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Early interest in knowledge p 225-249

In: The Cambridge companion to early Greek philosophy / ed. by Anthony A. Long.
Cambridge ; New York (N. Y.) : Cambridge University Pr., 1999. XXX-427 p. carte 3 index.
(Cambridge companions to philosophy).

|| ArchPhilos 2004 67 (1) : 134-135 Thomas Bénatouïl.

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1999

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I. POETIC PESSIMISM AND PHILOSOPHICAL OPTIMISM

The Greek philosophers were not the first to reflect on the nature and limits of human knowledge; that distinction belongs to the poets of archaic Greece. In Book XVIII of the *Odyssey*, for example, the failure of Penelope's suitors to sense the disaster awaiting them prompts some famous remarks on the mental capacities of the species from the disguised Odysseus:

Nothing feebler does earth nurture than a human being,
Of all the things that breathe and move upon the earth.
For he thinks that he will never suffer evil in the time to come.
So long as the gods grant him excellence and his knees are quick;
But when again the blessed gods decree him sorrow,
This too he bears with an enduring heart,
For such is the mind (*noos*) of human beings upon the earth,
Like the day the father of gods and men brings to them. (130–37)

Here, as on other occasions in the Homeric poems,¹ the thoughts of mortals reflect only their present experiences; the events that lie ahead lie also beyond their powers of comprehension. Conversely, when the gods choose to endow an individual with superhuman powers of insight, his knowledge is distinguished by its vast range:

Calchas, the son of Thestor, far the best of diviners
Who knew the things that were, that were to be, and that had been before.
(II 1.60–70)

But far more typical of the species are those “foolish ones, thinkers of the day” – Achilles, Agamemnon, and the suitors – who can neither

"think of what lies before and after" nor heed the wise counsel of those who can. The same theme runs through much of early Greek poetry: mortals "think what they meet with" and fail to grasp the larger scheme of things:

Of such a sort, Glaucus, is the consciousness (*thymos*) of mortal man, whatever Zeus may bring him for the day, for he thinks such things as he meets with. (Archilochus, fr.70)

There is no mind (*noos*) in men, but we live each day like grazing cattle, not knowing (*ouden eidotes*) how god shall end it. (Semonides, fr.1)²

In such circumstances, "human wisdom" consists in recognizing the limitations inherent in our mortal existence and "not aiming too high." As Epicharmus cautions: "Mortals must think mortal things, not immortal ones" (DK 23 B20).

Traces of this older "poetic pessimism" can be seen in the teachings of the earliest philosophers. Two ancient sources (Arius Didymus and Varro in DK 21 A 24) report that Xenophanes held that "it is for god to know the truth, but for men to opine." In the same vein, Xenophanes' near contemporary Alcmaeon cautions that:

The gods have certainty (*saphêneia*) concerning non-evident matters, but [it is given] to men to conjecture from signs (*tekmairesthai*). (DK 24 B1)³

Heraclitus (DK 22 B104), Parmenides (DK 28 B6.4-7), and Empedocles (DK 31 B2.1-8) all issue the standard indictment of the *noos* of ordinary mortals.

In a number of other respects, however, the teachings and activities of the early Greek philosophers reflect a distinctly more optimistic outlook. According to Aristotle, Thales was the first of a series of investigators who sought to account for all natural phenomena by reference to a basic material substance or principle (*Metaph.* I.3 983b20). If we accept Aristotle's account as even approximately correct, we must think that Thales—and his successors Anaximander and Anaximenes—assumed that the basic causes and principles of nature lay open to human discovery. Since the accounts put forward by the Milesians show evidence of successive refinement, their inquiries have also been thought to represent the beginning of a "tradition of critical rationality" in the West.⁴ Thus, although we have

no express remarks on the topic of knowledge from any of the first philosopher-scientists, it seems entirely reasonable to attribute to them some degree of "epistemological optimism."

Several early thinkers also display an interest in the method or methods by which knowledge might be acquired, either by themselves or by others. The Ionian philosophers generally were remembered by later writers as specialists in "that part of wisdom they call *inquiry* concerning nature" (*tautês tês sophias hên dê kalousi peri physeôs historian*).⁵ In DK 21 B 18, Xenophanes appears to give his support for inquiry or "seeking" as opposed to relying on divine "disclosures" or "intimations":

Indeed not from the beginning did gods intimate all things to mortals,
But at length, as they seek (*zêtountes*), they discover better.

In the *Philebus*, Plato refers to a method of inquiry "through which every discovery ever made in the sphere of the arts and sciences has been brought to light," crediting the discovery of this method to a "Prometheus or one like him":

All things, so it ran, that are ever said to be consist of a one and many, and have in their nature a conjunction of limit and unlimited. This being the ordering of things we ought, they said, whatever it be that we are dealing with, to assume a single form . . . then we must go from one form to look for two, if the case admits of there being two, otherwise for three or some other number of forms. (16c)

Some of the doctrines attributed to Pythagoras and his followers reflect the method Plato appears to have in mind here: that is, understanding the nature of an entity by enumerating its component elements.⁶ At some point in the latter half of the fifth century B.C., the Pythagorean thinker Philolaus presents several accounts of natural phenomena along just these lines, identifying "Limiters" and "Unlimiteds" as the two component elements of "nature in the universe as a whole and everything in it" (B1 and 2), and affirming that nothing can be known without number (B4). The goddess who appears in Parmenides' poem will also promote "inquiry," though of a different sort, when she urges her student to steer his thoughts away from the path of familiar experience and to focus instead on her *elenchos*—her "testing" or "critical review"—of the possible ways of thinking about "what is." On these occasions at least, the

philosophers undertook not only to convince their audiences of the truth of their novel doctrines but also to describe a process through which the truth could be discovered by anyone.

Finally, virtually every early thinker about whom we have any significant amount of information embraced what might be called the basic presupposition of epistemological optimism: that the events taking place in nature happen in accordance with a set of fixed – and therefore discoverable – general principles. The idea of a regulated process of change may have been only implicit in Thales' view of water as the substance from which all other things come into being and to which they return. However, when Anaximander states that things "happen according to necessity, for they [presumably the opposites] pay penalty to each other for their injustice according to the assessment of Time" (DK 12 A9), we have a clear expression of the view that nature is subject to its own internal principles of order.⁷ Anaximenes' twin forces of condensation and rarefaction, Heraclitus' Justice, Parmenides' Justice and Necessity, Empedocles' Love and Strife, Philolaus' harmonizing power, Anaxagoras' ordering cosmic mind, and Democritus' Necessity all represent variations on an original Milesian theme: nature operates in a regular, and therefore understandable, manner.

Four early thinkers in particular – Xenophanes, Heraclitus, Parmenides, and Empedocles – explored the conditions under which knowledge – especially in the form of a broad understanding of the nature of things – can be achieved by human beings. These reflections do not exhaust early Greek interest in epistemological questions,⁸ but they do feature many ideas that figure prominently in later accounts of knowledge.

II. XENOPHANES

As has been noted, Xenophanes' remarks about knowledge are best read in the light of his interest in religious matters: the powers of the human mind, like other human capacities and achievements, must be placed in comparison with the extraordinary cognitive powers of a supreme deity.⁹ In DK 21 B23, for example, we are told that:

One god is greatest among gods and men,
Not at all like mortals in body or in thought.

The sense of the phrase “not at all like mortals . . . in thought” emerges from the description of a divine being able to grasp things as a whole (i.e., without the individual organs of sense perception) and to “shake all things” through the power of his thought alone:

... whole he sees, whole he thinks, and whole he hears . . . (B24)
 ... always he abides in the same place, not moving at all,
 nor is it seemly for him to travel in different places at different times
 (B26)
 ... but completely without toil he shakes all things by the thought of his
 mind. (B25)

In B34, Xenophanes appears to draw the appropriate conclusion for creatures lacking in cognitive capacities of this sort:

And indeed no man has been, nor will there be,
 Who knows the clear and certain truth (*to saphes*)
 About the gods and such things as I say concerning all things.
 For even if one were to succeed the most (*ta malista*)
 In speaking of what has been brought to pass (*tetelesmenon eipôn*)
 Still he himself does not know (*ouk oide*); but opinion (*dokos*) is allotted to
 all.

Both the wording and full significance of this fragment remain matters of controversy.¹⁰ According to many ancient writers (see A1.20, A25, 32, 33, and 35), Xenophanes was a pioneering if somewhat inconstant sceptic. While his theological pronouncements may have been disconcertingly dogmatic, in B34 he appears to be anticipating the sceptical conclusion that there is no criterion that when applied can convert mere conjecture into a clear and completely reliable truth. But doubts about this reading were expressed as early as Diogenes Laertius (A1.20), and most modern authorities reject it as anachronistic. Xenophanes' reference in line three to “the gods and . . . all things” suggests that “all things” could not have meant “all possible subjects” (for if it did there would be no reason to proceed to mention the gods as well). Since here “all things” probably means “all the constituents of the natural realm” (cf. B27: “all things are from earth . . .”), B34 should not be read as the expression of a universal scepticism.

The similarities between Xenophanes' conception of a supreme being as "one" and "unmoving" and Parmenides' view of "what is" as "eternal, continuous, motionless, and changeless" led some later writers to view Xenophanes as the founder of Eleatic philosophy. As such, he was also assumed to have embraced a distinctly rationalist conception of knowledge, that is, to have "denied the senses in favor of reason" (see the reports of Aristocles and Aetius in A49). Scholarly opinion remains divided on whether this Eleatic Xenophanes ever existed, but most suspect that the association of the two thinkers was based mainly on two loosely phrased remarks by Plato (*Soph.* 242d) and Aristotle (*Metaph.* I.5 986b21).

Many features of Xenophanes' poetry, along with some of the views attributed to him in the ancient reports, sit poorly with the picture of a philosopher who discounted the validity of all sense experience. In the symposiac poem in B1, for example, he offers us a detailed description of a banquet that was also a feast for the senses:

In the midst frankencense gives forth its sacred scent,
and there is cold water, sweet and pure.
Golden loaves lie near at hand and the noble table
is loaded down with cheese and rich honey.
An altar in the centre is covered all about with flowers
while song and festive spirit enfold the house.

In B28, Xenophanes mentions that, "The upper limit of the earth is seen (*horatai*) here at our feet . . .," while in B31 he describes the sun as, " . . . passing over the earth and spreading warmth over its surface"

Other fragments and reports display Xenophanes' interest in phenomena in distant locations: the presence of water in underground caverns, month-long "eclipses" (the annual disappearance of the sun in northern latitudes?), mountains and volcanic eruptions in Sicily, the freak electrical phenomenon known as St. Elmo's fire, divergent conceptions of the gods from Thrace to Ethiopia, and differing social customs from Lydia to Egypt.

In one especially revealing couplet, Xenophanes contrasts the popular conception of Iris – the rainbow-messenger goddess of traditional Greek religion – with the meteorological phenomenon that is there

“to behold”:

And she whom they call Iris, this too is by nature a cloud,
Purple, red, and greenish-yellow to behold. (B32)

As in his demythologized descriptions of the sea (B30) and sun (B31), Xenophanes maintains here that the quintessential natural marvel, the rainbow, should be described and understood not in terms of its traditional name and attendant mythic significance, but rather as “a cloud, purple, red, and greenish-yellow to behold.” In these fragments Xenophanes appears not only to have accepted the testimony of the senses as a legitimate source of knowledge but to have encouraged his audience to employ their powers of observation to learn more about the world around them.

The main point of Xenophanes’ remarks in B34, I would argue, is that no human being has grasped or ever will grasp the truth about the greatest matters – the attributes of the gods and the powers that govern the natural realm. The rationale behind this claim does not appear to be given in our text, but two considerations seem especially relevant: (1) given the contrast that Xenophanes draws elsewhere between divine and mortal capacities, we can be sure that no mortal being has the capacity to possess a godlike synoptic view of “all things”; and (2) given the common association of *saphêneia* with obtaining direct access to events and states of affairs,¹¹ our inability to observe matters firsthand would preclude any possibility of our knowing the clear and certain truth (*to saphes*) about them. The hypothetical line of argument contained in lines three to five would reinforce this conclusion. No one (moreover) should be credited with such a synoptic view simply on the basis of having described, perhaps even successfully predicted, individual events as they take place.

In these teachings Xenophanes sought to establish an upper limit to the search for truth, cautioning his audience that the limitations inherent in our human nature would always prevent us from knowing the most important truths. Yet in B18 and B32, he appears to encourage inquiry into natural phenomena and to express his preference for “seeking” for one’s self over a reliance on divine disclosures. We should, therefore, remember Xenophanes not as the founder of Eleatic philosophy but as both advocate and cautionary critic of Ionian science.

III. HERACLITUS

Diogenes Laertius does not tell us the title of the little book Heraclitus deposited in the temple of Artemis but, given the subject matter of many of the surviving fragments, "The Truth – and How To Know It" would have been an apposite choice. What truth did Heraclitus seek to impart, how did he believe it had to be discovered, and to what extent did his views on these topics represent a novel conception of the nature and sources of human knowledge?¹²

Clearly, one central element in his message was that "all things" are linked together in some important way: "It is wise for those listening not to me but to the *logos* to agree that all things are one" (DK 22 B50).

While *logos* here can be understood as Heraclitus' account or description of the world (i.e., "listening not to me, Heraclitus, but to the account I have to offer"), the fact that the *logos* is described in B2 as "common" suggests that it refers also to the "real nature" or "deep structure" of the things themselves (cf. the reference in B45 to the depth of the soul's *logos*).

It also seems clear that the unity of things consists, in some sense, in the relationship of tension, strife, or conflict that holds between opposing qualities or entities:

What opposes unites, and the finest attunement stems from things bearing in opposite directions . . . (B8)

One must realize that war is common and strife is justice, and all things come to be through strife and are so ordained. (B8o)

The ways in which the opposites lend support to one another, or require one another, or over time pass over into one another, are tied to the workings of one specific substance – fire – which functions both as the source from which other things come into being as well as a regulating force that sets limits or measures on the processes of change:

The totality of things is an exchange for fire, and fire an exchange for all things, in the same way in which goods are an exchange for gold and gold for goods. (B9o)

The ordered world (*kosmos*), the same for all, no god or man made, but it always was, is, and will be, an everliving fire, being kindled in measures and being extinguished in measures. (B30)

Two especially visible and powerful forms of fire, the sun and lightning, are given credit for directing and controlling all natural changes:

And thunderbolt steers the totality of things. (B64)

The sun... shares with the chief and primal god the job of setting bounds to... the changes and seasons that bring all things. (B100)

Thus Heraclitus' thesis, at least in part, is that the natural world should be seen as a *kosmos*, an orderly realm in which all natural changes are overseen and directed by a supremely powerful cosmic intelligence. This cosmic power, fire (perhaps, in more modern terms, energy), shows itself openly in lightning and the light from the sun, but it exists also in the hidden tension or conflict uniting all opposites (cf. B65: "And Heraclitus calls it [i.e., fire] 'need and satiety'").

Not surprisingly, the Zeuslike power that sets the limits for all natural processes and transformations is said to be supremely wise: "One thing, the only wise thing, is willing and unwilling to be called by the name of Zeus" (B32). While wisdom (presumably in us) consists in understanding how it operates: "Wisdom is one thing: knowing the intelligence (which steers) all through all" (B41).¹³

And in so far as, "... the dry soul is a flash of light, wisest and best" (B118), we should recognize that our soul stands in some relationship with this cosmic power and should seek to align our thoughts and actions with it.

According to Heraclitus, so profound an insight into the nature of things could never be gained from the teachings of recognized authorities and experts – of either a poetic or a philosophical stripe:

The learning of many things does not teach wisdom (*noos*); else it would have taught Hesiod and Pythagoras, and again Xenophanes and Hecataeus. (B40)

The teacher of most is Hesiod – this is the one they feel sure knows the most, he who did not know day and night, that they are one. (B57)

What wisdom (*noos*) or intelligence (*phrên*) do they have? They place their trust in the popular bards and take the throng for their teacher, not realizing the many are bad, and the good are few. (B104)

The reference (in B50) to “listening not to me but to the *logos*” suggests that we should take Heraclitus’ stricture quite universally: no awareness worthy of the name “knowledge” is gained simply by accepting a claim on the authority of our teachers, not even when the teacher is Heraclitus.

The inclusion of Xenophanes and Hecataeus – early practitioners of fact-finding travel and observation – on the list of those who prove that “much learning does not teach wisdom” suggests that inquiry of the Ionian sort will never bring us to a proper understanding of the cosmos. Fragments B45, “One could never discover the limits of the soul by going, even if one were to traverse every road, so deep a *logos* does it have”; and B101, “I inquired into myself,” also suggest that Heraclitus opted not to pursue “inquiry” in the form advocated and practised by his predecessors.¹⁴

Less clear, however, is the value or importance he assigned to information gained in sense perception. Fragment B55 – “The things of which there is seeing, hearing, learning, these I prefer” – has been seen as a testimonial to the value of sense experience (even though this reading is slightly compromised by the inclusion of the broader term “learning”). The point of the remark, on this reading, is that whatever else we will need to do in order to acquire knowledge of the *logos*, we must first seek out information about the nature of things through our sense faculties. Yet, strictly speaking, what is preferred in B55 are the “things of which” (*hosôn*) there is seeing, and so on, presumably the persons, places, and objects that populate the natural realm. Asserting a preference for these *things* (perhaps as opposed to trusting the opinions of recognized experts) is not precisely a testimonial to the value of sense experience itself.

In fact, several fragments comment on how little in the way of a reliable grasp of the nature of things is obtainable from the senses:

Bad witnesses are eyes and ears of those having barbarian souls. (B10)
 Uncomprehending, even when they have heard, they are like deaf people.
 The saying ‘absent while present’ bears witness to them. (B34)
 Thinking is an instance of the sacred disease, and sight is deceptive. (B46)

While other fragments make it clear that the truth we are seeking to discover is not a perceptible feature of the world:

An unapparent connection is stronger (or better) than the obvious one. (B54)
Nature (*physis*) loves to hide. (B123)

Fragment B51 provides some guidance as to how to acquire the sought-for understanding:

They do not understand how, while differing from itself, it is in agreement with itself. There is a back-stretched connection like that of a bow or lyre.

Grasping the nature of the “back-stretched connection” in the case of the bow and lyre would presumably involve coming to understand how each of their component parts (string and wooden frame or bow) contributes to the effective operation of the whole: the string must be pulled taut against the frame in order for either the bow or the lyre to do its job – if no antecedent tension, then no subsequent action. We must go through the same process of analysis if we are to discover the full significance of the larger reality; we must discover how each of the contrasting features of the natural world contributes to the effective operation of the whole. “Understanding how the opposites agree” will require gaining an appreciation of how the same phenomenon can have opposite qualities from different points of view (B4, 9, 13, 37, 82, and 83), or how it can have opposite qualities for the same observer in different respects (B12, 49a, 58–60, 91, and 103), or how opposites can represent the successive stages of a single process (B57, 88, and 126), or how they essentially depend on one other (B23 and 111).

The frequency with which Heraclitus combines opposing qualities in his own paradoxical remarks suggests that he crafted his personal *logos* to reflect the larger *logos*, the complex hidden nature of the cosmos at large. The references to “the voice of the Sybil” (B92) and to “the lord whose oracle is at Delphi” (B93) point in the same direction: only those who are able and willing to think intelligently about what they see and hear, who can analyze a complex whole into its component opposing aspects and then link them together within a single operation, can hope to interpret either Heraclitus’ *logos* or the *logos* that is common to all things.

Through his striking observations on the *logos* and hidden *physis* of things, and how these must be discovered, Heraclitus shifted the focus of philosophical interest in knowledge, away from the conventional view of wisdom as embedded in the teachings of revered poets and self-proclaimed experts, away also from the superficial awareness of the features of the world available to us through sense perception, and toward a theoretical understanding of the cosmos that is available to us through reflection on its complex but hidden nature.¹⁵

IV. PARMENIDES

At some point in the early decades of the fifth century B.C., Parmenides composed a poem whose form and contents fundamentally altered the course of Greek philosophical thought. While there are enormous interpretive difficulties in virtually all of the surviving fragments of Parmenides' poem, at least three features can be identified that serve to set it apart from earlier philosophical discussions: (1) the high level of abstraction with which Parmenides discusses the nature of "what is" or "the existent" (*to eon*), (2) the orderly manner in which each possible way of thinking about "what is" is distinguished and evaluated, and (3) the degree of rigour with which Parmenides establishes each attribute of "what is."

Parmenides chose to preface the main account with a proem (DK 28 B1) whose features are of great importance for understanding the meaning of the account set out in succeeding fragments.¹⁶ The goddess makes it clear in the proem that the youth's education will fall into two distinct parts. He will learn,

Both an unshaking heart of very persuasive truth
As well as mortal beliefs in which there is no true trust. (B1.29-30)

The closely related ideas of persuasion and trust will appear on several occasions within the main account: the "it is" way of thinking about "what is" is identified as "the path of persuasion" (B2.4), the "strength of trust" will not allow anything to come to be from "what is" (B8.12), coming-to-be and perishing are driven off by "true trust" (B8.27-28), and "here I end my trustworthy account about truth" (B8.50). The "unshaking heart" promised to the youth in B1 also corresponds with the unshaking character of "what is" as it will be

revealed to be (B8.4). In addition, the realm reached by the youth is so far removed from any region of the known world that it even lies beyond the usual distinctions: There are the gates of the paths of Night and Day . . . And the aetherial gates themselves are filled with great doors" (B1.11, 13). Since Night and Day are subsequently identified as the basis for all distinctions drawn by mortals (B8.53-59, 9.1-4), this feature of the proem appears to anticipate Parmenides' account of "what is" as a single undifferentiated unity. In short, the "very persuasive truth" promised by the goddess at the outset can only be Parmenides' account of "what exists" as an eternal, indivisible, unmoving, and unchanging whole.

Nevertheless, two obvious features of the phenomenal world – light and darkness – also figure prominently in the proem. We hear about the Heliades or "Daughters of the Sun," who escort the youth in his journey, and of a journey from the House of Night into the light. These details have often been read as symbolic representations of the fact that the youth is about to undergo an illuminating intellectual experience – a transition from philosophical darkness into the light. Yet both the grammar and sense of the phrase "into the light" link it with the Daughters of the Sun who have just left the House of Night, rather than with the youth himself.

These early references to the light of the sun are naturally read as anticipations of the central role played by the sun in the cosmological account presented in B8.56, 9.1-3, 10.2-3, and 12.1-2.¹⁷ When, for example, the goddess concludes her preparatory remarks she predicts:

Nevertheless you shall learn these as well, how the things thought to be
Had to certifiably be, all pervading all. (B1.31-32)

While in B9.3-4 we are told that the "all" must be understood in terms of the powers of light and night completely pervading one another:

All is full of light, and obscure night together.
Of both equally, since for neither is the case that nothing shares in them.

In short, a number of the proem's features suggest that the youth will learn the "very persuasive" account of "what is" as well as a sun-based account of the natural world "in which there is no true trust."¹⁸

Parmenides never explains in so many words precisely what knowledge consists in, or why existing mortal thinking fails to measure up to the high standards for knowledge, but several fragments provide helpful clues.

As we have seen, the discovery of the correct way of speaking (*legein*) and thinking (*noein*)¹⁹ about “what is” is associated with the attainment of complete conviction or persuasion. Achieving this condition is tied to the various arguments presented in B8 that establish that “what is” cannot possibly come into being, be destroyed, admit of division, or undergo change or development, arguments that Parmenides speaks of as “very many signs” (*sêmata*):

...still single remains the account
That it is; and on this route are very many signs
That “what is” is ungenerated and imperishable;
Whole, single-limbed, steadfast, and complete ... (B8.1-4)

By contrast, one can neither know “what is not” (*to mê eon*) nor make it known to others:

The other (way) – that it is not and properly is not –
That I make known to you (*phrazô*) is a path wholly beyond learning,
For you cannot know (*ou gnoiês*) what is not, for that is impossible,
Nor will you make it known (*phrasais*). (B2.5-8)

The rationale behind this claim, it would appear, stems from the impossibility of any parallel set of *sêmata* for “what is not.” Since “what is not” can never be said to be in any respect whatsoever (cf. B7.1, “for never shall this prevail: that things that are not are”), it lacks any identifiable, teachable, or learnable features that might serve to define its nature and enable one to acquire and impart knowledge about it.²⁰ In addition, B7 holds that the youth must discover the truth about “what is” by resisting the testimony of eye and ear and tongue (i.e., speech), and base his thinking instead on the “much-contested testing” (*polyderin elenchon*) of the possible ways of thinking about “what is” presented by the goddess:

But do you restrain your thought from this way of inquiry
Nor let habit force you, along this way of much experience,
To ply your unfocused eye and echoing ear

And tongue, but judge by discourse (*logôî*) the much-contested testing
Spoken by me. (B7.2-6)

While the *logos* on which the youth is directed to base his decision is probably the goddess' "discourse" – the series of arguments she will set out in B8 – rather than any "faculty of reason,"²¹ becoming knowledgeable about "what is" is in any case a matter of resisting the pull of customary experience and reasoning one's way through the arguments against coming-into-being and destruction, divisibility, movement, and change or development that run the course of B8.

To sum up, the "it is" way of speaking and thinking about "what is" represents the knowledge promised to the youth by the goddess in so far as "it is" has been shown to be the one and only true, truly trustworthy, hence fully persuasive way of speaking and thinking about "what is." In some respects, this way of speaking about knowledge would not have struck those listening to Parmenides' words as a wholly peculiar idea: the same elements of a testing process, true speaking, identifying signs, and the attainment of complete conviction had already figured prominently in the most famous moments of discovery in all of Greek literature.²² (It would be hard to imagine a better way of demonstrating that the youth has acquired knowledge about "what is" than by showing that his grasp of its nature possesses all the usual hallmarks of knowledge.) But when the goddess claims that he must acquire his knowledge of "what is" through a process of reasoning, making no use of the information provided him by his senses, she places a premium on rational argument and reflection that is both novel and extremely influential.²³

Having now completed her account of how one should think about "what is," the goddess announces:

Here I end my trustworthy speech (*piston logon*) and thought
About truth. Henceforth learn mortal opinions (*doxas*),
Listening to the deceitful ordering (*kosmon apatêlon*) of my words.
(B8.50-52)

She proceeds immediately to explain that mortals have erred in distinguishing fire (or light) and dark night as entirely separate and independent opposites (B8.53-59). Scholarly opinion remains deeply divided on the significance of this phase of the goddess's

instruction, the "*doxa* section." According to some accounts, the theory put forward in these fragments is not Parmenides' own but merely a composite of the views currently held by other philosophers. Other scholars believe that the *doxa* presents Parmenides' own views but only as a second-best explanation to the account he has just presented. An still others believe that Parmenides is supplying his students with a cosmological account he believes to be completely false, perhaps as a way of inoculating them against the appeal of all such ways of speaking, as is suggested by B8.60-61:

All this arrangement I proclaim to you as plausible;
So that no opinion of mortals shall ever overtake you.

But when the goddess characterizes "all this arrangement" as "plausible" (*eoikota*), she can hardly be referring to the erroneous conception of mortals just mentioned – for their view is hardly plausible at all (cf. B8.54: "that is where they have gone astray"). Her plausible arrangement can only be the combined light-night based cosmology that will be presented in B9-12, 14, and 15. Here, I think, it is difficult to suppose that Parmenides is not committed in some degree to the truth and knowability of the views he is putting forward. In B10, for example, the goddess describes the exercise in cosmological instruction in terms that unmistakably connote *knowledge*:

And you shall know (*eisêi*) both the nature (*physin*) of the aither
And all the signs (*sêmata*) in the aether . . .
And you shall learn (*peusêi*) the wandering works of the round-eyed moon
As well as its nature (*physis*) . . . (B10.1-2, 4-5)

In addition, when she explains (in B9) that "all is full of light and night together . . . since for neither is it the case that nothing shares in them," she speaks as one fully cognizant of the lessons concerning "what is not" presented in B2-8. There is some reason, then, to view her account as a credible cosmology purged of the errors that have infected all previous mortal thinking, one fully consistent with the conception of "what is" set out in fragments B2 to B8.²⁴

Clearly, there would be no implication of falsehood present in her characterization of the "arrangement" as *eoikota* (likely or probable). Forms of the expression are used by philosophers from Xenophanes

to Plato to refer to an account that is being put forward as true even though it cannot be known with complete certainty.²⁵ And although “no true trust” has routinely been regarded as synonymous with “false,”²⁶ “lacking in true trust” at B1.30 contrasts only with “an account that yields an unshaking heart of very persuasive truth.” Clearly, it is possible for an assertion to be regarded both as true and as less than “very persuasive.” Not even the deceptiveness of the arrangement of the goddess’ words (*kosmon emôn epeôn apatêlon*) should be taken as a declaration of their out-and-out falsehood (indeed, a patently false account of the cosmos would hardly deceive anyone).²⁷ Rather, “deceptive” here in B8 is the correlate of “no true trust” at B1.30; both signify that no account of the cosmos, not even the one Parmenides is now putting forward, can be trusted completely – as can the account of “what is” just presented, the account in which “true trust” drove off all coming into being and passing away (B8.28–30). We have some warrant, therefore, for regarding the distinction between the two phases of the goddess’s instruction, with the attendant distinction between achieving “true trust” and mere “likelihood” or “plausibility,” as an attempt to mark off two distinct forms of knowledge. Since the first of these is concerned with a set of propositions whose truth can be proven through the use of logical argument, while the second focuses on the nature of things we encounter through sense experience, Parmenides’ account may be described in more modern terms as a pioneering attempt to distinguish *a priori* from empirical knowledge.

V. EMPEDOCLES

In the generation after Parmenides, Empedocles composed a poem²⁸ in which he invited his “much-remembering Muse” to “drive her well-reined chariot from the place of reverence” (DK 31 B3) and “stand by as a worthy *logos* of the blessed gods” (B131) was being unfolded. If these phrases had not yet identified Empedocles’ effort as a direct reply to Parmenides, B17.26 would have removed all doubt: “But you listen to the venturing of an account that is not deceptive” (*logou stolon ouk apatêlon*). While Parmenides had denied the possibility of unshaking conviction with respect to the nature of things in the physical realm, Empedocles commands his disciple,

Pausanias, to “know (*isthi*) these things clearly (*torôs* – ‘piercingly’), having heard the story from a god” (B23.11). At the centre of Empedocles’ philosophy is the view that the cosmos consists of four uncreated and indestructible elements (earth, air, fire, and water) together with two alternating forces (Love and Strife), with everything else that exists resulting from the combining or separating of these elements in varying proportions. Thus, while there may be no coming into being or destruction in any absolute sense (for much the same reasons that Parmenides presented), we can nevertheless understand how individual (composite) bodies can be created or destroyed, move about, or display qualitative change.

Empedocles also speaks in standard Parmenidean terms when he urges his student to:

Know (*gnôthi*) as the trustworthy items (*pistômata*) of our muse command,
By dividing up discourse (*logoio*) in your inward parts. (B4.2-3)

as well as to meditate “deep in his thought organs”:

For if, pushing [my words/ideas] deep down in your crowded thinking organs,
You gaze on them in kindly fashion, with pure meditations,
Absolutely all these things will be with you throughout your life. (B110.1-3)

Which raises an obvious question: How could Empedocles have supposed that his account of a complex and changing physical cosmos would be able to supply Pausanias with a reliable understanding when Parmenides had denied the possibility of achieving a completely reliable account of such matters?

The answer, I think, lies in Parmenides’ own assertion (in DK 28 B 16) that the *noos* of mortals varies in accordance with the mixture (*krasis*) or physical condition of their wandering “limbs” or sense organs (see p. 255). Since, on Empedocles’ account, all bodies emit and receive “effluences” (*aporroiai*) to and from one another (cf. DK 31 B89 and 90), our physical constitution seems to be determined to a significant degree by the nature or natures of the things that exist all around us. So if Parmenides was right to link thought with our bodily conditions (and, as we have seen, both poets and philosophers alike had stated that mortals “think what they meet with”), then we can conclude with equal justice that our thought is determined by

all the things that are “present” to us:

...intelligence (*mêtis*) among men grows according to what is present. (B 106)
Insofar as they have changed in their nature, so far changed thoughts are always present to them. (B108)²⁹

And precisely because thought is shaped by circumstances, we must exercise good judgment with respect to the particular things we “meet with,” including the messages others might wish to impart to us:

For narrow devices are spread throughout their limbs,
But many wretched things strike in, and blunt their meditations. . . (B2.1-2)

From these [words/ideas] you will acquire many others, for these themselves
Will grow to form the character, according to the nature (*physis*) of each.
But if you reach out for different things,
Such as the ten thousand wretched things which blunt men’s meditations,
Truly [these ideas] will abandon you quickly. . . (B110.4-8)

For Empedocles, then, excellence in thought – the degree to which individuals can gain “wealth in their thought organs” – depends on the extent to which their “mix of ideas” corresponds with the realities themselves (more precisely, with the particular “ratio” or *logos* of the mixture that defines a thing’s specific nature).³⁰

In addition, as Theophrastus puts it, Empedocles makes sense perception “a result of the like”:

By earth we see earth, by water, water;
By aether, shining aether; but by fire, blazing fire;
Love by love and strife by baneful strife. (B109)

Perhaps as a consequence of identity in material, there is a symmetry between the effluences themselves and the pores in the individual sense organ that receives them (which explains why one sense faculty is incapable of perceiving the qualities detected by the others).³¹ Acuity in perception, like acuity in thought, is also accounted for in terms of correspondence between the mixtures in the things and those in the perceiver (Theophrastus, *Sens.* 11). In short, Empedocles provides an account of sense perception and thought that ties

both processes to the rational structure (*logos*) and physical nature (*physis*) of the things themselves. When combined with the commonly held view that our thoughts are shaped by physical conditions, these considerations provided Empedocles with excellent reason to offer the prospect of a fully reliable knowledge of the natural world.

Three features in Empedocles' account of cognition have a special importance for later Greek thinking about knowledge. First, while many early thinkers appear to have assumed that "like knows like" in some sense, Empedocles states the principle in terms of an isomorphism between the knowing mind and its object, an idea that assumes major importance in the theories presented by Plato³² and Aristotle.³³

Second, for Empedocles as to some degree for Heraclitus and Parmenides before him, knowledge consists in the grasp of the nature (*physis*) and rational structure (*logos*) of a thing.³⁴ The concept of the *physis* of a thing had played a key role in the transition from the world of ancient common belief and imagination to philosophy and science.³⁵ When used in connection with individual phenomena, *physis* designated:

...that cluster of stable characteristics by which we can recognize that thing and can anticipate the limits within which it can act upon other things or be acted upon by them.³⁶

And when used in connection with the cosmos as a whole, *physis* supplied the early Greek philosophers with a framework for thinking about the physical realm in its entirety, either as one primordial substance from which all existing things originally came into being, or as a basic element or set of elements that represented, at bottom, what all things really are.

The concept of the "nature," "essential nature," or "what it is" of a thing will play a fundamental role in classical accounts of knowledge. On a number of occasions in Plato's early dialogues Socrates will affirm as a general principle that we must first discover the essential nature of a thing – its *ti estin* or "what it is" – before we attempt to determine what other features it might possess.³⁷ Both Plato and Aristotle will characterize knowledge in the most basic sense of the term as a matter of grasping in thought a thing's essential nature or

ti estin.³⁸ This emphasis on grasping a thing's nature also explains the frequency with which "giving a *logos* or account" enters into a number of proposed definitions of knowledge,³⁹ since being able to explain "what a thing is" is quite plausibly regarded as a necessary condition for being said to know what it is.

Thirdly, as is clear from his injunction to Pausanias in B₃, Empedocles accepts the possibility of a fully trustworthy grasp of the truth from a variety of different sources:

But come, consider by every device, how each thing is clear
Neither holding any vision as having greater trust (*pistin*) than hearing,
Nor the echoes of hearing over the clarities of tongue,
Nor hold back trust (*pistin*) from any of the other limbs which offer
a passageway for thinking (*noêsai*)
But think (*noei*) each thing in the way it is clear. (B₃.4-8)

In fact, each of the conceptions of knowledge embraced by earlier thinkers finds a place in his account: like the Ionian inquirers, Empedocles undertakes to know the causes and principles of the things whose existence we discover through sense perception; like Heraclitus, he regards knowledge as a matter of grasping in thought the *logos* and *physis* of things; and like Parmenides, he holds that through pure meditation and analysing the *logos* in our breast, we can acquire fully trustworthy indicators of the truth. In articulating the idea of a plurality of sources of knowledge, Empedocles also anticipates the highly pluralistic view of knowledge presented in Aristotle's *Metaphysics* I, *Posterior analytics* II.19, and *Nicomachean ethics* VI.

NOTES

- 1 Cf. *Iliad* I.343-44: "Nor does [Agamemnon] think of what lies before and after so the Achaeans might safely wage war beside their ships"; similarly *Il.* III.107-10; XVIII.250; *Od.* XX.35off.; XXI.85; and XIV.452.
- 2 Cf. *Theognis*, 141-42; Solon, frs. 1, 13, 16; Pindar, *Olympian* VII.25-26; *Nemean* VI.6-7; VII.23-24; XI. 43-47.
- 3 The text is uncertain. DK reads *peri tôn aphaneôn, peri tôn thnêtôn saphêneian men theoi echonti, hôs de anthrôpois tekmairesthai*, but others omit the phrase *peri tôn thnêtôn* (concerning things mortal).

- I follow LSJ in inserting *dedotai* (it is given). Heraclitus (DK 22 B78) and Philolaus (DK 44 B6a) also contrasted divine with human knowledge.
- 4 Cf. Burnet [20] 3; Guthrie [15] 29; Barnes [14] 5; Lloyd [111] 49; McKirahan [10] 73–75; Cohen, Curd, and Reeve [7] viii; among many others. See the balanced remarks by Algra in this volume p. 60.
 - 5 Plato, *Phaedo* 96a7–8. For Anaximander and *historiê*, see Aelian, *Varia historia* III.17 and Diogenes Laertius II.1; for Xenophanes, see Hippolytus in DK 21 A33.
 - 6 Among them: musical harmonies (as in Philolaus DK 44 B6a, A24), geometrical solids (cf. Aristotle, *Metaph.* XIV.3 1091a15), the powers in the soul (Philolaus, B13), or the cosmos as a whole (cf. Aristotle, *Metaph.* I.5 986a).
 - 7 See further Cherniss [87] 10, Vlastos [186] 82 and G. Vlastos, *Plato's Universe* (Seattle, 1975).
 - 8 See, for example, in this volume Huffman's account of Philolaus pp. 81–2 and Taylor's discussion of the epistemological issues raised by Protagoras and Democritus pp. 189–96. On the importance assigned to truthfulness by Homer and Hesiod, see Most in this volume p. 342.
 - 9 See p. 226 and Broadie in this volume p. 211.
 - 10 Diels-Kranz, following H. Fränkel (*Hermes* 60 (1925) 185ff.), opted for the *iden* of Sextus' text over the *geneto* in Plutarch. The latter reading, however, has been recently defended by Hussey [246] and brings a greater degree of unity to Xenophanes' comments. On this reading, Xenophanes is concerned throughout to deny the existence of any individual endowed with a special gift for knowledge of the deepest truths. The various interpretations of B34 are reviewed in Leshner [189].
 - 11 Cf. Herodotus II.44 where *saphes* knowing goes hand in hand with direct observation, and the contrast between *saphêneia* and *tekmairesthai* in Alcmaeon DK 24 B1.
 - 12 Scholars have given widely divergent answers to these questions. The present account focuses on Heraclitus' remarks about nature as a cosmos energized and governed by the force of fire/Zeus/strife/opposition. I say little about the classic view of Heraclitus as a proponent of the theory of constant change, primarily because I regard it as a distortion of Heraclitus' ideas introduced by Plato and Aristotle. For discussion of this issue, see Kirk [233].
 - 13 Assuming, following Marcovich [234], that *gnômên* (intelligence) refers to an existing intelligent being rather than to an "opinion" or "judgment" in the person who knows.
 - 14 This is a controversial claim. Many have read B35, "Men [who are 'lovers of wisdom'] must indeed be inquirers (*hístoras*) into many things," as a statement in support of inquiry. But: (1) as Marcovich noted ([234],

- 26), *historas* meant "acquainted with," "versed in," "knowing," and did not specifically designate the fact-finding travel and observation of the Ionian philosopher-scientists; (2) no fragment or ancient report suggests that Heraclitus himself ever conducted any "fact-finding inquiry"; and (3) since the *logos* is common to all things, it could be discovered at work in the most familiar settings.
- 15 It might be argued that a distinction between what appears to be the case and what is actually taking place must have been obvious to many early thinkers, but Heraclitus is still the first thinker we know of to draw a distinction between being familiar with the perceptible qualities of an object and understanding its true nature.
 - 16 Virtually no aspect of Parmenides' poem is free of textual or interpretive controversies. The account presented here attempts to render the poem and *doxa* sections consistent with the doctrines presented in B2-8. A variety of approaches to Parmenides are presented and criticized in Tarán [276]; Mourelatos [309]; KRS; Gallop [272]; and Coxon [270].
 - 17 According to Theophrastus (*Sens.* 1ff.) Parmenides also sought to account for sensation and thought in terms of a mixture of the (sun-related) hot and the cold. B16 affirms that "As is at any moment the mixture of the wandering limbs, so *noos* is present to men. . . ." For a discussion, see Vlastos [321] and Laks in this volume p. 255.
 - 18 This is especially true if (as proposed by Bicknell [484]), we assign B10 with its many references to the sun, moon, stars, and aether to the poem rather than to the main account.
 - 19 It is sometimes suggested that *noos* and *noein* in Parmenides' poem should be understood as an intuitive form of awareness much closer to knowing, recognizing, or being acquainted with than to any process of discursive thought or thinking (Coxon [270] 174; Mourelatos [309] 68–70; along with many others). But in B2.2 Parmenides refers to the "routes of inquiry which are 'there for' (or 'available for') *noêsai*," and since one of the two ways – the "is not" way – is described as "beyond learning," it could never have been a way "available for *knowing*." Moreover, *noos* can err, as is clear from B6.4-6. Indeed, without some possibility of an erroneous *noos* or *noêsis*, it would be hard to understand why the goddess would bother to warn the youth at B7.2 to keep his *noêma* from the "is-not" path of inquiry. What I take to be the correct view is defended by Tarán [276] 80–81, and Barnes [14] 158–59.
 - 20 See the extended discussion of this point in Mourelatos [309].
 - 21 Guthrie [15] 419–24 argues that the first instance of *logos* with the unmistakable meaning of "reason" does not occur until a century after Parmenides.
 - 22 The scenes in the *Odyssey* (XXIII.107ff. and XXIV.324ff.) in which

- Odysseus is recognized, first by Penelope and later by Laertes; the various points of correspondence are discussed in Leshner [494].
- 23 Most notably in Plato (cf. *Phaedo* 66, *Rep.* VI 490 and VII 533–34).
 - 24 For a broadly similar assessment of Parmenides' cosmology, see Graham in this volume p. 168, and for a different interpretation of it see Sedley p. 123.
 - 25 Cf. Xenophanes B35: "Let these be accepted, certainly, as like (*eoikota*) the realities"; and Plato's use of the phrase *eikota mython* (likely story) at *Tim.* 29d, 49c and elsewhere.
 - 26 By KRS, Barnes [14], and Long [304], among others.
 - 27 *Apatêlos* is not "false" but "deceptive" or "deceitful." As Simplicius explains, "...he calls this account 'seeming' (*doxaston*) and 'deceptive' (*apatêlon*), meaning not that it is simply false (*pseudê haplôs*) but that the perceptible has fallen off from intelligible truth to what is apparent and seeming" (A34).
 - 28 I regard *Peri physeôs* or *On nature* as distinct from the *Katharmoi* or *Purifications*. The two-poem view is defended by Wright [358] and Kingsley [105], among others. Osborne [364], Inwood [357], and McKirahan [10] argue, inconclusively so it seems to me, that both poems formed part of a single work.
 - 29 As Theophrastus explained (*Sens.* 10, A86), Empedocles' identification of thought with blood (B105) can be understood in this connection: "That is why we think especially well with the blood, for in this all the elements are especially mixed."
 - 30 For Empedocles' identification of the nature of a thing with the *logos* of the mixture of its elements, see Aristotle, *De an.* I.4 408a13–23 and *Metaph.* I.9 993a15–24 (A78).
 - 31 Theophrastus, *Sens.* 1 (A86). For detailed discussions of Empedocles' accounts of thought and sense perception, see Verdenius [498], Long [366], and Wright [358].
 - 32 See *Phaedo* 79d; *Tim.* 47b, 90a–e; *Rep.* VI 500c.
 - 33 See *De an.* III.5 429a; *NE* VI.1 1139a.
 - 34 Cf. *kata physin* in Heraclitus DK 22 B1.4–5, and *physis* in Parmenides DK 28 B10. Parmenides never asserts that "what is" (*to eon*) has a *physis* – almost certainly because, as B8.10 asserts, "what is" can never "grow" (*phyn*). But he clearly does think that "what is" has a fixed and definable nature (cf. B8.4: "whole, of a single kind, unwavering, and complete"). Empedocles evidently agrees with Parmenides when in DK 31 B8 he regards *physis* as merely a name given to things by men, but in B110 he describes the process of learning as forming "character, according to the *physis* in each."
 - 35 Vlastos, *Plato's Universe* (see n. 7), 19.

- 36 Vlastos *ibid.*
- 37 Cf. Plato, *Gorg.* 501a; *Laches* 190d; *Charmides* 176b; *Prot.* 360–361; *Meno* 71b, 80d, and 100b–c; *Lysis* 223b7; *Hippias major* 304d8–e2; and *Rep.* I 354a–b.
- 38 Cf. Plato, *Symp.* 211c; *Rep.* VII 520c; *Tht.* 175e; *Crat.* 440a; for Aristotle, cf. *Metaph.* VII.1 1028a36–37: “we think we know each thing most fully when we know what it is (*ti estin*), for example, what man is, or what fire is, rather than when we know its quality, quantity, or its place.”
- 39 Cf. Plato, *Meno* 98a; *Rep.* VI 510c; *Tht.* 201d ff.; Aristotle, *APo* II.8–10.