

ON THE SENSE AND AUTHENTICITY OF *DE CAELO* 280A27–34

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THE only recent commentary on Aristotle's *De caelo* condemns 280a27–34 as an interpolation, largely because of its "obscurity."¹ My primary purpose here is to clarify what is obscure in this passage, and thereby to defend its authenticity; but since the solution of the problems in the passage requires an investigation of Aristotle's method and methodology of argumentation in general, the study will at the same time constitute a contribution to these larger topics.

I. THE ARGUMENT

The passage falls in the middle of Aristotle's treatment of the question whether the cosmos was generated (*De caelo* 1. 10–12): the argument's strategy exemplifies Aristotle's favorite method of exposition, a two-step treatment opening with a review of received opinion or observed phenomena and closing with Aristotle's positive declaration or solution of the problem.²

The review of predecessors (chap. 10) sets out three types of theory: while all say the cosmos was generated, some say (1) that it is to persist eternally in the state it was generated into, others (2) that it is perishable like any other entity that owes its nature to mere composition, and others (3) that the cosmos is in a continual, alternating flux from one state to another (279b13–17). Having described the theories, Aristotle proceeds to attack them, but not in the order in which he presented them. Although the first theory is attacked first (279b17–280a11), the third is attacked second (280a11–23), and the second is attacked third (280a23–27).

Against the first theory (which we later learn represents for Aristotle the theory of the *Timaeus*: cf. 280a28–30) two arguments are adduced: to posit something generated but not destructible is unreasonable in the face of our universal experience that whatever comes to be passes away; and to posit a transition from a precosmic arrangement of elements to the arrangement that is the cosmos in itself implies that the present arrangement is not more eternal than the one preceding, and suggests

1. L. Elders, *Aristotle's Cosmology: A Commentary on the "De Caelo"* (Assen, 1966), pp. 156–57.

2. More familiar examples of this two-step format are *An. post.* 2. 3–10; *Ph.* 3. 4–8, 4. 1–5, 6–9, 10–14, 8. 1–3; *Cael.* 1. 8–9, 2. 13–14, 4. 1–3; *Gen. corr.* 2. 1–3; *Mete.* 1. 6–7, 8. 2. 7–8; *De long. et Brev. Vit.*, entire; *Part. an.* 2. 2–3; *Gen. an.* 2. 8, 4. 1; *Mot. an.* 2; *Metaph.* 6 (E) 2; *EN* 6. 13, 8. 1–5, 9. 7, 9. 8, 10. 1–5.

that both the cosmic and the precosmic arrangements are mere dissolutions of one another that have occurred an infinite number of times in the long stretches of the past (279b17–31). On the probity of this criticism and of the ensuing refutation of certain apologists for the *Timaeus*, I have nothing to add to H. Cherniss' analysis;³ but we should note before going on that Aristotle's criticism rests upon his own assimilation of the "generation" envisioned in the *Timaeus* to a γένεσις ἐξ ἐναντίων. That is, the argument Aristotle here gives against the *Timaeus* is an argument drawn from his own physical theory of γένεσις.

Next, Aristotle turns to the third theory he listed, the theory of a continual flux of the elements from one state to another. He observes that this theory, far from positing the generation and destruction of the cosmos, implies an eternally existing and fixed cosmic substrate that changes merely in arrangement. Furthermore, since the proponents of this view also argue that the sequence of the arrangements is governed by a movement between opposites, we can almost say that *both* termini of the alternating flux are cosmoses (note 280a21 διακεκόσμηται, predicated of both arrangements): for the order of the cosmos proper is represented *in potentia* by the opposite arrangement, just as cold is *in potentia* hot. Again, this criticism rests upon the Aristotelian theory of γένεσις ἐξ ἐναντίων.

Finally, Aristotle refutes the second theory, which argues for generation of the cosmos followed by total (280a23 ὅλως) and irrevocable destruction. As long as there is the additional stipulation that there can be only a single cosmos (280a24 ὄντος μὲν ἑνός), the theory is impossible; for as he had said, the γένεσις of the cosmos implies a previous arrangement (σύστασις) from eternity which nevertheless must have been subject to change, else the μεταβολή into the cosmic σύστασις could not have occurred (cf. 279b21–30, against the *Timaeus*). The refutation of this first version of the second theory rests again upon the supposition that all γένεσις is between opposites, so that the γένεσις from a precosmic state is γένεσις from the σύστασις that is opposite to the cosmic σύστασις. Since that precosmic σύστασις had to begin changing before it became the cosmic σύστασις (note tense of γενομένην, 280a25), it itself must have been the result of a γένεσις from (again) a σύστασις opposite to itself; and this pre-precosmic σύστασις could be none other than the cosmic σύστασις. Thus, φθορά of the cosmic σύστασις is nothing but γένεσις of the precosmic, opposite σύστασις, and since this σύστασις itself γίγνεται, cosmic φθορά ἀνακάμπτει.

This refutation, Aristotle allows, is valid only if the cosmic arrangement is unique (280a24 ὄντος μὲν ἑνός); if on the other hand there are infinite cosmoses, the theory can stand up rather more to his objection (280a26–27). The singularly vague tone of this assessment, following as it does a series of unequivocal refutations, suddenly gives way to a sharp and overriding dismissal (ἀλλὰ μήν) to the effect that this theory, too, will receive a definitive scrutiny in what follows (a28 ἐκ τῶν ὕστερον).

3. *Aristotle's Criticism of Plato and the Academy*, vol. 1 (Baltimore, 1944), pp. 415, 421–23.

Commentators have always had trouble locating just where in the subsequent portion of the *De caelo* this question is again taken up. Alexander (apud Simpl. 311. 4–7) gave up;⁴ P. Moraux (Budé edition, p. lxxx, n. 1) decided that Aristotle planned to return to it in chapter 12 but failed to do so; C. Prantl referred to the "subsequent" treatise, *De generatione et corruptione* 1. 2;⁵ Elders (ad loc., p. 156) argued, from the absence of "any further discussion of atomistic views" in the *De caelo*, that "this [i.e., chap. 10] is an isolated piece of work," although on the face of it this does not follow, since ὅστερον posits a sequel with which the chapter is to be associated.⁶ The best solution, I believe, was that of Simplicius. From the γάρ in 280a28 he inferred that the sentence it introduced was to explain how the sequel (τὰ ὅστερον) was going to make clear the possibility or impossibility of this last theory. The sequel, Simplicius guessed, was the immediate sequel (chaps. 11–12), in which Aristotle will refute the theories according to which being generated is compatible with being indestructible, or being destructible is compatible with being ungenerated. For once these theories are refuted by the positive proof that ἀγένητον goes with ἄφθαρτον and γενητόν goes with φθαρτόν, Aristotle will be in a position to deduce a corollary: just as the γενητόν cannot exist ἀδιδώς, so the φθαρτόν cannot not exist ἀδιδώς, but must ἀνακάμπτει πάλιν εἰς τὸ εἶναι. This argument is general enough to refute the second theory even under the assumption of infinitely many cosmoses.⁷ Aristotle does not make this argument in so many words, in the course of chapter 12; but Alexander, at least, had apparently argued that this general refutation of the irrevocable destruction of the cosmos was implicit (ἐγκεκρύφθαι) in the arguments of chapter 12 (apud Simpl. 311. 19–21), and Moraux may after all be right in arguing that Aristotle had intended to make it more explicit in that chapter but failed to do so.

4. Thomas (sect. 236 Spiazzi) argued that if τοῦτο (280a27) were taken to refer to the whole question of the generation of the cosmos rather than to the last theory mentioned just before, then ἐκ τῶν ὅστερον could refer to chaps. 11–12, where the definitive refutation of an imperishable generated is given. But the καὶ before τοῦτο tells against such a general reference for the demonstrative and requires that τοῦτο refer only to the last theory. Οὐτοῦς usually refers to the most proximate antecedent, anyway; cf. *Ph.* 254b6, 260a28; *Cael.* 299a2; *Part. an.* 648a23; *EN* 1152b11 (on which, cf. n. 12 below).

5. *Aristoteles' Werke*, vol. 2 (Leipzig, 1857), p. 81.

6. Ὅστερον does not always indicate a closely connected sequel, however; Aristotle sometimes casts off further treatment of a topic to some wholly separate work or even (like Plato) to no particular work at all, with a term like ὅστερον or εἰσαυθίς. But in cases where the reference is to some treatment outside the present work, the purpose for promising to deal with the subject elsewhere is to shift the reader's attention to something else that Aristotle wishes presently to discuss (transitional dismissal: cf. *An. pr.* 46a28–30; *Met.* 358b22–24; *HA* 493a33–b2; *EN* 1096b7–8, 1097b13–14, 1101b34–35, and cf. 1101a24–28), or to bypass a full treatment of a subject in order to focus upon some aspect of it (focusing dismissal: cf. *An. pr.* 24b12–15; *Top.* 153a11–13; *Cael.* 269b21–22; *Gen. an.* 753b14 ff.; *Metaph.* 986a12–13; *EN* 1096b30–35, 1099b13–16). In both such contexts Aristotle contrasts what he is dismissing with what he does wish to discuss, with (respectively) μὲν and δέ (all the passages cited above except *Metaph.* 986a12–13, where he breaks off with ἀλλά, instead). In *Ph.* 192a34–b4, he closes Book I by promising to deal with certain questions elsewhere: thus he makes clear what he has dealt with in Book I (in a summary introduced by μὲν οὖν, b2–3) by promising to deal with other matters elsewhere.

In our passage what is dismissed for later clarification is not contrasted with something germane or pressing; the dismissal is not a "throwaway" dismissal, but rather a postponement, explained (rather than justified) by γάρ. When μὲν/δέ appear below (a33–34) the postponed question appears not in the (dismissive) μὲν-clause, but in the (prospective) δέ-clause.

7. Cf. Simpl. 311. 7–19.

The phrase ἐκ τῶν ὕστερον should in the first place have been taken to refer to the immediate sequel, as Simplicius argues, for the chapter at the end of which this phrase occurs was said at its beginning to be a preliminary chapter (cf. 279b6 πρότερον). Indeed, we can say more: τὰ ὕστερον refers not to something in general later or “subsequent,” but to the promised complement of τὰ πρότερον (chap. 10), namely, chapters 11–12. This complement is promised at 279b7 ff., where Aristotle decides to postpone delivering his own views (τὰ μέλλοντα λεχθήσεσθαι) until the pros and cons of his predecessors’ views have been presented, and the ill repute that would accrue, had he presented his view straightaway, has thereby been preempted. Thus the final paragraph of chapter 10 (280a27–34) is not merely an “annonce des chapitres suivants” (Moraux *in margine translationis*) but a programmatic transition from the preliminary review of chapter 10 to the positive solution of the question of generation in chapters 11–12, and should be analyzed as such.

Aristotle begins the transition, in 280a27–28, by asserting that although the last δόξα that he had reviewed had not been refuted, even this one will be refuted once the positive section of the treatise has been worked out (i.e., ἐκ τῶν ὕστερον). The γάρ-clause that follows explains that his treatment, not only of this view, but of two other views, has heretofore been inadequate. There are those who hold that there can be an ungenerated perishable and that there can be a generated imperishable (as Plato argued in the *Timaeus*); and against these he has heretofore given refutations on the physical plane only, and only against the special theory that the οὐρανός is such an entity.⁸ Clearly Aristotle means to focus on the very notions of an ungenerated perishable and a generated imperishable quite apart from their bearing on a theory of the cosmos or οὐρανός (note his shift in 280a29 to a general neuter subject). A complete refutation of these notions, as well as of Plato’s theory of the οὐρανός as a particular case, will have to await the results of a σκέψις conducted on a more general level and bearing on any entity *whatsoever* (α33 καθόλου δὲ περὶ ἅπαντος). By contriving that the doxographical review be incomplete, Aristotle motivates the introduction of his own positive views, and effects a transition from a preambulatory “hearing of both sides” to the judge’s κρίσις of the truth (cf. 279b10–12).

II. THE OBJECTIONS

Elders (ad loc., p. 156) failed to see the transitional character of this passage, and even went so far as to condemn it as a later editorial

8. Alexander (apud Simpl. 312. 18) and Thomas (sect. 236), followed by Elders (p. 157), take οὐρανός to denote the outer sphere, and therefore assert that the reference is to *De caelo* 1.3, where Aristotle proved the eternity of the outer sphere. But as Aristotle himself pointed out in 1. 9, 278b8–22, οὐρανός is a πολλαχῶς λεγόμενον, one of whose senses is τὸ πᾶν; and so the term was used in chaps. 8–9 (cf. 276a18; 277a11, b13; 278a11, 20, 22, b3–8; 279a1, 9, 26). See finally chap. 9, 277b27 ff., where the object of chaps. 10–12 is set out as being to prove that the very οὐρανός (i.e., the cosmos) which Aristotle is there proving to be unique is eternal. The reading at 277b27 does not affect my argument. Cf. also Moraux (pp. lxxvii and lxxv).

addition. His reasons are three: (1) the passage includes an incredibly "gross" misinterpretation of the *Timaeus*, which should in any event have been referred to in 279b17; (2) the passage is a useless repetition; (3) the last lines of the passage are "quite obscure." My reply to these charges against the authenticity of the passage will help to make still clearer its transitional function.

First, as to the interpretation of the *Timaeus*, we must pause briefly to consider just what 280a28–30 does attribute to the *Timaeus*. Most commentators argue that Aristotle means to attribute to it only the doctrine that a γενητόν could ἀφθαρτον διατελεῖν (the very doctrine he had attributed to it earlier, at 279b17 ff.).⁹ But, as Alexander saw, our sentence is loose enough to allow the interpretation that he is foisting upon the *Timaeus* both this doctrine and its converse, that an ἀγενητόν could φθαρήναι.¹⁰ Space does not permit me to illustrate here that Aristotle's criticism of the former doctrine (279b17 ff.) indicates that for Aristotle at least the former doctrine would imply the latter doctrine: Alexander's brief argument to this effect will have to suffice.¹¹ Thus, even if 280a28–30 should be faulted for failing to make clear whether it is attributing one or both doctrines to Plato, this vagueness does not introduce any more laxity of interpretation than was evidenced in preceding pages.

On the other hand, it is certainly possible that in 280a28–32 Aristotle means only to attribute the latter theory (that a γενόμενον can ἀφθαρτον διατελεῖν) to Plato: his particular reference to the *Timaeus* suggests this, as Simplicius saw (311. 22–27). If, then, the τινές who believe in a perishable ungenerated are not Plato, who are they? Simplicius thinks this position has no historical proponents, but is invented by Aristotle merely to produce a complete diaeresis of all possible positions, and at the same time to broach the antistrophic relations between ἀφθαρτον and ἀγένητον, and between φθαρτόν and γενητόν, which are to be established in chapter 12 (312. 1–6).

Whichever of these two interpretations of 280a28–32 is correct, Elders' argument from gross misinterpretation fails. That the second interpretation (that of Simplicius) is the right one seems to be put beyond any doubt by the fact that in all strictness *neither* of the two theories mentioned in 280a28–30 is being attributed to Plato. For, as we saw above, those theories were general notions that there can be some entity that is an ungenerated perishable or a generated imperishable, whereas Plato merely argued, according to Aristotle, that the οὐρανός was such an entity. The *Timaeus* is here brought in, as Simplicius saw (311. 22), as a παράδειγμα of this theory—that is, to illustrate it by making it concrete, rather than to prove that the general notion is to be fathered on Plato. Thus, in the sequel, Aristotle admits that he has not yet

9. Alex. (apud Philop. *De aet. mund.* 222. 1–17 Rabe; cf. his *ipsissima verba*, 13–17, and contrast the misleading paraphrase of Simpl. 311. 27–31); Simpl. 311. 23–27.

10. Alex. (apud Simpl. 311. 27–31), against whom Simplicius argues, not that Aristotle does attribute both to Plato, but only that such an attribution would misrepresent Plato.

11. Cf. Alex. apud Philop. *De aet. mund.* 222. 1–17 Rabe; Thomas, sect. 236.

refuted these general theories themselves, although he has refuted the *physical* theory of a generated but imperishable οὐρανός.

In sum, neither of the theories presented in 280a28–30 is meant by Aristotle to have a special proponent: the τινές remain anonymous, and these theories are introduced not to fill out a historical review, but to make a transition to the positive treatment of generation in chapters 11–12 by elevating the question to a more general plane, the plane on which Aristotle's own solution operates. The most he can do to remove the appearance of artificiality in this transition is to assert that Plato's theory, although merely a particular theory about the cosmos, can be categorized under the broader theory.¹²

As for Elders' second objection, that the passage is a useless repetition, we have seen (1) that it is not strictly a repetition, since the theories now being presented are general theories about generation rather than particular theories about the cosmos; and (2) that the passage is not useless, since it is by promoting these general theories that Aristotle contrives to effect a transition to his general treatment of generation in the subsequent chapters. Elders' final objection, that the last lines of the passage (in particular, φυσικῶς and καθόλου) are "quite obscure," seems merely to be an offshoot of his other misgivings, and is certainly the weakest: for much in Aristotle is obscure.

Yet perhaps we can go further here and suggest that the obscurity of φυσικῶς and καθόλου is a characteristic obscurity. Aristotle's language constantly negotiates a compromise between the kind of natural expression that comfortably meets the needs of his immediate context and the fixed and univocal technical vocabulary that could help to unify all his πραγματεῖαι into a systematic science. As we shall see, his use of φυσικῶς and καθόλου in this passage is an instance of such a compromise.

III. φυσικῶς AND καθόλου

Simplicius took φυσικῶς εἴρηται to refer to the proof of an eternal cosmos in chapters 3–4 (312. 16–18; cf. Thomas ad loc., sect. 236). Moraux (p. lxxv) took the phrase to refer to chapter 10 itself, and noted that a double treatment (φυσικῶς/καθόλου) of this sort has already appeared twice in the *De caelo*, namely, in the argument against infinite body (chaps. 6–7; cf. 274a20), and in the argument on the uniqueness of the cosmos (chaps. 8–9). That he is correct is confirmed by the passage

12. Aristotle does invent straw men, as I shall argue at length elsewhere. Cf. *EN* 7. 12, 1152b8–12, where two unnamed parties are introduced (not three, for τοῦτων refers to the proximate antecedent, τοῖς δέ in b10), and the second group is given two separate opinions (so that τρίτον refers to a third opinion and is a noun rather than an adverb); *EE* 1. 8, 1217b2, 1218a38 ff., where the doctrine that τὸ ἀριστον is τὸ κοινὸν ἀγαθόν is presented anonymously, and may belong to no one (cf. C. J. Rowe, *The Eudemian and Nicomachean Ethics: A Study in the Development of Aristotle's Thought*, PCPhS Suppl. 3 [Cambridge, 1971], p. 23, n. 8); *Ph.* 4. 4, 211b14–29, where the opinion that τόπος is a διάστημα is presented anonymously; *Gen. an.* 4. 1, 765a34–b6, where Aristotle conflates the opinions of Empedocles and Anaxagoras by speaking of them in more general terms without naming names.

that stands at the end of chapter 12.¹³ There Aristotle reminds us of the arguments he used in chapter 10 to show that those who conduct their inquiry φυσικῶς rather than καθόλου can also refute the theory of a generated imperishable: for on the level of physics φθαρτά and γενητά are all ἀλλοιωτά; ἀλλοίωσις is τοῖς ἐναντίοις; and the things out of which natural entities are constituted are also the agents of their destruction (283b17–22). As we saw in the summary of the doxographic review, it was just these physical postulates that underlay Aristotle’s refutation of his predecessors. Thus, πρὸς οὗς φυσικῶς . . . εἴρηται at 280a32–33 refers to the dialectical review of chapter 10 and not to the positive proof of the eternity of the outer heaven found in chapters 3–4.

Καθόλου . . . σκεψαμένοις, conversely, refers to the immediate sequel (chaps. 11–12), where Aristotle argues in a logical or general way that can apply to any entity.¹⁴ Elders (ad 280a33) wonders whether καθόλου implies a merely dialectical examination or an examination on the level of “supreme science.” We shall examine this question presently, but let us first note that whatever the distinction between φυσικῶς and καθόλου, the distinction itself provides the termini of the transition from the aporetic preliminaries of chapter 10, which must now be seen as φυσικῶς εἰρημένα, to Aristotle’s own definitive solution of the problem (as promised at 279b8), which must now be seen as καθόλου, and which will take up chapters 11–12.

The negative, dialectical sense of καθόλου can be seen from passages like *Nicomachean Ethics* 1107a29–31 ἐν γὰρ τοῖς περὶ τὰς πράξεις λόγοις οἱ μὲν καθόλου κενώτεροί εἰσιν, οἱ δ’ ἐπὶ μέρους ἀληθινώτεροι;¹⁵ or again *De generatione animalium* 748a7–16 οὗτος μὲν ὁ λόγος καθόλου λίαν καὶ κενός, and so on. Aristotle makes this distinction, between arguments of a general and abstract sort and more specific arguments, several times in the corpus; a λόγος is more specific (ἐπὶ μέρους) when it deals with matters that are cognate with,¹⁶ intimately related to,¹⁷ or inherent in¹⁸ the topic at hand. These arguments are always preferable to more general arguments, or to arguments that proceed on a more abstract or merely linguistic basis (λογικῶς), not only because they are more closely related to the topic,¹⁹ but because those who argue in the abstract can unwittingly reach conclusions that conflict with the facts,²⁰ and in such

13. Whether Moraux is right to rearrange the last lines of chap. 12 (cf. “Kritisch-Exegetisches zu Aristoteles,” *AGPh* 43 [1961]: 30–36) does not affect my argument. On Aristotle’s use of “double demonstration,” cf. Moraux, “La méthode d’Aristote dans l’étude du ciel,” in S. Mansion (ed.), *Aristote et les problèmes de méthode* (= *Symposium Aristotelicum*, 2) (Louvain and Paris, 1961), pp. 188 ff.

14. A33 περὶ ἅπαντος. Cf. also 281a30–33, where his arguments are said to extend not only to any thing, but also to any predicate of any thing.

15. Κενώτεροι must be read, not κοινώτεροι, since the latter leaves the contrast inchoate.

16. Συγγενής, vel sim.: *An. post.* 76a26 ff.; *Cael.* 306a5–12; *EN* 1098b1 ff.

17. Οἰκείος: *An. post.* 71b23, 90b1; *Ph.* 264a7; *Cael.* 294b6–12; *Gen. corr.* 316a13; *EE* 1217a9.

18. Ὑπάρχων: *An. post.* 81b23; *Gen. corr.* 316a8–10; *Cael.* 297b22; *Gen. an.* 748a15.

19. Ἐγγυτέρω: *EE* 1235a30; contrast πορρωτέρω, *Gen. an.* 747b29.

20. Cf. *Gen. corr.* 325a13–15, 17 ff.; *Gen. an.* 747b27–748a11, 788b17–20.

cases it is the facts that must be trusted.²¹ Further, arguments that are general and abstract are sometimes pursued for their own sake²² rather than for the sake of finding the truth, and thus are open to the charge of being mere *πλάσματα*.²³

On the other hand, arguments that are *καθόλου* or *λογικῶς* are not always useless. Indeed Aristotle often seeks to supplement arguments *ἐπὶ μέρους* or *ἐκ τῶν φαινομένων* with arguments *ἐπὶ τοῦ λόγου* or *λογικῶς*;²⁴ and although he may prefer to pursue the more abstract line of reasoning only after he has argued from the specific materials of the problem,²⁵ he often enough sees fit to argue on the general plane first and to cite particulars or specific givens afterwards, as confirmation.²⁶ Finally, there are occasions when a general or abstract argument is to be preferred (as at *Metaph.* 1029b13), especially when the topic under consideration is itself general or abstract. Thus at *Metaphysics* 1080a10, *λογικώτερος* is coupled with *ἀκριβέστερος* to describe valid objections to Plato's theory of ideas (cf. Ross ad loc.). At *Rhetoric* 1355a12 ff., *λογικοὶ συλλογισμοί* are contrasted with enthymemes as truth with the likeness of truth.

Conversely, *φυσικῶς*, with which *καθόλου* is contrasted in our passage, does not always imply specific or appropriate or concrete argumentation. At *Nicomachean Ethics* 1155a32–b16, Aristotle sets out the aporiae concerning *φιλία* by first mentioning the countervailing theses that similar people are friends, and that dissimilar people are friends (a32–b1). In particular, certain wise men have pursued the relation of similarity (or dissimilarity) to friendship on a higher (*ἀνώτερον*) and more "physical" (*φυσικώτερον*) plane: Euripides spoke of the dry earth's lust for rain, and of the stately heaven's lust to debouch its swell of rain upon earth, while Heraclitus spoke of advantageous strife and the *ἁρμονία* that arises from discord; on the other hand, Empedocles is singled out as one among many who saw the attraction of like for like at the bottom of all natural process (b1–8). But these *φυσικὰ ἀπορήματα* must be dismissed, since they are not germane to the topic (b8–9 οὐ γὰρ οἰκεῖα); the criterion of relevance is *τὸ ἀνθρώπικόν*.

In the parallel passage of the *Eudemian Ethics* (1235a4–31), those who argue that love is between similars or between dissimilars are immediately classed as *ἐξωθεν περιλαμβάνοντες καὶ ἐπὶ πλεον λέγοντες*, whether

21. Cf. *Gen. an.* 760b27–33, and *Cael.* 306a16–17, where *ἀεὶ* means "on each particular occasion" (distributive) rather than "consistently" (Guthrie) or "constant" (Moraux); cf. G. E. L. Owen, "ΤΙΘΕΝΑΙ ΤΑ ΦΑΙΝΟΜΕΝΑ," in *Symp. Ar.* 2, p. 90, no. 40; W. J. Verdenius, "Critical and Exegetical Notes on *De Caelo*," in I. Düring (ed.), *Naturphilosophie bei Aristoteles und Theophrast (= Symp. Ar.* 4) (Heidelberg, 1969), p. 283.

22. Cf. *Ph.* 185a5–12; *Cael.* 306a10–15; *Metaph.* 1011b2, 1012a6; *Pol.* 1280b.

23. *Metaph.* 1082b2–4; for the term, cf. *De an.* 406a27; *Cael.* 299b17, 289a6, b25; *Rh.* 1404b19, 1408b22; and for the idea, *Gen. corr.* 316a8–11.

24. *Ph.* 204b10–205a7 vs. 205a7–b1, 262a18–19; *Cael.* 274a19–24 (on which see Moraux, p. lxxv); *Met.* 378b13–20 ff. (if *Met.* 4 is by Aristotle); *Gen. an.* 729a24 ff., 740a4–5.

25. See W. K. C. Guthrie, *Aristotle: "On the Heavens"* (London, 1960), p. 63.

26. *Gen. corr.* 331a20 ff., 336b15–17; *Met.* 362b14 ff., b19 ff.; *De juv. et sen.* 468a20–23; *Gen. an.* 727a2–4 ff.; *EN* 1098b9–12; *EE* 1228a18–19; *Pol.* 1254a20–21.

their theories are expressed in homiletic, ethical terms (b7–9, 15–16, 19, 27–28) or in terms of φύσις (b6–9, 15–16, 19, 27–28).²⁷ Both theories are then rejected as *λίαν τε καθόλου κεχωρισμένοι τοσοῦτον* (a29–30; cf. a20), and other material is then introduced as being *ἤδη ἐγγυτέρω καὶ οἰκεῖται τῶν φαινομένων* (b30–31 ff.).

Both of these preliminary doxographic configurations are close imitations of *Lysis* 214A1–B5 and 215C4–216A2. At 214A1–B5, Socrates mentions, as proponents of the *ὁμοιον ὁμοίῳ* view, first the poets (*Od.* 17. 218) and then οἱ περὶ φύσεως τε καὶ τοῦ ὅλου διαλεγόμενοι καὶ γράφοντες. As for the antithesis, that similarity breeds hatred and that dissimilarity is the cause of attraction, Socrates feigns to remember a clever argument by which the moral maxim that “potter hates potter” is developed into a “magnificent” exposition which shows how the attraction of opposites underlies a wide range of phenomena, physiological and cosmological alike (215C4–216A2). This latter thesis, Socrates goes on to note, is open to the supremely wise controversion that since hatred is the opposite of love, τὸ ἐχθρόν will be φίλον τῷ φίλῳ, and vice versa (216A5–B4).

The phrases ἀνώτερον ἐπιζητοῦσι καὶ φυσικώτερον at *Nicomachean Ethics* 1155b2 and ἔξωθεν περιλαμβάνοντες καὶ ἐπὶ πλέον λέγοντες at *Eudemian Ethics* 1235a5–6 are Aristotle’s versions of οἱ περὶ φύσεώς τε καὶ τοῦ ὅλου διαλεγόμενοι καὶ γράφοντες (214B4–5) and ἔτι ἐπεξήει τῷ λόγῳ μεγαλοπρεπέστερον (215E1).²⁸ While in the Socratic discussion both arguments are at least given the dignity of being refuted (the latter, it is true, by an especially specious argument), Aristotle seems to find both to be mere grist for the dialectician’s mill.²⁹ Whereas Socrates then turns to still another piece of proverbial wisdom (that τὸ καλόν is φίλον, 216C4–7), Aristotle draws the conclusion that the inquiry must proceed, not from these φυσικὰ ἀπορήματα which are not οἰκεῖα (*EN* 1155b9) or from these farfetched δόξαι which are *λίαν καθόλου* (*EE* 1235a29–30), but from ἀνθρωπικὰ ἀπορήματα (*EN* 1155b9) or from δόξαι that are ἐγγυτέρω καὶ οἰκεῖται τῶν φαινομένων (*EE* 1235a30–31).

The term φυσικῶς, then, does not necessarily imply that an argument is specific (based on the οἰκεῖα) or concrete (avoiding far-flung analogies and the like), for it can be used of an argument which is also called καθόλου *λίαν* and οὐκ οἰκεῖον. Instead, in the realm of ethics (τὸ ἀνθρωπικόν), “physical” arguments have a status similar to that of “logical” arguments in the physical treatises. For, as we saw, (1) Aristotle’s methodology prefers “physical” arguments in the physical treatises because they are οἰκεῖα; (2) he usually subordinates “logical” arguments to a second position; yet (3) sometimes he depends heavily upon “logical”

27. In *EN* 1155b8–9, this charge was reserved for those who made far-flung analogies with the physical world.

28. In particular, φυσικώτερον in *EN* corresponds to περὶ φύσεώς τε καὶ τοῦ ὅλου: cf. *EE* 1235a9–10 οἱ δὲ φυσιολόγοι καὶ τὴν ὅλην φύσιν διακοσμοῦσιν.

29. Indeed, the perfect opposition of the two theories is stressed as though it in itself invalidated both (cf. *EE* 1235a20, 29, and the possible wordplay in *EN* 1155a35 and b6).

arguments in the physical treatises, regardless of his methodology. So, too, in ethics, (1) his methodology prefers arguments based on τὸ ἀνθρωπικόν because they are more οἰκεῖα than “physical” arguments; (2) he usually subordinates “logical” arguments to a second position (e.g., *EN* 1147a24 ff.); yet (3) at times he will acquiesce in a “physical” solution to an ethical problem.³⁰

In summary, when Aristotle contrasts arguing λογικῶς or καθόλου to arguing φυσικῶς and κατὰ μέρος, the former is very often empty dialectical argument while the latter is argument that proceeds from the specific materials of the topic. But when the topic itself is highly abstract, to argue λογικῶς is appropriate; and when the topic is ethical, to argue φυσικῶς is inappropriate, and can be assimilated to a dialectical argument that is λίαν καθόλου.

IV. ἀντίδικος BECOMES διαιτητής

Since, in 280a28–30, Aristotle explicitly promotes the question of generation to a general level, the general σκέψις that is to follow is appropriate to the topic. In calling the coming inquiry καθόλου, Aristotle does not therefore intimate that it will be merely dialectical. To the contrary, he promises to refute once and for all any general theory of ungenerated perishables or generated imperishables by attacking the problem on the most general level. He will thereby refute *a fortiori* the particular theory of irrevocable φθορά that posits infinite cosmoses, as well as the Platonic theory of a generated cosmos that is thereafter αἰδιος.

In the course of analyzing this last paragraph of chapter 10 I have shown that Aristotle is here doing two things: he is making his transition from the preambulatory review of his predecessors' opinions to his positive declaration on the topic; and at the same time he is elevating the topic under consideration to a higher plane of generality, ostensibly because the refutation of certain views requires a preliminary σκέψις on a general and all-inclusive level. Thus, rather than completing his preambulatory review and then presenting his opinion (the course of treatment we were led to expect from 279b5–10), Aristotle “discovers” in the course of the review that not even the review can be completed until his own positive theory is developed. His own theory is thus made to appear ancillary to the review (a bit of research that will help the judges to decide among competing theories), rather than being the merely self-serving arguments of an ἀντίδικος (cf. 279b10–12).

We must look once again at the construction of the review to see how Aristotle devised to elevate himself from ἀντίδικος to διαιτητής. We noted above that the theories under review were listed in one order but

30. *EN* 1167b28–29, 1174a13–14 ff. In general, for the terms here under review, cf. Waitz ad *An. post.* 82b35; Ross ad *An. post.* 82b35–36, ad *Ph.* 202a21, ad *Metaph.* 1029b13 and 1080a10; Bonitz ad *Metaph.* 1005b22 (p. 187); Ramsauer ad *EN* 1147a24; cf. also R. Eucken, *Die Methode der aristotelischen Forschung* (Berlin, 1872), pp. 46–56; J.-M. LeBlond, *Logique et méthode chez Aristote* (Paris, 1939), pp. 203–13; R. McKeon, “Aristotle’s Conception of the Derivation and Nature of the Scientific Method,” *JHI* 8 (1947): 3–44.

criticized in another. The passage in which the theories are first listed (279b12–17) is stylized rather than casual (note the unnecessarily formal references to Empedocles and Heraclitus with which it is rounded out), and we should regard the ordering of the three theories as consciously chosen. While all agree that the cosmos was generated, some argue that it is thereafter eternal, others that it then perishes, and still others that it forever alternates between polar states, where the two movements from pole to pole are generation and destruction.³¹ The three theories seem to be arranged in a natural sequence: first the two extremes are given, and finally what appears to be a compromise is presented (φθορά does occur, but the alternation is eternal). The last theory most closely resembles Aristotle’s own.

Aristotle then begins his criticism with that of the first theory (279b17–280a11). After what appears to be a thorough refutation of that theory (cf. 280a10–11), he moves not to the second but to the third theory, which he easily refutes (280a12 ff.). When he then moves on to the second theory, he finds that only a certain version of the theory can be refuted from the sorts of arguments he has developed so far (280a23–26), but that another version of the theory (wherein infinite cosmoses are posited) cannot receive definitive refutation until later: for not only it but certain other theories, too, require for their refutation a more general inquiry (280a26–34).

Not only does the change in the order of treatment come as a surprise; the division of the last theory into two theories is sudden and could not have been predicted from the description of the theory given in 279b13–14. It may even be more correct to consider it a fourth theory added at the last moment, since all the theories in 279b12–17 had been implicitly described as positing one cosmos only. This subdivision of the last theory is tailored to suit what Aristotle can and cannot refute: I would argue that Aristotle, by placing the criticism of the second theory last, is altering the order of treatment in a way that suits dialectical purposes and projects that become evident to the reader only as the exposition develops. For it is in facing this latter version of the theory of irrevocable φθορά that Aristotle discovers the need for a positive and independent digression on generation in general, the need for which he then further promotes by introducing still another theory or theories, of which Plato’s theory in the *Timaeus* is merely a species (280a27–34).

The movement of the exposition—through a series of possible theories that are refuted on the “physical” plane, to the introduction of a possible theory that cannot be treated on that plane but requires a digression on an exceptionally abstract and general level, after which the theory can be dealt with and a positive solution can be reached—resembles in its outlines the course of the discussion in Plato’s *Phaedo*. There, the defense of immortality and refutation of contrary theses proceeds with success on a

31. Read φθιρόμενον (b15), with all MSS. It is exegetical to ἄλλως εἶναι only: cf. Verdenius, “Critical and Exegetical Notes,” p. 273; against Moraux’s deletion (originally Kassel’s), cf. the review by L. Tarán, *Gnomon* 46 (1974): 130.

physical plane for the first half of the dialogue; but then the pointed objection of Cebes requires Socrates to digress on generation and destruction in general (cf. 95E9–96A1), after which a fully generalized and abstract proof of the soul's immortality is achieved. Although the analogy is rough, it is sufficient to illustrate that the present treatise by Aristotle, and others like it, exhibit not only the lively and agonistic spirit that characterizes Greek philosophical writings in general, but also a kind of premeditated but concealed dialectical strategy which is more usually associated with the dramatic dialogues of Plato.

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