point seems to have been that though our senses show us what 'portions' predominate in a thing they are not adequate to reveal all the other 'portions' which that thing must contain. **537**, on the other hand (which may perhaps come from a discussion of epistemology rather than of perception), suggests that from what we can see we are enabled to imagine also what we cannot see. **538** contains only the most important excerpts from a detailed account of Anaxagoras' theories of perception. These few sentences suffice to show that in this field too Anaxagoras marks an advance upon most of his predecessors. His theory may have been developed in conscious opposition to that of Empedocles, who believed in perception of like by like (see **454**); but the notion that the perception of unlike by unlike is, as it were, an imperceptible pain is original and subtle.

537 *Appearances are a glimpse of the obscure.*

538 *Anaxagoras thinks that perception is by opposites, for like is not affected by like A thing that is as warm or as cold as we are does not either warm us or cool us by its approach, nor can we recognize sweetness or bitterness by their like; rather we know cold by warm, fresh by salt and sweet by bitter in proportion to our deficiency in each. For everything, he says, is in us already. . . . Every perception is accompanied by pain, a consequence that would seem to follow from his hypothesis; for everything unlike produces pain by its contact; and the presence of this pain becomes clear either from too long a duration or from an excess of sensation.*

THE ATOMISTS: LEUCIPPUS OF
MILETUS AND DEMOCRITUS
OF ABDERA

INDIVIDUAL CONTRIBUTIONS, AND DATES

546 Simplicius *Phys.* 28, 4 (=Theophrastus *Phys. Op.* fr. 8) Λεύκιππος δὲ ὁ Ἐλεάτης ἢ Μιλήσιος (ἀμφοτέρως γὰρ λέγεται περὶ αὐτοῦ), κοινωνήσας Παρμενίδῃ τῆς φιλοσοφίας, οὐ τὴν αὐτὴν ἐβάδισε Παρμενίδῃ καὶ Ζενοφάνει περὶ τῶν ὄντων ὁδόν, ἀλλ' ὡς δοκεῖ τὴν ἐναντίαν. ἐκείνων γὰρ ἓν καὶ ἀκίνητον καὶ ἀγέννητον καὶ πεπερασμένον ποιούντων τὸ πᾶν καὶ τὸ μὴ ὄν μηδὲ ζητεῖν συγχωρούντων, οὗτος ἄπειρα καὶ αἰεὶ κινούμενα ὑπέθετο στοιχεῖα τὰς ἀτόμους καὶ τῶν ἐν αὐτοῖς σχημάτων ἄπειρον τὸ πλῆθος διὰ τὸ μηδὲν μᾶλλον τοιοῦτον ἢ τοιοῦτον εἶναι, καὶ γένεσιν καὶ μεταβολὴν ἀδιάλειπτον ἐν τοῖς οὔσι θεωρῶν. ἔτι δὲ οὐδὲν μᾶλλον τὸ ὄν ἢ τὸ μὴ ὄν ὑπάρχειν, καὶ αἴτια ὁμοίως εἶναι τοῖς γινομένοις ἄμφω. τὴν γὰρ τῶν ἀτόμων οὐσίαν ναστὴν καὶ πλήρη ὑποτιθέμενος ὄν ἔλεγεν εἶναι καὶ ἐν τῷ κενῷ φέρεσθαι, ὅπερ μὴ ὄν ἐκάλει καὶ οὐκ ἔλαττον τοῦ ὄντος εἶναι φησι. παραπλησίως δὲ καὶ ὁ ἑταῖρος αὐτοῦ Δημόκριτος ὁ Ἀβδηρίτης ἀρχὰς ἔθετο τὸ πλῆρες καὶ τὸ κενόν. . . .

547 Diogenes Laertius x, 13 τοῦτον (*sc.* Epicurus) Ἀπολλόδωρος ἐν Χρονικοῖς Νausiphάνους ἀκοῦσαί φησι καὶ Πραξιφάνους· αὐτὸς δὲ οὐ φησιν, ἀλλ' ἑαυτοῦ ἐν τῇ πρὸς Εὐρύλοχον ἐπιστολῇ.

546 *Leucippus of Elea or Miletus (both accounts are current) had associated with Parmenides in philosophy, but in his view of reality he did not tread the same path as Parmenides and Xenophanes, but rather, it seems, the opposite path. For while they regarded the whole as one, motionless, uncreated and limited and forbade even the search for what is not, he posited innumerable elements in perpetual motion—namely the atoms—and held that the number of their shapes was infinite, on the ground that there was no reason why any atom should be of one shape rather than another; for he observed too that coming-into-being and change are incessant in the world. Further he held that not-being exists as well as being, and the two are equally the causes of things coming-into-being. The nature of atoms he supposed to be compact and full; that, he said, was being, and it moved in the void, which he called not-being and held to exist no less than being. In the same way his associate Democritus of Abdera posited as principles the full and the void. . . .*

547 *Apollodorus in the Chronicles says that Epicurus was instructed by Nausiphanes and Praxiphanes; but Epicurus himself denies this, saying in the letter to Eurylochus that*

though he obviously revived some Milesian astronomical theories; it might therefore be true. He may of course have visited Elea, but the Eleatic doctrines were known in Athens, and Melissus, against whom Leucippus perhaps chiefly reacted, was an Ionian. Singularly little was known about Leucippus, in any case, and in 547 his very existence seems to be denied by Epicurus and Hermarchus. But Epicurus is intent on proving his own originality; Burnet (*EGP* 330 n. 2) suggested that all Epicurus said was something like *Λεύκιππον οὐδ' εἰ γέγονεν οἶδα*, meaning 'I don't consider Leucippus worth discussing'. Alternatively, the emphasis might have been on the word *φιλόσοφον*: there was no *philosopher* Leucippus (i.e. Leucippus was no philosopher). It is clear from 552 that Aristotle considered Leucippus to be the inventor of atomism, and this is accepted also by Theophrastus in 546. Normally they write simply of 'Leucippus and Democritus', though certain elaborations, e.g. of the theory of perception, are distinguished as Democritean. On the whole we might accept the assessment of Cicero in 548; all our other evidence seems to show that the main theory was originated by Leucippus and accepted by Democritus, who worked out the details and introduced a few minor refinements. It would be very difficult here satisfactorily to distinguish the two, especially since many post-Theophrastean sources ignore Leucippus; where distinctions are traceable they will be pointed out. The doxographical passages mentioning Leucippus are collected in DK chapter 67: see also C. Bailey, *The Greek Atomists and Epicurus*, for a valiant attempt to distinguish the views of the two thinkers.

The date of Leucippus is not known independently, except from such guesses as that he was a pupil of Zeno. Democritus, however, evidently gave a clue to his own age in his work 'The Little World-system': he was about forty years younger than Anaxagoras. This fits Apollodorus' date in 549 (born 460-457 B.C.) better than Thrasyllus', of some ten years earlier. In any case, if Democritus accepted 1184 B.C. as the year of the capture of Troy (and this, the Eratosthenic epoch-year, was merely the commonest of several dates), then the composition of the 'Little World-system' (on which see the next section) would be placed too early, in 454. The probability is that it was written after 430. Leucippus, presumably, was somewhat older, and his *floruit* (i.e. the composition of the 'Great World-system') might be put

(see G. Vlastos, *AJP* 67 (1946) 51 ff.). However, Diodorus certainly used more than one Ionian source for this section, and it can be conceded that the account of cosmogony in 1, 7 is not primarily atomistic.

Democritus, on the other hand, must have been one of the most prolific of all ancient authors. Thrasyllus (or Thrasyllus), who arranged Plato's dialogues in tetralogies, did the same for Democritus according to 550: there were thirteen tetralogies (comprising fifty-two separate works, some no doubt quite short) divided between the following general headings: Ethics (2 tetralogies), Physics (4), Mathematics (3), Music, including literature and language (2), Technical subjects (2). There were additional works which were probably not genuine.¹ It is a tantalizing misfortune, and a reflexion of later taste, that the considerable number of fragments that have survived (not all of which are certainly genuine) are nearly all taken from the ethical works.

¹ Among the works classed as Ὑπομνήματα and not included by Thrasyllus (Diog. L. ix, 49, DK 68A33) are five concerned with foreign travel, for example a Chaldaean and a Phrygian dissertation. The attribution is perhaps related to the many stories in our ancient biographical sources that Democritus travelled extensively: for example 551 Diog. L. ix, 35 φησὶ δὲ Δημήτριος ἐν Ὀμωνύμοις καὶ Ἀντισθένης ἐν Διαδοχαῖς ἀποδημήσασαι αὐτὸν καὶ εἰς Αἴγυπτον πρὸς τοὺς ἱερέας γεωμετρίαν μαθησόμενον καὶ πρὸς Χαλδαίους εἰς τὴν Περσίδα, καὶ εἰς τὴν Ἐρυθρὰν θάλασσαν γενέσθαι. τοῖς τε Γυμνοσοφισταῖς φασὶ τινες συμμῖξαι αὐτὸν ἐν Ἰνδίᾳ καὶ εἰς Αἰθιοπίαν ἔλθειν. Another story is that Xerxes left Chaldaean overseers in Democritus' father's household, from whom Democritus learned much. There may have been some basis in fact for these stories of foreign contact. According to another anecdote Democritus said that he visited Athens, but that no one recognized him.

ORIGINS OF THE ATOMIC THEORY

552 Aristotle *de gen. et corr.* A8, 325a2 ἐνίοις γὰρ τῶν ἀρχαίων ἔδοξε τὸ ὄν ἐξ ἀνάγκης ἐν εἶναι καὶ ἀκίνητον· τὸ μὲν γὰρ κενὸν οὐκ ὄν, κινήθηναί δ' οὐκ ἂν δύνασθαι μὴ ὄντος κενοῦ κεχωρισμένου, οὐδ' αὖ πολλὰ εἶναι μὴ ὄντος τοῦ διείργοντος. . . . (a23) Λεύκιππος δ'

551 *Demetrius in his Homonyms and Antisthenes in his Successions say that he travelled to Egypt to visit the priests and learn geometry, and that he went also to Persia, to visit the Chaldaeans, and to the Red Sea. Some say that he associated with the 'naked philosophers' in India; also that he went to Aethiopia.*

552 *For some of the early philosophers thought that that which is must of necessity be one and immovable; for the void is not-being; motion would be impossible without a void apart from matter; nor could there be a plurality of things without something to separate*

for sensation to apprehend. The fragment itself breaks off at the crucial point, but Sextus' introductory comments (not quoted here) indicate that 'genuine' opinion is intellectual. Obviously, its objects are atoms and the void—it penetrates beyond the 'conventional' secondary characteristics to the ultimate reality. Leucippus and Democritus themselves had been employing this kind of judgement. Yet the mind, like the soul as a whole, operates through the mechanical motions and collisions of atoms, and its impressions must be subject to the same sort of distortions as those of sensation (for which cf. 589, second part). It is clear, then, that Democritus should not have claimed, and perhaps did not claim, more than approximate truth for his 'genuine' opinions—the truth still lay 'in the depths' (fr. 117).¹

¹ The difficulty of proving a conviction about atoms and the void, if we can only infer these from our possibly fallacious corporeal impressions, is implied in a rejoinder by the senses to the first part of 589 ('by convention . . . in reality atoms and void'), ascribed to Democritus by Galen: 593 Democritus Fr. 125, Galen *de medic. empir.* 1259, 8 Schoene (DK 68B 125) . . . τάλαινά φρήν, παρ' ἡμέων λαβοῦσα τὰς πίστεις ἡμέας καταβάλλεις; πτώμα τοι τὸ κατάβλημα. This neat criticism is normally accepted as Democritean, but the possibility must not be overlooked that it is framed by a later critic as an intentional epilogue to, and corrective of, 589. It is odd that Sextus did not quote it.

ETHICS

594 Fr. 174, Stobaeus *Anth.* II, 9, 3 ὁ μὲν εὐθυμος εἰς ἔργα ἐπιφερόμενος δίκαια καὶ νόμιμα καὶ ὕπαρ καὶ ὄναρ χαίρει τε καὶ ἔρρωται καὶ ἀνακηδῆς ἐστίν· ὃς δ' ἂν καὶ δίκης ἀλογῆ καὶ τὰ χρῆ ἐόντα μὴ ἔρδη, τούτῳ πάντα τὰ τοιαῦτα ἀτερπεῖη, ὅταν τευ ἀναμνησθῆ, καὶ δέδοικε καὶ ἑωυτὸν κακίζει.

595 Fr. 171, Stobaeus *Anth.* II, 7, 3i εὐδαιμονίη οὐκ ἐν βοσκήμασιν οἰκεῖ οὐδὲ ἐν χρυσῷ· ψυχὴ οἰκητήριον δαίμονος.

593 . . . Wretched mind, do you, who get your evidence from us, yet try to overthrow us? Our overthrow will be your downfall.

594 The cheerful man, who is eager for just and lawful deeds, rejoices whether waking or sleeping and is strong and free from care; but he that cares nought for justice and does not the things that are right finds all such things joyless, when he remembers them, and is afraid and reproaches himself.

595 Happiness does not reside in cattle or gold; the soul is the dwelling-place of one's good or evil genius.

596 Fr. 246, Stobaeus *Anth.* III, 40, 6 ξενιτεῖη βίου αὐτάρκειαν διδάσκει· μᾶζα γὰρ καὶ σπιβὰς λιμοῦ καὶ κόπου γλυκύτατα ἰάματα.

597 Fr. 277, Stobaeus *Anth.* IV, 24, 32 (DK 68B 277) ὅτεω χρήμη τεὰ ἔστι παῖδα ποιήσασθαι, ἐκ τῶν φίλων τεύ μοι δοκεῖ ἄμεινον εἶναι, καὶ τῶ μὲν παῖς ἔσται τοιοῦτος οἶον ἂν βούληται· ἔστι γὰρ ἐκλέξασθαι οἶον ἐθέλει. . . ἦν δέ τις ποιῆται ἀπὸ ἑωυτοῦ, πολλοὶ ἔνεισι κίνδυνοι· ἀνάγκη γάρ, ὅς ἂν γένηται, τούτῳ χρῆσθαι.

We know of no ethical doctrines held specifically by Leucippus, but Democritus devoted a part, though evidently not a particularly large part, of his considerable output to this subject. It happens that nearly all of the 290 or so *verbatim* fragments that have come down to us are from the ethical writings. Many are preserved because John Stobaeus, the 5th-century-A.D. anthologist, incorporated them in his collection. Over a quarter of the total are ascribed to 'Democrates'; most critics now follow Diels and accept the majority of these as genuine fragments of Democritus. Democritus' ethics are not explicitly based upon atomist physical preconceptions, and atoms are not mentioned.¹ The ethical fragments express, in a graphic and highly developed gnomic form, the Hellenic sentiments of restraint, common sense, and sanity. Yet no irrational sanctions of behaviour are introduced, no Justice or Nature that could not be resolved into the interplay of atoms and void. Vlastos may well be right in calling Democritean ethics 'the first rigorously naturalistic ethics in Greek thought'. At the same time there is no pandering to sophistic amoralism: the ethical ideal is εὐθυμία (otherwise termed εὖεστώ, ἀθαμβίη)—contentment founded on moral well-being. 594 and 595 show this clearly enough; the latter may contain a reference to Heraclitus fr. 119 (250). There are other, clearer references to Heraclitus; and Democritus also repeated Anaxagoras' famous pronouncement 'the things that appear are a vision of the unseen' (537), which has an obvious relevance to the atomic theory. 596 shows the non-hedonistic and indeed ascetic nature of much of his ethics,

596 Service abroad teaches self-sufficiency; barley-bread and a straw mattress are the pleasantest medicines for hunger and fatigue.

597 He who feels any desire to beget a child seems to me better advised to take it from one of his friends; he will then have a child such as he wishes, for he can choose the kind he wants. . . . But if a man begets his own child, many are the dangers there; for he must make the best of him whatever his nature.

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