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"Phys. Op." Fr. 8

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*Leucippus, Democritus and the οὐ μᾶλλον
Principle: An Examination of Theophrastus
Phys.Op. Fr. 8*

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ABSTRACT

This paper is a piece of detective work. Starting from an obvious excrescence in the transmitted text of Simplicius's treatment of the foundations of Presocratic atomism near the beginning of his *Physics* commentary, it excavates a Theophrastean correction to Aristotle's tendency to lump Leucippus and Democritus together: Theophrastus made application of the οὐ μᾶλλον principle in the sphere of ontology an innovation by Democritus. Along the way it shows Simplicius reordering his Theophrastean source in his efforts to find material which will strengthen the contrast between Leucippus's atomism and Eleatic metaphysics. And it argues that in doing so he all but obliterates Theophrastus's attempt to point up the Democritean credentials of the οὐ μᾶλλον principle.

Simplicius *In Aristotelis physicorum libros commentaria*, 28.4-31 (Diels's text):

- Λεύκιππος δὲ ὁ Ἐλεάτης ἢ Μιλήσιος (ἀμφοτέρως γὰρ λέγεται περὶ αὐτοῦ) κοινωρήσας Παρμενίδη τῆς φιλοσοφίας, οὐ τὴν αὐτὴν ἐβάδισε Παρμενίδη καὶ Ξενοφάνει περὶ τῶν ὄντων ὁδόν, ἀλλ' ὡς δοκεῖ τὴν ἐναντίαν. ἐκείνων γὰρ ἔν καὶ ἀκίνητον καὶ ἀγένητον καὶ πεπερασμένον ποιοῦντων τὸ πᾶν, καὶ τὸ μὴ ὄν μὴδὲ ζῆτειν συγχωρούντων, οὗτος ἄπειρα καὶ ἀεὶ κινούμενα ὑπέθετο στοιχεῖα τὰς ἀτόμους καὶ τῶν ἐν αὐτοῖς σχημάτων ἄπειρον τὸ πλῆθος διὰ τὸ μὴδὲν μᾶλλον τοιοῦτον ἢ τοιοῦτον εἶναι [ταύτην γὰρ] καὶ γένεσιν καὶ μεταβολὴν ἀδιάλειπτον ἐν τοῖς οὖσι θεωρῶν. ἔτι δὲ οὐδὲν μᾶλλον τὸ ὄν ἢ τὸ μὴ ὄν ὑπάρχειν, καὶ αἴτια ὁμοίως εἶναι τοῖς γινομένοις ἄμφω. τὴν γὰρ τῶν ἀτόμων οὐσίαν ναστὴν καὶ πλήρη ὑποτιθέμενος ὄν ἔλεγεν εἶναι καὶ ἐν τῷ κενῷ φέρεσθαι, ὅπερ μὴ ὄν ἐκάλει καὶ οὐκ ἔλαττον τοῦ ὄντος εἶναι φησι. παραπλησίως δὲ καὶ ὁ ἐταῖρος αὐτοῦ Δημόκριτος ὁ Ἀβδηρίτης ἀρχὰς ἔθετο τὸ πλῆρες καὶ τὸ κενόν, ὧν τὸ μὲν ὄν, τὸ δὲ μὴ ὄν ἐκάλει· ὡς <γὰρ> ὕλην τοῖς οὖσι τὰς ἀτόμους ὑποτιθέντες τὰ λοιπὰ γεννώσι ταῖς διαφοραῖς αὐτῶν. τρεῖς δὲ εἰσιν αὐταὶ ῥυθμοὶ τροπῆ διαθηγῆ, ταῦτόν δὲ εἰπεῖν σχῆμα καὶ θέσις καὶ τάξις. πεφυκέναι γὰρ τὸ ὅμοιον ὑπὸ τοῦ ὁμοίου κινεῖσθαι καὶ φέρεσθαι τὰ συγγενῆ πρὸς ἄλληλα καὶ τῶν σχημάτων ἕκαστον εἰς ἑτέραν ἐγκοσμούμενον συγκρίσιν ἄλλην ποιεῖν διάθεσιν· ὥστε εὐλόγως ἀείρων οὐσῶν τῶν ἀρχῶν πάντα τὰ πάθη καὶ τὰς οὐσίας ἀποδώσειν ἐπηγγέλλοντο, ὑφ' οὗ τέ τι γίνεται καὶ πᾶς. διὸ καὶ φασὶ μόνους τοῖς ἄπειρα ποιοῦσι τὰ στοιχεῖα πάντα συμβαίνειν κατὰ λόγον. καὶ τῶν ἐν ταῖς ἀτόμοις σχημάτων ἄπειρον τὸ πλῆθος φασὶ διὰ τὸ μὴδὲν

μᾶλλον τοιοῦτον ἢ τοιοῦτον εἶναι. ταύτην γὰρ αὐτοὶ τῆς ἀπειρίας αἰτίαν ἀπο-
 διδόασι. καὶ Μητρόδωρος δὲ ὁ Χίος ἀρχὰς σχεδὸν τι τὰς αὐτὰς τοῖς περὶ
 Δημόκριτον ποιεῖ, τὸ πλήρες καὶ τὸ κενὸν τὰς πρώτας αἰτίας ὑποθέμενος,
 ὦν τὸ μὲν ὄν, τὸ δὲ μὴ ὄν εἶναι· περὶ δὲ τῶν ἄλλων ἰδίαν τινὰ ποιεῖται
 τὴν μέθοδον. αὕτη μὲν ἢ σύντομος περίληψις τῶν ἱστορημένων περὶ ἀρχῶν (30)
 οὐ κατὰ χρόνους ἀναγραφείσα, ἀλλὰ τὴν τῆς δόξης συγγένειαν.

Diels printed the same text (except for correctly preferring the order τάξις καὶ θέσις, line 19) in *Doxographi Graeci* (as Fr. 8 of Theophrastus's Φυσικαὶ δόξαι) and in his edition of Simplicius's commentary on Aristotle's *Physics*, here reproduced. As is apparent, he introduced two emendations: (i) he excised ταύτην γὰρ at line 10; (ii) he added γὰρ (from the Aldine) in line 17. He commented on both in the apparatus criticus in the *Doxographi Graeci* version (pp. 483-4). On (i) he said: '*delevi librarii errorem qui inferiorem locum simillimum p. 484, 13 [= line 26] oculis delatus initium descripsit*'. On (ii) he toyed with a different emendation: '*suspicio καὶ ὕλην*'. In the case of (ii) I think we should print a strong stop at the end of the previous clause, and settle for the MS ὡς ὕλην as an asyndeton.¹ My concern is primarily with (i). Diels was obviously right to diagnose a mistake in copying as the reason for the appearance of the unwanted ταύτην γὰρ in line 10. But I shall argue that the explanation of how the mistake was made, and who it was made by, is a good deal more complex and of greater historical and philosophical interest than his conjecture about a *librarius*.

I. Simplicius, his error, and his source

The key thing to notice is that it is not just ταύτην γὰρ that makes a double appearance in lines 10 and 26. The whole unit καὶ τῶν ἐν αὐτοῖς σχημάτων ἄπειρον τὸ πλήθος διὰ τὸ μηδὲν μᾶλλον τοιοῦτον ἢ τοιοῦτον εἶναι ταύτην γὰρ at lines 9-10 anticipates the same sequence at lines 25-6 – the same sequence, that is, except for the omission of φασί (line 25) and the substitution of αὐτοῖς in line 9 for ταῖς ἀτόμοις in line 25, doubtless performed because in line 9 the immediately preceding words ὑπέθετο στοιχεῖα τὰς ἀτόμους make the use of a noun in the next phrase unnec-

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¹ David Sedley tells me he suspects 'asyndeton is commoner in the commentators than we can tell from our edited texts, which regularly emend them away. One thing that repeatedly struck me when working on the anon. *Tht.* commentator was that he often uses asyndeton when moving from one topic to the next.'

essary and ungainly. Explanation of the otiose ταύτην γάρ needs to take into account the repetition of the whole sequence, not just those two words. And in fact an obvious solution which satisfies this requirement lies ready to hand. If ταύτην γάρ in line 10 was *wrongly* copied at that point from line 26, the most likely reason is surely that *Simplicius* was doing some copying: in the *preceding* clause καὶ τῶν ἐν αὐτοῖς σχημάτων ἄπειρον τὸ πλῆθος διὰ τὸ μηδὲν μᾶλλον τοιοῦτον ἢ τοιοῦτον εἶναι at lines 9-10 he simply reproduced material from lines 25-6, but mistakenly allowed himself to continue transcribing beyond that point. He must have noticed his error quickly (only the two words ταύτην γάρ were in the event transcribed), but for whatever reason failed to cancel it.

The attractions of this proposal may already be strong enough to recommend it. But let me reinforce them by adducing further considerations in its support. I preface these by observing that the proposal of course carries an implication: that what *Simplicius* is doing in his treatment of the atomists in this passage is following and then adapting at least one source. To postulate his use of a source or sources is hardly a controversial move, for two reasons. First, in his treatment of the Presocratics in these early pages of his commentary on the *Physics* *Simplicius* uses a scheme – not unique to him (*Philoponus* has it too) – which divides the territory according as philosophers recognised one (changeable or unchangeable) or many principles, and on any of these options whether in a limited or unlimited version.² His whole discussion is shaped by this inherited structure; and in its course he makes plain his reliance on *Theophrastus* in particular, including two explicitly acknowledged verbal quotations. *Diels*'s identification of our text (28.4-31) as in large part an extract from *Theophrastus*, and more specifically his *Φυσικὰ δόξαι*, is contestable, but the presumption that *Simplicius* is working here as elsewhere in this section of the commentary with a single main source still seems highly likely.³ Second,

² See *Simp. in Phys.* 20.29-28.31, *Philop. in Phys.* 20.21-21.21 (*Philoponus* actually has a more exhaustive division than *Simplicius*, since where a plurality of principles is postulated he envisages the possibility that they might be changing/moving or unchangeable/immoveable).

³ Explicit quotations: *in Phys.* 26.7-13, 27.11-23; other references to *Theophrastus*: *in Phys.* 21.20, 22.28-9, 23.31, 25.6. For a convincing demonstration that *Simplicius* was drawing in fact on *Theophrastus*'s own *Physics* see *J. Mansfeld*, 'Gibt es Spuren von *Theophrasts Phys. Op.* bei *Cicero*?', in *W.W. Fortenbaugh and P. Steinmetz* (eds.), *Cicero's Knowledge of the Peripatos* (London/New Brunswick 1989), 133-58 at pp. 138-50; reprinted in *J. Mansfeld*, *Studies in the Historiography of Greek Philosophy* (Assen/Maastricht 1990), 238-63 (see pp. 243-55).

there is a particular consideration which operates in the case of the atomists. It is well known that Simplicius took pains to consult and transcribe extensive selections from Presocratics whose own writings were accessible to him in one form or another: Parmenides, Melissus, Zeno, Empedocles, Anaxagoras, Diogenes of Apollonia – although he also makes demonstrable use of other sources in discussing these thinkers. There is no trace of such direct access where Leucippus and Democritus are concerned. We must therefore suppose all his knowledge of them to be at second hand.

Further credence in what might be called the *Simplician transcription proposal* will be lent by evidence first that the clause about the infinity of shapes fits snugly in its context at lines 25-7, and second that it did not appear in the source's version of lines 9-10. On each count such evidence is available. *Context at lines 25-7*: – Lines 17-18 have reported that the atomists use the ways in which atoms differ from one another to explain everything else. Lines 18-19 have introduced shape, position and arrangement as the features in question. Lines 19-25 then spell out the way shape in particular is a crucial determinant of the formation of different atomic organisations. Lines 25-7 are accordingly a good place for a note on the infinite number of atomic shapes, not just of atoms themselves. *Source's version of lines 9-10*: – In the parallel passage at Hippolytus *Refutatio* 1.12.1 (cited by Diels in the apparatus criticus to the *Doxographi Graeci* version of our text), this is how Leucippus's position is presented: Λεύκιππος δὲ Ζήνωνος ἑταῖρος οὐ τὴν αὐτὴν δόξαν διετήρησεν, ἀλλὰ φησιν ἄπειρα <τὰ ὄντα> εἶναι καὶ ἀεὶ κινούμενα, καὶ γένεσιν καὶ μεταβολὴν συνεχῶς οὖσαν. This is very close in wording to what Simplicius has at lines 8-11, if we leave out the clause which according to the *Simplician transcription proposal* was transferred to that context: οὗτος ἄπειρα καὶ ἀεὶ κινούμενα ὑπέθετο στοιχεῖα τὰς ἀτόμους . . . καὶ γένεσιν καὶ μεταβολὴν ἀδιάλειπτον ἐν τοῖς οὖσι θεωρῶν. There is clearly a good possibility that the material common to Hippolytus and Simplicius encapsulates the full extent of the source's information about Leucippus at this point.

2. *The rationale for the Simplician transcription*

Conviction that Simplicius transcribed the infinity of shapes clause from lines 25-6 to lines 9-10 will be strengthened if we can identify a persuasive explanation of why he did so. Again, an explanation is readily available. We start with Hippolytus, whose treatment of Leucippus is – like Simplicius's – in antithesis to his view of Parmenides, articulated in his previous chapter (*Refutatio* 1.11.1): Παρμενίδης ἐν τὸ πᾶν ὑποτίθεται ἀίδιον

τε καὶ ἀγένητον καὶ σφαιροειδέες. This list of Parmenidean predicates (attested as Theophrastean by Alexander of Aphrodisias in *Metaph.* 24.5-13, who quotes verbatim from the first book of Theophrastus's *Physics*) yields the following contrast with Leucippus:

<i>Parmenides</i>	one	eternal	ungenerated	spherical
<i>Leucippus</i>	infinite number	always moving	continuous genesis/change	————

If that is what Simplicius found in his source, then our text suggests that he decided to improve upon it as follows (changes/additions in bold):⁴

<i>Parmenides</i>	one	motionless	ungenerated	limited (in shape)	not-being excluded even from inquiry
<i>Leucippus</i>	infinite number	always moving	continuous genesis/change	infinite in variety of shapes	not-being as real as being

It is not hard to see why Simplicius should have wanted to introduce these improvements. To start with the final pair of items, as the accounts of the atomists' first principles in the *Metaphysics* (A.4, 985b4-22) and *De generatione et corruptione* (1.8, 324b35-325b5) make clear, Aristotle took their theory of void as not-being to constitute the most important of all the divergences he identifies between their system and Eleatic metaphysics. So it is scarcely surprising if someone who knew his Aristotle as well as Simplicius did thought that this divergence was not given sufficient prominence in his source. Secondly, for someone wishing to set out the contrast between the Eleatic and atomist systems systematically, the source's failure to mention any Leucippian counterpart to Parmenides' 'spherical' and its balancing of 'eternal' with 'always moving' would both have cried out for correction.

I have argued that Simplicius achieved an appropriate reference to infinite variety of shapes at lines 9-10 by simply transcribing a clause he

⁴ I am indebted to David Sedley for pointing out to me Simplicius's 'orchestrated series of oppositions'.

found later in his source (at lines 25-6). I now want to suggest that he did something similar in order to get the material he needed for the final element of his Eleatic/atomist opposition: his description of Leucippus's theory of void at lines 11-15. More precisely, in this case Simplicius *plundered* the source's account of Democritus, with the consequence that his own treatment of Democritus's version of the basic theory is distinctly truncated by comparison.

The best evidence of how the account of Democritus in the source was launched is to be found in Eusebius (*P.E.* 14.3.7-9):

ὁ δὲ Δημόκριτος ἀρχὰς τῶν ὄλων ἔφη εἶναι τὸ κενὸν καὶ τὸ πλήρες· τὸ πλήρες ὄν λέγων καὶ στερεόν, τὸ δὲ κενὸν μὴ ὄν· διὸ καὶ φησι μηδὲν μᾶλλον τὸ ὄν τοῦ μὴ ὄντος εἶναι ὅτι τε ἐξ αἰδίου τὰ ὄντα ἐν τῷ κενῷ συνεχῶς καὶ ὀξέως κινεῖται.

We get a four stage train of thought: **(a)** the principles are the full and the void; **(b)** the full is being and the void not-being; **(c)** therefore being has no more being than not-being. Hence [i.e. this enables him to say]: **(d)** beings are in continuous motion in the void. Hippolytus 1.13.2 resembles Eusebius in that he too concludes with a remark about continual movement of τὰ ὄντα in the void (i.e. **d**), but omits stage **(c)**, presumably in the interests of excluding everything not absolutely essential:

λέγει δὲ ὁμοίως Λευκίππῳ περὶ στοιχείων, πλήρους καὶ κενοῦ, τὸ μὲν πλήρες λέγων ὄν, τὸ δὲ κενὸν οὐκ ὄν· ἔλεγε δὲ ὡς ἀεὶ κινουμένων τῶν ὄντων ἐν τῷ κενῷ.

Simplicius's version of Democritus's account of the matter stops after **(b)**:

παραπλησίως δὲ καὶ ὁ ἐταῖρος αὐτοῦ Δημόκριτος ὁ Ἀβδηρίτης ἀρχὰς ἔθετο τὸ πλήρες καὶ τὸ κενόν, ὧν τὸ μὲν ὄν, τὸ δὲ μὴ ὄν ἐκάλει.

The reason is obvious. Simplicius has already exploited **(c)** and **(d)** quite fully in his account of the final item in his list of ways in which Leucippus diverges from Parmenides (at lines 11-15):

ἔτι δὲ **(c)** οὐδὲν μᾶλλον τὸ ὄν ἢ τὸ μὴ ὄν ὑπάρχειν, καὶ **(d)** αἴτια ὁμοίως εἶναι τοῖς γινομένοις ἄμφω. τὴν γὰρ τῶν ἀτόμων οὐσίαν ναστὴν καὶ πλήρη ὑποτιθέμενος ὄν ἔλεγεν εἶναι καὶ ἐν τῷ κενῷ φέρεσθαι, ὅπερ **(c)** μὴ ὄν ἐκάλει καὶ οὐκ ἔλαττον τοῦ ὄντος εἶναί φησι.

Here **(c)** is actually spelled out twice, and **(d)** gets extended treatment, with the inference implied in Eusebius worked through carefully, so that the point about motion in the void is properly prepared. After all this it would have been trying the reader's patience to repeat **(c)** and **(d)** again

after (a) and (b) in the Democritus section, especially since it follows on immediately.

3. *Simplicius, Aristotle, Theophrastus*

Diels toyed with the idea that Simplicius took his presentation of (a) and (b) direct from Aristotle. In *Doxographi Graeci* he makes the following comment on the beginning of the Democritus section at line 15: '*haec cum Metaphys. A 985b5 sq. ita consentiunt, ut inde a S. translata crederem nisi similia exstarent apud Hippolytum 13.2 et comp. Euseb. P.E. XIV 3 7-9*'. He thought the material at lines 15-17 actually came from Theophrastus – but here acknowledges a qualm that Aristotle *Metaphysics* A4 might be a likelier source or model. It is easy to see why he was tempted in this direction. Here is the relevant stretch of Aristotelian text (984b4-10):

Λεύκιππος δὲ καὶ ὁ ἑταῖρος

αὐτοῦ Δημόκριτος στοιχεῖα μὲν τὸ πλήρες καὶ τὸ κενὸν εἶναι (5)
 φασι, λέγοντες (τὸ μὲν ὄν τὸ δὲ μὴ ὄν, τούτων δὲ τὸ μὲν
 πλήρες καὶ στερεὸν τὸ ὄν, τὸ δὲ κενὸν τὸ μὴ ὄν (c) (διὸ
 καὶ οὐθὲν μᾶλλον τὸ ὄν τοῦ μὴ ὄντος εἶναι φασιν, ὅτι
 οὐδὲ τοῦ κενοῦ τὸ σῶμα), αἴτια δὲ τῶν ὄντων ταῦτα ὡς
 ὕλην.

Certainly there appear to be direct echoes of Aristotle's choice of vocabulary in Simplicius's parallel passage: the identical words ὁ ἑταῖρος αὐτοῦ Δημόκριτος, and (at the beginning of the next section of the exposition) ὡς ὕλην. I think we should accept the probability that Simplicius wrote what he wrote with Aristotle's text in front of him. But he must have been relying *also* on the same source as was exploited by Eusebius and Hippolytus. For on this topic of being and not-being both he and they make a point not presented by Aristotle, viz. (d), the claim that with the resources of (a), (b) and – omitted by Hippolytus and relocated by Simplicius – (c) the atomists can give an account of beings in continuous motion in the void. And presumably Eusebius and Hippolytus derive *all* their information from the common source, none of it from Aristotle direct. We can infer that the source simply reproduced (a), (b) and (c) from Aristotle, and itself added (d).

If we read on in Simplicius's account of Democritus the conclusion that he is mining both Aristotle and another source besides Aristotle becomes irresistible. Here for comparison is first Aristotle, then Simplicius:

Λεύκιππος δὲ καὶ ὁ ἑταῖρος
 αὐτοῦ Δημόκριτος στοιχεῖα μὲν τὸ πλήρες καὶ τὸ κενὸν εἶναι
 φασι, λέγοντες (τὸ μὲν ὄν τὸ δὲ μὴ ὄν, τούτων δὲ τὸ μὲν
 πλήρες καὶ στερεὸν τὸ ὄν, τὸ δὲ κενὸν τὸ μὴ ὄν (διὸ
 καὶ οὐθὲν μᾶλλον τὸ ὄν τοῦ μὴ ὄντος εἶναι φασιν, ὅτι
 οὐδὲ τοῦ κενοῦ τὸ σῶμα), αἷτια δὲ τῶν ὄντων ταῦτα ὡς
 ὕλην. καὶ καθάπερ οἱ ἐν ποιῶντες τὴν ὑποκειμένην οὐσίαν
 τᾶλλα τοῖς πάθεσιν αὐτῆς γεννῶσι, τὸ μανὸν καὶ τὸ πυ-
 κνὸν ἀρχὰς τιθέμενοι τῶν παθημάτων, τὸν αὐτὸν τρόπον
 καὶ οὗτοι τὰς διαφορὰς αἰτίας τῶν ἄλλων εἶναι φασιν. ταύ-
 τας μέντοι τρεῖς εἶναι λέγουσι, σχῆμά τε καὶ τάξιν καὶ
 θέσιν· διαφέρειν γὰρ φασι τὸ ὄν ῥυσμῶ καὶ διαθιγῆ καὶ
 τροπῇ μόνον· τούτων δὲ ὁ μὲν ῥυσμὸς σχῆμά ἐστιν ἢ δὲ
 διαθιγῆ τάξις ἢ δὲ τροπῆ θέσις· διαφέρει γὰρ τὸ μὲν Α
 τοῦ Ν σχήματι τὸ δὲ ΑΝ τοῦ ΝΑ τάξει τὸ δὲ Η τοῦ Η
 θέσει.

παραπλησίως δὲ καὶ ὁ ἑταῖρος αὐτοῦ Δημόκριτος
 ὁ Ἀβδηρίτης ἀρχὰς ἔθετο τὸ πλήρες καὶ τὸ κενόν, ὦν τὸ μὲν ὄν, τὸ δὲ
 μὴ ὄν ἐκάλει. ὡς ὕλην τοῖς οὐσίαις ἀτόμους ὑποτιθέντες τὰ λοιπὰ
 γεννῶσι ταῖς διαφοραῖς αὐτῶν. τρεῖς δὲ εἰσιν αὐταὶ ῥυσμὸς τροπῆ δια-
 θιγῆ, ταῦτὸν δὲ εἰπεῖν σχῆμα καὶ τάξις καὶ θέσις. πεφυκέναι γὰρ τὸ
 ὅμοιον ὑπὸ τοῦ ὁμοίου κινεῖσθαι καὶ φέρεσθαι τὰ συγγενῆ πρὸς ἄλληλα
 καὶ τῶν σχημάτων ἕκαστον εἰς ἑτέραν ἐγκοσμούμενον σύγκρισιν ἄλλην ποιεῖν
 διάθεσιν· ὥστε εὐλόγως ἀπειρων οὐσῶν τῶν ἀρχῶν πάντα τὰ πάθη καὶ
 τὰς οὐσίας ἀποδώσειν ἐπηγγέλλοντο, ὑφ' οὗ τέ τι γίνεται καὶ πῶς. διὸ καὶ
 φασι μόνοις τοῖς ἄπειρα ποιῶσι τὰ στοιχεῖα πάντα συμβαίνειν κατὰ λόγον.
 καὶ τῶν ἐν ταῖς ἀτόμοις σχημάτων ἄπειρον τὸ πληθὸς φασι διὰ τὸ μηδὲν
 μᾶλλον τοιοῦτον ἢ τοιοῦτον εἶναι. ταύτην γὰρ αὐτοὶ τῆς ἀπειρίας αἰτίαν
 ἀποδιδόασιν.

I have highlighted the material the two authors have in common. It is fairly obvious first that Simplicius has started by selecting and abridging the Aristotelian text, but second that from line 19 onwards he is switching to another source, since there is now no overlap with Aristotle at all. The economical assumption is that in this latter part of his exposition he exploits the same source as was used by him, Eusebius and Hippolytus for deriving (d) from (a) to (c).

There is a further distinct reason for positing Simplicius's use of another source as well as Aristotle. Aristotle ascribes the foundational atomist doctrines he sets out either to Leucippus and Democritus jointly (*Metaph.* A.4.984b4-5, *GC* 1.8.325a1: I suppose when he is being more careful) or just to Leucippus (*GC* 1.8.325a23, b6, 11, 30). Simplicius, like Hippolytus and (by implication) Eusebius, devotes distinct sections of his exposition to Leucippus and then to Democritus, and indeed (not paralleled in Hippolytus or Eusebius) to Metrodorus of Chios. This feature of his account presumably derives from the other source he is using.

The other source must therefore have been confident that it could reliably discriminate between the original atomism of Leucippus and developments attributable specifically to Democritus. I suggest that a key innovation it identified as a distinctively Democritean contribution was the use of the οὐ μᾶλλον principle in atomic theory. Here is the argument: – So far as Leucippus is concerned, the source Hippolytus uses says about his elements only that στοιχεῖα δὲ λέγει τὸ πλήρες καὶ <τὸ> κενόν (*Refutation* 1.12.1). This is very like what we find in Aëtius: Λεύκιππος Μιλήσιος ἀρχὰς καὶ στοιχεῖα τὸ πλήρες καὶ τὸ κενόν (Stobaeus *Ecl.* I.10.14); and in Diogenes Laertius's ἐπὶ μέρους account: τὸ μὲν πᾶν ἄπειρόν φησιν, ὡς προεῖρηται· τούτου δὲ τὸ μὲν πλήρες εἶναι, τὸ δὲ κενόν, <ᾶ> καὶ στοιχεῖα φησι (*Lives* 9.31). In Hippolytus's presentation, it is only with Democritus that the source spells out equations between the two elements identified by Leucippus and being and not-being: λέγει δὲ ὁμοίως Λευκίππῳ περὶ στοιχείων, πλήρους καὶ κενοῦ, τὸ μὲν πλήρες λέγων ὄν, τὸ δὲ κενόν οὐκ ὄν (*Refutation* 1.13.2). And as we have seen, in Eusebius's version the equations are completed with a reference to the οὐ μᾶλλον principle (*P.E.* 14.3.7-9):

ὁ δὲ Δημόκριτος ἀρχὰς τῶν ὄλων ἔφη εἶναι τὸ κενόν καὶ τὸ πλήρες· τὸ πλήρες ὄν λέγων καὶ στερεόν, τὸ δὲ κενόν μὴ ὄν· διὸ καὶ φησι μηδὲν μᾶλλον τὸ ὄν τοῦ μὴ ὄντος εἶναι.

I infer that the source departs from Aristotle in ascribing to Democritus alone what Aristotle had attributed to Leucippus and Democritus jointly. Presumably it does so because its author could find evidence for the thesis that being has no more being than not-being only in Democritus, not in what was available to him of Leucippus. That he could not find it in Leucippus would not greatly surprise, given the identification of other uses of the οὐ μᾶλλον principle in atomism specifically with Democritus, e.g. in his epistemological treatment of conflicts in sensory appearances (Aristotle *Metaph.* Γ.5.1009b7-12). Moreover we have particularly convincing independent evidence that Democritus appealed to the principle in this context: Plutarch refers to his actual λέξις – Democritus διορίζεται μὴ μᾶλλον τὸ δὲν ἢ τὸ μηδὲν εἶναι (*adversus Colotem* 1109A).⁵

⁵ It is worth adding that if Simplicius took the reference to the οὐσία of atoms as ναστή (line 13) from the source, that move too may have involved diverting an expression originally employed because it was specifically Democritean vocabulary into use for exposition of Leucippus. Aëtius makes Democritus's στοιχεῖα τὰ ναστὰ καὶ κενά (Stob. *Ecl.* I.10.14), and Theodoret says: Δημόκριτος δὲ ὁ Ἀβδηρίτης ὁ Δαμασίππου

From ὡς ὕλην (line 17) onwards Simplicius – now following this other source – makes the subject of his verbs an indeterminate ‘they’. I take it he means ‘Democritus and his followers’ (confirmed by τοῖς περὶ Δημοκρίτων, lines 27-8) and does *not* intend to include Leucippus too. Otherwise his account will be left saying nothing distinctive about Democritus at all: which seems to render pointless the very idea of treating him and Leucippus separately. Moreover, the differences between atoms in shape, arrangement and position he mentions at lines 17-19 are specifically treated as Democritean by Aristotle elsewhere (*GC* 1.9.327a18-19). The like to like principle invoked at lines 19-20 is known to be a topic to which Democritus devoted a sustained treatment (Sextus *M* 7.116-8). And since the doctrine of an infinity of atomic shapes as presented in lines 25-7 turns on another application of the οὐ μᾶλλον principle, it seems likely that the source took it too to be a distinctively Democritean contribution to atomist theory.

I take it that the obvious candidate for this second source is Theophrastus. There are well-known arguments for seeing his *Physics* as directly or indirectly the main source on which Simplicius draws in this section of his commentary for information on the Presocratics, and which underlies much of the Presocratic section of Book 1 of Hippolytus’s *Refutation* (or at any rate 1.6-16), no doubt indirectly through a later epitome.⁶ The supplementation and correction to Aristotle supplied by the source here are exactly the kinds of changes Theophrastus is noted for introducing elsewhere in this area.⁷ The original author of the sequence (a) to (d) which we have seen evidenced one way or another in each of Simplicius, Hippolytus and Eusebius was someone who knew the text of *Metaphysics*

τὴν τοῦ κενοῦ καὶ τῶν ναστῶν πρῶτος ἐπεισήγαγε δόξαν (*Graec. Affect. Cur.* 4.9). Simplicius’s account of his *On Democritus* might be read as implying that Aristotle himself associated Democritus in particular with the word ναστός· Δημοκρίτος . . . προσαγορεύει δὲ τὸν μὲν τόπον τοῖσδε τοῖς ὀνόμασι, τῷ τε κενῷ καὶ τῷ οὐδενὶ καὶ τῷ ἀπείρῳ, τῶν δὲ οὐσιῶν τῷ τε δενὶ καὶ τῷ ναστῷ καὶ τῷ ὄντι (*in De caelo* 295.1, 3-5).

⁶ See Mansfeld’s article (above, note 3) on Simplicius’s use of Theophrastus. The classic treatment of Hippolytus’s dependence on him is the relevant material in *Doxographi Graeci* (pp. 132-156); for a recent discussion of the issues and a review of bibliography see J. Mansfeld, *Heresiography in Context: Hippolytus’ Elenchos as a source for Greek Philosophy* (Leiden 1992), Ch. 1-3.

⁷ See J.B. McDiarmid, ‘Theophrastus on the Presocratic causes’, *HSCP* 61 (1953) 85-156.

A4.985b4-9, but also knew enough of what there was to know about the roles of Leucippus and Democritus in formulating atomist theory to be able to refine Aristotle's account there accordingly. It is hard to conceive that anyone except Theophrastus could fit that specification.⁸

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