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ELEATIC CONVENTIONALISM AND PHILOLAUS ON
THE CONDITIONS OF THOUGHT

MARTHA CRAVEN NUSSBAUM

TOWARD the end of the Clouds, Aristophanes’ Socratic comedy, a young man comes home from the academy where he has been learning to talk like a philosopher. He announces to his father that he can prove it is right for sons to give their fathers a beating. The astonished father answers, “It’s not the custom anywhere (oudamou nomizetai, 1420) for a father to suffer that.” But he has not reckoned with the daring of philosophy. His appeal to convention, nomos, plays right into the hands of his eager son. Pheidippides triumphantly launches into a discourse on nomos, telling us what is implied by his father’s apparent concession that the status of the belief in question is (merely) conventional: “Wasn’t it a man who first set down this convention (nomon), a man like you and me, who won over the people of his time by speaking? Well, then, is it any less open to me, too, to make a new convention for sons for the future, that they should beat their fathers in return?” (1421–24). The father, stunned by the force of this new idea, yields his authority and takes his beating like a man.¹

Our beliefs are just conventions, perhaps some of them, perhaps all of them. They are things made or set down by people, by us. This claim — its meaning, its merits, its implications if true — is a central and unifying theme in Greek philosophical debate about the grounding of our beliefs and practices. An antithesis between the (merely) conventional and the real or true, closely related to the antithesis between convention and nature, was exploited by many early thinkers in pursuit both of specifically ethical inquiries and of more general epistemological projects. It still plays a prominent role in our continuations of these inquiries.² I would like here to look at the very beginnings of radical

¹ This speech, and the moral use of the nomos/phusis antithesis, are further discussed in my “Aristophanes and Socrates on Learning Practical Wisdom,” in Greek Comedy, ed. J. J. Henderson, Yale Classical Studies 26 (Cambridge 1980). The implications of the conventionalist’s claim are further analyzed below.

² On the antithesis between nomos and truth or reality, and its relationship to the nomos-phusis antithesis, see F. Heinimann, Nomos und Physis (Basel 1945,
conventionalism in Greek philosophy, and at a promising early attempt to parry the conventionalist's assault. The assailant is Parmenides, whose goddess enjoins the "man in the know" not to let "much-experienced habit" force him onto the path of nonsense, the path "fabricated" by "mortal who know nothing." The critic is a more shadowy figure: Philolaus the Pythagorean.

We are told that Plato once paid forty minae for Philolaus' book. "You exchanged a lot of silver for one thin volume," sneers the skeptical philosopher-poet Timon. And, indeed, if we look at Philolaus only in the light of standard critical accounts, Plato's alleged purchase strikes us, too, as extravagant. Almost invariably he is depicted as a crude and primitive thinker, an enthusiast of some mystical views about number of which we can make little philosophical sense. Crudeness of thought has even been used as a criterion of authenticity in assessing dubious fragments. I want to argue, in defense of Plato's judgment, that the

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3 Parmenides, DK 28 B 1.3, 7.3, 6.4-5; on all these passages see further below.

4 Timon, fr. 54 = DK 44 A 8 = Gell. 3.17.6:

πολλὰν ἐφ ἀργυρίων ἀλέγνην ἡλλάζον βιβλὼν,  
ἐνθεν ἀπαρχόμενον τιμαίογραφεῖν ἐδιδάχθης.


5 Thus, for example, Erich Frank remarks (Plato und die sogenanten Pythagoreer [Halle 1923] 305): "This sterile repetition of the same ideas, while the argument makes no progress at all...is intolerable; it betrays a second-rate mind." Karl Reinhardt speaks of Philolaus' argument as "but a poor copy of the Eleatic original" ("The Relation between the Two Parts of Parmenides' Poem," trans. in _The Presocratics_, ed. A. P. D. Mourelatos [Garden City, N.Y. 1974] 293-317; from Parmenides und die Geschichte der griechischen Philosophie). An early exception is A. Boeckh (Philolaos des Pythagoreers Lehren nebst den
genuine fragments, especially those dealing with our understanding of the world of nature, reveal a philosophical intelligence both original and profound. Set within a tradition of speculation about the limits of human knowledge, they adumbrate a response to Parmenides’ denial of distinctions and denumerable plurality to what is, and to his associated claim that the world of our experience and speech is the product of human convention. Most critics of Parmenides replied only, or primarily, to his attack on plurality through the incoherence of *genesis ex nihilo*. Philolaus saw the importance of responding, instead, to the poem’s more basic line of attack: the argument from the conditions of successful thought and discourse. His response brings to light some important issues that will be investigated more fully in the metaphysical writings of Plato and Aristotle. At the same time, Philolaus’ argument has a distinctive form. Although it has been accused of being merely a cheap imitation of Eleatic methods of proof by refutation, it actually uses Eleatic techniques to a new, and anti-Eleatic, end. It would not be

Bruchstücken seines Werkes (Berlin 1819), who speaks of Philolaus as “a point of light... whose radiance can to some extent illuminate the night” of the confusing tradition surrounding the history of Pythagorean thought (p. 3); Boeckh is, however, clearly more interested in the historical importance of the fragments than in their philosophical value. By far the most balanced recent treatment of the fragments is in Burkert (above, n.4), ch. 3, with bibliography and a comprehensive discussion of authenticity. Burkert defends Philolaus against some of the attacks on his intellectual caliber but is so preoccupied with establishing the authenticity of the fragments that he sometimes exaggerates their crudeness in an effort to show they cannot be post-Platonic. His summary seems overly condescending: “For Philolaus, philosophical ideas and specific items of scientific knowledge seem to have been more than a means of expressing and illuminating a preexisting picture” (p. 267).

With Burkert, I believe B 1–7 to be genuine, B 11–12 and 21 to be spurious; in general I accept his arguments against the challenges raised by Frank (above, n.5), by J. E. Raven (Pythagoreans and Eleatics [Cambridge 1948] 92–100, and, with G. S. Kirk, The Pre-Socratic Philosophers [Cambridge 1966] 307–318); and by I. Bywater (“On the Fragments attributed to Philolaus the Pythagorean,” *JP* 1188 21–53. A summary of critical opinion can be found in Burkert (above, n.4), 221, n.17; other useful criticisms of Frank and Bywater are made by R. Mondolfo in his Italian translation of Zeller-Nestle (La filosofia dei Greci nel suo sviluppo storico [Florence 1938, repr. 1950] 1-2, 367–382 = RivFil 15 [1957] 225–245, and by Guthrie, I (above, n.4) 330–333. I shall not recapitulate all of Burkert’s arguments, but only indicate where I take issue with or wish to supplement them.

On the reasons for reading Philolaus’ argument as a response to the Eleatics, see below pp. 82–83.

Cf. Reinhardt (above, n.5), n.2; the same view, though without the pejorative language, is repeated by Burkert, *Lore* (above, n.4), 259–260, and n.104.
putting the case too strongly to call it our first example of the "transcendental argument," which knits together in a particular way an uncovering of the limits of human understanding and a validation of the categories that this understanding uses to interpret the world.

**Parmenides and the Postulates of Mortals**

Parmenides was not the first Greek thinker to worry about the limits of our knowledge, or to suggest that we make up what we think we know. But his attack is so radical that it is hard for it not to appear capricious or unmotivated. If we are to understand the importance of Philolaus’ attempt to return us from radical philosophical doubt to our basic human beliefs, we should also try to see how the doubt, and the attack on convention, might be more than a philosopher’s game — something that arises from human experience and human needs. One reason the *Clouds* is profound is that it shows us not only the excesses of philosophical ambition, but also the ordinary man’s thirst for philosophy, his desire to get outside the conventions that hold him. The story of the origins of conventionalism in Greek thought needs thorough study; such a study would probably deepen our understanding of how and where skeptical doubt arises and how ordinary cognitive anxiety engenders philosophy.⁹ But even a cursory examination of early texts shows that Parmenides did not speak in a vacuum.

In assailing the authenticity of the Philolaus fragments, J. E. Raven has described the late fifth century as "a time when the critical inquiry, ‘How is knowledge possible?’ had barely been started, much less settled."¹⁰ Outrageous as a claim about the time of Socrates and Democritus, this remark would not even truly characterize the time of Parmenides. His predecessors, both poets and philosophers, show a keen interest in uncovering the limits of our knowledge, contrasting human cognitive capacities with those of the gods, and describing the admissible grounds for knowledge claims.¹¹ And we see in particular, in their

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⁹ These are central themes of Stanley Cavell’s *The Claim of Reason* (Oxford The Clarendon Press, 1979), a work which is important for any investigation of connections between philosophical and literary texts dealing with the problem of knowledge.

¹⁰ Raven, in Kirk and Raven (above, n.6), 311.

writings, signs of a tendency that Parmenides carried to its extreme conclusion: the tendency to denounce as “mere convention” an understanding of the world that is seen to be human, the product of our speech and society, and to search for a pure, nonanthropocentric truth. “We human beings make vain suppositions (mataia nomizomen), knowing nothing, while the gods accomplish all things according to their thought.” So, in an early fragment (141-142), the poet Theognis expressed a cognitive despair whose natural outcome would be a search for divine wisdom to bolster, correct, or validate our merely human judgment. A poet might turn to Muses who “are at hand and know all things”; others had other ways of turning away from mortal ignorance; some, like Xenophanes, seem to have concluded that there is no escape. Clearly Plato was not the first to react to our anthropocentric assumption that man is the measure of all things with the sentiment that “nothing incomplete is the measure of anything” (Rep. 504 c). Early critics of mortal beliefs may have been less radical than Parmenides; none seems to have questioned the reality of distinctions and plurality. But they were already at work attacking the human basis of our claims to know. Heraclitus reacts to them with anger, urging men to listen to the logos that is common to all, the fabric of discourse and connected thought on which human ways of life are based. Attacking sages who claim to teach a “private wisdom” (B 2), he tells us that if we speak with understanding (xun noōi), we will acknowledge that we must rely on what is common to all (xunon), the way a city relies on its laws (B 114). Heraclitus makes it clear that our conventions are thoroughly anthropocentric: to

12 Hom. II. 2.484-486; cf. Hes. Th. 1-28, Op. 1-10. Hesiod’s insight that divinities might be deceivers (“We know how to tell many false things as if they were true,” Th. 27) seems to lead him to the verge of a more general skepticism.

13 The extent of Xenophanes’ skepticism in B 34 is unclear. Fränkel (above, n.11) argues forcefully that the skeptical conclusion is limited to matters of which we can have no first-hand experience (see esp. p. 127 and n.38). This allows illuminating connections to be made with Xenophanes’ praise of empirical inquiry in B 18, and with the truncated B 36; but Fränkel’s interpretation depends on tendentious renderings of important cognitive words. For another recent view, see J. Lesher, “Xenophanes’ Skepticism,” Phronesis 23 (1978) 1-21.

14 Cf. also B 1, 2, 17, 50, 72, 73, 89, 129; on the connection with discourse, see my “Psuchē in Heraclitus, I,” Phronesis 17 (1972) 1-17, with bibliography. The spirit of Heraclitus’ program — if not always its detail — seems to me to have been admirably grasped by Nietzsche’s (in his essay “Philosophy in the Tragic Age of the Greeks,” but also, and more clearly, in the remarks on Heraclitus in the historical section of Twilight of the Idols, and in the Heraclitean epistemology of the essay, “On Truth and Lie in the Extra-Moral Sense”). On our faculties and the possibility of knowledge, see B 55, 116, and also 22, 35, 40, 101, 129.
a god, to a fish, the world will look a different way.\textsuperscript{15} And yet he urges us to trust ourselves, our language, our ways.\textsuperscript{16} To Parmenides, as to skeptical predecessors like Theognis and Xenophanes, such cognitive complacency is evidently unacceptable. It does not seem sufficient to say, “That is the way we human beings see the world.” What if all human thoughts really are vain suppositions? What if we are all wrong in some fundamental way about the nature of reality? Then our only hope of access to truth might lie in ceasing to live and think like human beings, dissociating ourselves by the use of reason, our most godlike faculty, from all our merely human beliefs. We might need to question and reject even the most basic one: the belief that we can both affirm and negate, identify and distinguish.

From the very beginning of his poetic proem, Parmenides declares his opposition to a Heraclitean reliance on convention. The “man in the know,”\textsuperscript{17} the initiate drawn by the wise horses of the goddess, is taking his last leave of mortal communities before arriving at the place where he can abandon deceptive mortal ways for good and set out along the Way of Truth. His chariot races along “past all the cities” (1.3)\textsuperscript{18}


\textsuperscript{16} Any full treatment of early speculation about human knowledge would have to include a study of the earlier treatises of the Hippocratic corpus — especially, perhaps, the treatise “On Ancient Medicine.” Because this material postdates Parmenides and was probably not known to Philolaus, I shall not discuss it here. The empiricism of these treatises is well discussed in G. E. R. Lloyd, “Popper vs. Kirk: A Controversy in the Interpretation of Greek Science,” \textit{Brit.Jour.Phil.Sci} 18 (1967) 21–38.

\textsuperscript{17} On \textit{eidota phōta} (1.3), see D. J. Furley, “Notes on Parmenides,” in \textit{Exegesis and Argument: Studies in Greek Philosophy presented to Gregory Vlastos}, ed. E. N. Lee, A. P. D. Mourelatos, R. M. Rorty (Assen 1973) 1–15, at p. 3. Contrast, for example, J. Mansfeld, \textit{Die Offenbarung des Parmenides und die menschliche Welt} (Assen 1964) 228, who argues that Parmenides is already on the way back. For a complete review of opinion, see K. Bormann, \textit{Parmenides} (Hamburg 1971) 61–62; Bormann’s own interpretation of the proem as a whole is, however, vulnerable to Furley’s objections.

\textsuperscript{18} The reading astē is not in the manuscripts, as was pointed out by A. Coxon, “The Text of Parmenides fr. 1.3,” \textit{CQ} n.s. 18 (1968) 69. But there appears to be no viable alternative, and we should probably accept the emendation, especially in view of 1.27. See, however, the tempting suggestion of H. A. S. Tarrant, \textit{Antichthon} 10 (1976) 1–7.
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on its way to the place of his heart’s desire (1.1), a place “outside of the beaten path of human beings” (1.27). This turns out to be the “gate of the ways of Night and Day,” a peculiar place of some philosophical interest. It is usually supposed that Parmenides has traveled from darkness into the light, therefore from the night of error to the clarity of Truth. But David Furley has now shown that the maidens who escort the poet have come into the light themselves, and are taking him from the ordinary daytime world to a strange destination, outside our human paths. It is a place well known in mythology, and known as a mysterious and fearful spot (cf. Hes. Th. 740 ff). At the very edge of the world, at the opening of a bottomless chasm, stands a place where Night and Day have their meeting place. Its essential character is that here all opposites are undivided, or one. All the familiar polarities of mortal discourse collapse into unity; our ordinary statements that make distinctions between day and night, light and dark, will no longer have their sense. It is a place that cannot really be coherently described in our language, since it abolishes what the language rests on; this, perhaps, is the reason why Parmenides only points, rather cryptically, to its main features. If one were a mere mortal, not “in the know,” one might be tempted to say, as Philolaus, in effect, will say, that it is a world oude phaton oude noetón, neither sayable nor thinkable.

A goddess offers the well-prepared youth instruction that will lead him from erring mortal ways to the truth. Instead of the poet’s nine Muses, Parmenides’ teacher is a single divine being. Instead of revealing the contingent truths of human history, she shows her pupil the “unshakeable heart of persuasive truth” (1.29), the necessary laws and limits of reason. And, perhaps Parmenides’ most important modification of the standard poetic drama of inspiration, she relies for her authority not on any empirical claims, but on the nature of thought itself. She claims no special authority in virtue of longevity or godlike

19 In the same way his poem, filled with words suggestive of change and plurality, seems to take its leave of the mortal conventions the poet will soon be forbidden to express. Note especially the frequency of “many-” compounds (1.2, 1.4, 1.14, 1.18); the goddess uses such compounds only of the erring ways of mortals (7.3, 16.1), and of the struggle to overcome these (poludérin, 7.5). On Parmenides’ vocabulary, see A. P. D. Mourelatos, The Route of Parmenides (New Haven 1970) ch. 1, who shows that of the very few words used by Parmenides but not found in Homer and Hesiod, a large proportion are these striking compounds.

20 Furley (above, n.17), 1–5, with references.

21 All that follows this point is my own extrapolation of Furley’s suggestion.

22 Cf. esp. Homer, Il. 2.484–486.
sensory powers. Her purely a priori argument is one that can be made and judged by any rational creature, and made all the better if he abstracts from all that is empirical, “lest mortal views distract” his intellect (8.60–61). “Judge by reason,” she commands him, “the hardhitting refutation” (7.5).\(^{23}\)

The argument of the Way of Truth has two strands. One uses a principle of sufficient reason to argue against the possibility of coming-to-be and of accretion to what is already. “What need could have spurred it, starting from nothing, to grow later rather than sooner?” (8.9–10)\(^{24}\) This argument proved the focus of most of Parmenides’ philosophical successors, who, accepting the principle and rejecting Parmenides’ conclusion, held that there must have been an irreducible plurality at the beginning of things.\(^{25}\) But the goddess has another more basic argument against genesis and change, one which gives her reason to dismiss the possibility even of an original plurality. The argument is stated flatly, though repeatedly; it is not at all obvious on what underlying assumptions it rests. But on it the success of the Way of Truth depends. For she undertakes to show what something must be like to be spoken of — to be an object of thought and an item mentioned in intelligible discourse.\(^{26}\) And she concludes that it must be without genesis and destruction, without accretion, without change in place or time, without any divisions or distinctions. The sufficient-reason argument would, by itself, establish only a small part of this conclusion.

Remarks about the conditions of intelligent thought and successful discourse hold a prominent place in the poem and are used at crucial junctures to reject error:

This, I tell you, is a path that is entirely uninformative (panapeuthea). For you could not apprehend (gnoiè̂s) what is not — for it is not attainable (amuston) — nor express it in speech (phrāsais) (2.6–8).

\(^{23}\) Furley’s translation (above, n.17) 9; Mourelatos, Route (above, n.19), shows that the ordinary interpretation, “much-contested,” is implausible on morphological grounds (91, n.46).


\(^{25}\) Cf. esp. Anaxagoras B 1, Empedocles B 8.

I shall not allow you to say or think (phasthai s'oude noein) that it is from what is not. For it is not sayable (phaton) or thinkable (noëton) that it is not (8.7–9).

It has been decided, as is necessary, to leave the one way as unthinkable (anoëton) and nameless (anômumon) — for it is not the true way — and that the other is (pelein) and is true (8.16–18; cf. 8.34–36, 3, 6.1–2).

The argument moves from some very general assumptions about what successful thought and talk must be like to conclusions that radically assail the truth of all our mortal beliefs. What is taken to be impossible is "saying what is not." The most promising way of understanding the argument is probably the one suggested by Montgomery Furth, in expansion of suggestions by G. E. L. Owen.27 Parmenides is pursuing the implications of a model of successful thought and speech to which, ironically, men's ordinary view of their language was (and perhaps still is) deeply committed. According to this model, any discourse about the world succeeds by touching or grasping what it is about; all speaking is understood to be like naming or referring. And if there is not a thing there for the name to hit, that piece of discourse is senseless, mere names thrown into the void.28 Statements alleging distinctions and divisions within what is become impossible, as does coming-to-be, since both commit the speaker to negative predicative or existential statements — or, on the naming model, to referring to what is not. The genesis argument thus becomes subordinate to and part of the larger argument rejecting differentiation.29


28 For this assumption, cf. Owen, "EQ" (above, n.26), n.44, and Furth (above, n.27), 258–259. The assumption is probably at work in Xenophanes and some other early thinkers and seems to play a role in Plato's early and middle dialogues; it is criticized in the Sophist. Heraclitus' preoccupation with connections and logos, in opposition to the Homeric preoccupation with epea, may mark the beginning of a reaction against the grasping-naming model: see "Psuchē in Heraclitus, I" (above, n.14). A great deal of relevant early material is explored in Mourelatos, "Heraclitus, Parmenides, and the Naïve Metaphysics of Things," in Exegesis and Argument (above, n.17) 16–48.

29 Furth's interpretation, unlike many, succeeds in explaining Parmenides' emphasis on the conditions of discourse and in generating his extreme conclusions from a single and plausible assumption, without charging him with damaging equivocation. Mourelatos (Route, above, n.19) also focuses on the conditions of discourse, but tries to deny the extreme conclusion: the poem is said to rule out only negative examples of "speculative predication" — predication about the
Having argued a priori that what is must be such as no man has ever thought it to be, Parmenides' goddess must now say something about the persistence and pervasiveness of mortal error. About the value of mortal beliefs her judgment is unambiguous: they have no claim to validity at all. There is no true confidence (pistis alēthēs, 1.30) in them. Mortals are utterly confused, having no sure knowledge (eidos ouden, 6.4), governed by helplessness (amēchanie, 6.5), wandering without guidance along a backward-turning path (6.5–9). To tell their opinions is to present a deceptive ordering (kosmos) of words (8.52); and this entire kosmos is designated as "seeming" (diakosmon eikota panta, 8.60). The references to the "two-headedness" of mortals and to their "backward-turning" path presumably point to our foolish mistake in trying to have being both ways, to continue using both "it is" and "it is not."

Nor is there any evidence that the cosmology of the poem's second half is accorded a limited degree of approval. Of her intent to teach opinion as well as truth, the goddess says: "But nonetheless, you will learn this [mortal opinions] too — how the things-that-seem had to have genuine existence (dokimos einai), being, indeed, the whole of things (1.31–32). The opinions had to have reality for mortals, since

real or essential nature of something. His arguments for isolating this special sense of esti do not appear convincing; and, as Stokes cogently argues, although Parmenides' arguments do not start from unity, the argument against division and distinction is a general one, leading to unity as a conclusion (cf. Stokes, above, n.26, 141–143). To admit a plurality of onta would commit us to unthinkable/unsayable negative statements (Owen, "EQ" [above, n.26], n.44; and now Furley [above, n.17], 5–9). To be finally persuasive as an interpretation, Furth's argument would need to deal more fully with the relation between the two strands of argument, explaining why Parmenides shows such a particular interest in ultimate generation and destruction.

30 So Owen, "EQ" (above, n.26), n.1, and pp. 56–57.
31 As is claimed, for example, by Wilamowitz, Hermes 39 (1899) 204–205; Coxon, CQ 28 (1934) 134–144; and perhaps Kranz's translation in DK. The consensus of modern critics is that mortal opinions have no claim to validity: see Furley (above, n.17), 5–9; Stokes (above, n.26), 144–148; Tarán (above, n.26), 202 ff, with bibliographical survey; Owen, "EQ" (above, n.26), 49–55; A. A. Long, "The Principles of Parmenides' Cosmogony," in Furley and Allen II (above, n.15 and n.26), 82–101, originally in Phronesis 8 (1963) 90–107.
32 Cf. Owen, "EQ" (above, n.26) 40–55 and Long (above, n.31) 83–84. I give here the translation defended by Owen (reading peronta with DEF). Long reads peronta and sees it as emphasizing how completely the world of mortal opinion is pervaded by error. As Owen notes, it is not the goddess in her own voice who calls the opinions genuine or reliable; she is summarizing the content of the false view she will present from the point of view of its believers.
they lacked the illumination of a journey to the outside of their lives. They were stuck with error, and had no choice but to trust it (cf. 8.39, *pepoiēthotes einai alēthē*). But this does not confer on the errors of those who "know nothing" any measure of objective reality. If there is any good reason for choosing the cosmology of the Doxa rather than some other, it is that it is the simplest version of the basic error of mortals: the decision to name two forms, where being is without distinctions.\(^{33}\) Plurality once admitted, they might just as well have named a hundred. But if the deceptive simplicity of this "likely order" does not deceive Parmenides, it is unlikely that more elaborate, but equally false versions will (cf. 8.60–61).

With this talk of a *decision* to name two forms, we arrive at the feature of Parmenides' argument that will be of the greatest importance for our understanding of Philolaus' response. Earlier thinkers had already suggested that if human beliefs were not solidly grounded in reality or nature, they would have to be regarded as nothing but conventions.\(^{34}\) Parmenides accepts and develops this suggestion, dividing all judgments into the true and the merely conventional or man-made. The forms erroneously named by mortals are said to be "set down" or "posited" by them (*katethento*, 8.39, 8.53). The activity of name giving, which receives stress in the Doxa, is taken to be the origin of error (8.38, 8.53, 16.9); and this process must be purely arbitrary, since for what is only a single name, at most, is appropriate. "They posited two forms in their minds for naming; . . . in this they went astray."\(^{35}\) And, as we have observed, if all plural name systems are

\(^{33}\) So Stokes (above, n.26), 147–148. Lines 8.53–54 are difficult, and have occasioned much controversy. The best recent discussions are Stokes, 144–148, and Furley (above, n.17) 5–6, both with references; they conclude that the force of ὁν ἐμι παίναν ou χρείων εστίν, 8.54, is that neither of the two forms originally posited by mortals should have been posited. They fail to grasp the underlying unity of Being, and set down, as the basis of cosmology, two polar opposites, each of which is defined with reference to its distinctness from the other (cf. 9.4: *epei oudeiteroi meta meden*). Both are, therefore, to be rejected.

\(^{34}\) For the history of this antithesis, see Heinimann (above, n.2), and below, n.79. Parmenides' use of the antithesis has been noted by Reinhardt (above, n.5), 297, n.2; cf. also Heinimann, 49 ff, 88 ff.

\(^{35}\) Accepting Furley's defense of gnōmain (a variant in Simplicius) at 8.53. On the single name, cf. L. Woodbury, "Parmenides on Names," *HSCP* 63 (1958) 145–160. At *Sophist* 244 c–d, Plato points to a dilemma about the relation of Parmenides' Being to its name: are there two things after all, the name and its object? If so, they are unthinkable; if not, either the name is a name of nothing, or what is cannot have a name. See the comments on this in Owen, "EQ" (above, n.26), n.54, and B. A. O. Williams, "The Legacy of Greece: Philosophy," *The Legacy of Greece*, ed. M. I. Finley (Cambridge 1980). A recent discussion
nonsense, it is hard to see how one can be preferred to any other. Similarly, the rejected way of discourse is said in fragment 6 to be a fabrication of ignorant mortals (plattontai, 6.4–5). And the same fragment concludes: “For them being and not-being have been conventionally supposed (nenomistai) to be one and the same”—again suggesting, with the use of nomizo, that the assumption is a mere convention, with no claim to objective validity. Fragment 7 tells us that what will tend to force Parmenides along the road of error is nothing more basic to human rationality, nothing more binding, than the force of habit: it is “much-experienced ethos” that constrains human senses and human speech along the unspokenable road. Mortals have placed their trust in a thoroughly deceptive order created by their own acts of name giving; having done the naming, they believe that their names are names of real distinctions in things. But insofar as naming and thought are directed to anything real at all, they must be directed (though mortals are not aware of this) to the one, undifferentiated Being. What is, is unitary; all names we set down must really be names of a single thing. Therefore is this topic is J. Owens, “Naming in Parmenides,” in Kephalaion: Studies... offered to Professor C. J. de Vogel, ed. J. Mansfeld and L. M. de Rijk (Assen 1975) 16–25. I cannot, however, agree with his conclusion that the doctrine of naming vindicates the “reality and beauty” of the perceptible world.

Poluperon, “of much experience” might be construed with ethos, hodon, or se. The last seems to me the least likely. (Compare Owen, “EQ” [above, n.26] n.2.)

I am accepting, at 8.38–39, the reading: τῶν πάντων ὁνόματα ἡ ὅσαι βροτοὶ κατέθεντο πεποιθότες εἶναι ἀλήθεια, “with reference to this [sc. “what-is” from 8.37] all things have been named, as many as mortals have set down, believing them to be true.” The passage is difficult, and interpreters are divided between this reading (Woodbury, Mourelatos, Furley — above, nn.35, 19, 17) and... onom(a) estai... (DK, Tarán [above, n.26]). Manuscript readings vary between onoma (ounoma) estai and onomastai and oonomastai. In either case, we are being told that all the many names used by mortals, in the confidence that they refer to a plurality of onta, are in reality said with reference to the one, undifferentiated Being — the antecedent of tòi being to eon, the subject of emenai, which immediately precedes. It is not, as Woodbury alleges, strictly anachronistic to see an opposition between name and reality at this date; the opposition first occurs at Od. 4.710, and is frequently exploited thereafter (cf. Heinimann [above, n.2] 43 ff). But the reading onoma estai causes interpretive difficulty in other ways. (1) If we translate onoma as “mere name,” we are faced with the problem that the list that follows includes one item, einai, that is surely more than this — cf. B. Jones, “Parmenides’ The Way of Truth,” JourHist-Philos 11 (1973) 387–398. (2) Katathento at 8.55 takes as its object not the names but the “forms for naming”; onomastai would allow us to preserve the parallelism. (3) We will be faced with the acute problem that although fr. 2 tells us you cannot think of (gnoiàs) or speak of (phrasais) what is not, mortals will here be doing just
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no intelligible or well-based distinction between one name and another.  

What does a philosopher mean when he alleges that our beliefs about the world are mere conventions, simply something that we have set down for ourselves? Before we can go further with Parmenides, we need to understand some of the possible implications of this antithesis between the conventional and the true. A return to our Aristophanic example will help us: “Wasn’t it a man who first set down this convention, a man like you and me, who won over the people of his time by speaking? Well, then, is it any less open to me, too, to make a new convention for sons for the future, that they should beat their fathers in return?” Pheidippides’ speech, despite its elements of philosophical burlesque, brings out very clearly several important elements of the conventionalist’s claim about the beliefs (or practices) to which he ascribes conventional status.

1. They are man-made (whether, as here, they are envisaged as explicitly invented and adopted at a particular time, or whether, as in many of the more serious discussions, they are seen as having formed themselves over a long stretch of human history).

2. They are contingent, not necessary; they could be otherwise.

that; with onomastai, this difficulty is removed, since all thought and speech, even erring thought and speech, will be really pointing at what is. (This is confirmed by 8.35–36: “You will not find thought without what-is, to which it stands committed.” On these lines, and related questions, see the useful analysis by K. von Fritz, “Nous, Noein, and Their Derivatives in Pre-Socratic Philosophy,” in Mourelatos, Presocratics [above, n.5] 23–85 [originally CP 40 (1945) 223–242, and 41 (1946) 12–34], at 45–49.) Onomastai involves some smaller difficulties of its own: the simple dative tòi for epi tòi is, as defenders admit, entirely unparalleled; the form onomastai for ἐνομασταί is odd, though it does occur, apparently, at B 9.1.

Myles Burnyeat, in a forthcoming paper, has made a suggestion that may solve the difficulty. Using 9.1 as a guide to Parmenides’ construction with onomastai—the verb there has a double nominative, both subject and complement—he suggests that in 8.38 the subject comes from to ge in 37, i.e., to eon. It, to eon, “has been given all the names which mortals instituted from a conviction of their truth, viz. ‘coming into being,’” etc. “It is now only from within the beliefs of mortals that the names do in fact belong to the subject, with whose nature most of them are in contradiction.” (Tòi is translated “wherefore.”) See “Idealism and Greek Philosophy,” in Idealism—Past and Present, Royal Institute of Philosophy Lectures vol. 13.

38 This does not really follow; but it is hard to see how Parmenides, for whom even the distinctness of one name from its object is an embarrassment (cf. n.35), could admit distinctions of sense among names of the single object that is.

39 On recent conventionalism, see refs. in nn.1 and 9.
(This would frequently also be taken to imply that they are not eternally fixed — by the many Greek thinkers, at any rate, who would endorse some form of the principle of plenitude, that no possibility remains unactualized over an infinite time.\textsuperscript{40})

(3) They have no claim to absolute or objective truth. To reveal them to be (mere) \textit{nomos} is often to deny them a privileged status they might have been thought to claim. Conventionalism is thus frequently associated with skeptical denials that we can have access to the real truth — either about a restricted area of human inquiry, or about the universe as a whole. We also see in Parmenides, and in other Greek thinkers as well, an inference in the other direction: if our beliefs do not have a secure grasp on what is, then they must be merely conventional. The fifth-century Pythagorean Ecphantus "said that it was not possible to obtain true knowledge (\textit{alēthinē gnōsin}) of the things that are (\textit{tōn ontōn}), but only to make distinctions (\textit{horizein}) as is conventional (\textit{hōs nomizein})."\textsuperscript{41} These inferences, as we shall see, leave a number of possibilities unexplored.

Frequently associated with conventionalism are two further claims that are less obviously contained in the assertion that our beliefs (practices) are conventions; they are not implied by the preceding.

(4) They are completely arbitrary. No one set is better than any other; there is no good reason to prefer one set above another. (A weaker version of this claim might say only that there exist a certain number of intelligible alternatives, and that it does not matter which among these we choose.) This claim is stronger than any made by Pheidippides; he implies, indeed, that one's own selfish desires give one good reason to alter a convention that would hinder their fulfillment. In fact, whenever conventionalism is held as a thesis just about the status of some subset of our beliefs, it is easy to argue that our true beliefs, the ones that really do make contact with the nature of things, can provide us with reasons to accept or reject various merely conventional beliefs. A moral conventionalist, for example, might hold that our knowledge of the natural desires of the human animal gives us reason to accept or reject various sets of moral principles — as promoting happiness, for example, or as

\textsuperscript{40} On the role of this principle in early thought, see J. Hintikka, "Aristotle on the Realization of Possibilities in Time," \textit{Time and Necessity} (Oxford 1973).

\textsuperscript{41} On Ecphantus, see Guthrie (above, n.4), 323–424; and G. Vlastos' review of Raven, \textit{Pythagoreans} (above, n.6), in \textit{Gnomon} 29 (1953) 29–35, at 32, n.1. Note the Eleatic contrast between true reality and convention, the use of philosophical terms like \textit{onta} and \textit{horizein}. It is of some interest that Philolaus' attack might be further motivated by Eleatic sympathies in his own school.
too constraining to human impulses. But for a conventionalist who calls into question the grounding of all our beliefs, it is hard not to make the further claim of arbitrariness. If we have no route to an objective grasp of reality, what can be a good reason to hold or not to hold a particular set of conventions? Even internal inconsistency or disorder would be a drawback only in terms of known human aims and purposes that would be impeded by such chaos in the system of beliefs. And the very idea of consistency is being claimed by the philosopher to be internal to the system of convention; it cannot be employed as a standard by which to assess its adequacy.

(5) We can believe (do) otherwise. We are free to alter the beliefs (practices) in question for reasons of our own, or even for no reason.42 A belief (practice) might be called conventional just because it is man-made and contingent, and yet be seen to be so deeply rooted in human life that we, as a group or as individuals, are not simply at liberty to alter it.43 (Even if we might have had different beliefs simply by being born into a different actual human society, as will often prove the case with moral beliefs, it is not clear from this alone that we are now at liberty to change them as we like.) But part of the philosopher’s claim, “These beliefs (practices) are only (or merely) conventions,” often turns out to be a claim that we can in fact put them aside and adopt others if we like. It is implied that there are clear and intelligible alternatives, and that it is up to us to choose. Pheidippides takes this freedom to follow directly from the man-made, contingent nature of moral beliefs; though it does not, it is an integral part of what many conventionalists would want to claim.

The antithesis between convention and truth did not arise very naturally, in the course of critical questioning about knowledge, as a claim about the status of all our mortal beliefs. Its natural development occurred in contexts where thinkers were locating differences among the various kinds of beliefs we hold and giving reasons to find some of them contingent, man-made, and/or replaceable, in contrast to others that

42 Compare Dummett’s characterization of a “full-blooded” mathematical conventionalism (Pitcher [above, n.2] 427): “At each step we are free to choose to accept or reject the proof; there is nothing in our formulation of the axioms and of the rules of inference, and nothing in our minds when we accepted these before the proof was given, which of itself shows whether we shall accept the proof or not; and hence there is nothing which forces us to accept the proof.”

43 Cf. Cavell, The Claim of Reason (above, n.9) ch. 5, “Natural and Conventional”; Stroud, on the other hand ("Wittgenstein" [above, n.2]) uses "convention" to designate only that which we are always free to alter, contrasting this sort of convention with Wittgenstein’s "facts of natural history."
seemed to be more deeply grounded, firmer, more necessary. Thus empirical evidence of the widespread intersocietal differences in moral, political, and religious beliefs gave rise to a distinction between convention and nature that corresponded, roughly, to a distinction between the society-relative and that which is broadly shared by all human (animal) societies, and therefore apparently more deeply grounded in our human (animal) nature. If the Egyptians are people like us, in certain general ways, then (the argument goes) we can adopt their moral or political conventions in place of our own, if it turns out to suit our purposes; and we can no longer justify our peculiar practices just by saying they are right or true, or by claiming that they are grounded in (human) nature.

But Parmenides starts from no such empirical observations, only from the vague anxiety we feel when we wonder how it is possible for our thought and speech to grasp reality. Arguing entirely a priori from the conditions of successful discourse, he rejects all our ordinary beliefs as based on a single error, the countenancing of a plurality of forms, that renders all that follows utterly senseless and without foundation. From his account of the nature of what is, he proceeds without further argument to the endorsement of a strong conventionalism about all our beliefs, a conventionalism that advances all the claims distinguished above.

(1) They are man-made: mortals “set them down,” “posited” forms for naming, “fabricated” the way of error.
(2) They are contingent: neither of the two forms “should have been,” and the only time they “had to have genuine existence” was the time before men started judging by reason as the goddess urges, shaking off the bondage of constraining “habit.”

(3) They are without claim to objective truth: mortals “know nothing”; in their name giving they “go astray”; their way is a “deceitful ordering of words,” “not true,” one that must not deceive the initiate into the Way of Truth.

(4) They are completely arbitrary: no one set is better than any other. (This has been argued above.)

(5) We can choose to do without them. This claim is the most radical

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44 For general discussions and examples, see the works cited in n.79 below.
45 In contrast to these changing and contingent beliefs and practices, Parmenides describes Truth in terms that suggest necessity and immutability. Dike holds what-is in fetters that it will not slacken (8.13–14); “a powerful Necessity holds it in the bonds of limit, that constrain it round about” (8.30–31); “Destiny has fettered it to be whole and unchanging” (8.37–38).
in the entire poem, and it is not directly argued. But the entire argument of the poem relies on it. The youth begins with a journey that takes him far from human paths; he is instructed not to follow habit, not to be taken in by the deceitful fabric of mortal convention. It is said that once we perform the rational operations demanded by the goddess we will come to know “the heart of persuasive Truth” — and then we will understand not only how mortal beliefs are in error, but also why they “had to have genuine existence” for those for whom they were the whole of things. We can come to understand our fundamental error. We can give up erroneous beliefs, even the fundamental one, the belief in a plurality of forms, on which all the others are based. The strong conventionalist, by his claim that we can do (believe) otherwise, means that we can choose to adopt other conventions. Parmenides means something stronger still: that we can choose to do without convention altogether, we can become, in thought, wholly other than we are. The poem’s use of the language of religious initiation is not simply decorative, but fundamental to its meaning. By the use of human reason, we are to be converted away from our humanity.

It is crucial to see what a paradoxical claim this is. Many philosophers have endorsed a partial conventionalism about some of our beliefs; some have even endorsed all five points about beliefs (practices) in a restricted area. Still others would be willing to claim (1), (2), and (3) about all our beliefs; but they would be especially likely to stress the depth of convention in our human lives, to deny that it is up to us to choose and to change all the conventions by which we live. Parmenides, admittedly, says nothing about how we are to live by the Way of Truth, and the omission is not surprising. Perhaps he believes that its insights must be lost from view as soon as we return to the city again and begin to go about the business of living human lives. But it remains clear that he believes we are capable, by the use of reason, of prying ourselves loose from all that mortals think and see — and that there is no good reason to choose one “false” way above another.

The philosopher eager to reply to Eleatic conventionalism must choose among several possible strategies. It will be useful to distinguish a few of these before turning to Philolaus.

(a) The mildest reply would be one that left untouched Parmenides’ basic distinction between reality and convention, and his denial of objective truth to mortal beliefs, but attacked the claim that what we

46 Cf. Hume’s criticism of the ancient skeptics’ claim that skepticism can be an ongoing way of life: An Enquiry concerning Human Understanding, sec. 12, pt. 2.
say is a matter of mere convention in the sense urged by (4) and (5). One might argue that although our beliefs are man-made and contingent, without a claim to truth, it is not possible for us to dispense with them any time we choose to; they are, perhaps, forced upon us by the nature of our sensory apparatus — or just too deeply grounded in the nature of human history and current human practices to be susceptible of being uprooted.\textsuperscript{47} The very deep-rootedness of our beliefs might then be urged as a reason why we should make the best of them, rather than strain to get to the point where we can adopt others. (This would not, of course, be good reason not to pursue Truth, if that could some day be found.)

(b) One might make the preceding argument and urge, in addition, that we reject (1): our beliefs might be contingent and subjective without being made by us. Facts about natural chemistry, or social geography, or the gods might have determined the way we think and see, without our creative participation.

(c) The philosopher might continue to acknowledge that our beliefs could be otherwise, and that they cannot claim to be true of things as they are in themselves, while nonetheless insisting that the only world available for inquiry and speech is the apparent world, the world of human belief. If there is a real world unlike the world given us in perception and thought, it will be unknowable by us.\textsuperscript{48} (Within the sphere of human belief, he would then need to distinguish beliefs that appear to be fixed by the limitations of our nature from those that are conventional in a more full-blooded sense. Such a problem would lead naturally to a study of our cognitive apparatus.)

(d) Finally, the philosopher may claim that we can, in fact, using our human faculties, have at least some genuine objective knowledge of the world of nature, and that this knowledge does not, as Parmenides claims, show our ordinary beliefs to be radically in error. Empedocles made

\textsuperscript{47} Parmenides probably could not accept replies like these, since it would seem to commit him to accepting the reality of the body, or of numerically distinct living beings. Though the poem gives every appearance of admitting both of these, the admission would not be consonant with a strict or literal interpretation of Parmenides' argument. On the difficulty of knowing how literally to read the poem, and how to understand its use of words and concepts its conclusion makes inadmissible, see Owen, "Plato and Parmenides" (above, n.24), and Williams (above, n.35).

\textsuperscript{48} Some such thinking may be what underlies Gorgias' famous argument (B3) that what is, is unknowable. If directed, as it seems to be, against the Eleatics, it may amount to the claim that Parmenides' undifferentiated being is ungraspable by us as such.
such an argument in response to the Eleatic challenge — but by appealing to divine authority. (His claim, in fr. B 112, that he walks among men “as a god” is presumably not unconnected with the confident assertion in B 114: “O friends, I know [oída] that truth is in the words I speak to you.”) But a fifth-century philosopher would be more likely to be satisfied if some different, purely human line of argument could be developed.

Philolaus will present an argument that contains elements of both our third and our last lines of response. It is notoriously hard to decide where a philosopher’s views fit between these alternatives. In some cases, indeed, he may well want to say both that we are stuck with the world of our experience and that we have some objective knowledge of the world as it is. I think it will be clear that Philolaus wishes to claim that our knowledge, or some of it, is objective — though it will be a different, and more difficult, matter to say whether this claim, and the relevant sense of “objective” in it, makes his view in any way incompatible with position (c).

**Philolaus: The Fragments about Thought**

The interpreter of these fragments must steer a delicate course between overcautiousness and anachronism. If he makes the fragments look too philosophically vital, he will be a target for those who, like Bywater, Raven, and Frank,⁴⁹ use interest and complexity as criteria of inauthenticity. If he is attempting to establish authenticity, he is often tempted to do so by showing that there is nothing exciting there. Thus even Burkert, whose sound philological judgment has done more than anything else in recent years to rehabilitate many of the fragments as genuine examples of late fifth-century thought, too often does so at Philolaus’ expense, proving the material early by claiming it to be crude, mystical, or lacking in philosophical awareness. Since my aim is to point out what is interesting and deep in the fragments, I expect to be challenged by both groups. It should, however, at least be clearer by now that Raven’s remarks about the problem of knowledge cannot be trusted. By this time, even in the absence of any other example of either ordinary or philosophical speculation on the subject, a compelling challenge to do epistemology had been extended to all by Parmenides’ radical conclusions. It was always foolish to assume that whatever is interesting in Greek philosophy is Platonic or later. Plato, and especially

⁴⁹ Above, nn.5 and 6.
Aristotle, make no secret of their debts to a philosophical and critical tradition. Nor need we assume that whatever is genuine and important in his predecessors would have been recorded by Aristotle; on such a principle we must reject a great deal of Parmenides and Anaxagoras, almost all of Heraclitus — in short, much of what we accept and value in the pre-Socratics. One must indeed be cautious of reading later distinctions into early fragments, and suspicious of fragments whose vocabulary and expression seem indebted to work of Plato and Aristotle. But it is quite a different matter to say that a genuine fifth-century text cannot adumbrate a view which Plato or Aristotle develops in a different way, using different language, and to imply that real philosophical originality must be the private property of these two men. I shall try to indicate as carefully as space allows why I do not feel my interpretation of the fragments jeopardizes their claim to authenticity; for many other detailed arguments, the reader must consult Burkert’s admirable treatment.

In what follows, I shall be reading Philolaus’ arguments as a response to Eleatic conventionalism. Certainly they may be treated as providing us with an argument to use against Parmenides, regardless of Philolaus’ own intentional target. But a strong case can also be made for the further claim that they are a deliberate response.

(1) First we can argue from the general history of Greek philosophy in this period. No major philosopher appears ignorant of the Eleatic challenge; indeed Empedocles, Anaxagoras, and Democritus, most probably also Gorgias, are all concerned with it in a very central way. It is hard to believe that Philolaus would not have known Parmenides’ poem, or, knowing it, would have written on knowledge without having its argument in view.

(2) When a philosopher takes great pains to deny a view, especially when it is an odd and counter-intuitive view, we are naturally inclined, if we do not assume him to be a rhetorical joker or a fool, to look for someone who had asserted that view as a possible target for his argument. When someone asserts the obvious, again, we look for a context in which the obvious has come into question. Nobody but the Eleatics denied the world of nature is composed of distinct, denumerable parts, or that our knowledge of that world was bound up with our ability to pick out those parts. When we combine this with the reflection that only the Eleatics had been at pains to deny that the world is a combination of the perainon and the apeiron — a much more specific claim, with

50 Raven, in Kirk and Raven (above, n.6) 310–311. On Frank’s version of this argument, cf. Guthrie I (above, n.4) 331–332.
rather specialized language — and that Philolaus is also at pains to examine this denial, arguing against both the Parmenidean and the Melissan alternatives, we have good reason to read him in the Eleatic tradition.

(3) Parmenides' argument, unlike other contemporary reflections about knowledge, begins not from some sifting of empirical evidence, but abstracting from experience, from the conditions of thought and talk. Philolaus' argument, unlike all other known replies to the Way of Truth, follows him, judging his elenchos by reason, as his goddess had urged.

(4) The technique of Philolaus' argument in B 2, as several critics have noticed, is characteristically Eleatic: it is a proof by refutation, beginning with a statement of alternative "ways," and ending with a single "way" remaining. This technique is found in all three Eleatic thinkers, and in no other examples of fifth-century epistemology.

(5) To these points we might add several smaller ones: Philolaus' preoccupation with the Eleatic favorites, peras and apeiron (as well as with their arguments about them — cf. (2) above); his interest in re-habilitating words like phusis and kosmos, which had fallen under Eleatic proscription; his self-conscious use of plural nouns and the past tense, often cited as evidence for an Eleatic connection in Anaxagoras.51 The opening of Philolaus B 1 contains in each of its words as obvious a challenge to Eleaticism as does the opening of Anaxagoras' book. And Anaxagoras' first fragment has been held by every major critic to be directed carefully and deliberately against Parmenides. We must at least say, I think, that the evidence for linking Philolaus with the Eleatics is no less strong, and quite probably a good deal stronger, than in this rarely disputed case.

Philolaus is commonly thought to have held that numbers are the principles of all things, and that knowledge is not possible without numbers. Putting his claims this way — and thinking of numbers the way we often do, as abstract entities, separable from bodies either in thought or in reality52 — this thesis is difficult even to comprehend and impossible to locate in any known critical exchange about our knowledge.

51 Another kind of early affinity between Eleaticism and the concerns of Pythagorean philosophy is explored in Burkert, "Das Proömium des Parmenides und die Katabasis des Pythagoras," Phronesis 14 (1969) 1–30; cf. also Lore (above, n.4) 277 ff, which criticizes some other attempts to connect the schools before the time of Philolaus.

52 Without endorsing this view, one can still admit that it is a prevalent one and has significantly skewed the interpretation of important Greek texts (cf. esp. the writings of J. Annas, to be discussed below).
of reality. A reexamination will show us more clearly both their philosophical value and their historical place. Such a study can best begin with fragments B 3 and B 4 — which, although not at the very beginning of Philolaus’ book, and perhaps, in fact, to be joined to another of our extant fragments, provide us with a succinct statement of the connection Philolaus wishes to make between arithmos and peras and between both and the success of our cognitive activity.

For there will not even be an object of apprehension at all [or, in the first place], if everything is unbounded.


And, indeed, all objects of apprehension have arithmos; for it is not possible for us to think of or apprehend anything without this.

Both these fragments say something about the necessary conditions for human cognitive activity. They assume that a certain operation, gignōskein, actually takes place; and they infer from this something about what the world must be like, by arguing that on a certain conception of the world this operation would not be possible. We must, then, begin with the interpretation of gignōskein. And we must ascertain whether the premise that there are gignōskein and gignōskomena is one that begs any of the questions at issue, or one that can be accepted by Philolaus and the Eleatics alike.

If Philolaus had argued, “The world must be such-and-such; for otherwise we could have no certain knowledge,” or “no sure knowledge of it through our own experience,” a skeptical or Eleatic opponent would simply reply, “But we don’t; so your point is simply academic.” Or, in the case of Parmenides, “But we don’t — not from our own experience; only by the argument of the Way of Truth and the revelation of the goddess — which prove, in fact, that the world must have a different character.” But of the skeptical and critical remarks we have studied, not one denies that mortals gignōskein, or that there are gignō-

B 3 (from Iamblichus in Nicom. 7, 24): ἀρχὰν γὰρ οὔδὲ τὸ γνωσθᾶμεν ἔσσειτα πάντων ἀπειρῶν ἐόντων.

53 On gnōsomemon as passive, see Burkert, Lore (above, n.4) 260 n.107, and Boeckh (above, n.5) p. 49. The meaning of gignōskein will be discussed below.

54 On the adverbial use of archan, see Boeckh (above, n.5) 49 and n.1, and LSt s.v.; relevant parallels include Hdt. 1.9, 2.28, 8.132, 3.39, 1.193; Soph. Antig. 92, Ph. 1239, El. 439; Antiphon 5.73; Pl. Gorg. 478 c.

skomena. The word used to designate the kind of certain knowledge which is denied utterly to mortals is, consistently, eidenai: oude ti idmen in the Iliad; eidotesouden in Theognis; estai eidos and ouk oide in Xenophanes (B 34); eidotesouden (B 6.7) in Parmenides. It is never said that mortals gignōskein ouden, or even noousi ouden. What can be said is that their gignōskein or gnōsis is accurate or inaccurate (Democritus B 8), true or false (Echphantus 51.1), of the onta or not (Melissus B 8), divine or mortal (Philolaus B 6); that their noos or noēma is misguided (Parm. B 6.6), or takes the wrong path (B 7.2); not, apparently, that noein and gignōskein do not go on in them at all.56

But this is not surprising, since neither noein nor gignōskein means “to know” or “to know with certainty,” especially at the period in which we are interested. Both refer to cognitive activities which it is generally conceded we mortals perform, though with varying success. (Early Greek skepticism seems to have limited itself to questioning our cognitive relationship with problematic aspects of the world outside us; there is no suggestion that a thinker of this period ever questioned his own existence, or the fact that he thought, reasoned, apprehended; not even, in most cases, the fact that he had, or was, a body.) The particular activity that is most likely to be called gignōskein from an early date — as the fine studies by Snell and von Fritz have shown57 — is the activity of apprehending an object, recognizing it, often identifying it. It would be chosen in preference to other cognitive words, von Fritz argues concerning Homeric usage, where stress is laid on the fact that a definite object is recognized and identified as something — especially after having first been seen as indefinite. Snell extends these conclusions to the sixth and fifth centuries as well: “The thing apprehended is grasped as a certain sort of object, in its What-it-is, e.g., I recognize an appearance as a tree.”58 We also find gignōskein used of reidentifying after a lapse of time, and of recognizing similarities between A and B on the basis of which we might classify them together, or give them the same name. Indeed, Snell’s conclusion is that gignōskein is “most intimately bound up” with the activity of name giving.59

56 This cognitive and linguistic activity is directed at what is (cf. n. 37 above, on 8.38–39). It fails, however (in Parmenides’ view) to grasp it in its real or true nature: the way mortals do their thinking is radically misguided. See the helpful comments of von Fritz (above, n. 37) 45–49.
58 Snell (above, n. 57) 21. Cf., for example, Il. 16.333 ff, 11.110, 23.356.
59 Snell, 23. On the addition of noein to gignōskein in B 4, see below.
Philolaus appears, then, to be starting with a premise that any opponent of his would be bound to accept: that *gignôskein* goes on. For Parmenides and Melissus, no less than he, agree that human beings have cognitive experience, that they recognize, classify, and name things. The Doxa of Parmenides is the story of a name giving; the activity is alleged to have been badly done (cf. 8.54), but the fact of the activity is never questioned. Never does Parmenides attempt to deny to mortals their experience of the phenomenal world; he simply denies that these recognizings, classifyings, and namings have any reliable connection with external reality. Mortals' *nous* and *gignôskein* are functioning, but astray; they do not obey the conditions of genuine (or successful) thought. Philolaus' task will be to argue against Parmenides that the limits of our ordinary *gignôskein* reveal something about the real nature of the world.

B 3 insists that there will be no object of recognition — nothing to be picked out, sorted, experienced as a distinct particular, if the world is entirely *apeiron* — boundless, undifferentiated.\(^60\) Parmenides has argued that to be a proper object of thought or talk, what is *must* be undifferentiated: "Nor is it divided [or: divisible — *diaireton*], since it all alike is."\(^61\) Nor is it in any way more here, which would prevent it from being continuous (*sunechesthai*), or in any way less, but all of it is full of being. Therefore it is all continuous (*suneches*) — for what is is in contact with what is" (8.22–25). To make distinction, to mark off A from B, is to commit oneself to saying and thinking what is not: "There is A here, but not there," "Theaetetus is sitting, therefore he is not flying." The only universe that one can think without being committed to absurdity is a unitary one, with no internal boundaries or demarcations. Of such a world one can say simply, "The whole of it is full of what is." Thought is "committed to what is" (8.35–6).\(^62\) If what is had distinctions or divisions in it, thought would be committed to think those distinctions — committed, therefore, to the unthinkable.\(^63\)

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\(^61\) For the translation of *homoion* as adverbial, see the convincing arguments of Owen, "EQ" (above, n.26), 58–59 and n.39, now defended by Stokes (above, n.26) 134–135 and n.89.

\(^62\) B 8.35–6; for the translation and interpretation, see Mourelatos, *Route* (above, n.19) 164–172.

\(^63\) Parmenides wants, at the same time, to insist that his universe, though *internally* without divisions, is bounded as a whole (*en peirasi desmôn*, 8.26;
Against this, Philolaus’ argument urges that the possibility of cognitive experience depends, in fact, on the falsity of Parmenides’ conclusions: for there to be an object of recognition (gnōsoumenon), there must be distinctions in things. To gignōskein something is to set it off from other things, to distinguish and bound it, to be able to say what it is not, as well as what it is.

Now at this point Parmenides might respond by conceding that this may well be true of gignōskein, a peculiar cognitive operation performed by erring mortals — and yet that this gives us no reliable evidence about reality, since all mortal gignōskein distinctions might be falsely imposed on the unitary nature of being. If Philolaus insists that gignōskein is not, like eidēnai, a success verb, and that what he means is that the very existence of gignōskein activity, conceded by Parmenides, presupposes distinctions in things, Parmenides might then just possibly be willing to give up gignōskein to maintain his argument about noein and its conditions. One particular cognitive operation we speak of cannot take place at all, because it violates the conditions of the primary one. But notice now how tenuous his position becomes. His argument is, no less than Philolaus’, an argument about the conditions of thought; if he can be convicted of having produced an unthinkable universe, he will be defeated by his own criteria. His version of skepticism, with its deep respect for the genuineness of human thought and the commitment of thought to what is, cannot afford lightly to dismiss an opponent who argues that he himself is saying the unthinkable. A skeptic who was willing to grant that all thought is illusion and that the conditions of successful discourse and reflection are a matter of complete indifference to metaphysics would not be vulnerable in just this way. But Parmenides justifies his bizarre conclusions only in the name of thought; the most appropriate opposition is, then, one which charges him with undermining thought. If Philolaus can successfully establish not only a parochial claim about a single cognitive activity, but a broader claim about the conditions of thought in general, he will have dealt a serious blow to Eleatic monism.

peiratos en desmoisin . . . to min amphis eergei, 31; en peirasi kurei, 49; peiras pumaton, tetelesmenon . . . pantothen, 42–43). As these passages suggest (esp. the last), the implication of peiras is not that there is something else from which what is is being set off, but to emphasize its completeness, definiteness, and stability. (Cf. Owen, “EQ” [above, n.26], 64–68.) Parmenides wants to hold that thought’s object must be definite and demarcated, without conceding that this implies distinctness from, therefore a plural universe. Melissus tries to gloss over this highly revealing paradox by making the universe altogether apeiron.
And it appears that Philolaus does, indeed, mean to enunciate a general thesis. I have stressed the particular implications of *gignōskein* in order to show that Philolaus’ premise is one his opponents accept: *gignōskein* is not “certain knowing”; and to explain why *gignōskein* might have become, as it clearly is, the favorite cognitive word of a man preoccupied with making distinctions, classifying, and (it will emerge) counting. But B 4 leaves no doubt that he means to apply his argument as widely as possible to all of human thinking. For here, although he uses only the word *gignōskomena* to designate the objects of cognition, he uses both *gignōskein* and *noein* for the activity,⁶⁴ thus reminding us that, even should we choose to use Parmenides’ term of choice for human thought, the same remains true of its conditions: there must be distinctions in things for that thought to grasp. But this runs ahead of our argument — for we have not yet established that the claims of B 4 are indeed similar to those of B 3.

B 3 is in certain obvious ways incomplete. We have had an argument which says that thought is possible only in a world with some distinctions or boundaries. We have not yet been told that every object of thought must be a distinct or bounded object, nor have we explicitly ruled out the possibility that the universe is indeed externally bounded, but internally without distinctions. The wording of B 3 may suggest that Philolaus had Melissus’ completely unbounded universe uppermost in his mind; but B 4 will leave no doubt that the conclusion applies to the One of Parmenides as well.

“All objects of recognition have *arithmos*; for it is not possible for us to think of or apprehend [recognize] anything without this.” So far we have encountered nothing particularly mysterious or mystical in Philolaus; instead a claim, both simple and cogent, about what thought and talk require. But in this fragment it is usually assumed that we meet some rather peculiar Pythagorean theory about the magical powers of numbers, conceived of as separate entities in their own right. I would like to argue that we should translate and interpret this fragment in the most straightforward and ordinary way — insofar as we can determine what the ordinary sense of it would have been at this time. It will emerge, I think, that it makes sense, and says something interesting, on this purely ordinary level, without the introduction of any extra doctrinal apparatus; indeed, that the importation of alien apparatus has obscured the philosophical importance of the text.

A claim is being made, once again, about the objects of *gignōskein* (and, it emerges, *noein* as well); only this time it is clearly a claim about

what *every* object of thought must be like. It must have *arithmos*; and the reason for this (*gar*) is that *arithmos* is a necessary condition for both *noein* and *gignēsiein*. The interpretation of the phrase *arithmon echonti* is clearly the pivotal point in the interpretation of this fragment — and, in fact, of Philolaus’ epistemology. “Hat Zahl,” reads the translation of Diels-Kranz, quasi-literally, but somewhat obscurely. “Contain number,” reads Raven. And the standard assumption about the fragment made by critics appears to be that something rather mysterious is being said about the role of numbers, abstract entities, as causes of our knowledge of the physical world. Thus Raven can argue that evidence that fifth-century Pythagoreans were concerned primarily with physical, and not abstract, phenomena should be understood to cast doubt on this fragment, which he calls “peculiarly Platonic” — implying, as he thinks it does, the existence of a special sort of stable reality. Fortunately this is a situation in which the case for authenticity and the cause of philosophical merit can be advanced at one and the same time by a proper understanding of what *arithmos* and *arithmon echein* could mean in fifth-century philosophy.

English “number” and German “Zahl” are misleading as translations for Greek *arithmos*. We tend to think that in speaking of “number” or “numbers” we may be speaking of a certain sort of entity distinct from ordinary objects, using which we count, do mathematics, and so on. We also regard one and zero as numbers, as well as fractions, irrationals, and negatives. Asked for some examples of numbers, we might name 1, 2, 3, 0, \( \frac{1}{2} \), −5, \( \sqrt{2} \), and the like. We would not be very likely to answer, “This row of chairs, this pile of apples.” But for the Greek of the fifth century, asked to give examples of *arithmos*, this would be the primary and most frequent sort of answer. As Aristotle remarks at *Physics* 210b5–9, there are two senses of the Greek word *arithmos*: that

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65 DK 44 B 6, I 408; Raven in Kirk and Raven (above, n.6) 310.
66 Raven, Kirk and Raven (above, n.6) 311.
67 Burkert’s work on this phrase (*Lore* [above, n.4] 260–266 and notes) provides an excellent basis for interpreting the fragment. It is somewhat surprising that Burkert himself stops short of ascribing a definite sense to B 4; and he even charges that Philolaus, having to hand material useful “in avoiding Eleatic *aporai* about being,” “clearly did not recognize its significance” (267). This is the most disappointing result of Burkert’s philosophical caution; one can use the conclusions of his philological investigation to better advantage. Other valuable studies of *arithmos* in early Greek thought are: Oskar Becker, *Zwei Untersuchungen zur antiken Logik, Klassisch-Philologische Studien* 17 (1957) 20 ff; Julius Stenzel, *Zahl und Gestalt bei Platon und Aristoteles* (Leipzig 1933) 25 ff; and now Julia Annas’ rich and valuable commentary, *Aristotle’s Metaphysics M and N* (Oxford, Clarendon Aristotle Series, 1976).
with which we count (\textit{arithmos hōi arithmoumen}) and that which gets counted (\textit{arithmos arithmoumenos}). It is the second sense which predominates by far in Aristotle’s own usage and, even more obviously, in earlier writers. The most general sense of \textit{arithmos} in ordinary Greek of the fifth century would be that of an ordered plurality or its members, a countable system or its countable parts. The notion of \textit{arithmos} is always very closely connected with the operation of counting. To be an \textit{arithmos}, something must be such as to be counted — which usually means that it must either have discrete and ordered parts or be a discrete part of a larger whole. To give the \textit{arithmos} of something in the world is to answer the question “how many” about it. And when the Greek answers “two” or “three” he does not think of himself as introducing an extra entity, but as dividing or measuring the entities already in question. Aristotle claims that Greek \textit{arithmos} is a relative term: it is always of something, and is not separable from that of which it is (cf. \textit{Metaph.} 1092\textsuperscript{b}19 and \textit{Peri Ideōn} fr. 4). (Thus zero is not an \textit{arithmos}, even in Greek mathematics, since there is no such thing as a null group to be counted; there is a great deal of debate even about one, since we do not count the unitary.) To speak of things being \textit{arithmoi}, or made of \textit{arithmoi} is, then — as Aristotle points out in \textit{Metaphysics} I (1053\textsuperscript{b}28 ff) — only to say that they are countable, classifiable, measurable: “If the things that are were colors, then the things that are would be an \textit{arithmos} — but of something, and, obviously, of colors; and the unit (to \textit{hen}) would be some particular color (\textit{ti hen}), e.g., white.” If we say that \textit{onta} are \textit{arithmoi}, we need be introducing no entities over and above the ordinary ones — indeed, no particular sorts of entities at all.\textsuperscript{68} We imply only that we have some way of making divisions and doing counting, that we see the world as a plurality with discrete parts. Aristotle frequently associates \textit{arithmos} with the divided (\textit{diorismenon}) as opposed to the continuous (\textit{suneches}): see \textit{Cat.} 4\textsuperscript{b}23, 36; \textit{Ph.} 220\textsuperscript{c}3; \textit{DA} 425\textsuperscript{b}19; and cf. Parm. 8.22–25. If a group is an \textit{arithmos}, we use “many” and “few” of it, rather than “large” and “small” — \textit{Ph.} 220\textsuperscript{b}2–3. Having \textit{arithmos} is equated with having \textit{peras} in the \textit{Rhetoric} (1409\textsuperscript{a}31), in a passage where Aristotle also concludes that the clearly demarcated and measurable verse forms are the easiest to grasp and memorize. (Cf. also \textit{Metaph.} 1032\textsuperscript{b}22, \textit{Rhet.} 1408\textsuperscript{b}27 ff, where \textit{arithmos} is connected with \textit{gignōskein}, and \textit{Metaph.} 1053\textsuperscript{a}18, where measuring and dividing are associated with \textit{gnōrizein} of the \textit{ousia}.)

I have begun with some of Aristotle’s remarks about \textit{arithmos}, since

\textsuperscript{68} This point is stressed by Annas in her commentary, and also in her “Aristotle on Time, Number, and Motion,” \textit{PhQ} 25 (1975).
he reflects in a sensitive way about ordinary use and elaborates its distinctions more explicitly than other authors. But an examination of the pre-Platonic evidence substantiates his judgment. Arithmos is a plurality, or an item in such a plurality, designated as appropriate for measurement or counting. In Homer, arithmos is usually a group of men, considered as of a certain size — the connection with counting (arithmein) is strongly felt (Od. 4.45, 16.234, 246; cf. Il. 2.124). In Hesiod (fr. MW 278), to tell the arithmos is to say how many of something there are, to be able to count or measure. And to be able to tell the true arithmos — to give a correct answer to the “how many” question — is to have a praiseworthy kind of knowledge or grasp of that to which one’s attention is directed. As Burkert points out, the Homeric use of arithmos has aristocratic connotations. The andrōn arithmos is contrasted with the dēmos apeirōn (the masses of the undemarcated; Il. 24.776; cf. Od. 11.449, Il. 2.202). To be an anēr, a heroic man, is to be a member of an orderly body, a nameable, recognizable individual standing in demarcated and recognizable relationships to other men. To be a member of the masses is to be a nameless nobody who could never be picked out as an object of thought or song. The andrōn arithmos is the accessible object of the poet’s thought and speech; one cannot grasp the obscure and nameless life of the many. To ask about the arithmos, is, from the time of Homer, to ask after that which is definite and there for grasping. To give the arithmos is to apprehend and to classify. The limits of the poet’s power are shown precisely in the sphere of arithmein: the Homeric poet cannot retain in his thought or speech the entire catalogue of ships, just as in the Hesiod fragment only the superior prophet can tell the number of figs on the fig tree. Thus from the earliest texts (and fifth-century texts are fully consistent with these) we see the use of arithmos to mean that which is counted, and a close association between ability to enumerate and general cognitive capability, between numerability and knowability. Aristotle’s insistence that whatever is a primary ousia, a basic building block of our explanations of the world, must be hen arithmōi — one in arithmos, a countable, definite particular — is

69 Burkert, Lore, 266.

70 Il. 2.488; compare Epicharmus’ remarks on the centrality of counting in human life, DK B 56 (though the authenticity of this fragment has been questioned).

71 On the use of this phrase in the Categories, see Barrington Jones, “Individuals in Aristotle’s Categories,” Phronesis 17 (1972) 107–123; his application of these conclusions to controversies about the Categories is, however, questionable in the light of Metaphysics Iota, and has been effectively challenged by Annas in her “Individuals in Aristotle’s Categories: Two Queries,” Phronesis 19 (1974) 146–152.
the articulation of an assumption deeply held in the Greek tradition, and no doubt not in that tradition alone.

We are fully justified, then, in understanding Philolaus to mean by *arithmos* not a mysterious abstract entity, but that in the world which is counted or countable. (Aristotle tells us that it was Plato, and not the Pythagoreans, who first separated *arithmoi* from things; and even Plato has not lost the connection of *arithmos* with counting and the "how many" question, as Julia Annas has demonstrated in her penetrating study.\(^{72}\) The question that remains is how we are to understand the whole phrase *arithmon echonti*. The easiest and most neutral translation would appear to be "has whatever makes something countable," "is countable," thus making the phrase roughly equivalent to "has peras" in B 3. Everything that is an object of cognition is a definite, bounded thing, which can be singled out, marked off from other things, and counted. It must be countable as part of an ordered system — for *arithmos* implies plurality, meaning either such a plurality or one of its denumerable elements. On this reading, fragment B 4 would be making much the same point as B 3, with several additions: it is now specified that each object of cognition must be distinct and countable; it is specified that the requisite sort of distinctness is a distinctness from something else — peras in the Parmenidean sense is ruled out, and a plurality made the condition of understanding; noein is added to gignoskein to give the argument clearer anti-Parmenidean force.

One could, however, argue for a stronger reading of *arithmon echonti*: has (in it) a countable plurality (of parts). In most occurrences of the phrase *arithmon echein* elsewhere, this sense is at least possible, sometimes preferable, *arithmos* is being used to designate the plurality, and not simply one of its elements.\(^{73}\) The argument would then be that the object of thought must not only be itself denumerable, it must also have some internal articulation — to grasp X in thought is to divide it into its parts or kinds, and a particular which is internally boundless would not be graspable as such. In this case, B 4 would be making a rather different point from B 3, insisting not only that *arithmos*, ordered plurality, is the basis of our thought, but also that each object we grasp is grasped as a plurality of parts. On the weaker reading, we grasp Socrates as a definite particular, apart from other particulars, just in virtue of his being countable or one in number. On the second reading, the idea is probably that we cannot grasp Socrates just as such, but,


\(^{73}\) See the evidence cited in Burkert, *Lore* (above, n.4) 261 ff.
instead, as a part of the ordered group "man," which is the primary object of our cognition. This view would have close affinities with the method of definition by collection and division, espoused by Plato in later dialogues, but quite probably current at a much earlier date. It would also foreshadow the Aristotelian doctrine that to grasp and classify a particular one must grasp it as a member of a kind: secondary substance is epistemologically prior, in the Categories, to primary substance. The Metaphysics (in one of the books on number) concludes that we know a particular not as such, but only as a member of a kind. There is almost certainly no way to settle the matter between these two readings; and we should probably prefer the weaker reading for lack of sufficient evidence.

At this point I have sketched the main lines of Philolaus' assault on the Eleatic One: far from being the only possible object of thought, it does not meet the minimal conditions for being an object of cognitive experience. For that, distinctness and boundaries are required, and distinctness implies a plural universe. To grasp an object, we must grasp it as one item, different from others. Before turning to the difficult fragment B 6, in which Philolaus sketches the limitations and the achievements of human gnōsis, it will be worth seeing, more briefly, how this interpretation of B 3 and B 4 fits with and illuminates the

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75 The aporia of 1003b6–17 (if the archai are universals, they won't be substance; if they are particulars, they won't be epistêmai) is taken up at the end of Metaphysics M, 1086b32 ff, where it is asked whether the conditions of epistêmē require separate abstract entities like Platonic forms — which had been argued to be objectionable on other grounds. Aristotle's solution is to say that the actual object of any actual cognitive activity is always some definite particular (tote ti ousa toude tinos, 1087a18); but we grasp in the particular that which it shares with other particulars, and form a universal notion, which is the basis of theoria.
fragments which stood, apparently, at the beginning of Philolaus’ book.  

B 1: ἀ φύσις δὲ τῶ κόσμω ἀρμόχθη ἐξ ἀπείρων τε καὶ περαιόντων, καὶ ὅλος ἐκ τῆς κόσμως καὶ τὰ ἐν αὐτῷ πάντα.

The nature of the ordered world has been fitted together from what is unbounded and what sets boundaries — both the whole ordered world and all the things in it.

Here the notion of *peras* is linked with two of the central terms in early Greek philosophy: *phasis* and *kosmos*. *Kosmos* here has the sense “ordered world,” “orderly assembly of things” — a sense which is close to the word’s origins; this is underlined by the use of *harmochthē* to describe its composition. We should probably accept Heidel’s *tō kósmost* for the *en tōi kósmoi* of the manuscripts and see the entire phrase as meaning “the *kosmos* itself” or “the *kosmos* in its essential nature” — for the phrase is picked up later by *holos ho kosmos*. The reading “in the *kosmos*” would not prepare us for the obvious point that Philolaus is here speaking of the *kosmos* as a whole, as well as of entities within it. (Cf. B 2’s recapitulation: ἐκ περαιόντων τε καὶ ἀπείρων δ ἐκ κόσμου καὶ τὰ ἐν αὐτῷ συναρμόχθης; and, at the beginning of B2: τὰ ἑόντα πάντα.)

We should notice first of all the unabashed use of words implying plurality and change, words which Parmenides had not admitted into the Way of Truth. Both *phasis* and *kosmos* — the former suggestive of

76 Cf. Diogenes Laertius VIII.85: peri phuseös hón arché hède.

77 W. A. Heidel, “Notes on Philolaus,” *AJP* 28 (1907) 77–81. Burkert’s objections (250 n.58) are not convincing. Anaxagoras’ *ta en tōi heni kósmost* and other passages cited are parallel to *ta en autōi panta* — not to the *phasis* phrase, of which both *ta en autōi* and *holos ho kosmos* are epexegetic. The phrase *ha phusis tō kósmost*, far from being suspicious, is the most common construction with *phasis*, and the most obvious way of talking about the real or essential nature of the *kosmos* as a whole. Aristotle makes a central question of cosmology one *peri tēs tou pantos phuseōs, eit: apeiros esti...* (DC 268b11 ff) in a context which strongly recalls our present concerns; for similar expressions see *Metaph.* 984b9, 987b2, 1005a33, *Pol.* 1267b28, *Ph.* 189a27. The title *peri phuseōs kōsmou* is reported for Democritus (A2, A 31, B 56); cf. also Archytas B 1 (*peri gar tên tôn holon phuseōs*), Zeno A 1. Although there is no absolutely unassailable example of our precise phrase in pre-Philolaus material, Burkert’s one Euripides fragment with the rival phrase should not seduce us into ignoring what the sense of the passage very plainly requires.

78 The use of *phasis* to designate the real nature of X is central to the word’s meaning and development (see works cited below, n.79); for “the *phasis* of X” as a periphrasis for “X” or “X in its essential nature,” cf. for example Bonitz, *Index Aristotelicus* (Berlin 1870, repr. Graz 1955) 838a8 ff.
essence as revealed in process, the latter designating an orderly arrangement of a plurality of elements— are used by Parmenides only in connection with the false world-view of mortals. Philolaus, however, asserts in his first sentence that the world is a kosmos and has a phusis, assertions one imagines he could hardly make at this date unless in conscious opposition to Parmenides and in confidence that he has some arguments against the Way of Truth. These words are joined by yet a third which has anti-Eleatic overtones: harmochthē. This word, and the associated harmonia, are usually used to speak of an orderly (or graspable) arrangement of plurality and presuppose opposition. Thus Heraclitus speaks of the hidden harmonie in nature (B 54), and associates this with consonance or balance in diversity: “They do not understand (ou xuniasin) how, being at variance, it agrees with itself—a back-turning harmonie, as a bow and a lyre” (B 51). Whatever the

79 On phusis, cf. Benveniste, Noms d’agent et noms d’action en indo-européen (Paris 1948) 78; Douwe Holwerda, Commentatio de vocis quae est ΨΕΙΣ vi atque usu praevertim in graecitate Aristotele anteriore (Groningen 1955); Heinimann (above, n.2), esp. 89 ff; Kahn, Anaximander (above, n.60), 200–203; G. S. Kirk, Heraclitus: The Cosmic Fragments (Cambridge 1954) 228 n.1; and Mourelatos, The Route (above, n.19), 60–63, where it is argued that Parmenides does, nonetheless, present a phusis-teaching: “What this pioneer understood is precisely that the quest for phusis = ‘essence’ does not have to be, indeed could not be, a quest for phusis = ‘becoming.’” While it is true that Parmenides’ teaching is in the pre-Socratic scientific tradition of the search for the essential nature, Parmenides’ avoidance of the word phusis in the Way of Truth indicates that he felt that it retained (as is cogently argued by Benveniste and Heinimann) its associations with growth, becoming, and change. On kosmos, see Kahn, Anaximander, appendix; H. Diller, “Der vorphilosophische Gebrauch von ΚΟΣΜΟΣ und ΚΟΣΜΕΙΝ.” Festschrift Bruno Snell (Munich 1956) 47–60, and Jula Kerschensteiner, Kosmos: quellenkritische Untersuchungen zu den Vorsokratikern (Munich 1962), who has a number of helpful comments on these passages.

80 skidnamenon pantē pantōs kata kosmon, 4.3; manthane kosmon emôn epeîn atapēlon, 8.52; diakosmon eikōta panta, 8.60; iēî d’aiherian te phusin, 10.1; peusēi . . . selēnēs phusin, 10.4–5; meleōn phusis anthropoisin, 16.1. This last is the only case in which phusis may pick out something whose existence we should acknowledge; but this raises the problem, perhaps insoluble, of how to reconcile the denial that being has distinctions with the apparent concession that knowing subjects, and even their bodies, are real (cf. above, n.47).

81 Compare the similarly polemical opening of Anaxagoras’ book (homou panta chrēmata en, cf. above, p. 83), where the plurals, the implication of dividedness (apeira kai plēthos kai smikrotēta) and the past tense are all in flat opposition to Parmenides’ conclusions (cf. Owen, “Plato and Parmenides” [above, n.24] 276–277).

82 Cf. B 8; also B 10, 53, 80; cf. Burkert, Lore (above, n.4) 257 n.90 for further evidence that harmonia presupposes opposition. For phusis in Heraclitus, see B 1, 123; for kosmos as ordered plurality, B 30. The prominence of the idea of
truth may be about the relationship between Parmenides and Heraclitus, the result of Philolaus’ choice of vocabulary is to link him with the latter and to underscore his opposition to the former.

The fragment claims that both the ordered world as a whole and all particular things in it are composite: their elements are the boundless and that which imposes bounds.\(^{83}\) The *apeiron*, as we have already seen from fr. 3, is the undemarcated, that which lacks definite boundaries and is therefore not a suitable object of thought. The *perainon* is, then, whatever imposes limits on the formless or boundless. Melissus argued from the boundless, distinctionless nature of being to its unity, saying, “If it should not be one, it will form a border against something else (ἐὰν μὴ ἐν εἰδῆ, περαινεῖ πρὸς κάλλος, Β 5).” Philolaus here explicitly asserts that his being is not *apeiron*: there are boundaries in it; it is a plurality, and a *kosmos*. We have, as Burkert has argued,\(^{84}\) no reason to see here any reference to principles which are immaterial, abstract, or in any way peculiar. The statement is very vague, but I believe that more can be extracted from it than Burkert has found. It appears to be an attempt to describe in the most general possible way what the world will look like if it is to meet the minimal conditions for thought imposed by Β 3 and Β 4: it will have boundaries in it and therefore (as *perainon* implies) something that gets bounded. The world as a whole is, in its essential nature, a plurality, an orderly *kosmos*; and its individual parts (insofar as each will be accessible to *gignóskein*) are also definite and bounded. The fragment is vague but not for this reason uninteresting or meaningless. It is the most general possible description of Philolaus’ alternative to the Eleatic One: a world which we can think. The fragment, thus interpreted, does appear to contain a vague anticipation of the Aristotelian terminology of form and matter: there is something which imposes structure and permits counting, as well as something indefinite which gets limited by this. But it seems completely misguided to argue, as have Raven and Frank, that any rapprochement between Philolaus and Aristotle opens the fragments to the charge of inauthenticity.\(^{85}\) For

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\(^{83}\) On the active sense of *perainonta*, cf. Boeckh (above, n.5) 47–48, Burkert, *Lore* (above, n.4) 253 n.71 and references.

\(^{84}\) Burkert, *Lore* (above, n.4) 253.

\(^{85}\) Frank (above, n.6) 268 ff, 308–309; Raven, in Kirk and Raven (above, n.6) 310 ff; cf. Burkert, *Lore* (above, n.4) 254–256, esp. n.85. Burkert is so anxious to deny the presence of anything that “goes beyond the Pre-Socratic picture of
what is salient about the fragment is its vagueness; it gropes, using ordinary language, toward a distinction which anyone familiar with the writings of Aristotle would have had sophisticated and precise means to express. It could not have been written by a post-Aristotelian.

We do not yet know how the anti-Eleatic assertion of B 1 is to be combined with the arguments of B 3 and 4; I have suggested that a plausible reading would be to see B 1 as stating a thesis which is then defended by appeal to the conditions of thought. B 2 provides a way of developing this suggestion.

B 2: ἂνάγκα τὰ ἑόντα ἐμεν πάντα ἣ περαιόντα ἡ ἀπειρα ἢ περαιόντα τε καὶ ἀπειρα. ἀπειρα δὲ σῶνυ φαίνειαι οὔτ' ἐκ περαιόντων πάντων ἑόντα οὔτ' ἐκ ἀπείρων πάντων, δηλοὶ τάρα ὡτ' ἐκ περαιόντων τε καὶ ἀπείρων δ τε κόσμος καὶ τὰ ἐν αὐτῷ συναρμόχθη. δηλοὶ δὲ καὶ τὰ ἐν τοῖς ἔργοις. τὰ μὲν γὰρ αὐτῶν ἐκ περαιόντων περαιοντι, τὰ δὲ ἐκ περαιόντων τε καὶ ἀπείρων περαιοντι τε καὶ οὐ περαιοντι, τὰ δὲ ἐκ ἀπείρων ἀπειρα φανέονται.

Necessarily the things that are must be, all of them, either bound-setting, or unbounded, or bound-setting and unbounded. But they could not be unbounded only. Since, then, they are obviously neither entirely out of what is bound-setting nor entirely out of what is unbounded, it is therefore clear that the ordered world and the things in it are fitted together out of the bound-setting and the unbounded. And actual experience shows this too. For what is out of bound-setting [elements] sets bounds; what is out of both bound-setting and unbounded [elements] both sets bounds and does not set bounds; but what is out of unbounded [elements] will appear unbounded.

We have here an argument for the truth of B 1 — beginning, in typical Eleatic fashion, with an exhaustive enumeration of possibilities, and reaching the correct one by eliminating its rivals.\textsuperscript{86} As most inter-

\textsuperscript{86} This is the procedure of Parmenides, and, even more elaborately, of Zeno (cf. esp. the reconstruction of his argument by G. E. L. Owen, “Zeno and the Mathematicians,” \textit{Proceedings of the Aristotelian Society} [1957–58] 199–222, and Furley and Allen II (above, nn.15, 26, 143–165); also of Gorgias, fr. 3, at least in the Sextus version, which is, however, probably inferior to the version in ps.-Aristotle \textit{MXG}. Cf. Reinhardt, 300; Burkert, \textit{Lore}, 260 and n.104).
preters have noticed, there must be a lacuna somewhere in or after the sentence \textit{apeiro ... eîê}. What most have supplied here is a statement to the effect that what is cannot be only \textit{perainonta}.\textsuperscript{87} This is possible, but Philolaus might well have taken it as self-evident that this possibility is ruled out: the \textit{perainon} implies the existence of that which gets bounded. More important, it seems that we ought to supply (whether in addition to the traditional supplement or in place of it) some \textit{argument} in support of \textit{apeiro ... eîê}, if there is one to be found. The following sentence appears to form the conclusion of an argument: \textit{touinun} surely indicates that \textit{some evidence} has intervened. To see Philolaus as saying simply: “Either A or B or C. But not A (or B). Since, \textit{therefore}, not A (or B), then C” — without any further justification of the rejection of the Melissan alternative A — is to credit him with alarming simplicity. Fortunately, an argument against A is available: fragment B 3, which argues that a universe entirely made up of \textit{apeiro} does not fulfill the conditions of thought. It may not be coincidental that B 3 is introduced with a \textit{gar}; and we could slip it neatly into the lacuna (after \textit{eîê}) without difficulty. (We might also add B 4 after B 3, since it completes that fragment’s sense.) But whether or not B 3 was, historically, the very piece to fill this place, it shows us what sort of argument Philolaus must have had to eliminate the first alternative, and it shows us that the “epistemological argument,” far from being an appendage to B 1 and B 2,\textsuperscript{88} should be seen as an essential part of their argument.

Another feature of interest in B 2 is Philolaus’ suggestion that there are two ways to argue to his conclusion: the initial argument by rejection of possibilities, and a second way (introduced separately with \textit{de hai}) from experience — \textit{ta en tois ergois}.\textsuperscript{89} It is not stretching a point to see here some kind of distinction between arguments a priori and a posteriori. The first argument, if we have reconstructed it correctly, con-

\textsuperscript{87} Thus both Diels/Kranz and Burkert write: \textit{\acute{a}peira} \textit{de} \textit{m\'onon} \textit{\acute{e}i} \textit{pe\'ra\'inonta} \textit{m\'onon} \textit{\acute{e}i}\textit{\'eta}.

\textsuperscript{88} As in Burkert, who completes his examination of B 1, B 2, and B 6 (which he arranges sequentially), and then writes (260): “Philolaus also has an epistemological argument.”

\textsuperscript{89} This phrase has had various odd interpretations (see the complete summary in Burkert (above, n.4) 254, n.73). Boeckh (above, n.5) took it to mean “artifacts,” as contrasted with works of nature; but surely the bare word \textit{erga} is very unlikely to indicate this; Heidel (\textit{AJP} 1970, 77), Kranz (DK \textit{ad loc.}), and W. Nestle (\textit{Philologus} 67 [1908] 544 f) agree that something like observation or actual experience is in question and is being contrasted with the principles of a strictly deductive argument. Burkert compares Anaxagoras; B 7, and effectively disposes, with evidence, of Frank’s suggestion that expressions like \textit{d\'eloi to ergon} are signs of a post-Aristotelian date (cf. also Heinemann, 43 ff).
tains no appeal to actual facts of experience or to anything learned from experience. It speaks a priori of the conditions for any experience whatever and infers from these some facts about the world. The second argument apparently seeks to confirm these conclusions by appeal to the phainomena. It is, unfortunately, very obscure. But we can, perhaps, understand it to be saying something like this: "We can see the truth of this, again, by examining our actual experience. For when we see things made of bound-setting parts, we always see them bounding something (ta ek perainonton perainonti). When we see something made of parts which are boundless or indefinite, it just looks boundless or indefinite to us (that is, we cannot grasp it). The third, mixed, possibility is, then, the one on which we actually rely in seeing the world as we do."

Fragment B 6 adds little that is new to the substance of B 1–4; it does, however, contain a most interesting claim about the status of human claims to gnôsis. I shall analyze only the first half of the fragment, which is all that is directly relevant to Philolaus' epistemology:

B 6: peri de phusios kai armonias òde éxei: ò me ëstw tôn pragmatôn állios éssa kai autâ me ò phúsis theia, òa kai oúk ántrhopinyn en déxetai gnwôsin plên90, òa ñ òti oux oíw òn òn òbheven òwn óntw kai gnwnoskómenon ñf' òmôn òa genvéthai,91 ù ùparchoùsa tás èstous tôn pragmatôn éz òn svnésta ò kósmos, kai tów perainóntwn kai tów òpèlawn.

90 On Badham's substitution of plên for the pleon of the manuscripts see the arguments of Burkert, Lore, 250 n.61.
91 F has gegonesthai and outhen; I support the restoration of Usener and Diels. Burkert keeps outheni and writes gignôskomenôn and gegonesthai. He objects to the Diels reading (above, n.5, 251 n.62) on the grounds that the passive is never expressed by gignomai and the present passive participle; indeed, he claims that the first comparable construction is one with a perfect participle at NT Rev. 16.10. Although, on the basis of a very incomplete survey of the evidence, I have not found a precise parallel with the present passive participle (there are a number of middles, and actives are not at all common, as Burkert seems to suggest they are), I have easily found a number of examples with the perfect participle. Apotetrammenoi at Thuc. 3.68 might be either middle or passive; clear passives are diènagnaksmenoi... gegeonai at Pl. Laws 670 b, beboèthémonon egegonoi at Ep. VII, 347 c, anèirèmenos ginetai ho horismos at Aristotle, Top. 154b10–11, repeated at 155a9; and a similar example, at 154b22–23. This seems enough, at any rate, to impugn the credibility of Burkert's generalizations; much more would have to be done to complete the picture. As relevant evidence one must, I think, also note the very high frequency, in all periods, of gignomai with passive verbal adjectives in -tos, where a sense similar to the passive sense of this passage is expressed. (Especially relevant is gnôtos an genotí anêr at Soph. Inach. fr. 255, 2; cf. ataphtos g., Aes. Sept. 1045; genèsomai prosphethegktos, Soph. Phil. 1067; numerous examples in Thucydides with ekpustos, exaggelto, kataaggelto, etc. —
Concerning nature and harmony, this is the situation: the being of things, which is eternal, and nature itself, admit of divine and not human apprehension, except for the fact that it was not possible for any of the things that are also to come to be apprehended by us, if there were not the being of things, from which the ordered world is composed, that is, the bound-setting and the boundless.

We must, with Burkert, reject the suggestion that estō is to be identified with one or the other of the pair peras-apeiron. "Estō is not apoios hulē, but already differentiated into ‘limiting’ and ‘unlimited.’" Strictly, ex hōn refers back to pragmata only; but the sense is "If there were not this basic elementary nature-of-things, that is, their differentiation into limiting and unlimited." We might even see estō tôn pragmatōn as a periphrasis comparable to the one with phusis in B1: "things in their being (or essential elements)."

The argument then runs as follows: Nature herself (auta ha phusis) and things in their real, eternal essence (ha estō tôn pragmatōn, aidios essa) are open only to godlike or divine, and not human, understanding. But there is one exception: the one thing we grasp with certainty about nature is that nothing that is could also be an object of experience for us if the basic nature of the world were not to be an ordered plurality, composed of the perainon and the apeiron. This fragment thus reasserts

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note the high incidence in epistemological contexts.) One could also compare Pl. Soph. 248 c–d, which is all about becoming an object of gignōskein, and whether or not this is a pathos. The exact combination of words found in B6 does not occur; but, more important, the sense does, and this shows that the notion of "becoming-apprehended" was by no means an unthinkable-unsayable. Besides, even the acceptance of Burkert's text would not entail, as he claims, that the fragment is about the conditions of the origin of the world, and not about the conditions of thought. It is all very well to point out that ta gignōskomena can mean something like "the known facts of the world of experience" in fifth-century medical writers; but for a writer concerned with Eleatic questions (as the confident Hippocratic empiricists were not), the addition of gignōskomenon to eontōn must surely be the conscious restriction of the argument to what becomes an object of thought for us. Even if we do render "none of the things which are and which are apprehended by us could have come to be," we would still be talking about our experience of the formed world and claiming understanding only of this. We might also understand the Burkert text as follows: "None of the things that are and are apprehended could have come to be [sc. that]"—could have come to be what we are considering them as—"unless ...." (I owe this suggestion to M. Burnyeat.) Burkert's own interpretation does not indicate how human understanding is inferior to that of the gods; but to show this is clearly the point of the fragment.

the claims of B 1–4 that certain non-Eleatic conditions must be met in order for human thought to be possible. But it does something more: it concedes that our knowledge of the world in its real nature is limited by our human nature, and, indeed, that it is limited to a knowledge of our human limits. The only sure truth for mortals is a conditional truth of the form: "The world must be so if human beings are to have experience of it." And the truth of this conditional is, further, taken to provide us with a justification for talking of the world as if it is so—for in the rest of the fragment, as in B 1 and B 2, Philolaus simply asserts that the world is composed out of *perainonta* and *apeira* and justifies this objective claim with an appeal to the conditions of thought. Strictly, however, B 6 appears to limit our secure *gnōsis* to the proposition that such-and-such are the conditions of thought; there is no explicit claim that these conditions are met in actual fact. If we add the assumption, shared by Philolaus and the Eleatics, that we do think, we will get the stronger conclusion. But the use of *huparchousas*, rather than *ousas*, may even leave a doubt as to whether the objective *existence* of the plural world, or only our *beliefs* about it (its presentness-to-us, its being-there-for-us) is required.⁹⁴ This is a point to which we must return later, when we make our final assessment of Philolaus' argument.

As Burkert has shown, there are indeed a number of contemporary arguments like this one in form.⁹⁵ The inference "this would not be possible, unless" was not uncommon in the fifth century. But more closely related antecedents, applying this form of argumentation to the

⁹⁴ *Huparchein* is very difficult to pin down; at least two possibilities suggest themselves. (1) The nuance, as suggested, could be one of presentness-to or belonging; this is common in fifth-century texts, e.g. Hdt. 6.109, Th. 2.64, 2.45 (where *hē huparchousa phusis* means "the nature that belongs to you"). The claim to objective reality might be weakened by the use of a word commonly linked with presentness to an agent; if the philosopher who used this language were pressed to say whether he could distinguish the way things are apart from all thought from the way they are as objects of thought, he might not be willing, or able, to make the distinction. (2) But there are also numerous fifth-century passages in which *huparchein* has the sense of "be already in existence" and is contrasted with some sort of addition or later coming-to-be (cf. *LSY* s.v.). This also might offer us a way of accounting for *huparchein* here and one that might involve no weakening of the existential claim. In any case, the verb, though not a technical term before the Stoics, is amply attested in fifth-century prose in the relevant senses. No suspicions of the fragment's authenticity can get their start from this word.

⁹⁵ Frank (above, n.6, 250–260) charged that we find here "a fully developed dialectical consciousness, to a degree . . . hardly possible before Plato." Burkert's eagerness to rebut this charge leads him, once again, to insist too little on the fragment's independent interest and force.
conditions of thought and speech, are more difficult to find. The poem of Parmenides, in its overall structure, has been argued to be the most important predecessor of this kind. (We might find the very first such example in Heraclitus 23 on the conditions for our use of one particular name, *dikē.* ) Both Parmenides and Philolaus argue from the limits of human thought to some objective claims about the world. But Philolaus’ argument differs, in that he combines a claim to a priori knowledge of the conditions of thought with an acknowledgment that those are the bounds of human understanding. Parmenides’ poem contains no suggestion that human thought has limitations; he rejects the distinction between divine and mortal knowledge, insofar as the mortal is willing to forsake his humanity and become an initiate. Philolaus’ argument thus anticipates, in a most striking way, the transcendental arguments of Kant — who holds, with him, that the proper reply to skepticism cannot be to appeal to facts within experience; it must be to produce an a priori justification of our categories of thought by showing them to be necessary for thought and discourse. And both conclude that we cannot have access to the world as it is in itself (*auta ha phusis*, the *Ding an sich*) apart from, or outside, our knowledge of the categories and conditions of experience.\(^{96}\) The simplicity and even naiveté of Philolaus’ argument must not mask from us its striking force. It is the only reply to Parmenides which matches that argument in boldness and philosophical power — and, indeed, the only one which has seen Parmenides’ point and speaks directly to that point.\(^{97}\)

It was not an argument that remained without progeny — or at least

\(^{96}\) Compare Kant, *Critique of Pure Reason*, trans. N. Kemp Smith (London 1953) A 737/B 765: “Through concepts of understanding pure reason does, indeed, establish secure principles, not however directly from concepts alone, but always only indirectly through relation of these concepts to something altogether contingent, namely, possible experience. When such experience (that is, something as object of possible experience) is presupposed, these principles are indeed apodeictically certain; but in themselves, directly, they can never be known *a priori* . . . But though it [sc. the principle of universal causality] needs proof, it should be entitled a *principle* (*Grundsatz*), not a *theorem* (*Lehrsatz*), because it has the peculiar character that it makes possible the very experience which is its own ground of proof, and that in this experience it must always itself be presupposed.”

\(^{97}\) It might be asked at this point whether Philolaus’ failure to address himself directly to the Eleatic premise about the impossibility of saying or thinking what is not (and the naming/grasping model) does not seriously damage his argument. If we continue to accept this premise while also accepting Philolaus’ argument that thinking is impossible without *arithmos*, the conclusion would have to be that there is no thinking, since its conditions are self-contradictory. But both Philolaus and Parmenides would, I think, assume it is indubitable that there is thought; thus, even if Philolaus’ book contained no direct assault on the
(since direct influence cannot be proven) without successors. The lampoon cited at the beginning of this chapter suggested that Plato's *Timaeus* owed much to Philolaus' book. But as for the argument we have been considering, the most likely successor is the argument concerning the interweaving of forms in *Sophist* 251 d–252 e. Philolaus' argument seeks to establish that grasping an object entails marking it off, distinguishing it from something else. Intelligent thought and discourse presuppose boundaries; and a meaningful positive statement entails negation. Parmenides' Being, if it is to be the name of an undifferentiated all, will describe or say nothing. Similarly, Plato argues that there can be no *logoi* if all forms combine with all other forms. Statements about the world say something (cf. *legoenouden*, 252 b 5) only if words are related in definite ways; some forms must combine. But if all forms combine with all other forms, no statement would rule anything out. And then all would be meaningless. The statement "Theaetetus is sitting" is meaningful only because it rules something out — indeed, many things ("Theaetetus is flying," "Theaetetus is not sitting," and so on). In a universe uniform in every respect, discourse could not proceed, since distinctions, the source of sense, would be absent.

The same argument is used by Aristotle to explain the necessity of the Principles of Non-Contradiction. It cannot be proven deductively, he tells us. It would be a mark of *apaideusia* — or lack of initiation, through education, into shared communal ways of life — to try to do this, "for

naming/grasping model, his argument that Parmenides' conclusion violated the conditions of thought would show us that we have to go back and find out what went wrong with Parmenides' argument. (It is sometimes tempting to believe that this was what Parmenides himself had in mind — that the *elenchos* is really an *elenchos* not of all mortal beliefs but only of the mistakes about the nature of language from which the argument to untenable conclusions gets its start.) And Philolaus' analysis of successful grasping as entailing distinction and negation points, as the similar passage in the *Sophist* more obviously does, to a way of revising the underlying Eleatic view of language: by distinguishing naming from predication.


99 Cf. P. F. Strawson, *Introduction to Logical Theory* (London 1952) 5: "We describe something, say what it is like, by applying to something words that we are also prepared to apply to other things. But not to all other things. A word that we are prepared to apply to everything without exception (such as certain words in current use in popular, and especially military, speech) would be useless for the purposes of description. For when we say what a thing is like, we not only compare it with other things, we also distinguish it from other things. (These are not two activities, but two aspects of the same activity.)" (Ackrill's article, cited n.98 above, first drew my attention to this passage.)
it is *apaideusia* not to recognize of what one should seek a demonstration and of what one should not” (*Metaph.* 1006a6–8). The perceptive man will see that we cannot demonstrate everything, and that the principle of noncontradiction plays a fundamental role in our conceptual scheme: it is the “most secure of all principles” (1006a4–5). You cannot prove it; but you can show someone its fundamental role in the following way, by refutation (*elegktikós* — the analogy with Eleatic methods of argument, the same ones we found in Philolaus, is striking).100 Either your interlocutor makes a meaningful utterance or he does not. If he does not, you can discount him as an opponent, for “it is ridiculous to look for discourse to use against someone who has no discourse.” If he does say something — something that is meaningful both for himself and for another (1006a21), therefore something definite (*hörismenon*, 1006a25) — you can show him that he is making use of the principle he wishes to deny. To say something significant you have to set some boundaries (*horizesthai*), rule out something. The use of elenctic demonstration in *Metaphysics* closely resembles the anti-Parmenidean argument of Philolaus; the primary difference is that Philolaus’ verbal emphasis is on cognitive experience, Aristotle’s on significant discourse.101

THE LIMITS OF THOUGHT102

It is now time to return to the claims of Parmenides and ask how far, and how convincingly, Philolaus has answered them. Parmenides’

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101 I do not discuss those portions of Philolaus’ work which deal with more specific issues related to *arithmos*: the odd and the even, the nature of the unit, etc. It may occur to some readers that the existence of these explicitly mathematical passages casts doubt on my very general epistemological reading of the fragments I have discussed. I do not believe that this sort of objection would be telling. First of all, as Burkert pointed out, what impresses us about these fragments, as pieces of Pre-Socratic (and especially Pythagorean) science, is not their specificity, but their generality. Burkert, indeed, believes this to be a defect of Philolaus, a sign that he did not know how to develop truly scientific answers to Eleatic problems (see p. 260). I see it, instead, as a sign that foundational philosophical interests took, for him, precedence over the more narrowly defined specific problems. Second, if one is reluctant to believe that a thinker deeply interested in basic philosophical problems about experience and knowledge could also treat some more concrete scientific or mathematical problems, or even move from the one to the other within a single book, the entire history of philosophy, from Aristotle to Frege and Wittgenstein, is there to refute him.

102 A number of the points in this section receive illuminating discussion in Barry Stroud’s “Transcendental Arguments,” *Journal of Philosophy* 65 (1968) 241–256.
assault on mortal views had, it must be remembered, three distinguish-
able parts, to all of which Philolaus implicitly responds: (1) its skepti-
cism, its distrust of the senses and of the entire edifice of ordinary
opinion; (2) an a priori argument from the conditions of thought and
talk to an undifferentiated One, utterly remote from human experience;
(3) as a result of the sweeping rejection of doxa by the combination of
(1) and (2), a new analysis of the status of ordinary beliefs: they are
mere conventions, postulates set down by mortals, with no claim to
real validity. According to Parmenides, any justification which mortals
might try to produce for their beliefs and practices in answer to skeptical
doubts would have to come from within the edifice of doxa, which can
be shown by (2) to be based entirely on a fundamental mistake, which
renders the entire structure "unsayable," "unthinkable." Thus, while
the skeptic could remind you that you are operating within an edifice of
thought, and refuse to accept as successful any justifications for the
whole structure which are based on empirical practices and observations
within that structure, Parmenides thinks that, by (2) he can do more:
he can show you that the whole edifice is not just questionable, but
nonsensical and false. The whole thing is a house of cards you have
built for yourself, no decent place for a "man in the know" to make
his home. Thus, far from being a thoroughgoing skeptic, he is confi-
dently claiming secure knowledge based on a priori inference. This will
be most important in assessing the effectiveness of Philolaus' response.

It is obvious that Philolaus wishes to rebut the third claim of Par-
menides: that all our beliefs, including the fundamental belief in a
plurality of forms, can be sheer convention. This he does via an attack
on the Parmenidean analysis of the conditions of thought which forms
the basis of (2). Far from being a postulate which we could well do
without — and even further from being "unthinkable-unsayable" —
the existence of plurality and distinctions in the world is a prerequisite
of intelligent reflection and speech. We could not do without it and
still have the same human lives. This might not, in general, bother
Parmenides; but he remains committed to maintaining certain of our
human practices — namely, thought and speech. He cannot help con-
ceding, in fact he makes it central to his own claims, that whatever can
be shown (a priori) to be their ground has an unshakeable position in a
philosophical account of the world.

If, then, Philolaus has made plausible his claims about the conditions
of thought, he has quite successfully met Parmenides on his own ground.
And indeed, the very general claim that thought requires distinction
making is a most plausible candidate for a ground-level a priori truth.
Philolaus has little to say in its defense, if we compare his argument
with Aristotle's subtle remarks, or, to take a contemporary analogue, with Hilary Putnam's critique of conventionalism and his articulation of the place of a Minimal Principle of Contradiction in our thought and talk. And yet it is a remarkable intuition, one that successfully challenges both Parmenides' monism and his assumption that our practices can be explained as mere postulates.

But the argument has limits, of which B 6 has suggested Philolaus was, at least to some extent, aware. First, he has established, at the very most, an a priori truth about what is necessary for thought. He cannot have established a timeless necessary truth about the world, since the beings for whose activities boundaries and plurality are necessary are themselves contingent, and not necessary beings. At one time, as all pre-Socratic cosmogenies (including the Pythagorean cosmogony reported by Aristotle and probably to be connected with Philolaus) suppose, there were no thinking mortal beings in the world; perhaps it will be that way again. So although no man can ever truly give Parmenides' description of the One, since it is false to the conditions of description, nonetheless it might have been or might someday become true. (Parmenides' only reason for thinking it true is, however, gone.) It is not clear whether this point was in Philolaus' mind. And yet it is certainly striking that he ascribes only to gods knowledge of how nature eternally is. Of eternal being we grasp only what bounds our lives. The onta are as they are; but if they are also to be gignōskomena for us, this is how they must be.

But what is the status of our claim to know even this much? We have seen that Philolaus moves from the claim that X is a necessary condition of thought to the confident assertion that X obtains. His argument works well ad hominem against Parmenides because of the way it meets Parmenides' own claims about thinking. But would it satisfy a full-blown skeptic who questioned the objective warrant for our beliefs and practices without advancing his own vulnerable claims to knowledge? Philolaus does not directly confront such an opponent. And yet, he appears inclined to a greater caution, in B 6 especially, than his strength against Eleaticism might prepare us to expect. He limits our knowledge of nature not to the perainonta and the apeira, revealed as conditions of experience, but to the fact that our experience would not be possible without the huparchein of these principles. It is not entirely clear that this adds up to an objective assertion of their existence. Could it be that we need only to believe in them in order to think or speak as we do?

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Because no opponent has advanced a set of skeptical questions independent of the Parmenidean knowledge claim, Philolaus does not try to make this distinction; nor, clearly, is he very interested in distinguishing the objective existence of *arithmos* from its existence in human reason. He is a man with scientific and mathematical interests, desirous of reaching a place where he can pursue these interests free of the shadow of Parmenides. To the suggestion that the beliefs which ground our cognitive practices might not correspond to things "the way they are," and the associated demand that he say how they are apart from all discourse, he might well reply, with the brusqueness of Frege's defense of the "objectivity" of that which grounds our mathematical practices, that this project is, as a project, incoherent. It asks us to imagine what is, *ex hypothesi*, unthinkable, to try to theorize while discarding the conditions of theory. This may well be only a partial answer to the skeptic; but Philolaus, without such an opponent, remains content with the ambiguity of *huparchein*.

Finally, we wonder how strong a claim Philolaus wishes to make even about thought itself. He has no argument which would show that *all* thinking beings depend on *arithmos*. In fact, B 6 twice emphasizes that we are speaking as human thinking beings (*anthrōpinēn gnōsin, gignōskomenon huph' hamōn*) — conceding that divine *gnōsis* of nature is different from ours, and claiming that ours approaches it in sureness only in this knowing of its own limits. The found conditions of thought are explicitly said to be conditions of our thought. God may be free in ways we cannot grasp. It thus appears that our knowledge of nature reduces to a Heraclitean self-knowledge. Instead of providing an external justification for human practices, Philolaus has, instead, shown us what these practices are, and what they rest on. The argument asks how *we* work and what *we* require; it does not ask how other rational beings work, or whether we might have been different.

Heraclitus "sought out" himself (101, 113, 116), but wished to claim

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104 G. Frege, *Grundlagen der Arithmetik*, 36: "Denn die Frage beantworten, was die Dinge unabhängig von der Vernunft sind, hiesse urteilen, ohne zu urteilen, den Pelz waschen, ohne ihn nass zu machen."

105 L. Wittgenstein, *Remarks on the Foundations of Mathematics*, ed. G. H. von Wright, R. Rhees, and G. E. M. Anscombe (Cambridge, Ma. 1956) V 18: "The limits of empiricism are not assumptions unguaranteed, or intuitively known to be correct: they are ways in which we make comparisons and in which we act." And II 74: "The danger here, I believe, is one of giving a justification of our procedure where there is no such thing as a justification and we ought simply to have said, 'That's how we do it.'" On these aspects of Wittgenstein's thought, see Barry Stroud's "Wittgenstein and Logical Necessity" (above n. 2).
that the journey to the limits of our human faculties was an unending one: the soul, with its capacity for intelligent discourse,\footnote{For the connection, and interpretations of these fragments, see my "Psuchē in Heraclitus, I" (above, n.14). Philolaus' doctrine of the soul, which has not been discussed here, almost certainly held that it, too, was composed of the limiting and the unlimited. For a full discussion, see Guthrie, History I (above, n.4) 306 ff.} has a "self-increasing logos" (115). "You could not find out the limits (perata) of the soul — no, not even if you travelled the whole length of the road — so deep is its logos" (45). Philolaus tries to show us the perata of the soul — and to show us that these perata are the limits of our world. We would like to go outside these limits and imagine a world which is such that mere mortal men cannot grasp it. The persistent fascination of Parmenides' poem lies less in its claim to have articulated our cognitive experience than in its promise of liberation from all that is human, of a journey away from "the beaten path of human beings." But we find that we cannot turn away from this path just any time we want to. If we try, we will see, Philolaus suggests, that we are held there by the requirements of our human souls, requirements set forth in his limiting arguments.\footnote{See Wittgenstein, Remarks, V 32: "The rule conducts you like a gangway with rigid walls." Cf. Stroud, "Wittgenstein" (above, n.2) 496.} That which is made out of the unbounded and the bound-setting both imposes limits and finds itself bounded. "There are logoi that are stronger than we are."\footnote{A saying ascribed to Philolaus by Aristotle, at EE 1225\*33.}

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\footnote{This paper grew out of work in progress on Aristotle's replies to skeptical attacks on the basic "appearances" and on the question of whether (and in what sense) he believed there were a priori truths, either in science or in ethics. This now seems to form a part of a longer project on Greek views of contingency and practical rationality; and this background piece has therefore been "bounded off" as a separate discussion. I am very grateful to all those who helped me with their comments and questions on earlier drafts: especially to Julia Annas, Myles Burnyeat, Montgomery Furth, Terence Irwin, Alexander Mourelatos, G. E. L. Owen, Hilary Putnam, and Bernard Williams, and to audiences at Princeton University, March 1978, and at the University of Texas at Austin, May 1979.}