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book reviews

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"UNWRITTEN TEACHINGS" IN THE *PARMENIDES*

MITCHELL MILLER

THE PROJECT OF THIS ESSAY is to study the hypotheses of the *Parmenides* for evidence of "the so-called unwritten teachings" (τὰ λεγόμενα ἄγραφα δόγματα) that Aristotle ascribes to Plato in A6 of the *Metaphysics*.[1] At first hearing, this must sound both paradoxical and problematic. Even if one accepts for the sake of argument that there may be such "teachings," can we reasonably hope to find them *in* one of Plato's *writings*?[2] And even if this is granted, still, can we

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[1] The Greek phrase appears at *Physics* 209b14–15; from the text of W. D. Ross; ed., *Aristotelis Physica* (Oxford: Clarendon Press, 1950). But it is only in A6 of the *Metaphysics* that Aristotle gathers a select set of these teachings in what appears to be their systematic unity. I have focused on A6 both for this reason and because, strikingly, I have found in the hypotheses of the *Parmenides* resources for interpreting just these teachings and (with the partial exception noted in Part F.2 below) no others.

[2] For many years English language classical scholarship has for the most part hesitated before the difficult choice posed by the interpretations of the "unwritten teachings" by Harold Cherniss, on the one hand, and the esotericist tradition, on the other. In his *tour de force* argument that the "unwritten teachings" are essentially a fabrication, in part by Aristotle and in part by an uncritical doxographic tradition, Cherniss saves the primacy of the dialogues at the cost of depicting Aristotle as an unreliable and polemical interpreter; see Harold Cherniss, *The Riddle of the Early Academy* (Berkeley: University of California, 1945). Esotericism, most forcefully argued by H. J. Kraemer and Konrad Gaiser, holds that Plato withheld his most fundamental and far-reaching metaphysical views from the dialogues, reserving them for oral presentation in the Academy; this reduces the dialogues to the status of exoteric works and risks splitting Plato into an ironic and socratic writer in public and a dogmatic lecturer in private. See Kraemer, *Arete bei Platon und Aristoteles* (Heidelberg: Carl Winter, 1959), and Gaiser, *Platons ungeschriebene Lehre* (Stuttgart: Klett, 1963). In 1983, Kenneth Sayre decisively altered the status of the question with his *Plato's Late Ontology: A Riddle Resolved* (Princeton: Princeton University Press, 1983). Challenging the one thesis on which Cherniss and the esotericists seem to agree, that the "unwritten teachings" are in fact unwritten, he argues instead that the teachings are exhibited *in* the *Philebus* and, less fully, in the *Parmenides*. For its liberating effect and for the sheer fascination of his project, I am in Sayre's debt. Nonetheless, I have very basic disagreements with his reading of the *Parmenides*. I have detailed these elsewhere and so will not go into them here; see Mitchell Miller, *Plato's* Parmenides:

Review of Metaphysics 48 (March 1995): 591–633.

really hope to find them in the notorious hypotheses, arguably the single most obscure of all of Plato's writings, a text whose very aim and subject matter are uncertain and whose argument is riddled with contradiction and fallacy?

Though the difficulties are indeed formidable, I will try to show that these hopes are in fact well founded. The key is recognizing the kind of writing the hypotheses are and adjusting accordingly our understanding of what it means for the teachings to be "in" them. In making this claim, I am building on the results of earlier work I have done on the *Parmenides*.[3] In that work I have argued that the hypotheses are written to be read on two levels. On their surface, they are purely formal exercises in abstract thinking; indeed, many of the very features that make them so obscure—notably, their densely conceptual language, the absence of imagery and of value terms, and the way in which almost every thesis is both compounded by its contrary and canceled by its contradictory—serve to require us, just in order to follow the argument, to forego any reference to concrete particulars in the world at hand; we must learn to think by way of abstractions. If, however, we manage this, we find ourselves positioned to discover a deeper level of meaning. I will explicate this shortly (Part B below). What is important to bring to focus here is the peculiar nature of the text and, correspondingly, the sort of discovery it invites. On the one hand, to the reader who has grasped them as formal exercises, the hypotheses present themselves as a massive set of carefully (though by no means always validly) argued contradictory theses regarding "the One"; Plato must have known and intended the effect that such a web of antitheses would have on an attentive and persistent reader, for he began the dialogue by showing how the young Socrates, confronted with Zeno's famous antitheses on "the many," was provoked to try to undermine them with his distinction of forms from their participants. On the other hand, Plato has now removed Socrates from his role as Parmenides' interlocutor, replacing him with the youthful "Aristotle," "the least likely to make trouble with meddlesome inquiries" (ἥκιστα . . . ἂν πολυπραγμο-

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The Conversion of the Soul (Princeton: Princeton University Press, 1986), 189–90 n. 7. These disagreements have required me to begin afresh with the issue of the "unwritten teachings," and this essay is the first step. (For others, written later, see note 26 below.)

[3] Miller, *Plato's* Parmenides.

νοῖ: 137b6–7);[4] this Aristotle, eventually to become one of the Thirty Tyrants, is consistently passive and often obtuse. Thus Plato both constructs a challenge and shifts *to the reader* the responsibility of rising to it. The text in effect invites the reader to follow Socrates' earlier example and to probe critically where Aristotle does not, to interrupt the hypotheses "with meddlesome inquiries" aimed at testing the depth and solidity of the contradictions.[5] The basic thrust of my earlier work on the *Parmenides* was to show that for the reader who responds to this challenge, the hypotheses prove much more than merely formal exercises. If, in particular, one brings Socrates' seminal insight—the distinction of forms from sensibles—to bear upon the contradictions, they give way, yielding a timely new content in the process; read thus, I have argued, they provide the basic elements for a systematic and conceptual rearticulation of the distinction itself and of the notion of participation.

I offer these synoptic remarks here in order to acknowledge from the start the special sense in which, on the reading I want to propose in this essay, the "unwritten teachings" may be found "written" and "in" the *Parmenides*. It is only in the hypotheses read at the second, subsurface level that we will discover them. And "discovery" here requires a deliberately "meddlesome inquiry," one in which we expose systematic ambiguity in Parmenides' treatment of "the One," purge arguments of conspicuous fallacy at key points, and search out and explicate the implications of the valid lines of reasoning that emerge as a result. Only such an active and constructive reading responds to the challenge Plato poses in the hypotheses, reproducing in its own context the spirit of Socrates' response to Zeno.[6]

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[4] All references to the *Parmenides* are based on the text of John Burnet, ed., *Platonis Opera*, 5 vols. (Oxford: Clarendon Press, 1900–1907). Translations are my own.

[5] Others who have commented on this shift of responsibility in the *Parmenides* include Francis M. Cornford, *Plato and Parmenides* (London: Routledge and Kegan Paul, 1939), 244–5; Paul Friedlaender, *Plato*, trans. Hans Meyerhoff (Princeton: Princeton University Press, 1969), 3:200; R. E. Allen, *Plato's Parmenides: Translation and Analysis* (Minneapolis: University of Minnesota Press, 1983), 197–8.

[6] In a thoughtful discussion of two recent books from the esotericist tradition, D. L. Blank argues that it is a mistake to interpret *Phaedrus* 274c–278e, the famous critique of writing, as basically concerned to distinguish "written and spoken λόγοι"; D. L. Blank, review of *Platon und die Schriftlichkeit der Philosophie*, by Thomas Szlezak, and *Der Sinn der Aporien in den Dialogen Platons*, by M. Erler, *Ancient Philosophy* 13 (1993): 423. If I understand Blank, he suggests that Plato's deeper interest lies in resisting that which makes certain forms of writing appealing to types like Phaedrus,

Our path of inquiry shall be as follows. In Parts A and B we will lay out, quite independently of one another, the "unwritten teachings" that Aristotle reports in *Metaphysics* A6 and the core of the subsurface argument offered by the *Parmenides*. In Part C we shall take the first step in bringing these together by noting in the hypotheses the major appearances of the key notions in Aristotle's report, "the One" and "the Great and the Small." But it is not so much in these explicit appearances that the "unwritten teachings" present themselves as it is, rather, in the interplay of "the One" and the dyad that is implied by another passage altogether, the account of participation in hypothesis III. We must therefore interpret this account and explicate its implications—these will be the projects of Parts D and E, respectively. The result, if these reflections are well taken, will be fresh, mutually supportive interpretations both of the "unwritten teachings" and of parts of the *Parmenides*. We will also have uncovered the need for several fresh inquiries, which I will title in closing.

A. *Aristotle's Report of Plato's Teachings in* Metaphysics *A6.*

When he turns to Plato in A6 of the *Metaphysics*, Aristotle is taking the last step in his preparatory account of what his predecessors have said about causes and first principles. We can single out six teachings that have no obvious appearance in the dialogues. The first three Aristotle presents in his summary at the close of A6; they concern the metaphysical roles played by "the One" and "the Great

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namely, the lure of a "quick and easy transmission or acquisition of apparent knowledge"; ibid. I agree and would add that the *Parmenides* exhibits what is in fact true with regard to the dialogues generally, that it is possible for writing to be designed so that it requires the "slow and careful . . . learning," the active and painstaking search, that is a necessary condition for "real knowledge"; *ibid.* To the further objection that, granting this view of Plato's writing, it makes little sense to project his mode of oral teaching as a straightforward explication of doctrine, I also agree. An implication of my finding the "unwritten teachings" in the sort of writing which, as the *Parmenides* does, demands the reader's "meddlesome inquiries" is that we must be ready to question our all too familiar image of the Academy as a sort of school in which the master presented his system in professorial lectures. I have tried to suggest an alternative view of the situation in the Academy in "The Choice between the Dialogues and the 'Unwritten Teachings': A Scylla and Charybdis for the Interpreter?" in *The Third Way: New Directions in Platonic Studies*, ed. Francisco Gonzalez and Joanne Waugh (Lanham: Rowman and Littlefield, 1995), 367–400.

and the Small." The last three emerge along the way and are concerned in one way or another with numbers and mathematics. I shall begin by culling them from the text with only minimal commentary, then offer several sorts of introductory cautions and questions.

Plato uses only two types of "cause," Aristotle holds, "the cause of what [something] is" (*τῇ . . . τοῦ τί ἐστι [αἰτίᾳ]*) and "the material cause" (*τῇ κατὰ τὴν ὕλην [αἰτίᾳ]*) (988a9–10).[7] The forms and the One are causes of the first type, the forms with respect to sensibles and the One with respect to the forms. "The underlying matter of which these [that is, the One and the forms] . . . are predicated" (*ἡ ὕλη ἡ ὑποκειμένη καθ' ἧς . . . λέγεται*) is, in each case, a "dyad, the Great and the Small" (988a11–13). If we sort these causes into their appropriate pairings, we get two distinct levels of causality.

> #1. Forms and the dyad, the Great and the Small, are conjointly the "causes" of "sensibles." Forms are "cause of what [a sensible thing] is," and the Great and the Small are "the underlying matter of which [forms] are predicated."
>
> #2. The One and the dyad, the Great and the Small, are conjointly the causes of the forms. The One is "cause of what [a form] is," and the Great and the Small are "the underlying matter of which [the One] is predicated."

To these reports Aristotle adds that Plato "assigns causality for good and ill (*τοῦ εὖ καὶ τοῦ κακῶς*) to the elements, one to each" (988a14). Hence,

> #3. the One is cause of "good"; the Great and the Small, of "ill."

In addition, Aristotle makes (or, in the case of #6, strongly implies) the following three claims in the course of A6.

> #4. "Intermediate" (*μεταξύ*) between the timeless, unchanging, unique forms and the perishable, changing, many sensibles, there are "the mathematicals" (*τὰ μαθηματικά*); these are intermediate because they are eternal and unchanging like the forms but many like sensibles (987b14–18).
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> #5. Numbers, "except for the primary ones [or, perhaps, the primes] (*ἔξω τῶν πρώτων*),[8] are very naturally produced (*εὐφυῶς*

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[7] All references to the *Metaphysics* are based on the text of Werner Jaeger, ed., *Aristotelis Metaphysica* (Oxford: Clarendon Press, 1957).

[8] On the sense of *τῶν πρώτων*, see Part C.3 below.

. . . γεννᾶσθαι) out of [the dyad, the Great and the Small] as if out of a moldable material" (987b33–988a1).

#6. Forms are, in some sense, numbers. (My inclusion of this thesis requires immediate comment before we step back to look at the whole assemblage of teachings. By contrast with #s 1–5, nowhere in A6 does Aristotle expressly assert that forms are numbers. Only later, for instance 991b9–20, 1073a18–19, do we find him explicitly [albeit with varying degrees of certainty and clarity] crediting Plato with this claim.[9] Nonetheless, it is strongly implied in A6 when Aristotle uses virtually identical language[10] to say, first, that Plato held *forms* to be "causes of everything else" [αἴτια . . . τοῖς ἄλλοις: 987b18–19] and then, only two sentences later, that he agreed with the Pythagoreans in taking *numbers* to be "causes of the being of everything else" [αἰτίους . . . τοῖς ἄλλοις τῆς οὐσίας: 987b24–25].[11])

Inquiry into these reported teachings comes up against formidable problems. Some of these are general and pervasive; they are with

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[9] The most explicit statement is to be found at *De Anima* 404b24. See David Ross, ed., *Aristotelis De Anima* (Oxford: Clarendon Press, 1961).

[10] The distinction between the forms being "causes of everything else" (αἴτια . . . τοῖς ἄλλοις) and the numbers being the "causes *of the being* of everything else" (αἰτίους . . . τοῖς ἄλλοις τῆς οὐσίας) is not significant. Aristotle reformulates the first phrase in a way that brings it into coincidence with the second when, in summing up at 988a10–11, he says that forms are "the cause *of what* everything else *is*" (τοῦ τί ἐστιν αἴτια τοῖς ἄλλοις). Since numbers would be causes in the sense of formal causality, the phrase "of the being" (τῆς οὐσίας) is equivalent to the phrase "of what . . . is" (τοῦ τί ἐστιν).

[11] Teaching #4 makes it tempting to focus the qualification of the identity by making the familiar observation that forms are identical with numbers only in some *non*mathematical sense of number. For two reasons, I think this would miss the challenge that A6 poses. First, to bring out the full context of the point in A6 that numbers are "causes of the being of everything else": Aristotle says that Plato holds this "just as [the Pythagoreans] do" (ὡσαύτως ἐκείνοις: 987b25). But the Pythagoreans made no distinction between mathematical and nonmathematical sorts of number. Second, invoking the distinction that Aristotle elsewhere reports that Plato makes between mathematical and nonmathematical sorts of number can at best help to explain how a certain few forms are numbers. Aristotle reports that Plato limited the eidetic numbers to the decad. If these are the nonmathematical numbers, does this not suggest that Plato could have identified only a few select forms with them? For Plato, however, according to Aristotle (1070a18–19), there are "as many forms as there are kinds of natural object," and in A6 it is "the forms" without qualification—hence, all the forms, not just a certain few—that are said to be "causes of everything else." (cf. 1084a12–17.) On the significance of the decad for Plato, see John

us at every step as we try to make the turn from Aristotelian report to Platonic understanding. Others are more restricted. We can begin to identify some of these problems by posing the following sets of questions.

First, how leading—and, perhaps, misleading—are Aristotle's formulations in A6? Three features of his language conspire to make access to Plato very difficult. [i] As Aristotle says in the opening line of A7, he is speaking *συντόμως . . . καὶ κεφαλαιωδῶς*, "concisely and summarily" (988a18); it is not his purpose to bring forth the Platonic context of the teachings he reports, whether in the dialogues or in the Academy. [ii] In addition, he casts—that is, recasts—the Platonic teachings in the technical terms of his own distinctive approach to first principles and causality. Does this produce significant distortions? It is at least very problematic whether, for instance, the notions of "underlying matter," of "predicating" something of something, and of constitutive "elements" do justice to the priorities implicit in the Platonic concepts of participation (which Aristotle mentions, complaining that Plato left its nature "an open question" [987b13–14]) and communion (which Aristotle does not mention). [iii] Aristotle stresses the kinship between what Plato taught and the doctrines of the Pythagoreans. This would be more illuminating—or, viewed negatively, the distortions that it may give rise to in our picture of the Platonic teachings might be more evident—if we had some independent access to the Pythagorean doctrines to which Aristotle refers. Does Aristotle's comparison result in an excessively mathematical version of Plato, or again, does his readiness to assimilate "participation" to the Pythagorean concept of "imitation" (*μίμησις*: see 987b11–14) conceal more than it reveals about the Platonic concept? Without a better grasp of the Pythagorean doctrines it is hard to say.

What follows from these observations is the need for skeptical reserve, a mix of attention and detachment, towards the specificities of Aristotle's presentation; we need to hold ourselves aloof from the way Aristotle formulates the Platonic teachings in order to let what he reports re-emerge from within a Platonic context. But is there such a context, and is it accessible to us? To turn from Aristotle's reports to passages in the dialogues is to move from one nest of

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Findlay, *Plato: The Written and Unwritten Doctrines* (London: Routledge and Kegan Paul, 1974), 63–6.

difficulties to another. [iv] To state, first, the general problem: Plato remains anonymous in the dialogues, communicating indirectly through the portrayal of others immersed in the difficulties of inquiring into what is controversial, basic, obscure. (And nowhere in the dialogues is the obscurity more intense than in the *Parmenides*.) The hermeneutic challenge of letting ourselves be guided without being misguided by Aristotle is only compounded by that of finding our way in the dialogues to a genuinely Platonic teaching.

Our attempt to meet this compound challenge must take as its points of focus the key non-Aristotelian terms that appear in A6. The task is to find a compelling Platonic context and interpretation for the concepts, in particular, of "the One," "the Great and the Small," "good" and "ill," and "the mathematicals." Throughout, we must try to recognize what Platonic senses or sorts of "causality" must be in play to permit the One and the dyad, the Great and the Small, to play the roles that Aristotle reports Plato gave them. Needless to say, this is an inescapably circular undertaking; our only course is to try to make the circle hermeneutically fruitful, letting our orienting sense of what counts as Platonic be subject to expansion and reorientation if the context to which it guides us itself calls for this. As we go, we will need to address these more particular questions: [v] With regard to "the One," granted that the term refers to the principle of unity, still, what is the sense—or array of senses—of unity that the Platonic teachings require? [vi] With regard to "the Great and the Small," granted that they form a "dyad" or pair (987b26), what sort of pair? Are they, for instance, two distinct principles, or two mutually relative magnitudes, or the continuum that the concept of magnitude implies, or what? How, moreover, can they serve as the "underlying matter," that is, as what it is in Plato that Aristotle interprets by this notion, *both* for the forms in #1 *and* for the One in #2? [vii] With regard to "good" and "ill," is there any special significance to Aristotle's use of the adverbial εὖ ("well," "in good condition") and κακῶς ("badly," "in bad condition") rather than the more familiar adjectival forms? And if it is in some sense goodness and badness that are caused, why is it not *the* Good and *the* Bad that are responsible, rather than the One and the dyad? [viii] With regard to "mathematicals," can we specify what sort or sorts of mathematical objects are meant? Is there a link between teaching #4 and the metaphysical order (whatever it may be) that is implied by teachings #1, #2, and #3?

[ix] In a different vein, there is the danger of contradiction between teachings #4 and #6. Numbers, presumably, are one class of

"mathematicals." But if so, how can Plato on the one hand distinguish "the mathematicals" from forms (#4), and on the other identify forms with numbers (#6)? How can we harmonize these? It is this problem that I mean to acknowledge with the limiting phrase, "in some sense," in formulating #6. Evidently, the identity of forms and numbers needs to be qualified in some significant way.

Finally, there are two puzzles to note, one concerning #5 and the other concerning #2, that converge and, drawing in #s 4 and 6, pose an horizon-setting question for interpretation. [x] Concerning #5, at 987b32 Aristotle mentions only one cause of numbers, namely, the Great and the Small. Is it right to assume that the One (however we finally interpret what it is) is also involved, hence that the One and the dyad are conjointly responsible for the "production" of numbers? [xi] Concerning #2, it is tempting to read it to say that the forms are somehow derived from the One and the dyad. But this immediately raises several obvious questions. Did the same Plato, who had proponents of the forms in the dialogues stress that they are ungenerated, himself contradict this position? Perhaps this problem can be dissolved with a distinction between generation in time and atemporal constitution. Much more difficult is the question of how two self-same principles can be thought to account for the many forms in their seemingly inexhaustible diversity. Or, to shift focus to what Aristotle says about the One alone, how can one self-same principle be responsible for "what" each of the many forms "is" when the forms themselves are very different, each from all the others?

These problems converge if we take #6 into account. If, first of all, it is right to answer [x] by taking the One and the dyad to be conjointly the causes of numbers, then, if (as #6 has it) forms are numbers, #s 2 and 5 would seem to coincide. Taking #s 2 and 5 as equivalent would let us finesse the problems just noted in [xi]. That is, we could treat the diversity of the forms, an obstacle to the intelligibility of deriving them from the One and the dyad, as nothing more than the infinite plurality of the numbers, which poses no such problem for the derivation, and we could take #2 to describe the atemporal constitution of numbers.[12] This approach faces a fundamental difficulty, however: it neglects #4 and the need, noted in [ix], to qualify the identity of forms and numbers. Again, if the numbers Aristotle

[12] This is, as I understand it, the core of Sayre's approach. See Sayre, *Plato's Late Ontology*, 112–17, especially 116.

refers to in A6 are "mathematicals" and if "mathematicals" are distinct from forms (#4), then numbers are distinct from forms. If we stress this distinction and insist that the identity of forms and numbers asserted in #6 be qualified in some significant way, then, since #5 makes the One and the dyad the causes of the "production" of numbers, #2 must be interpreted in some other way. At the very least, it must be taken to assert that the One and the dyad "produce" the forms in some way that is distinct from their "production" of numbers. It is also possible, however, that it asserts a causality altogether different from any "production" of the forms in the first place. If so, the problems noted in [xi] would not arise. What is it, then, that #2 "concisely and summarily" puts before us?[13]

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[13] One further problem to be noted is the quarrel between editors over the wording of Aristotle's text at 987b22. Aristotle has just begun his report of teachings #1 and #2. "Since the forms are causes for everything else," the text reads, "[Plato] thought that their elements are the elements of all things. As matter he took the Great and the Small to be principles, and as essence, the One. For out of those [sc. the Great and the Small] by participation in the One . . ."—and here are the problematic words: τὰ εἴδη εἶναι τοὺς ἀριθμούς. If we accept the text at its face and we take τὰ εἴδη as the subject and τοὺς ἀριθμούς as the predicate nominative, we have Aristotle saying, "the forms are the numbers." How does this follow from what precedes? How can the dyad and the One be causes of the forms being the numbers? To most editors this is too puzzling to be acceptable. But each of the two obvious possible emendations has problems. Zeller and Ross drop τὰ εἴδη, leaving the emended text to read ἓιναι τοὺς ἀριθμούς, "come the numbers." This reading, note, helps us with problem (x), for it supports our inclination to assume that the One is at work conjointly with the dyad in the "production" of numbers. However, it also creates a startling *non sequitur*. How can Aristotle, having just named the One and the dyad as "elements" of forms, now say that out of their collaboration come not forms but numbers? Perhaps the answer to this is just that forms *are* numbers. Barnes, in his translation, appears to think this, for to his translation, "come the numbers," he adds this explanatory footnote: "The MSS read τὰ εἴδη εἶναι τοὺς ἀριθμούς, 'come the Forms, i.e. the numbers' "; (Jonathan Barnes, ed., *The Complete Works of Aristotle* (Princeton: Princeton University Press, 1984), 2:1561 n. 4.) But the very need for such an explanatory note reflects—if this is the solution—what an abrupt, even anacoluthic way this would be to communicate the point. (And, of course, there is the need implied by #4 to qualify this identity of forms and numbers.) Other editors, notably Christ and Jaeger, have taken the opposite course and dropped τοὺς ἀριθμούς; this leaves the emended text to read: τὰ εἴδη εἶναι, "come the forms." Here the problem is (xi). Against both groups of editors, I think that it is a mistake to emend; we should preserve both τὰ εἴδη and τοὺς ἀριθμούς. A main thrust of this essay is, in effect, to provide a full interpretation for the assertion that it is "out of [the Great and the Small] by participation in the One [that] the forms are numbers." We will bring this into focus in sections E.4.ii and iii below.

B. *The Project of the* Parmenides: *the Conversion of the Soul.*

Turning now to the *Parmenides*, it is necessary to begin with an apology. The key passage for our discovery of a Platonic interpretation of the teachings Aristotle reports is the account of participation offered in Parmenides' third hypothesis at 157b6–158d8. Explicating any passage of Plato requires, as preparation, a thoroughgoing account of its context, and giving such an account is a major undertaking. This is especially so in the case of *Parmenides* 157b–158d, for this passage both draws into play all the major motifs in the dialogue and requires a critical reading of the eight hypotheses as a whole. Such a reading must respond to the provocative abstraction, contradiction, and fallacy of the hypotheses and, in the process, recover their underlying metaphysical insight and reconstruct the systematic argument that explicates it. Thus our passage takes as its context the dialogue in its totality, both in its full extent and in the interplay of its levels of meaning. Having attempted an account of this totality in my earlier work on the *Parmenides*, I know first-hand the impossibility of doing it justice within the limits of an essay. In this section, therefore, I must draw heavily on the results of that work, presenting a selection of its key claims without repeating the full interpretive and argumentative support I have tried to give them there.

The basic project of the dialogue is to elicit the "conversion of the soul" from becoming to being, from thinking in terms oriented by sensible things to thinking in terms oriented by the forms, which Plato has the mature Socrates call for at *Republic* 518c. Within this project, Parmenides' refutations of the young Socrates' notion of forms in the first part of the dialogue serve to provoke and prepare. By having Parmenides expose as fatal to Socrates' notion his failure to distinguish radically between the kinds of being and unity proper to forms and the kinds proper to physical-sensible things, Plato aims to awaken in his critical readers the desire to attempt this distinction and to rethink the character and function of forms in light of it. In the second part of the dialogue, in turn, Plato provides a structured occasion for this rethinking. On their face, Parmenides' notorious hypotheses are pure Zenonian exercise, an exasperating web of contradictions that appear to undermine every possible interpretation of their obscure subject, "the One." If, however, responding to the hypotheses analogously as Socrates earlier responded to Zeno's treatise, we attempt to undercut the contradictions by developing, in the context which they offer us, the distinction between kinds of being

and unity, we will find their content transformed. With remarkable specificity, they provide the elements for a saving rearticulation of the notion of forms; this rearticulation, in turn, first puts us into position to understand the priority of forms to things and to interpret participation in light of it. Thus the hypotheses provide the resources and mark out the path for the "conversion of the soul."

To bring all this into closer focus, consider first the thrust of Parmenides' two central refutations, the so-called dilemma of participation argument at 130e–131e and the regress arguments at 131e–133a. In each Parmenides challenges Socrates, testing to see how deeply he distinguishes forms and the things which participate in them; in each, but in different senses, Parmenides focuses on the sort of unity a form has. *The dilemma of participation:* In the first, Parmenides offers Socrates a choice between two seemingly exhaustive alternatives: either each participant thing has the form as a whole present in it, in which case, since there are many separate participants in a form, the form must be separate from itself, or each participant thing has just a part of the form present in it, in which case the form must be divided into many parts. Socrates tries to escape the consequence of the first alternative by proposing his promising simile of form to "day," which is both "one and the same" and "in many places at the same time" (131b3–4). Parmenides, however, responds by putting him to the test, proposing the further simile of the day to a sail spread over the heads of many people. "Don't you have something of this sort in mind?" he asks (131b9). Socrates hesitantly agrees ("Perhaps": c1), unable to articulate conceptually what he has glimpsed imaginatively, that the day, not a material thing, is not intrinsically subject to division. Parmenides goes on to show him the costs of this failure, arriving back at the second alternative: if the form is like the sail, then, since only a part of the sail will be over each person, so only a part of the form will be in each of its participants—and the form itself will thus be divided, its simple intensional unity dissolved into an aggregate of many parts. *The regress arguments:* In the dilemma of participation argument Parmenides treated unity in the sense of wholeness or integrity; now he shifts attention to unity in number. Correlatively, in the dilemma argument Parmenides reflected on participation as a relation in which the participant somehow takes the form within itself; now he focuses on participation as that relation of resemblance and likeness to a common form (cf. *τοις ἐοικέναι καὶ εἶναι ὁμοιώματα*: 132d2–3) which first makes a group of things similar to one another. His arguments show Socrates

the fatal consequences if, once one has taken the group of, for instance, "large things" and, "looking at them all together" (ἐπὶ πάντα ἰδόντι: 132a3), recognized their similarity, one should go on to take "the large itself"—that is, the form—together with the many "large things" and "look at them all together in the same way" (ὡσαύτως τῇ ψυχῇ ἐπὶ πάντα ἴδῃς: a6–7). Such treatment implies that a form and its participants stand on par as "like to like" (d7). But if that is so, then the form itself will be not one but indefinitely many. To summarize the crux of Parmenides' two arguments: if, on the one hand, where things share a similar character, this is because there is some one form in which they all participate, and if, on the other hand, this one form stands in the same relation of similarity with its participants that they stand in with one another, then yet another such form will be necessary to account for this latter similarity, and so on, without limit; hence there will be not one but unlimitedly many such forms.

These refutations leave the youthful Socrates deeply perplexed (131e6–7, 133a8–10). For the reader who shares this aporia and at the same time agrees with Parmenides' remark that "thought" (τὴν διάνοιαν) and "the capacity for discourse" (τὴν τοῦ διαλέγεσθαι δύναμιν) require forms (135b5–c2), they pose a complex task. Eventually, one must work out an adequate conception of participation. This, however, will be impossible unless one first overcomes the two key assumptions that make Socrates vulnerable to the refutations. These concern the types of unity proper to forms and to their participants. Evidently, a form must not be thought as the kind of *whole of parts* that each of its participants is; breaking the grip of this presumption would have enabled Socrates to resist the seemingly exhaustive alternatives Parmenides presented him in the dilemma of participation argument and to challenge Parmenides' assimilation of form and day to the sail. Likewise, a form must not be thought of as a *one among others*, a *single* thing that can stand with others in a common object field; this was Socrates' basic mistake in "looking at the large itself and large things all together" and, again, in letting form and participant stand as "like to like." But then, if a form must be denied the kinds of unity—whole-part structure and singularity—that belong to its participant things, what are the kinds of unity that belong properly to it? The first step in answering Parmenides' refutations must be to respond to this question.

The reader who bears this question in mind as he approaches the contradictory, and sometimes fallacious, characterizations of the

One in the first two of Parmenides' eight hypotheses may find in them instead a stunningly coherent, rich, and timely resource. Note, first of all, that with the exception of a single well-marked passage, the subject of the hypotheses, "the One" (τὸ ἕν), is *not* the form Unity. (Indeed, in that passage, 143a–144e, the form Unity, introduced at the outset and referred to again in closing with the typically Platonic formulation αὐτὸ τὸ ἕν, "the One *itself*" [143a6, 144e6], is contrasted with "the One." We shall come back to this passage in due course [C.3 below].) Instead, by "the One" Parmenides refers to *the instantiation of* Unity, that is, the notion of *a one* or *unit.* And rather than, as it first appears, offering contradictory characterizations of a selfsame One, the first two hypotheses treat this notion with systematic ambiguity: each picks out a fundamentally distinct kind of *one* or *unit* and, examining it with reference to the same wide-ranging series of types of characters, sets it into sustained and basic contrast with the kind of *one* that the other picks out. Thus in the first hypothesis Parmenides begins by reasoning that the One, since it is one, cannot be many and, consequently, cannot have parts or be a whole (137c–d). It follows from this, as he then goes on to show in the rest of the first hypothesis, that such a One cannot have shape, location, rest and motion, equality and inequality, temporal relations—that is, any of the various kinds of features that belong properly to a thing that is in place and time, including even (temporally determinate) being and unity (141e).[14] In the second hypothesis, in turn, Parmenides shows the converse: he begins by reasoning that the One, if it *is*, must be a whole of parts (142b, c–d). He then offers two distinct lines of argument to establish that such a One must be many, arguing on the one hand that any such unit must be composed of indefinitely many parts (142d–143a, recalled at 144e5–6), and on the other hand that there must be indefinitely many such units (143a–144e, recalled at 144e6–7). From this, as he then goes on to show in the rest of the second hypothesis, it follows that such a One is subject to having all the same kinds of features just denied to the One in hypothesis I, the features proper to a thing that is in place

[14] The implications of 141d–142a for interpreting hypothesis I and, consequently, the contrast of its *one* with the *one* of hypothesis II are crucial—but, strangely, little noticed by commentators. It is only and specifically temporally determinate being, not being generally, that Parmenides' argument justifies denying to "the One" of hypothesis I. See Miller, *Plato's* Parmenides, 89–91.

and time. Taken together, the first two hypotheses thus offer a conceptual articulation of the difference in kind between forms and things. Or, focusing this in terms of the question Parmenides' refutations of Socrates provoke, the first two hypotheses bring to light the sorts of *one* that each form, just insofar as it is not in place and time and, so, differs radically from the things that participate in it, must and must not be: the form must be *simple*, not composite, not a whole of parts, and it must be *unique*, not singular, not a one among indefinitely many similar others.

This insight marks the beginning, but just the beginning, of the process of "conversion." It is the task of hypotheses III–VIII to point out and provide a series of seminal notions to found and orient the work still to be done. In the remainder of this section I shall offer titular characterizations of the concerns of each of the remaining pairs of hypotheses.

Hypotheses III–IV: Freed from thinking of forms on the model of things, we are also freed from interpreting participation as a real relation between things; neither the physical presence of one thing (whether as a whole or in part) in another nor the relation of likeness between two things, the flawed possibilities that Socrates was unable to resist in the first part of the dialogue, will do. However, setting aside these reifying conceptions of the relation of forms and things makes urgent the task of putting a well-oriented interpretation in their place. What is participation? In hypotheses III–IV Parmenides brings us back to the central task of working out an adequate conception. In hypothesis III he offers the elements of an account that brings out the ontological priority and constitutive role of forms in relation to things. (We shall come back to this in due course. Explicating this account will be our principal project in Parts D and E below.) Then in hypothesis IV he argues that without participation so conceived, the things other than the One, that is, the things of ordinary experience, would have no discrete characters at all; thus IV stands in support of III, showing by *reductio* the necessity of participation.

Hypotheses V–VI: If, as hypothesis I has established, forms are not subject to the characters proper to things in place and time, to what other characters are they subject? And how, if the ways familiar to us from our experience of things in place and time must fail, can they be known? In hypothesis V Parmenides brings out how each form, precisely as a *one* which "is not" in any place or time and is "different in kind" (ἑτεροιότης: 160d8, e1) from things, must be a

referent of discourse and knowledge, and must be capable of participating in other forms, including, on the one hand, greatness and smallness (see C.2.ii below) and, on the other, Being and Not-being in the timeless sense that is in play in veridical discourse. With this last point and his richly paradoxical elaboration of it in the final arguments of hypothesis V, Parmenides provides the elements for the method of collection and division. Then in hypothesis VI, repeating the motion of III–IV, Parmenides offers a *reductio* in support of V, showing that the very denial of the knowability and (in its special veridical sense) the Being of forms actually presupposes them.

Hypotheses VII–VIII: Learning to think of forms *not* on the model of things (the youthful Socrates' basic mistake) but as radically distinct from things (hypotheses I–II) and ontologically prior to them (hypotheses III–IV) requires, conversely, learning to think of things as ontologically dependent and epistemically secondary to forms; this rethinking is the consummating task in the process of "conversion." As we have noted, for the ontological dependence of things on forms, the account of participation in hypotheses III–IV has already provided the key insights; for their status as epistemically secondary, in turn, hypotheses V–VI set the stage by introducing the veridical sense of Being. Once we recognize the unqualified way in which each form "is" what it is, we will be struck, by contrast, with the way in which things are what they are only "apparently" or "seemingly"; their characters are given to sense perception and are relative to changes of perspective and to flux over time. The work of hypotheses VII–VIII is to return to hypothesis II and rethink all the features there attributed to the One—that is, to the sort of *one* a thing is—in light of this fundamental contrast. Like III–IV and V–VI, they function as thesis and *reductio*, respectively, now to establish the phenomenal status of participant things.

C. *Appearances of "the One" and "the Great and the Small."*

This sketch of the project of the *Parmenides* provides the basic context we need in order to approach the account of participation in the third hypothesis. In order, however, to be prepared to see how that account fits with what Aristotle reports in *Metaphysics* A6, we must take one further series of steps, as well: we must mark the major appearances in the hypotheses of "the One" and "the Great and the Small."

1. The implicit presence of Unity.

To avoid confusion, it is important to stress right at the outset that what Aristotle refers to as "the One" makes only a brief *explicit* appearance in the *Parmenides.* This would be what Parmenides, both in opening and closing his argument at 143a–144e in hypothesis II, calls "the One itself" (*αὐτὸ τὸ ἕν*: 143a6, 144e6) and distinguishes from "the One which is" (*τὸ ἓν ὄν*: 143a5; *τὸ ὂν ἕν*: 144e5). (I shall discuss this passage in subsection [3] below.) On the other hand, this "One itself"—or Unity, as I shall call it for clarity's sake from here onwards—has a pervasive *implicit* presence in the dialogue. In using the phrase "the One" (*τὸ ἕν*) throughout hypothesis I and again throughout III–VIII[15] to refer to the sort of *one* or *unit* that each form is, Parmenides refers to each form in its aspect as an instantiation of Unity; as simple and unique, each form is a perfect exemplar of Unity. Thus the language of hypotheses I and III–VIII provides extensive evidence for part of teaching #2 in Aristotle's report: what Aristotle calls "the One" and Parmenides distinguishes as "the One *itself*" is, as the principle that each form in its perfect unity instantiates, a "cause" of the forms.

Recognizing this, however, immediately generates at least three further sets of questions.

First, does the status of the forms as instantiations of Unity imply, as Aristotle also says in #2, that Unity is cause "*of what* [*each form*] *is*" (*τοῦ τί ἐστιν*: 988a10)? If so, what should we understand this phrase to mean? As we noted in Part A, it seems impossible to take this to mean that the unique nature that each form *is* is itself derived from Unity. For there are many different forms; how could one self-same principle be the source of many different natures? But what else can the *τί ἐστι*, the "being" or "what [it] is" of the forms, refer to, and how is it that Unity can be cause of it? (We shall address this in Part E below.)

Second, what are we to say of "the One" as Parmenides characterizes it in hypothesis II—the sort of *one* that is subject to shape, location, rest and motion, temporal relations, and so forth, in short, to all the features proper to things in place and time? Is this, "the One which is," not also an instantiation of Unity? Hypotheses II and

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[15] Throughout hypotheses III–VIII the phrase "the One" refers to the sort of *one* that is studied in hypothesis I and the phrase "the others" refers to the sort of *one* that is studied in hypothesis II. See Miller, *Plato's* Parmenides, 124–5, 139–41, 159–62.

VII–VIII distance this "One" from Unity in two fundamental ways. Hypothesis II, as we have noted, stresses the impurity of the unity that its "One" has: it is not simple but a whole of parts, and it is not unique but singular, a one among many; its unity is saturated with plurality. Hypotheses VII–VIII, in turn, reconsider and revalue this impure unity, arguing that each sensible thing is only "apparently" or "seemingly" a whole (164c–d) and singular (d–e). These distancings of "the One" that is in place and time from Unity invite a further question: is there, between the forms that are simple and unique and the sensibles that are only apparently whole and singular, anything that exemplifies true wholeness and, again, true singularity? (These questions, too, we shall address in E below.)

Third, on Aristotle's report Unity exercises its distinctive causal power conjointly with the Great and the Small. What presence do the Great and the Small have in the *Parmenides?* We shall take up this last question first. There are four significant appearances of the dyad in the hypotheses, to which we now turn.

2. Greatness and Smallness in hypotheses II, V, and VII

(i) Hypothesis II, 149d–151b. In this passage Parmenides offers a labyrinthine set of arguments to yield the contradictory conclusions that the One is both equal to (150d) and greater and smaller than (151b) others than it and, again, both equal to (150e) and greater and smaller than (151a) itself. To work through the details of the passage would require the lengthy exegesis I offered in an earlier study.[16] For our present purposes, it must suffice to make two key claims. The first is essentially a distillation of the result of that exegesis. As throughout the hypotheses, so here Plato has Parmenides work his way to contradictory conclusions in order to challenge the reader to a critical rethinking of the arguments. The results of such rethinking are striking. Parmenides generates the contradictions by fallaciously treating the forms of size, Greatness (μέγεθος) and Smallness (σμικρότης), as themselves subject to the size properties which things receive by participation in them. If we respond critically, purging this fallacy where it occurs, not only do the contradictions dissolve—what is more, the purged arguments provide the basic steps of a *modus ponens* proof for the existence of the forms, Greatness and Smallness and Equality, and for the participation in them of physical-sensible things! The *modus ponens* proof runs as

[16] Miller, *Plato's* Parmenides, 105–11.

follows: (1) for things to be equal and greater and smaller with respect to one another, "this pair of forms, Greatness and Smallness" (τινε τούτω εἴδη, τό τε μέγεθος καὶ ἡ σμικρότης: 149e9) and, analogously, the form Equality must exist and come to be present in things; (2) "the One"—that is, any physical-sensible *one*—is in fact equal to itself and greater and smaller than others—that is, again, than other such *ones*; (3) the forms Greatness and Smallness and, analogously, Equality must therefore exist and come to be present in things.

The second claim brings into focus a point already implicit in the first: Greatness and Smallness stand together as a dyad. Parmenides asserts this both indirectly, in his repeated uses of the dual (149e9, 10, 150a1, 150d1, 2) and the strongest formula for conjunction (τε . . . καὶ: 149e9), and directly, in his argument at 150b–d. In that passage Parmenides argues that if Smallness is not present in things, neither can Greatness be. For if Greatness were present without Smallness, then we would have the impossible situation of there being something greater—namely, "that in which Greatness would be present" (150c1)—with nothing smaller for it to exceed. He follows this up at 150d1–2 by asserting that "these two (αὐτὼ τούτω) [namely, Greatness and Smallness] have their power of exceeding and being exceeded . . . with reference to each other." If, as in our basic strategy of purging the argument, so here we resist the reduction of the forms Greatness and Smallness to the status of greater and smaller things, we must take Parmenides' claim to mean that *the instantiation of* each of the two forms always occurs with reference to *an instantiation of* the other. Although they are "opposites" and, so, two and not one, Greatness and Smallness function together in requiring that whatever participates in one have its character with reference to what participates in the other.

(ii) Hypothesis V, 161c–e. As I noted in the summary above, hypothesis V stands in complementary relation to hypothesis I. Whereas in I Parmenides shows all the types of spatiotemporally determinate characters to which "the One"—that is, the sort of *one* that each form is—is not subject, in V he shows the aspatial and atemporal characters to which it *is* subject; thus we learn that "the One which is not" (in any place or time) is the referent of discourse and knowledge (160c–d), is "different in kind" from (160d–e) and so "unlike" things (161a–b) but "like" itself (161b–c), and "participates" in the sort of "Being" and "Not-being" that veridical discourse requires (161e–162b). Recognizing this as the project of hypothesis V is the key to interpreting the otherwise perplexing treatment of

Greatness and Smallness at 161c–e. As before, Plato has Parmenides generate a provocative set of contradictory conclusions. He begins by reasoning that because the One "is not" and is unlike "the others," that is, sensibles that do have being in place and time, it must also not be equal to them. Then he asks his interlocutor, the young "Aristotle," whether "things which are not equal are not unequal?" (Τὰ δὲ μὴ ἴσα οὐκ ἄνισα: 161c7–8). When Aristotle says that they are, Parmenides draws out the consequences, bringing the argument around to contradict its starting-point: as unequal, the One must participate in Inequality; but Greatness and Smallness are the modes of Inequality, and they "stand apart" (ἀφέστατον: d4–5), with Equality situated "between" them (μεταξύ: d5, 6, 7); hence the One must participate in Equality as well as in Greatness and Smallness. The pivotal fallacy is, of course, Aristotle's conflation of "not being equal" with "being unequal." A *one* that "is not" in time or place is "not equal" to sensibles only in the sense that, as "different in kind" from (160d–e) and "unlike" them (161a–b), it does not have the size properties that equality and inequality alike presuppose. How, then, can such a *one* participate in Equality and Greatness and Smallness? Strikingly, even as he asserts this participation, Parmenides takes care not to say that the One is itself greater or smaller or equal; he ascribes no size properties to it itself. Instead, in each case using the general noun, he speaks of Great*ness* (μέγεθος) and Small*ness* (σμικρότης) and Equal*ity* (ἴσοτης), and he says only that they "belong to" it (ἔστι with the dative: 161d3–4, 7–8, 8) or that it "has a share of" them (μετείη with the dative: e1–2). In this way Plato incites us, even as we object to Aristotle's conflation, to see what he surely does not: there must be a kind of participation or sharing between the sort of nonspatiotemporal *one* that each form is, on the one hand, and Equality, Greatness, and Smallness, on the other, a sharing that implies no size properties for the form itself; this would be a participatory relation not between sensibles and forms but between forms and forms.

There are two questions to raise about the passage. First, what is the causal function of this new sort of participation? That is, what is it that requires, and is itself constituted as an effect of, this relation between Equality, Greatness, and Smallness and the form that in some way "has a share of" them? (We shall return to this question in Part E.)

Second, what is the significance of Parmenides' placement of Equality as standing "between" Greatness and Smallness? Notice

that so long as Parmenides considers these three under their aspect as distinct forms, nothing motivates this placement; indeed, since, as he himself observes at 161d1–2, "Greatness and Smallness belong to Inequality," it seems more natural to think in terms of a nested double contrariety, with Equality and Inequality as contraries and, within Inequality, Greatness and Smallness as contraries. In now placing Equality "between" Greatness and Smallness, however, Parmenides makes the same shift of attention that, as we just noted, his argument at 150d in hypothesis II requires: he turns from the relations these forms bear to one another as forms to the relations between the properties they bestow on the things in which they are present. Consider the following. For something to be smaller is for it to be smaller than something else that is greater than it; smaller, therefore, always means smaller than something greater. The converse holds, of course, for the contrary; greater always means greater than something smaller. Equality—that is, the sameness of size that Equality bestows on the things in which it is present—stands between these poles. If we let what is smaller increase and approach what is greater, we reach a limit point at which it becomes no longer smaller than but equal to what is in its turn no longer greater than but, now, equal to it. The same holds if we begin from the greater and let it decrease and approach what is smaller. Thus we have a continuum of size relations which takes the following schematic form:

(what is	(what is	(what is
smaller ———	*equal* ———	*greater*
than what is	to what is	than what is
greater than it)	equal to it)	smaller than it)

It is with this continuum of size relations in view that Parmenides speaks of Equality as in the middle "between" Smallness and Greatness.

(iii) Hypothesis VII, 164c–d, 164e–165a. Finally, there are two very brief passages in hypothesis VII that appear to confirm these last remarks—and with a focus that will prove of interest much later, when we come to reflect on the implications of Parmenides' account of participation (Part E below). Parmenides is at work showing that "the others"—that is, sensible things—are only apparent unities, that in truth they have no indivisible material parts. Take "what seems the smallest" of such things, he suggests at 164c–d, and if you then compare it to any of the "bits" (*κερματιζόμενα*; d4) that make it up, you will find it to be both many and great by comparison. And at

164e–165a he repeats the point, now, however, introducing equality as well. "And indeed each mass," he says,

> will seem to be equal to the many smalls; for it could not proceed from appearing greater to [appearing] smaller without first seeming to move into the between (εἰς τὸ μεταξὺ), and this would be the appearance of equality. (165a1–5)

Thus Parmenides traces the continuum we have just reconstructed. Whereas his example of *smaller* is the size relation of one thing ("what seems the smallest": 164d1–2) to others, his examples of *greater* and *equal* are part-whole relations proper to any one thing within itself. The whole—or more precisely, since it is a whole with only seeming integrity, the "mass"—will be "immense" by comparison to any one of its minute parts, the "bits" that make it up, but it will be "equal" to the sum of these, the "many smalls." It is this turn to part-whole relations that will prove to be of interest later.

3. Unity ("the One itself") and the Great and the Small in hypothesis II.

Finally, we need to consider the one passage in the dialogue in which, arguably, Unity and the dyad of the Great and the Small appear together. This is the characterization of number in hypothesis II at 144a–c. This characterization appears in the third and final part of Parmenides' serpentine argument at 143a–144e for the claim that "the One" is many in number. As I noted in my earlier summary, Parmenides shifts the focus away from a "One which is," which he took as his subject at the beginning of hypothesis II, and to "the One *itself*" or Unity (αὐτὸ τὸ ἕν), arguing that this has infinitely many instances; this is the single passage in the hypotheses where Parmenides focuses on "the One" neither in the sense of the sort of *one* a form is nor in the sense of the sort of *one* a sensible thing is but, rather, in the sense of the form Oneness, the form Unity. The three parts of the argument may be summarized as follows. (1) *143a4–b8.* Within a "One which is," three characters may be distinguished: Unity (αὐτὸ τὸ ἕν), Being (οὐσία), and—since these differ in a way that cannot be derived from either by itself—Difference. (2) *143c1–144e4.* The existence of the various possible pairings of these characters presupposes the existence of number. For a "pair" implies the existence both of *two* and of *one*, and a pair taken together with a *one* yields *three; two* and *three*, in turn, imply *twice* and *thrice;* the various possible combinations of these, taken as the paradigm cases

of combinations of even and odd, yield the four multiplication sets, even times even, odd times odd, odd times even, and even times odd, and there is no number that these "leave out." "If, then, there is a One," Parmenides concludes, going back to the initial premise for the whole argument, "there must also be number" (144a4). (3) *144a5–e7.*[17] Finally, the existence of number implies the existence of infinitely many instances of Unity. Since "all number" (πᾶς ἀριθμὸς) participates in Being, so does "each part" (τὸ μόριον ἕκαστον) of number; in this sense, the parts of number are also parts of Being. However, whatever is a part of Being, is also thereby *a one* (ἕν γέ τι: c5). Hence the distribution of Being by number to an infinite many is also the distribution of Unity by Being to this many. In this way, therefore, Unity is many (e4, e7.)

In the second phase of his argument, Parmenides gives, so to speak, a classificatory description that covers all numbers; with his four multiplication sets, he constructs classes that, he claims, "leave out" no number. The description he offers in the third phase, at 144a–c, is different in kind. Now he characterizes number in terms of its essential sequential structure and the forms that are in play in the constitution of this structure. On the one hand, there is the dyad of the Great and the Small. At 144b5–c1, Parmenides argues that insofar as "each part" of number participates in Being, Being

> is cut up into the smallest and the largest and all possible parts (Κατακερμάτισται . . . ὡς οἷόν τε σμικρότατα καὶ μέγιστα καὶ παντα χῶς ὄντα); it is divided to the supreme degree (πάντων μάλιστα); there are infinitely many (ἀπέραντα) parts of Being.

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[17] Both Cornford and Allen translate 144a5–6 in a way that suggests that the argument turns from a consideration of number to a consideration of the many "things"—in an unrestricted and all-inclusive sense—that are. Thus, Cornford translates, "Now, if number is, there must be many *things* (πολλὰ ἂν εἴη), and indeed an unlimited plurality of *things* (πλῆθος ἄπειρον τῶν ὄντων), that are"; Cornford, *Plato and Parmenides*, 141 (Cornford's stress on "are," mine on "things") Allen translates, "But further, if number is, plurality is, and an unlimited plurality of *things* which are"; Allen, *Plato's* Parmenides: *Translation and Analysis*, 26 (emphasis added.) The key Greek words here, πολλὰ and τῶν ὄντων, are ambiguous and, taken by themselves, open to such translation~~ote~~. However, the context suggests that they refer to numbers, for otherwise Parmenides is guilty of a thoughtless *non sequitur*. This is important, for only if we take πολλὰ and τῶν ὄντων to refer to numbers, do we find in 144a–c the characterization of numbers that exhibits the fifth of the six teachings that Aristotle reports in A6.

This language clearly suggests that number is to be thought of as an infinitely divisible and infinitely extended continuum ranging from the relatively smallest to the relatively greatest possible magnitude; hence it is an abstract instantiation of the dyad of the Great and the Small. On the other hand, Unity plays a constitutive role as well. Each relative magnitude is a part of the continuum, and as a part, it is "*a one*" (ἕν γέ τι). Thus,

> Unity belongs to each of all the parts of Being, being lacking neither to smaller nor to greater nor to any other. (144c6–8)

Hence, each part of number is conceived as a unit on the continuum between smallest and greatest. As such, it is an effect of the conjoint causal power of Unity and the dyad of the Great and the Small.

Read this way, 144a–c both offers indirect evidence for #5 of the Platonic teachings Aristotle reports in *Metaphysics* A6 and helps us on several counts to interpret what Aristotle says. It is only indirect evidence, for Parmenides gives an existence proof, not a derivation; he does not speak of the way numbers are actually "produced," so we are left in the dark about just what the "quite natural" procedure might have been by which Plato, according to Aristotle, thought that the Great and the Small could be "molded" to form numbers. Nonetheless, the passage does give evidence that the dyad of the Great and the Small is one of the causes involved, and it supports the assumption that Unity is the other. (Recall problem [x] in Part A.) It also helps to support our reading of τῶν πρώτων at *Metaphysics* 987b34 as "the primary [numbers]", namely, 1 and 2, rather than "the primes." Prime numbers are no less units on the continuum between smallest and greatest than any other number. 1 and 2, by contrast, have a special status. By Parmenides' reasoning at 143d1–3 (summed in subsection (2) above), the existence of a "pair" implies the existence of 1 and 2. So soon as the dyad is invoked, therefore, 1 and 2 are already in play and not to be derived.[18]

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[18] At first sight, Parmenides' classificatory description of number in the second part of this argument seems to point toward the interpretation of τῶν πρώτων as referring to prime numbers. If, as ancient Greek number theory is often said to hold, 1 is not to be classified as either odd or even, then primes, since they are multiples only of themselves and 1, do not fit into any of Parmenides' four multiplication sets. Thus Parmenides would seem to offer a derivation for all numbers ἔξω τῶν πρώτων, "except for the primes," just as Aristotle says in reporting teaching #5. This interpretation, however, should be rejected for two reasons. First, as Allen argues, Parmenides' classificatory description is not a derivation but an existence proof; Allen, *Plato's* Parmenides: *Translation and Analysis*, 228. Second, Parmen-

These reflections return us with quickened interest to the problem with which we ended Part A: if, now with the support of *Parmenides* 144a–c, we accept #5 as Plato's teaching, then we must find an interpretation for #2 that prevents it from coinciding with #5; for if we were to take #2 to mean that Unity and the dyad "produce" the forms in a way that coincides with their "production" of numbers in #5, then the identity such a coincidence would imply between forms and numbers would stand in contradiction to the distinction between forms and numbers required by #4. Such an interpretation of #2 is suggested, I think, by the implications of the account of participation offered in the third hypothesis of the *Parmenides*.

D. *The Account of Participation in Hypothesis III.*

Hypotheses III–IV, V–VI, and VII–VIII, I have said, offer a series of seminal notions to found and orient the completion of the work of the "conversion of the soul." The account of participation in hypothesis III is, accordingly, pointedly fragmentary and invites expansion. We will begin with an interpretation of the account as it is given, then turn in Part E to the task of expansion. As we proceed, the presence of the teachings Aristotle reports should emerge with increasing depth and detail.

Whereas the work of hypotheses I and II was to distinguish systematically the kind of *one* a form is from the kind of *one* a physical-sensible thing is, the work of hypothesis III is to bring out the constitutive function of forms for things. Parmenides proceeds in two phases. In the first, 157b6–158b4, he reasons deductively, establishing the fact of participation and assigning to the participated form and its participant things the different sorts of unity distinguished and explicated by hypotheses I and II, respectively. In the second phase, 158b5–d8, he explores what the form must provide its participants and, correlatively, what these must be, so to speak, prior to participation in order to receive what the form provides. We shall consider each of these phases in turn.

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ides himself seems to see the primes as posing no problem for his classificatory description, for he says that it "leaves out" no number. It is therefore better to look not to the second but to the third part of the argument, and in particular to 144a–c, for an allusion to the Platonic derivation of number that Aristotle reports in teaching #5.

1. The first phase (157b6–158b4): simple "One," composite "others".

Let us begin by retracing Parmenides' argument in its own language. He begins by establishing that "the others" than "the One" can neither "*be*" (ἐστι: 157b9) "the One," for this would contradict their being "other" from it, nor "be utterly deprived of" it (στέρεταί γε παντάπασι: c1–2). (He gives no reason for the latter denial here; but he does in hypothesis IV, where he argues at length that if "the others" are "utterly deprived of" the One [159e1, 160b1], they can have no characters at all.) As the intermediate between the extremes of identity and nonrelation, Parmenides invokes the relation of participation. But "in what way (πῇ: 157c2)," the young Aristotle asks him, do "the others" participate in "the One"? Parmenides distinguishes two ways. First, they "have parts" (c3); for otherwise they would be "perfectly one" (παντελῶς . . . ἕν: c4), and this, again, would contradict their being "other" than "the One." Moreover, "the same argument" (ὁ αὐτὸς λόγος: 157e6) holds for each of these "parts"; to be different from "the One," each part must itself "have parts." Second, "the others" must also be "many" (πολλά: 158b3); for the only possibility apart from being "one" (which, once again, is impossible for them insofar as they are "others" [ἕτερα: 158b2] than "the One") and being "nothing" is that they be "more than one" (158b1–3). To be "many" or "more than one," however, is to be many ones, many countable singulars.

Heard on this first level, Parmenides' argument is coherent and compelling. The reader who has recognized in the contrast between the *ones* of hypotheses I and II the contrast between form and physical-sensible thing, however, will be able to hear the argument on a deeper level as well. The participated "One," standing in contrast with the participating "others" as, in each case, not a whole of parts but simple and not a one among many but unique, is the sort of *one* a form is; "the others," in turn, are in each case the sort of *one* that a physical-sensible thing is. And the argument elegantly expresses the appropriateness to physical-sensible things, both as different in kind from and as participating in forms, that they possess kinds of unity that fall short of the purity of the kinds of unity that forms possess. If, on the one hand, a physical-sensible thing were "perfectly one," that is, simple and unique, it could not be a physical-sensible thing to begin with; for no thing in place and time is indivisible or incomparable with similar others. Rather, it would "be" a

form. If, on the other hand, a thing were to lack unity in every sense, it would have no characters at all; it could not even exist. Between these extremes stands the only viable possibility: each thing has the integrity of a composite and the singularity of a one among many.

2. The second phase (158b5–d8): πλῆθος and πέρας.

To see that whole-part composition and singularity are appropriate to its status as a participant is not yet, however, to see how it is that a thing first acquires these basic characters. How is it that the presence of "the One"—that is, of some form—gives rise to them? To explore this, Parmenides now leads Aristotle in an act of conceptual imagination (note "let us look at it this way," Ὧδε ἴδωμεν, at 158b8, and "in thought," τῇ διανοίᾳ, at c2), asking him to reflect on the condition of the participant "at the moment when" (τότε, ὅτε: 158b9) it first partakes of the form. In this way he is able to lay bare the "nature" of the participant things as they are "in and of themselves" (ἡ δ' ἑαυτῶν φύσις καθ' ἑαυτὰ: 158d5–6), apart from the unity they acquire by means of participation, and this, in turn, enables him to set into relief what the form provides to transform this "nature" and constitute a composite singular thing.

This "nature," first of all, Parmenides calls ἀπειρία, "limitlessness" or "indeterminateness" (158d6), with respect to πλῆθος.[19] Hence the participants are πλήθει ἄπειρα . . . αὐτὰ, "in themselves indeterminates in πλῆθος" (158b6–7). Πλῆθος means quantity, and its range of possible senses includes both multitude and magnitude. In an everyday use that nicely shows these two senses in play together, τὸ πλῆθος designates "the people" as they are gathered together in public assembly.[20] Thus the term invites us to think of a host or mass without definite number or structure. Parmenides' reflection on the participant prior to its acquisition of unity calls to mind something of just this sort. "If in thought we should take from such things the least [portion] (τὸ ὀλίγιστον) we can, isn't it necessary that this portion too be a πλῆθος and not a one?" (158c2–4). And this, he says, is what we will keep finding, so long as we go on investigating in this way. Three significant features of the participant can be distinguished at 158c5–7. (1) 'It' is indenumerable. If "the

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[19] For the earlier appearances of this nature in hypotheses II (as τὰ μὴ ἕν) and in IIa, the corollary passage on "the instant," see Miller, *Plato's* Parmenides, 102–5, 116–17.

[20] *Apology* 31c. Note also τὰ πλήθη: *Gorgias* 452e8.

least portion" we can isolate is itself not a unit but an aggregate of still smaller portions which, in turn, are themselves not units but aggregates, and so on forever (cf. ἀεὶ: c6), then the participant simply has no ultimate component units for us to count up. Thus 'it' is neither a single one (for 'it' is an aggregate of many portions) nor a definite many made up of such ones (for there is no limit to the process by which we can keep finding fresh pluralities). 'It' is indefinitely many. (2) 'It' has no definite shape, no internal or external order. For if 'it' did, we could distinguish 'its' parts, and then both 'it' and each of these parts would have what 'its' least portions, and so 'it' itself, have been shown to lack, the singularity of a countable thing. Instead 'it' has the character of a shapeless mass, no more large in one place and small in another than the contrary. (3) This last character implies a third that Parmenides, while he does not name it, nonetheless suggests by his very appeal to our conceptual imagination. The participant has no independent existence in place and time. For everything that exists in place and time, even the merest heap or aggregate, has some minimal shape and structure. The shapeless mass that our imagination posits as 'there,' so to speak, prior to the moment of participation and as ready to receive whole-part composition and singularity from it cannot actually *be* anywhere in place and time; rather, 'it' can only first exist in place and time by means of that reception and as 'it' is first determined by it.

On this account, for the participant to participate is for the in itself shapeless and indenumerable and nonexistent to be constituted as an existent thing of definite shape and number. To express this, Parmenides introduces the seminal notion of πέρας. The concrete meaning of πέρας is boundary or delimiting extremity, and it is in just this sense that Parmenides uses the word throughout the hypotheses (see 137d6, 145a1, 165a5). At 158c7–d2 he says that "whenever each single part becomes a part, from the outset (ἤδη) it has a πέρας"—a boundary—"in relation to other parts and in relation to the whole, and the whole has a πέρας"—again, a boundary—"in relation to the parts." It is the participant's participation in "the One"—that is, on our interpretation, in some form—that yields this manifold presence of πέρας. "For the others than the One," Parmenides says at 158d3–5, "it follows from the One and their communing (κοινωνησάντων) with it that something different (ἑτερόν τι) arises in them that gives them πέρας in relation to each other; their own nature in and of themselves, on the other hand, gives them unlimitedness (ἀπειρίαν)." As I think we should read this, Parmenides is

articulating the way in which, by bestowing on what participates in it its own presence or character (this would be the "something different"), a form exacts a definite order or structure of what otherwise would be an indenumerable and shapeless mass. Parmenides' use of the quasi-logical idiom, "it follows from . . ." (*συμβαίνει ἐκ . . .*), is appropriate here because it is the essential or constitutive presence of determining structure and not any sort of efficient causality that he brings to focus. Thus, to violate the unremitting abstraction of the hypotheses and formulate an example, the form Oakness requires of whatever is to have it as its character that this—an oak tree—be structured by a set of boundaries: the roots, for instance, must be set apart from one another and from the trunk, and the trunk from the roots and the limbs, and the limbs from one another and from the trunk, all in a definite spatial array. Thus roots and trunk and limbs are first constituted *as* roots and trunk and limbs or, to return to Parmenidean abstraction, *as* a definite number of determinately arrayed *parts*, and thus, conversely, the tree, the ordered ensemble to which each of these many parts belongs, is first constituted *as* this ensemble, *as* the *whole* of these parts. In this last respect, finally, the form is also responsible for the participant's singularity: the same boundaries that distinguish and place its parts and thereby constitute the whole also bound this whole off from other wholes (note the plural *ὅλα*: 158d7), distinguishing it as a *one* that belongs together with many similar *ones*.

E. *Forms as Causes: the "Unwritten Teachings" in Interplay in the* Parmenides.

Now how does this account of participation bear on the question of the teachings Aristotle reports in *Metaphysics* A6? At several points I have described the account of participation Plato has Parmenides offer in hypothesis III as pointedly fragmentary, and I have said that it invites expansion. It is in this invited expansion that compelling evidence of the reported teachings first presents itself.

1. A first expansion: the πέρας-providing form and the Great and the Small.

To begin with, let us reconsider the participant as Parmenides lays it bare in his reflection at 158b–c. Parmenides' reflections show

that 'it' is not, "in and of itself," "a *one*" (158b8) and, what this implies, that it has no independent existence; it exists only as subject to πέρας in the composite singular thing. This does not imply, however, that it has no distinctive character of its own to contribute to the thing. If we press to distinguish this character, we will be reminded of Parmenides' two reflections on the Great and the Small in hypotheses II and V (recall Part C.2.i and ii above).

In hypothesis II at 149d–151b, we noted, Parmenides argues that things can be greater or smaller—that is, can have size—only if the pair of forms, Greatness and Smallness, exist and come to be in them. As indeterminateness πλήθει—that is, "in *quantity*," in the double sense of magnitude and multitude—the "nature" of the participant is the unspecified possibility of size. In its indeterminateness, it is no more great than it is small, no more small than it is great; rather, it ranges unrestrictedly over the spectrum of possibilities framed by these, great and small, as mutually relative extremes. Brought to focus this way, the participant is itself the instantiation of the pair of forms, Greatness and Smallness, and their special contribution is, therefore, to provide what the πέρας-providing form cannot, the aspect of physical bulk or extent. The πέρας-providing form and Greatness and Smallness thus exercise complementary causal functions. Whereas the πέρας-providing form is responsible for the physical-sensible thing's being a *determinately structured whole*, Greatness and Smallness, by providing through their instantiation the in itself indeterminate bulk that is determinately structured, are responsible for the fact that this whole is *physical-sensible.*

In hypothesis V at 161c–e, in turn, Parmenides incites us to consider a kind of participation or sharing between the sort of nonphysical *one* that each form is, on the one hand, and Equality, Greatness, and Smallness, on the other, that implies no size properties for the form itself; this, as I noted, leaves us to ask what it is that does receive the properties of size. Now we can see more fully what Parmenides gives us occasion to recognize. In exercising their causal functions, the πέρας-providing form, on the one hand, and Greatness and Smallness, on the other, must collaborate with each other; it is this collaboration that Parmenides acknowledges by introducing the new kind of sharing at 161c–e. In this relation, neither does "the One"—that is, the πέρας-providing form—itself receive the properties of size nor do Greatness and Smallness receive πέρας; rather, each bestows its distinctive character upon—and by doing so, first permits—the other's instantiation.

Seen together this way, these three passages—149d–151b in hypothesis II, 158b–d in III, and 161c–e in V—attest in Plato the first of the six teachings Aristotle reports in A6. Moreover, they ease some of the concern I expressed at the outset (recall problem [ii]) about the potentially distortive effect of Aristotle's reliance on his own technical terms. For teaching #1, at least, Aristotle's language seems strikingly appropriate. To sum up with the help of this language: the three passages show, on the one hand, that a πέρας-providing form must find, in the in itself indeterminate bulk that instantiates Greatness and Smallness, the "underlying matter" upon which to impose the appropriate boundaries and, on the other hand, that Greatness and Smallness must find, in these boundaries, the determining structure that first lets their instantiation exist in place and time and, constituting it as a physical-sensible thing of some definite type, makes it "what it is." Thus "forms"—specifically, in each case the πέρας-providing form—"and the dyad, the Great and the Small, are conjointly the causes of sensibles."

2. A second expansion: forms of parts.

In the first phase (157b–158b) of his account of participation in hypothesis III, Parmenides goes out of his way to note that "the same argument" (157e6) that holds for each of "the others"—the argument, namely, that requires that each thing be a whole of parts—also holds for each of the parts of a thing. Hence, as a *one* (ἕν: 158a2) that must differ in kind from the sort of *one* that a form is, each part must itself have parts and, so, be a whole in its own right. We are now in position to recognize several striking consequences of this analogy of part and whole.

First, if a sensible thing is first constituted as a whole by participating in some πέρας-providing form, then, since each part of a thing must also be a whole in its own right, each part must also participate in some πέρας-providing form of its own. But, secondly, the identities of the parts of a whole, in answering to the identity of the whole, must answer as well to one another; it is precisely by the way parts befit one another that they realize the specific whole-part structure that a thing's πέρας-providing form requires of it. These two points fit together to imply a complex web of relations *just among forms*. That the identity of each part is determined by the form of the whole is to say that a thing's πέρας-providing form, in constituting the in itself indeterminate participant as a composite thing, calls for or implicates a definite set of *forms of parts*. That these are forms *of*

parts implies that each such form requires, as its complements, just those select other forms of parts that permit it to play its specific role within the whole.

Before moving on, there is a noteworthy connection to make. We observed earlier (near the end of Part C.1) that in hypothesis VII Parmenides reevaluates the way things in place and time have their characters and judges that such *ones* are what they are only "apparently" or "seemingly," not "truly"; this, since it implies that sensibles are only "apparently" and not "truly" many and, in each case, whole, moved us to ask the question whether there is in fact anything that exemplifies true wholeness and number. Our second expansion seems to provide one answer. Insofar as the forms of parts each require one another as complements, they are essentially related; and any such set will be a definite number of forms. Thus the set of forms of parts for which, in each case, a πέρας-providing form calls will be a true whole of a true plurality of forms. Recognizing this permits us to mark out several levels in an emerging causal hierarchy. Between the truly simple and unique *one* that each πέρας-providing form is and the only apparent or seeming wholes that things in place and time are, there stand the true wholes of, in each case, the definite number of forms of parts for which the πέρας-providing form calls.[21]

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[21] Preciseness requires two asides: (1) To be able to distinguish levels it is important to distinguish the *wholes composed of the forms* of parts from the physical-sensible *wholes composed of these parts*. The former are what the method of collection and division seeks; to speak in the terms Socrates uses in his account of this at *Philebus* 16c–17a, they are the limited "many" (πολλὰ: 16d6) by which the dialectician explicates the "single form" (μίαν ἰδέαν: 16d1) from which division begins. As forms, they are not subject to time and place. The physical-sensible wholes of parts, by contrast, instantiate these wholes of forms and are, in each case, in some definite time and place. (For exegesis of this whole of forms as what collection and division seek, see Mitchell Miller, "The God-Given Way," *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 6 (1990): 323–59.) (2) That there are such wholes of forms does not imply that the πέρας-providing forms that implicate them are *themselves* wholes; nor does it imply that the forms of parts—forms that are, in each case, a πέρας-providing form that implicates a further ensemble of forms of parts—are *themselves* wholes. A πέρας-providing form does not itself consist in the plurality of forms that it requires be instantiated by the sensibles that embody it. Its causal priority in being the form that calls for that plurality of forms makes such an identification impossible. On the πέρας-providing form's prescinsion from the composite character of the wholes of forms, see Miller, *Plato's* Parmenides, 179–83; on its prescinsion from the composite character of the physical-sensible that embodies it, see also Mitchell Miller, "Unity and Logos: A Reading of *Theaetetus* 201c–210a," *Ancient Philosophy* 12 (1992): 87–111.

3. A third expansion: the continuum and the normative role of the forms.

If we now bring these first two expansions together, a third presents itself. In the first expansion we have seen that the πέρας-providing form must collaborate with Greatness and Smallness in order that, through the imposing of boundaries, the in itself indeterminate participant be constituted as a single, composite thing with determinate magnitude. In the second expansion we have seen that analogously as does a single, composite thing, so also does each part of a thing have its own πέρας-providing form. From these theses it follows that, analogously as does the πέρας-providing form of the composite whole, so also does the πέρας-providing form of each part collaborate with Greatness and Smallness. What does this collaboration involve? If we press ourselves to explicate it, there emerges yet another structural level in the causal hierarchy we have begun to trace. We have just observed that each of the forms of parts requires each of the others. This implies that each such form, in providing boundaries to its participant, apportions its participant to fit together with the participants in each of the other forms of parts. This implies, in turn, that the forms of parts establish sizes for the parts that are appropriate both to the size of the whole and to one another, with some parts greater, some equal, some smaller.[22]

The key notions here are those, first, of size as relative greatness or smallness and, second, of the appropriate. The notion of the relativity of size implies just that continuum of possibilities, ranging from smaller through equal to greater, that we noted earlier in our discussion of hypothesis V. The places on this continuum are essentially relative to each other, and these relations lend themselves to expression as ratios or proportions. To see this, it helps to construct a schematic example: say that form *W* calls for forms-of-parts *A*, *B*, *C*, and *D;* and say that for any sensible thing *w* that embodies *W*, forms *A*, *B*, *C*, and *D* require of the parts embodying them—*a*, *b*, *c*, and *d*, respectively—that *b* be twice the size of *a*, that *b* and *c* be equal to

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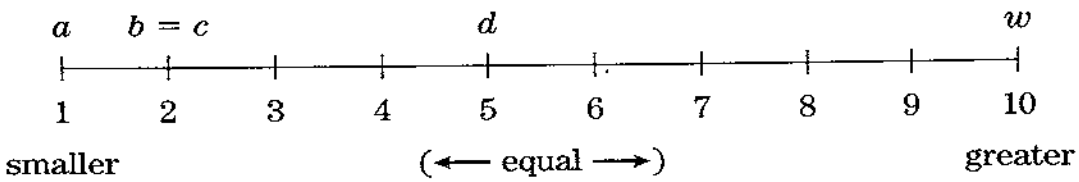
[22] Note that for the sake of illustrative clarity I have let the example oversimplify on at least two counts. (1) There is no necessity in the argument for a form to require just one particular proportion for the size of its participant relative to the sizes of others; it might equally well require that this size fall within a range of proportions. (2) The second expansion implies a potentially limitless series of conceptual divisions of a thing into parts, and the example captures only one level of this series.

each other, and that d be five times as big as a. Assuming that we have accounted for all the parts on this level of whole-part structure, these ratios imply that part a is a tenth as big as the whole sensible thing w, that b and c are each a fifth as big, and that d is half as big. We can diagram the compound proportion of all the parts and the whole together, namely, $a{:}b{:}c{:}d{:}w{::}1{:}2{:}2{:}5{:}10$, this way:



With the notion of the appropriate, in turn, we articulate the sense in which these ratios spell out what a *good* embodiment of form W would be. The compound ratio 1:2:2:5:10 stands as a set of normative specifications for sensible embodiments of W. To illustrate this, again very simply, suppose that an actual part b stands in the ratio 1:3 (that is, 2:6) to an actual part d; since their forms B and D call for a ratio of 2:5, d will be too big, and, conversely, b will be too small. Or suppose that b stands to d as 1:2 (that is, 2:4); now b will be too big, and d, too small. These ratios, 1:3 and 1:2, miss the ratio 2:5, falling short of it and exceeding it, respectively. The ratio 2:5, in turn, because it expresses the size relations required by the forms B and D and—prior to these forms and itself the source of their requirements—by the form W, has the status of what is appropriate. Should the sizes of actual parts b and d stand in the ratio 2:5, then, at least in this respect, the sensible w that has these parts will be a good embodiment of the form W. Of course, it is possible for b and d to stand in the proportion of 2:5 and yet both miss the larger set of proportions that is regulative for the whole w; to be a completely or perfectly good embodiment, an ideal case, of the form W, a sensible w must conform in all of its part:part and part:whole ratios to the compound proportion 1:2:2:5:10.

4. The reported teachings in interplay.

If these three expansions successfully explicate implications of Parmenides' account of participation, then it is fair to say that we have, *in* the *Parmenides*, a potential display of all the teachings Aristotle reports in *Metaphysics* A6. Of the six teachings, #5 (the derivation of number from the Great and the Small and, we have seen, Unity) is the least fully disclosed, appearing by itself in the last stage of the argument regarding Unity (*αὐτὸ τὸ ἕν*) in hypothesis II. (See

Part C.3 above.) The remaining five appear more fully and in their interplay in the three expansions. We have already recognized teaching #1 in the collaboration of the πέρας-providing form with Greatness and Smallness in constituting sensible things. (See Part E.1 above.) To bring to focus how the other four teachings are also at work in this constitutive activity requires a series of closely connected recognitions leading, in turn, from #4 to #6 to #2 to #3.

(i) On "the mathematicals" (teaching #4). With the continuum and the set of ratios by which the forms mark places on it, we have come to (a key class, at least, of) "the mathematicals" that Aristotle reports Plato to have posited as "intermediate" between forms and sensibles. The continuum and these ratios are in their very natures mathematical structures. That they stand "intermediate" between forms and sensibles follows from just the considerations that Aristotle briefly indicates in A6 at 987b16–18.[23] On the one hand, as a range of pure possibilities of relative size, the continuum is an *abstract* instantiation of the dyad of Greatness and Smallness. Similarly, the set of ratios are abstract specifications, applicable to any possible embodiment of the set of forms that pick them out. Neither has any physical-sensible actuality, any locus in time or place. Like the forms, therefore, the continuum and the ratios are "timeless and unchanging" (ἀΐδια καὶ ἀκίνητα: 987b16–17). On the other hand, the continuum and the ratios cannot be elevated to the level of the forms. However abstract, the continuum is nonetheless an *instantiation* of the dyad of Greatness and Smallness. Whereas there is but one form Greatness and but one form Smallness, there are indefinitely many continua and on each one there are infinitely many possible balances of greater and smaller. Similarly, both the ratios and the numbers that comprise them are many; our schematic example, for instance, requires two *2*s in its compound form 1:2:2:5:10, and in its initial and final pairs, 1:2 and 5:10, it repeats the ratio 1:2. Thus, to recall Aristotle's apt formulations, whereas on the one hand each form is "unique" (ἓν . . . μόνον: 987b17), on the other, just as with sensibles, so with the continuum and the ratios, there are in each case "many similars" (πόλλ' ἄττα ὅμοια: 987b17).

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[23] This is particularly striking because, as Julia Annas notes, in none of the passages in the dialogues usually cited as evidence for crediting teaching #4 to Plato does the reason given for distinguishing mathematicals from sensibles coincide with what Aristotle reports in A6; see Julia Annas, "On the Intermediates," *Archiv fuer Geschichte der Philosophie* 57, no. 2 (1975): 146–66.

(ii) On forms and numbers (teaching #6). Remarkably, the discovery of the ratios and the continuum of relative sizes points to a surprisingly straightforward way in which we can interpret #6 and undercut the apparent contradiction we noted at the outset between #4 and #6. How, we asked, can we harmonize the *distinction* Aristotle reports Plato to have drawn between "the mathematicals" and forms with the *identification* he reports Plato to have made between forms and numbers? (Recall Part A, problem [ix].) We have just noted the basis for the distinction: since each is unique, the forms differ in kind from numbers. At the same time, our third expansion of Parmenides' account of participation has revealed a functional equivalence of forms with numbers. The form of a thing, we have argued, calls for a set of forms of parts, and each of these forms picks out a ratio[24] on the continuum between smaller and greater; this ratio specifies the relative size that an actual sensible part must have if it is to instantiate its proper form and so contribute to a good instantiation of the form of the whole. It is, therefore, *as a ratio, a relation of numbers,* that each form of a part *is expressed* in functioning as the cause of an actual sensible part. More comprehensively, insofar as the πέρας-providing form calls for the full array of forms of parts that, in turn, pick out a correlative array of ratios on the continuum, it is *as this array of ratios* that the πέρας-providing form *is expressed* in functioning as the cause of an actual sensible whole. This, I suggest, is the significance of the qualified identity of forms and numbers: even while forms themselves are different in kind from numbers, nonetheless as causes of sensible things they *are expressed as*—and so in this function are *effectively the same as*—numbers.[25]

(iii) On Unity, the dyad, and forms (teaching #2). This interpretation of the causal function of the forms gives us, at last, the resources to develop and complete our interpretation of teaching #2, that "Unity and the dyad, the Great and the Small, are conjointly the causes of the forms." As we observed much earlier (Part C.1), the

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[24] Or, again, a range of ratios. (Recall note 21 above.)

[25] This interpretation may help to make sense of the otherwise puzzlingly indirect way in which the identity of forms and numbers emerges in *Metaphysics* A6. Aristotle never says directly that forms themselves and numbers are the same; rather, his focus is on their causal functions. As we saw (recall note 8 above), he says first that forms are "causes of everything else" (987b18–19), then that numbers are "causes of the being of everything else" (987b24–25).

Parmenides provides the point of departure with its characterization of "the One" in hypothesis I. In giving us occasion to recognize the forms as, in each case, a simple and unique *one*, Parmenides lets the forms come to light as perfect instantiations of Unity. Recognizing this, however, left us with the difficult task of bringing to focus just what it is that Unity thereby causes; as we put it earlier, recalling Aristotle's language at 988a10: what is the τί ἐστι, the "being" or "what [it] is" of each form, of which Unity is "cause"? We are now in position to open this up and explicate all together the complex of factors and relations it involves. First of all, the "being" or "what [it] is" of the forms is to be causes of the composite unity and singularity of the sensibles that participate in them, and it is this causal power that Unity itself causes in its instantiations. Thus it belongs to the forms, as instantiations of Unity, to instantiate not only the nature that it *is*, namely, simplicity and uniqueness, *but also the causal power to bestow unity that belongs to this nature.* This is expressed in the analogy that lies at the core of the causal hierarchy we have been tracing: as Unity is cause of the being of certain *ones*, namely, the forms, *so must these ones themselves be causes of the being of further ones*, namely, *composite singular physical-sensible things.* But this latter causality, we have just seen, requires the continuum of possible sizes, and this, in turn, is the abstract instantiation of Greatness and Smallness. To spell out the full web of connections once again: for a form to be cause of a sensible thing is for it to provide determining boundaries to the in itself indeterminate participant, the concrete instantiation of Greatness and Smallness (first expansion). These boundaries structure the thing into a whole of mutually apportioned parts. Hence they presuppose not only the forms of these parts and, so, the πέρας-providing form's implication of these forms (second expansion) but also the continuum of possible sizes on which these forms pick out the appropriate ratios (third expansion). We can therefore explicate the core analogy, but now starting from sensibles, as follows: whereas a sensible thing has as its causes a form and the dyad, present concretely as the providing of boundaries and the in itself indeterminate participant, respectively, a form *in its causal being*—that is, to put this into the sharpest possible focus: in the providing of boundaries that bestows on the thing its basic unity—has as *its* causes Unity itself and the continuum of possible sizes. Hence, to restate #2 in this focus: Unity and the dyad are, conjointly, causes of the forms *in their being as, in turn, causes of the being of sensibles.*

(iv) On Unity and "good," the dyad and "ill" (teaching #3). The notions of τὸ εὖ and τὸ κακῶς, "good" and "ill," bring to the fore the normative character of the causality of the forms. We first came to this in characterizing the ratios that the forms of parts pick out on the continuum as "appropriate"; for the parts of a sensible to stand in these proportions to one another is for the sensible to be a good embodiment of its πέρας-providing form. Since, tracing back to the apex of the causal hierarchy, the forms that pick out these ratios are implicated by the πέρας-providing form and this form, in turn, thereby exerts the unity-bestowing power that Unity itself gives it, it is Unity itself that is the ultimate cause of the order "appropriate" to sensible things. As we are reminded by hypothesis VII, however, it is impossible for things in place and time fully to realize this order. Plato does not have Parmenides speak of the ultimate ontological cause of the disorder and instability of physical-sensible things. In light of our expansions of the account of participation, however, Aristotle's report of teaching #3 is suggestive. For the parts of a sensible to miss their appropriate proportions is for some to be too great, others to be too small. Is there, proper to Greatness and Smallness themselves, a tendency to excess and deficiency? There are traces of this in both the abstract and the concrete instantiations of the dyad. The abstract instantiation, the continuum, is in itself a range of essentially relative possibilities; nothing in its own nature restricts or limits these possibilities—on the contrary, one cannot think any determinate possibility on the continuum without thereby being reminded of other possibilities that exceed and are exceeded by it. This points back to the mutual resistance of the contraries that frame the continuum: it belongs to the very natures that Greatness and Smallness *are*, according to our interpretation of Parmenides' argument at 150b–d, that the characters they bestow are relative and reciprocal; "they have their power of exceeding and being exceeded . . . with reference to each other" (d1–2). In turn, the concrete instantiation of the dyad, the in itself indeterminate participant, has this indeterminateness, ἀπειρία, as its essential character (158d). Hence the need for πέρατα, "boundaries." The verbal echoes, present even more strongly in the Greek, of *binding* and *bonds* suggest an instability, a tendency for change, that the πέρας-providing form must overcome. Needless to say, none of this can be taken naively, as if either the continuum or the in itself indeterminate were itself a sensible thing standing in a real relation with ratios and with boundaries, respectively. Aristotle's report, however, suggests that Plato

found in the dyad the capacity—first given existence, paradoxically enough, by the imposition of the very order that constrains it—for falling into disorder and disproportion. Thus the dyad would be the ultimate cause of "ill."

F. *Acknowledgments and Tasks.*

Let me close by acknowledging several limitations of this reconstruction that suggest the need for further inquiry. The first belongs to the reconstruction itself, the second to the teachings reconstructed.

1. The different hermeneutic status of the three expansions.

It is appropriate to be as explicit as possible about the interpretive character of our reflections. In at once confronting the persistent reader of the *Parmenides* with a web of contradictions and replacing Socrates with Aristotle as Parmenides' interlocutor, Plato, I have said, shifts to the reader the responsibility to probe the hypotheses with "meddlesome inquiries." Thus it is the very nature of the text to invite the sort of active and constructive response that we have brought to a head in the three expansions of the account of participation. Having said this, I must also acknowledge that as we move from the first to the third, we take the text increasingly into our own hands. Explicating implications in a passage that a text itself, in some distinct passage, seems to play on and so confirm is one thing; explicating implications that a text does not acknowledge in this way is something else; and explicating the further implications of unacknowledged implications is something else again. The three expansions seem to differ in this way. The first, linking the account of Greatness and Smallness in hypothesis II with the characterization of the participant as πλῆθος in III and, again, linking the interplay of πέρας and πλῆθος in III with the notion of an eidetic communion of "the One" and Greatness and Smallness in V, connects arguments that are explicit in the text, weaving them into the whole that they themselves seem to call for. By contrast, the second expansion, in recognizing that the analogy of part to whole asserted in III implies that just as there is a form of the whole, so there must be forms of parts, starts from an argument that is explicit in the text and discovers, as its logical implication, something that is not explicit in the text, the notion of forms of parts. By contrast with this, the third

expansion, in recognizing what the first two taken together imply, starts from what is only implicit in the text and arrives, again, at something that is only implicit, the continuum of size and the normative role of the forms of parts.

The different hermeneutic status of the three expansions raises important questions and points to the need for fresh inquiry. Has our reconstruction of the "unwritten teachings" uncovered meaning that Plato actually intended in the *Parmenides*—or have we arrived at meaning that is only, at best, logically implied by what he actually intended, meaning that he would not have recognized as his own? Between these extremes there is also the possibility that we have worked out implications that Plato himself had not yet seen in composing the *Parmenides* but did come to intend and articulate later on. It is not at all clear to me that it is possible to reach a final judgment on these issues. But the crucial next step, in any case, should be to look to other dialogues to see whether or not they tend to confirm or, at least, encourage us in this reconstruction of the "unwritten teachings." Important texts to study include, in particular, the *Philebus* with its treatments of dialectic, of the four kinds, and of the continua of pleasure and knowledge; the *Statesman* with its treatment of measure, its closing display of nonbifurcatory dialectic, and its continuum of the vigorous and the gentle;[26] and *Republic* VII with its account of the mathematical curriculum and the connections this may suggest between the forms and ratio.[27]

2. Unity and the Good.

I have restricted the scope of this reflection to the six "unwritten teachings" Aristotle reports in *Metaphysics* A6 because, as I remarked in a note at the outset, it is precisely for them that the hypotheses of the *Parmenides* provide evidence. It would take us

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[26] In *Plato's Late Ontology*, Sayre concentrates on the first two passages just noted in the *Philebus*. In *Aretebei Platon und Aristoteles*, Kraemer studies the first and third passages just noted in the *Statesman*. For my own first effort to study the *Parmenides*, the *Philebus*, and the *Statesman* as, taken together, exhibiting the "unwritten teachings" in their systematic interplay, see "Dialectical Education and Unwritten Teachings in Plato's *Statesman*," in *The Sovereignty of Construction: Studies in the Thought of David Lachterman*, ed. Daniel Conway and Pierre Kerszberg (Rodopi, forthcoming).

[27] Deeply encouraging for the prospects of this inquiry is D. H. Fowler's argument in his *The Mathematics of Plato's Academy: A New Reconstruction* (Oxford: Clarendon Press, 1987) that each of the five disciplines is driven by a basic concern with ratio.

far beyond the limits of this essay now to open discussion to the various other teachings that are reported by Aristotle outside A6 and by others after him. That is work we must defer for other occasions. However, the reconstruction we have come to may offer some help in interpreting one of the best known of those teachings, Aristoxenus' report of Plato's lecture (or series of lectures?) on the Good.[28] Let me offer several remarks about this.

Aristoxenus describes the content of what Plato taught in a sentence. Here is a close translation: "the discourses (*οἱ λόγοι*) were about formal studies (*μαθημάτων*) and numbers and geometry and astronomy and, to make a long story short, that good is one (*καὶ τὸ πέρας ὅτι ἀγαθόν ἐστιν ἕν*)."[29] It is tempting to read *ἀγαθόν* and *ἕν* as short-hand for *τὸ ἀγαθόν*, "*the* Good," and *τὸ ἕν*, "*the* One"; if we do, then we learn that Plato took the Good to be identical with Unity. However, in the context of Platonic discourse the insertion of the definite article is a fundamental revision, for it shifts focus from the character that a form bestows to the form itself. Is there, without that revision, a good reading for Aristoxenus' sentence? In fact, if we hold back and instead take *ἀγαθόν* and *ἕν* to refer to the characters bestowed by the Good and by Unity, our reconstruction of the "unwritten teachings" seems to fit precisely as the "long story"

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[28] On the circumstances of the lecture, see Gaiser, "Plato's Enigmatic Lecture 'On the Good'," *Phronesis* 25, 1 (1980): 5–37.

[29] *The Harmonics of Aristoxenus*, edited with translation notes by Henry Macran (Oxford: Clarendon Press, 1902), 122.13–14 (= 30.25–31.1). In giving this translation I accept important claims from Cherniss and Kraemer but, too, offer a suggestion of my own. Cherniss makes the persuasive point that "the position of *to peras* proves that it is adverbial." See Cherniss, *The Riddle*, 87 n. 2. Thus read, the phrase *τὸ πέρας* is not an allusion to the notion of *πέρας*, "boundary" (or later, in the *Philebus*, "ratio"), but has its more colloquial meaning of "to make a long story short," "in the final analysis," and so forth. Kraemer argues persuasively that to read *ἀγαθόν ἐστιν ἕν* as "the Good is one" or as "there is only one Good" (Cherniss suggests both of these possibilities) cannot be right, for either interpretation would have the lecture "peak" in a point that is presupposed at the outset. See Kraemer, *Arete bei Platon*, 423–4. But rather than follow Kraemer in reading *ἀγαθόν* as *τ ἀγαθόν* (= *τὸ ἀγαθόν*) and *ἕν* as *τὸ ἕν*, that is, as substantives referring to the principles of *the* Good and *the* One, I suggest that we read *ἀγαθόν* and *ἕν* as, in effect, mentions rather than uses of these characters. It is as if, to construct a parallel case, one wanted to speak in shorthand fashion of one's understanding of what it is for a person to be happy and wrote, for instance, "to make a long story short, happy is loved" or "happy is healthy." Read thus, the clause is, like the rest of the sentence, a summary expression referring to what Plato took "what it is for something to be *good*" to mean, namely, "for it to be *one*."

that Aristoxenus both refers to and cuts short. Notice, first, that "the discourses" Aristoxenus names would provide a very appropriate preparation for the "unwritten teachings": the "formal study" of "numbers" would introduce the notion of ratios on a continuum, the study of "geometry" would show how certain forms implicate, for whatever participates in them, certain ratios as essential structures, and the study of "astronomy" would show how these ratios constitute a normative order for physical-sensible existence. If, secondly, we take ἀγαθόν to refer not to the form but to the character, "good," then it would seem to have the same meaning as the adverb εὖ in Aristotle's report of teaching #3: both words bring to focus the question of what constitutes normative order, of what constitutes a thing's being "in good condition." And here the "unwritten teachings" seem to provide precisely the content that Aristoxenus sums up. For a physical-sensible thing to be "in good condition," it must have the parts for which its πέρας-providing form, implicating a definite set of forms of parts, calls; further, its parts must conform to the ratios on the continuum of size that these forms of parts pick out. However, for a thing to meet these requirements is for it to receive, thanks to the conjoint causality of Unity and the dyad, its own proper unity as a complete and well-apportioned whole. Hence, now to revert to Aristoxenus' words for an apt summary formula, for a thing to be "good" is for it to be "one."

Notice that this reading of Aristoxenus' sentence leaves open and as a further question the relation of *the* Good and Unity. Was the assertion of their identity also part of the "longer story" that Aristoxenus cuts "short"? Our reconstruction of the "unwritten teachings" suggests two lines of response that may be at odds with one another; each centers around a particular Platonic motif—the homonymy of a form and its effects and the distinction between the nature of something and the causal power that it thereby has. On the one hand, a key thesis of the "unwritten teachings" is that in its bestowal of whole-part structure, a πέρας-providing form instantiates Unity. But the structure that is bestowed, we have argued, constitutes the participant's "good." Does this not imply that this structure is also an instantiation of the Good? If so, then Unity and the Good coincide in their causal work. On the other hand, is this coincidence sufficient to establish their intrinsic identity? Here the distinction of a nature and its causal powers becomes relevant. We have implied this distinction in our interpretation of teaching #2, arguing, in effect, that while the conjunction of Unity and the dyad is necessary for the

forms to play their causal roles in relation to sensibles, it is not sufficient to explain the very being of the forms in their diversity. Must we not now apply this distinction again with regard to the Good and to Unity? From their coincidence in their causal work it does not follow that they coincide in their very being. Here we are confronted with the need for an inquiry which, at least as we have interpreted them, outstrips the "unwritten teachings," an inquiry into the being *καθ' αὑτό*, "in and for itself," of *goodness* and of *unity*.[30]

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