

## NOTES AND DISCUSSIONS

### ARISTOTELIAN EXPLICATIONS AND EMENDATIONS

#### I. PASSAGES FROM THE *PHYSICS*, *DE CAELO*, AND *DE GENERATIONE ET CORRUPTIONE*\*

Aristotle, *il maestro di color che sanno*, continues to be the object of much serious study on the part of philosophers. With classicists, to risk an oversimplification, the situation tends to be otherwise. The Aristotelian corpus, apart from selections from the *Poetics* and *Rhetoric*, the *Politics* and *Ethics*, is largely ignored. Since Aristotle possessed one of the most acute intellects of all time, this is unfortunate. The reasons for this relative neglect are complex. One reason, however, is certain enough: the widespread *fable convenue* that he could not write elegant Greek. As a consequence most classicists—there have been notable exceptions—have chosen not to expend much effort on the study of his language, and much therefore remains to be done. I have argued elsewhere<sup>1</sup> that not only was Aristotle a writer of distinction (as the general judgment of antiquity had it) but that he wrote by and large correct Attic Greek. There is no good reason not to turn to the Attic authors to explicate Aristotle and yet, curiously, this is seldom done. Be that as it may, the first step in understanding Aristotle's thought is to understand his words. Herewith are a few specimen attempts.

##### 1. *Ph.* 251b17–19:

Πλάτων δὲ γεννᾷ μόνος· ἅμα μὲν γὰρ αὐτὸν τῷ οὐρανῷ [γεγονέναι], τὸν δ' οὐρανὸν  
γεγονέναι φησίν.

b18 γεγονέναι del. Ross

The understood object of γεννᾷ in b17 is χρόνον, Time. Ross defends his deletion of γεγονέναι by stating: "The argument requires us to treat γεγονέναι in b18 as an emblema and to supply εἶναι in thought." That is all and it is not enough. It is true that the repeated γεγονέναι may strike one at first as redundant, but this is the redundancy of emphasis. Stylistically it is out of the question to "understand" any infinitive in the μὲν clause; the infinitive must be expressed here to avoid an intolerable imbalance with the δέ clause. To see why Aristotle wrote γεγονέναι in b18, and not εἶναι or some other infinitive, one need only go to the *Timaeus*, the source for Aristotle's statements here, as has been recognized since antiquity. 28B: ὁ δὲ πᾶς

\* This is Part I of a two-part article. Part II, "Passages from the *De Anima*, *De Partibus Animalium*, *De Generatione Animalium*, *De Motu Animalium*, *Politics*, and *Nicomachean Ethics*, will appear in the next issue of this journal. For a list of titles cited in this article, see p. 158 below.

1. "Some Special Problems in the Editing of Aristotle," *SIFC* ser. 3.10 (1992): 719–24.

οὐρανός . . . γέγονεν. That is the original of the δέ clause. 38B: χρόνος δ' οὖν μετ' οὐρανοῦ γέγονεν. That is the original of the μέν clause. A μέν clause with an εἶναι, expressed or understood, would not be in agreement with *Tim.* 38B, the passage Aristotle is paraphrasing. Restore γεγόνεναι in b18; the deliberate repetition of the infinitive serves to reinforce Aristotle's strong disagreement with Plato.

2. *Cael.* 272b9–11:

εἰ οὖν ἄπειρος ὁ χρόνος ὃν ἡ πεπερασμένη ἀπολύεται κινουμένη, καὶ ἐν ᾧ ἡ ἄπειρος τὴν πεπερασμένην ἐκινήθη ἀνάγκη ἄπειρον εἶναι.

Aristotle's argument is, as Guthrie's summary puts it, "A moving finite line, whatever its length, would require an infinite time to pass an infinite line: but the converse must also be true, and an infinite line would require an infinite time to traverse the length of a finite line, however short." Such is clearly the general sense required. Can it be gotten out of the Greek? Stocks: "If, therefore, the time which the finite moving line takes to pass the other is infinite, then necessarily the time occupied by the motion of the infinite past the finite is also infinite." Guthrie: "If then the time taken by the finite moving line to clear the infinite must be infinite, so also must the time in which the infinite line moves the length of the finite." Moraux: "Donc, si le temps que met un segment se déplaçant pour perdre le contact est infini, celui dans lequel la droite infinie parcourra le segment sera, de toute nécessité, infini également."

The rub lies in the expression τὴν πεπερασμένην ἐκινήθη, which is taken by the interpreters to refer to the infinite line's movement past the finite line.<sup>2</sup> The simple accusative with ἐκινήθη cannot convey such a meaning, a difficulty that Guthrie appears to have felt, since his translation suggests that he construed τὴν πεπερασμένην (sc. γραμμὴν) as an accusative of extent. This is not supported by any language in this section or elsewhere.

The normal force of the accusative in τὴν πεπερασμένην ἐκινήθη is shown by other passages and not to be doubted. The accusative should be cognate, with κίνησιν rather than γραμμὴν understood; the construction is common. *Cael.* 273b30–31: εἰ γὰρ τὸ τοσόνδε βάρος τὴν τοσὴνδε ἐν τῷδε τῷ χρόνῳ κινεῖται κτλ.; 274a13–16: ἀνάγκη . . . καὶ ἄλλο ἐν τῷ αὐτῷ τούτῳ πεπερασμένον βάρος κινεῖσθαι τινα πεπερασμένην. (For the full expression see, e.g., *Cael.* 279b1: ἅπανστων . . . κίνησιν κινεῖται.) So understood, the Greek gives unexceptionable syntax and perhaps is what Aristotle wrote.<sup>3</sup> If so, the current translations, or rather interpretations, should be corrected, for they are misleading.

The passage, however, does not seem quite satisfactory on such a reading. First, τὴν πεπερασμένην in b11 surely should contrast with ἡ ἄπειρος and mean "finite line," just as does ἡ πεπερασμένη in the preceding subordinate clause; the natural noun to be supplied here is γραμμὴ, not κίνησις. Secondly, if τὴν πεπερασμένην ἐκινήθη meant what it naturally ought to mean, if, that is, κίνησιν were to be understood, then the converse argument is not made explicit, as we certainly expect it to be. The point is the time it takes specifically for an infinite line to pass a finite line,

2. Note the use of ἀπολύεσθαι in b10 to mean "be clear of," "get past" (*de lineis, quarum altera alteram praetervehitur*, Bonitz *Index*, p. 84, 9). Aristotle uses it elsewhere in this section, 272a24, 26, b3, 26. LSJ have missed this meaning of the verb.

3. For this construction see Bonitz, *Index*, 391a16–22, where, among other examples, he cites 273b30 and 274a16, but not our passage. See also Ross on *Metaph.* 1020a31 ὁ ἐκινήθη.

not simply for it to move a finite distance,<sup>4</sup> just as above, conversely, the time required for a finite line to pass an infinite line was in question.<sup>5</sup> The desiderated sense can be obtained by reading καὶ ἐν ᾧ ἡ ἄπειρος (παρὰ) τὴν πεπερασμένην ἐκινήθη ἀνάγκη ἄπειρον εἶναι. For the language compare 272b3–4: οὐδὲν κωλύει τὴν κινουμένην παρ’ ἡμεοῦσαν θάττον παρελθεῖν; b8–9: κινουμένην ἐνδέχεται τὴν Α παρὰ κινουμένην τὴν Β βραδύτερον παρελθεῖν; 272a31–32: διαφέρει δέ γε οὐδὲν ἢ τὴν πεπερασμένην φέρεσθαι παρὰ τὴν ἄπειρον ἢ τὴν ἄπειρον παρ’ ἐκείνην. See further the uses of παρὰ in *Ph.* 239b33–240a18 (b34, a2–3, a10–12, a17). Accidental omission of παρὰ after ἄπειρος requires no elaborate defense.

### 3. *Cael.* 282b10–14:

τοῦ γὰρ αἰεὶ ὄντος καὶ τοῦ αἰεὶ μὴ ὄντος ἐστὶ μεταξύ ᾧ μηδέτερον ἀκολουθεῖ, τοῦτο δ’ ἐστὶ τὸ γενητὸν καὶ φθαρτὸν. δυνατόν γάρ καὶ εἶναι καὶ μὴ εἶναι ὀρισμένον χρόνον ἑκάτερον. λέγω δ’ ἑκάτερον καὶ εἶναι ποσὸν τινα χρόνον καὶ μὴ εἶναι.

Guthrie seriously misinterprets the Greek here. Both the authority of this distinguished exegete and the idiom at issue, which still seems too little recognized, make a clarification desirable. He translates as follows: “. . . there is something between that which always is and that which always is not, something which is not implied by either of them, and this is the generated-and-destructible; for this is capable of both being and not being, each for a limited time. (When I say “each,” I mean that it can for a given time be and for a given time not be.)” In a note accompanying his text Guthrie explains his interpretation: “I take ἑκάτερον to refer to εἶναι and μὴ εἶναι. Stocks refers it to τὸ γενητὸν and τὸ φθαρτὸν, but the omission of the article before φθαρτὸν suggests that τὸ γενητὸν καὶ φθαρτὸν is being thought of as one thing. On the interpretation here suggested the parenthesis is a reminder of the thesis established at the beginning of the chapter, that the realization of opposite potentialities must be successive and not simultaneous.”

Despite this pronouncement it is a priori unlikely that Aristotle is here thinking of τὸ γενητὸν and τὸ φθαρτὸν as a single entity (“the generated-and-destructible” in Guthrie’s rendering). Although in fact τὰ γενητά and τὰ φθαρτά always imply each other in Aristotle’s view, throughout this section he consistently treats them, for the purposes of his argument, as logically discrete. To go no further, consider the preceding sentence (b8–9): τὸ γὰρ γενητὸν καὶ τὸ φθαρτὸν<sup>6</sup> ἀκολουθοῦσιν ἀλλήλοις; again, the following sentences (b14–16) run thus: εἰ τοίνυν ἐστὶ τι γενητὸν ἢ φθαρτὸν, ἀνάγκη τοῦτο μεταξύ εἶναι. ἔστω γὰρ τὸ Α τὸ αἰεὶ ὄν, τὸ δὲ Β τὸ αἰεὶ μὴ ὄν, τὸ δὲ Γ γενητὸν, τὸ δὲ Δ φθαρτὸν (emphasis mine). Moreover, Guthrie’s version requires that the first ἑκάτερον be in some sort of apposition to εἶναι καὶ μὴ εἶναι (compare his translation), which is, to my ear, impossible Greek. Indeed the second ἑκάτερον must break down completely on such an interpretation, nor can it be

4. Moreover *Cael.* 274a16 (see p. 142, above) suggests that Aristotle would have written *τινα πεπερασμένην*, not *τὴν πεπερασμένην*, if *κίνησιν* is the unexpressed noun. What is the force of the definite article on this interpretation? On the other hand, the propriety of *τὴν* if *γραμμὴν* is understood is obvious; ἡ ἄπειρος (γραμμὴ) and ἡ πεπερασμένη (γραμμὴ) constitute a natural pair of opposites.

5. In b10 understand *τῆς ἀπείρου* (sc. γραμμῆς) with ἡ πεπερασμένη ἀπολύεται (as, e.g., at 272a23–24: ἀνάγκη δὴ ἅμα τὴν τε Α τῆς Β ἀπολελύσθαι καὶ τὴν Β τῆς Α). Simplicius (p. 213.3–4 Heiberg) writes *προσυπακούειν δεῖ τὸ “διὰ τῆς ἀπείρου”* (sc. διαστάσεως), which amounts to the same thing.

6. So the editors on slight MS authority. Most codices have *τὸ γὰρ γενητὸν καὶ φθαρτὸν* (with the second *τὸ* omitted), which I prefer. The sense is not affected.

maintained that Guthrie's translation successfully sustains the equation of ἐκάτερον and εἶναι καὶ μὴ εἶναι in this latter sentence, for it does not. Each ἐκάτερον clearly must refer to τὸ γενητὸν καὶ φθαρτὸν, for the Greek permits no other legitimate construction and this word alone, with its comparative suffix, suffices to prove that τὸ γενητὸν καὶ φθαρτὸν is not thought of here as one thing. (For a discussion of τὸ φθαρτὸν and τὸ ἄφθαρτον with no explicit reference to τὸ γενητὸν and τὸ ἀγέννητον see *Metaph.* 1058b26–1059a14.) In short, the price that Guthrie would have us pay in order to avoid taking τὸ γενητὸν καὶ φθαρτὸν in b11–12 as synonymous with τὸ γενητὸν καὶ τὸ φθαρτὸν is too high, and completely unnecessary.

τὸ γενητὸν καὶ φθαρτὸν is an example of the common Greek idiom in which the expected second article remains unexpressed. There is nothing irregular about omissions of this sort and the sense is not noticeably affected. Guthrie's notion (a natural assumption on the face of it and not peculiar to him) that the absence of the second article creates the impression of a single entity is not borne out by the evidence, for the article is often omitted even with contrasting pairs: *Eth. Nic.* 1102b5: ὁ ἀγαθὸς καὶ κακός; *Hippocr., Morb. Sacr.* c. 17: διαγινώσκωμεν τὰ τε αἰσχρὰ καὶ καλὰ καὶ κακὰ καὶ ἀγαθὰ καὶ ἡδέα καὶ ἀηδέα. The manuscripts sometimes fluctuate. According to Allan:

... in the *de Caelo* Aristotle constantly has occasion to use such phrases as τὸ ἄνω καὶ κάτω, τὸ κοῦφον καὶ βαρὺ. A few manuscripts generally add a second τὸ, although E never does so. There may be a slight difference in the sense; τὸ κοῦφον καὶ βαρὺ would stress the fact that these terms are a pair, and that what is said of κοῦφον applies also to βαρὺ. Thus, at 281b3 ἔστι δὲ τὸ ἀδύνατον καὶ [τὸ] δυνατόν καὶ [τὸ] ψεῦδος καὶ [τὸ] ἀληθές τὸ μὲν ἐξ ὑποθέσεως ... The words in brackets are omitted by E<sup>1</sup> J. Possibly we should read τὸ the second time, before ψεῦδος; more likely the force of the first τὸ continues, as with the figure outside a bracket in algebra.<sup>7</sup>

The difference in sense that Allan suggests cannot be demonstrated.<sup>8</sup> For instance, Aristotle a number of times ascribes to Plato a material principle of being that he calls τὸ μέγα καὶ τὸ μικρόν (see Ross on *Metaph.* 987b20). At *Metaph.* 1087b8 τοῦ μεγάλου καὶ μικροῦ occurs; the phrase is sound and there can hardly be any difference in meaning in the case of this technical term. Where such variations occur, I should imagine that sound and variety for its own sake, not sense, were normally the determining factors.<sup>9</sup> *Metaph.* 1009a13–14: τὰ ἀντικείμενα γὰρ δοξάζουσιν ἀλλήλους οἱ διεψευσμένοι καὶ ἀληθεύοντες, “those who are mistaken and those who are right are opposed to one another in their opinions” (tr. Ross). Jaeger prints οἱ διεψευσμένοι καὶ (οἱ) ἀληθεύοντες, obviously to remove the apparent imbalance, but, even without the second article, οἱ δ. καὶ ἁ. is a normal way of expressing a

7. D. J. Allan, “On the Manuscripts of the *De Caelo* of Aristotle,” *CQ* 30 (1936): 18.

8. It is important to be very precise on this point. I am not saying that, for instance, τὸ γενητὸν καὶ φθαρτὸν always means “the generable and the destructible” (two distinct entities) and never “the generable-and-destructible” (one combined entity). The phrase can mean both and both usages are idiomatic. Contrast ὁ καλὸς κἀγαθός (one entity) with ὁ ἀγαθὸς καὶ κακός (two entities), and see the usage at *Cael.* 288b2–4: τὸ γὰρ πρῶτον τοῦ πρώτου καὶ τὸ ἀπλοῦν τοῦ ἀπλοῦ καὶ τὸ ἀφθαρτον καὶ ἀγέννητον τοῦ ἀφθάρτου καὶ ἀγενήτου κινητικόν, where the context proves that τὸ ἀφθαρτον καὶ ἀγέννητον is felt as a unity—just as the context at 282b10–14 (ἐκάτερον!) proves the opposite for τὸ γενητὸν καὶ φθαρτὸν. One could not wish for a clearer example of the flexibility of the Greek language in this regard.

9. This is particularly clear from Plato's practice; see the examples set forth in J. Riddell's *Digest of Platonic Idioms* (Amsterdam, 1967), sec. 237.

contrasting pair and Aristotle may well have wished to avoid the sound and rhythm of καὶ οἱ ἄλ-. Examples could easily be multiplied.<sup>10</sup> The important point to grasp is that this is a classical Greek idiom of general distribution, and not a usage peculiar to that artificial construct of scholars, “Aristotelian Greek.” More evidence for the frequency of this usage in Greek and not just in Aristotle can be found in my note to Eur. *HF* 140–41 (τὸν Ἡράκλειον πατέρα καὶ ξυνάορον / . . . ἐρωτῶ).<sup>11</sup>

To return to the original passage, *Cael.* 282b10–14. What is the sense? Despite his very forced misreading of the Greek, Guthrie understood the general purport of it. I would agree with him that there is an echo here of the opening of the chapter (281a28–33): εἰ δὴ ἐστὶν ἓνια δυνατὰ καὶ εἶναι καὶ μὴ, ἀνάγκη χρόνον τινὰ ὀρίσθαι τὸν πλεῖστον καὶ τοῦ εἶναι καὶ τοῦ μὴ, λέγω δ’ ὅν δυνατόν τὸ πρᾶγμα εἶναι καὶ ὅν δυνατόν μὴ εἶναι καθ’ ὁποιαοῦν κατηγορίαν . . . εἰ γὰρ μὴ ἔσται ποσός τις [sc. χρόνος], ἄλλ’ κτλ.

Here Aristotle sets down the principle that whatever has the capacity both to exist and not to exist can do either only for a definite and limited period (“quantity”) of time. He reiterates this principle at 282b12–14; in each case he states that the time is finite (ὀρίσθαι ~ ὀρισμένον) and then proceeds to be more explicit, specifically by introducing his formal term for the category of quantity, ποσός (ποσός τις ~ ποσόν τινα χρόνον). In 282b13–14, therefore, as this parallelism shows, the sentence λέγω δ’ ἑκάτερον καὶ εἶναι ποσόν τινα χρόνον καὶ μὴ εἶναι is inserted as an explanation or amplification of the preceding ὀρισμένον χρόνον: “And I mean that each of the two (sc. the generable and the destructible) both is and is not for a certain amount of time.” That Aristotle linked closely the separate notions of quantity (ποσός) and finite limit (ὀρισμένος) in the case of time is clear from *Cael.* 282b20–21: ποσὸν ἄρα τινὰ καὶ ὀρισμένον χρόνον and 283a7 ἢ . . . ἄπειρον ἢ ποσόν τινα ὀρισμένον χρόνον . . . Here mention of the one (ὀρισμένον, b12) naturally led him to mention the other (ποσόν, b13) in further elaboration thereof, exactly as at the beginning of the chapter.

#### 4. *Cael.* 291b24–28:

δυσὶν δ’ ἀπορίαιν οὔσαι, περὶ ὧν εἰκότως ἂν ὅστισοῦν ἀπορήσειε, πειρατέον λέγειν τὸ φαινόμενον, αἰδοῦς ἀξίαν εἶναι νομίζοντας τὴν προθυμίαν μᾶλλον ἢ θράσους, εἴ τις διὰ τὸ φιλοσοφίας διψῇ καὶ μικρὰς εὐπορίας ἀγαπᾷ περὶ ὧν τὰς μεγίστας ἔχομεν ἀπορίας.

b26 θράσους : θράσος F. Solmsen

Solmsen finely alludes to the “beautiful, remarkably personal sentiment of the passage”;<sup>12</sup> one could fairly add that the words are notable for their scientific and for their philosophic tone as well. It would be a pity not to read them in their pristine

10. At *Part. An.* 684b34, τὰ δὲ μαλάκιά τε καὶ στρομβώδη, where Peck conjectured and printed (τὰ) στρομβώδη, Düring, *De Partibus*, p. 187, n. 1, remarked “Peck τὰ στρομβώδη, unnecessary, cfr. 668a23 ἐπὶ τῶν ἀμπελίνων τε καὶ συκίνων φύλλων, Vahlen, *Beiträge zur Arist. Poetik*, SbAkWien 56 (1867) p. 330: «in der Nichtwiederholung des Artikels sowie der Präpositionen scheint Aristoteles, wenn ich recht beobachtet habe, weiter als andere Prosaiker zu gehen.» From my experience I can only confirm this observation.” This is correct, but misleading. It is not necessarily the case that Aristotle was by nature more prone to this use than others; rather, the subject matter and the concise style to which his extant treatises lend themselves created a situation where this usage would frequently be in place. I doubt that other Greeks in these circumstances would have differed significantly in their *Nichtwiederholung des Artikels*.

11. “A New Commentary on Euripides,” *CP* 80 (1985): 150–51.

12. “Emendations in Cosmological Texts,” *RhM* 124 (1981): 13.

form, if that is still within our reach. Solmsen objects both to the meaning given to the word ἀξίαν by earlier interpreters and to the consequent sense: “‘evidence of modesty’, Guthrie’s rendering of αἰδοῦς ἀξίαν, does not do justice to Aristotle’s thought. Neither thirst for truth nor the venturing from a small basis of asserted facts into the realm of hypotheses can be regarded as ‘modesty’. And to translate ἀξίαν by ‘evidence’ violates the meaning of the word.”

We may readily concede to this eminent scholar that the current versions reproduce the Greek very freely at best and have taken some considerable liberties with ἀξίαν. Stocks’ rendering is similar to Guthrie’s: “. . . we regard the zeal . . . as a proof rather of modesty than of over-confidence.” Nevertheless, even if they have not given us a literal version of the Greek, a parallel passage that occurs above, 287b28–31, suggests that they have grasped the general sense: ἵσως μὲν οὖν τὸ περὶ ἐνίων ἀποφαίνεσθαι τι πειρᾶσθαι καὶ τὸ περὶ πάντων καὶ τὸ παρίεναι μὴδὲν τάχ’ ἂν δόξειεν εἶναι σημεῖον ἢ πολλῆς εὐηθείας ἢ πολλῆς προθυμίας. It seems apparent that the translators, in their efforts to explicate the present passage, have taken their cue from σημεῖον.

Solmsen has objected not merely to the Greek, but to the sense. I do not understand the latter objection. In both these passages Aristotle shows himself acutely conscious of the great difficulties involved in such intellectual experiments and feels it necessary to apologize for his apparent arrogance (θράσος). If one is acting from a “thirst for philosophy” and is willing to be satisfied with even mediocre and tentative solutions to these enormous difficulties, then there is not boldness, but, paradoxically, a “modest” awareness of one’s own limitations. The man who struggles on under such conditions is to be praised, not condemned. Such at least, so far as I can see, is the sense, which seems to me not merely unobjectionable, but even sublime—and sufficiently guaranteed by the beginning of the next paragraph, where Aristotle again defends his seeming presumption: περὶ δὴ τούτων ζητεῖν μὲν καλῶς ἔχει καὶ τὴν ἐπὶ πλεῖον σύνεσιν, καίπερ μικράς ἔχοντας ἀφορμάς καὶ τοσαύτην ἀπόστασιν ἀπέχοντας τῶν περὶ αὐτὰ συμβαινόντων (292a14–17). It is a good thing (καλῶς ἔχει), says Aristotle, to seek to increase our understanding, no matter if our resources for so doing be ever so slight. This is clearly an expansion of the same apology we have just encountered above. In view of this Guthrie’s version is extraordinary: “There are questions on which it is worth while seeking boldly to extend our understanding.” Nothing in the Greek corresponds to the adverb “boldly.” On the contrary, Aristotle’s point is that such philosophic enquiries are not at all rash or bold,<sup>13</sup> but in reality modest and commendable.

There remains the problem of the literal meaning of the Greek itself, and in particular of ἀξίαν, which is admittedly difficult.<sup>14</sup> To begin with, αἰδοῦς and θράσος are a natural pair and should not be separated, Isocrates 1.189: τοὺς πεπορνευμένους . . . ἐκ τῆς ἀναιδεΐας καὶ τοῦ θράσους καὶ τῶν ἐπιτηδευμάτων γινώσκωμεν. On

13. I understand that Guthrie is using “boldly” in a favorable sense and that Aristotle’s θράσος is a term of derogation; even so, the introduction of the word here cannot but mislead.

14. Solmsen describes his conjecture θράσος as “a direct object of νομίζοντας” (?); I am not sure that I understand this. As he makes reference to a “zeugmatic” construction, apparently he would take the Greek as equivalent to “believing zeal to be worthy of respect rather than believing it to be boldness, if one . . .” This gives no very satisfactory sense and, on either rendering, the anarthrous θράσος presents a difficulty (as Solmsen realized).

the other hand, Solmsen was perfectly justified in criticizing “new meanings” of ἄξιος invented for this passage alone; he observes “LSJ which puts the passage in a category of its own [sc. I.7] and proposes ‘more like modesty than rashness’ does not help matters.” Granted that LSJ should not have isolated this passage as if it preserved a distinct meaning otherwise unattested, nevertheless their paraphrase—it is nothing more—is actually as good an approximation as any of the real force of ἄξιος here.

So far from illustrating a novel sense of ἄξιος, this passage preserves the adjective used in a sense very close to its original meaning. LSJ correctly state that ἄξιος comes from \*ἄγ-τιος; it is related to ἄγω = “draw down” in the scale, “weigh” (LSJ s.v. ἄγω VI) and the adjective originally meant “counterbalancing,” “weighing as much,” “of like value” and then, metaphorically, “equivalent to.” Herodotus 1.32.1: ὦ ξείνε Ἀθηναῖε, ἡ δ’ ἡμετέρη εὐδαιμονίη οὕτω τοι ἀπέρριπται ἐς τὸ μηδέν, ὥστε οὐδὲ ἰδιωτέων ἀνδρῶν ἀξίους ἡμέας ἐποίησας; The force of ἀξίαν here is much the same. The preposition ἀντί is commonly used to express a comparable sense and so too the related adjective ἀντάξιος. See Gow on Theocritus 17.114, δωτίναν ἀντάξιον ὥπασε τέχνας: “ἀντάξιον: a heightened synonym for ἀξιον. The proper meaning of the compound is *of equal value*.” It is doubtful whether a truly literal rendering of this passage into English is possible and the most one can do is establish the meaning of the original. That the translators have given free versions is hardly surprising. Bonitz (*Index* s.v. ἄξιος) did the same: ἀξίαν . . . μάλλον ἢ θράσους, “*i.e. quam pro temeritate habendam*,” correctly.

It is important to recognize the principle that the refusal of a phrase to pass over smoothly into another language is no necessary mark of inelegance in the original. Aristotle has crafted a splendid sentence here and it merits every admiration both for its thought and for its language. In particular, the colon αἰδοῦς ἀξίαν εἶναι νομίζοντας τὴν προθυμίαν μάλλον ἢ θράσους is polished and epigrammatic; these are no secondhand goods. The following consideration may be helpful in understanding the words. What Aristotle is really saying is that philosophic zeal in confronting the deepest problems is something worthy of the truly modest man, not the bold man. That is, as I have indicated, a deliberate paradox. ἄξιος c. gen. pers. in the sense “worthy of” is commonplace, and Aristotle could have written τοῦ αἰδήμονος ἀξίαν εἶναι νομίζοντας τὴν προθυμίαν μάλλον ἢ τοῦ θαρραλέου. This might have been clearer, but it is less pithy. In other words, in artificial grammatical terms, what we have in this passage is a metonymy, *res pro persona*, and, since the person in question is in reality Aristotle himself, that is an extremely delicate and fine stroke. (Note the shift from τις in b26 to ἔχομεν in b28.)

The picture that thus presents itself to us is of the great thinker refusing to abandon enquiry before even the most difficult problems, such is his thirst for knowledge and understanding, but hardly so doing from any over-bold sense of confidence. Rather is he humbled all the while before the enormity of the task. “Modesty” is a very inadequate rendering of αἰδώς here; the Greek word refers to Aristotle’s respect for those profound philosophical problems that are his life’s concern. Feelings of due modesty follow from, but are not quite identical with, such αἰδώς.<sup>15</sup>

15. Of this passage Düring, *Aristoteles*, 366, writes “Zum ersten Mal tritt uns hier die bescheidene Beurteilung seines Wissens entgegen, die er in seinen späten Schriften so oft bekundet.”

5. *Cael.* 292a22–28:

ἔοικε γάρ τῳ μὲν ἄριστα ἔχοντι ὑπάρχειν τὸ εὖ ἄνευ πράξεως, τῳ δ' ἐγγύτατα διὰ ὀλίγης καὶ μᾶς, τοῖς δὲ πορρωτάτῳ διὰ πλειόνων, ὥσπερ ἐπὶ σώματος τὸ μὲν οὐδὲ γυμναζόμενον εὖ ἔχει, τὸ δὲ μικρὰ περιπατήσαν, τῳ δὲ καὶ δρόμου δεῖ καὶ πάλης καὶ κόνισσεως, πάλιν δ' ἐτέρῳ οὐδ' ὀποσαοῦν πονοῦντι τοῦτο γ' ἂν ἔτι ὑπάρξαι τάγαθόν, ἀλλ' ἕτερόν τι.

a26 κόνισσεως : κινήσεως v.l.: κάκοντίσεως Bywater.

In a26 the variant κινήσεως, found in several manuscripts (F and M), is a trivialization of the simplest sort. This chapter is concerned with motions, κινήσεις, and the word has already occurred several times in it. The uncommon κόνις was bound to become κίνησης in this codex or that. Bywater condemned κόνισσεως: “. . . it is clear that, whatever the word [Aristotle] may have used, he must have meant not a mere accessory of or incident in wrestling (πάλη), but a distinct form of exercise. It seems to me, therefore, that καὶ κόνισσεως may be a corruption; and I would suggest that the original reading was probably κάκοντίσεως. . . .”<sup>16</sup> His reasoning has been taken seriously and raised doubts. Stocks observes, “Perhaps it is best to keep the text, though there can be no certainty that it is right” and Guthrie adds, “κόνις if genuine is probably unique,” both with explicit reference to Bywater’s note. Allan, Guthrie, and Moraux all record κάκοντίσεως in the apparatus; Moraux evades the difficulty by the too free rendering “. . . pour un autre encore, la course, la lutte et les exercices sportifs sont indispensables.”

Guthrie conceded that Bywater’s “reason for changing κόνισσεως . . . is not a strong one.” I would prefer to say that it is no reason at all. That the third term must introduce a new and distinct form of exercise is hardly a necessary inference, for, whether we take κόνισσεως with both δρόμου and πάλης, both of which were dusty activities in Greece, or more specifically with πάλης alone, a more usual collocation, the third element makes excellent sense as a descriptive elaboration of the preceding. Simplicius (p. 482.30–483.2 Heiberg) so understood the text: “. . . οἷον δρόμου καὶ πάλης καὶ τῆς ἐν τῳ παλαίειν γυμναστικῆς διατριβῆς. τοιαύτη γάρ ἡ κόνις διὰ τὸ ἐν κόνει γυμνάζεσθαι τὰ παλαιστρικά. How closely these two notions, κόνις and πάλη, were associated in the Greek mind is suggested by Lycophron, *Alexandra*, vv. 866–67 ἥξει δὲ ταύρου γυμνάδας κακοξένους / πάλης κόνιστρας κτλ.

Any lingering doubts about the correctness and appositeness of κόνισσεως here should be removed by an appeal to Aristotle’s own words in the *De Incessu Animalium*, 709a13–14, a passage that does not seem to have been adduced in this connection: “. . . κινήσει . . . ἂν οἷον ἐν ταῖς παλαίστραις οἱ διὰ τῆς κόνεως [κωνώσεως cod. Z!] προϊόντες ἐπὶ τῶν γονάτων.”<sup>17</sup>

Coming now to the final clause of this sentence (a27–28), we note that the versions betray a certain inconsistency. Stocks: “. . . and there are yet others who how-

16. “Aristotelia. IV,” *JP* 28 (1901): 241.

17. That κόνις is *hapax eiremenon* bothered Stocks and Guthrie and, presumably, Bywater before them, although he is not explicit on this point. The objection is without merit and need not be rebutted in detail. It is enough to observe that on this same page of the *IA* (709a27) the noun κύμανσις = “waving, undulating motion” occurs, thus: τὰ . . . ἄποδα τὰ μὲν κυμαίνοντα προέρχεται . . . ἡ δὲ κύμανσις καμπεῖ ἐστίν. The word is *hapax eiremenon*; even Bonitz in his *Index* has missed it.



ever hard they worked themselves could never secure this good, *but only some substitute for it.*" Guthrie: "... and again a fourth despite tremendous efforts cannot preserve this particular good, *but only something else.*" Moraux: "... un autre encore ne pourra, quels que soient ses efforts, conquérir ce bien-la, *mais il arrivera à un résultat différent.*" (Emphasis mine in each instance.)

Query: What is the precise sense of ἕτερόν τι? Stocks seems to understand ἀγαθόν with ἕτερόν τι (?) in contrast to τοῦτο τἀγαθόν, but the context strongly suggests that what is contrasted is not another good, but something more or less opposed to the good. There is really only one good here, and it corresponds to τὸ εὖ in a23 above; what is ultimately at issue is the number and complexity of steps necessary to attain or approach that good. Note the interrupted word-order τοῦτο γ' . . . τἀγαθόν; the separation of the words suggests that there are two substantives in apposition: "to another, no matter how much he may toil, this at any rate would still not belong—the good." Guthrie and Moraux, as well as Stocks, take τοῦτο as an adjective ("this good"); the sense is little affected either way and it is doubtful whether a native speaker would have made any conscious distinction between these two somewhat artificial grammatical explanations.

The real difficulty is that these literal renderings of ἕτερόν τι ("something else" / "un résultat différent") are intolerably vague. What is this something else? It cannot be anything particularly good because, despite all the effort expended, the intended good itself is not attained. Nor is it anything neutral, so to speak, for the structure of the sentence, with its clear contrast (ἀλλά) suggests otherwise. It is therefore something undesired and undesirable, at best a *faute de mieux*. In short, it is something bad relative to the contrasted ἀγαθόν. One expects Aristotle to have made this more explicit. In fact he has.

In English "something else" is vague and indeterminate; in Greek ἕτερος (and ἄλλος) is often used idiomatically, in the specific sense of "other than good." Such is the use of ἕτερόν τι here; it should have been recognized. (A glance at the translations reproduced above will show that this meaning has been completely missed.) Compare LSJ s.v. ἕτερος III.2: "*other than should be*, euphem. for κακός, παθεῖν μὲν εὖ, παθεῖν δὲ θάτερα, S. Ph. 503; ἀγαθὸν ἢ θάτερα, ἵνα μὴδὲν εἴπω φλαυρόν D. 22.12: abs., δαίμων ἔ. Pi. P. 3.34 . . . ἐὰν τὰ ἔ. ψηφίσωνται οἱ δίκασταί D. 48.30; πλέον θάτερον ἐποίησαν did more *harm* (than good). Isoc. 19.25, cf. Pl. Phd. 114e, Euthd. 280e . . ." The idiom continues to appear in the Roman period; LSJ cite Aristides 2.117 J. Compare also Plutarch, Mor. 474C: εὐχεται μὲν ὁ νοῦν ἔχων τὰ βελτίονα, προσδοκᾷ δὲ καὶ θάτερα. For ἄλλος so used see Dem. 21.218: δόξετε . . . ἄλλου τινὸς ἡττησθαι ("to have succumbed to some other [i.e., baser] motive," Goodwin ad loc.); Pl. Protag. 351C: . . . εἴ τι ἂπ' αὐτῶν ἀποβήσεται ἄλλο. So also with ἄλλοις, Hdt. 5.40: . . . ἵνα μὴ τι ἄλλοιον περὶ σεῦ Σπαρτιῆται βουλευσῶνται ("ἄλλοιον, schonend statt νεώτερον oder geradezu κακόν," H. Stein ad loc.).

With ἕτερόν τι so understood, the sentence loses the unsatisfactory vagueness that seemed to mar it. There is no reason whatsoever to deny to Aristotle an idiom so well documented in Greek early and late.<sup>18</sup>

18. ἄλλος is so used already in Hesiod *Op.* 344. For a few more examples of ἕτερος see GLN II s. v.

6. *Cael.* 308a29–33:

ἀπλῶς μὲν οὖν κοῦφον λέγομεν τὸ ἄνω φερόμενον καὶ πρὸς τὸ ἔσχατον, βαρὺ δὲ τὸ ἀπλῶς κάτω καὶ πρὸς τὸ μέσον. πρὸς ἄλλο δὲ κοῦφον καὶ κουφότερον, ὃ δυοῖν ἐχόντων βάρος καὶ τὸν ὄγκον ἴσον κάτω φέρεται θάτερον φύσει θᾶττον.

a30 τὸ ἀπλῶς libri : ἀπλῶς τὸ E<sup>rec</sup> (an recte?)

a31 ὃ : οὗ Prantl (probantibus Stocks, Allan, Guthrie) : ὅτε Moraux

a32 θάτερον : θατέρου Bywater (servato ὃ in a31)

This passage has caused much difficulty and is now generally pronounced corrupt. Specifically, no editor since Bekker has left the final relative clause as it is found in the manuscripts. Thus Bywater argued: “Read θατέρου. The genitive seems to be required to indicate the other term (πρὸς ἄλλο), by comparison with which the thing is said to be light, or lighter.”<sup>19</sup> This reading gives a sense, but the abrupt genitive θατέρου is hardly idiomatic Greek. At a minimum Bywater should have proposed . . . ὃ . . . κάτω φέρεται θάτερον (θατέρου) φύσει θᾶττον. See for instance *Gen. Corr.* 323b4–5: διὰ τὸ μηδὲν μᾶλλον ποιητικὸν ἢ παθητικὸν εἶναι θάτερον θατέρου; compare also Simplicius, quoted p. 151 below.

Stocks objected not to the style, but to the sense, of θατέρου: “. . . the phrase, so emended, seems to be descriptive of the heavy rather than of the light.” It is for this reason that he accepts Prantl’s οὗ, a conjecture that, despite the favor which it has found, is stylistically intolerable.<sup>20</sup> Aristotle is giving a definition here: “We call [sc. λέγομεν, from a29] the relatively “light” and “lighter” that which . . .” On no account should ὃ be removed; it is exactly the word and case we expect Aristotle to use to introduce the definition. Compare, for example, 311b14–16: λέγω δ’ ἀπλῶς κοῦφον ὃ αἰεὶ ἄνω καὶ βαρὺ ὃ αἰεὶ κάτω πέφυκε φέρεσθαι μὴ κωλυόμενον.

Stocks’ objection to the sense is without merit, for, whatever text is accepted, the phrases ἐχόντων βάρος and κάτω φέρεται still suggest the heavy rather than the light. This has in fact troubled others; for example, the OCT editor Allan comments at a32: “Post ἴσον excidit fortasse rei comparate gravis descriptio.” But Aristotle is here concerned with relative lightness and heaviness, in explicit contrast to their absolute counterparts that possess natural tendencies to move respectively (1) upwards and to the extremity (the absolute “light”) and (2) downwards and to the center (the absolute “heavy”). In the case of such absolutes Aristotle’s language must be very precise; in the case of relative lightness and heaviness, taken together in express contradistinction to the absolute qualities, he may permit himself a certain laxity of expression, which is what he has done here. From the viewpoint of “relative” versus “absolute” it is not particularly important whether an object is described πρὸς ἄλλο as “lighter” or “less heavy,” and κουφότερον can occur where it is actually a question of two relatively heavy objects. This sense is explicit at 309b5–8: τὸ γὰρ ἀπλῶς κοῦφον αἰεὶ κουφότερον τῶν ἐχόντων βάρος καὶ κάτω φερομένων, τὸ δὲ κουφότερον οὐκ αἰεὶ κοῦφον διὰ τὸ λέγεσθαι καὶ ἐν τοῖς ἔχουσι βάρος ἕτερον ἑτέρου

19. Bywater, “Aristotelica,” 242.

20. More specifically, the distance between οὗ and θάτερον, which is supposed to govern it, and the nature of the phrases that separate them, introduce an awkwardness that fails to convince. There is all the difference in the world between this sentence so re-written and such a sentence as, say, διάστημα . . . λέγω τῶν γραμμῶν, οὗ μηδὲν ἐστὶν ἔξω λαβεῖν μέγεθος ἀπτόμενον τῶν γραμμῶν (*Cael.* 271b30–32; cf. also 279a23–24, *Metaph.* 1021b12, 1055a12–13, in all of which the genitive οὗ begins its clause smoothly and naturally).

κουφότερον, οἷον γῆς ὕδωρ. Compare also the language at 308a35–b1: . . . περὶ τῶν οὕτω βαρέων καὶ κοῦφων εἰρήκασι μόνον, ὅσων ἀμφοτέρων ἐχόντων βάρος θάτερόν ἐστι κουφότερον.

This is strong evidence that the manuscripts are not defective here; rather, they reflect a natural conflation on Aristotle's part. As soon as he wrote *δυσὶν ἐχόντων βάρος*—the words, as we have seen, can be applied to the relatively light as well as the relatively heavy—he shifted mentally from *πρὸς ἄλλο κοῦφον καὶ κουφότερον* to *πρὸς ἄλλο βαρὺ καὶ βαρύτερον*. The essential point of his argument is not thereby affected, and Simplicius appears to have understood exactly what Aristotle intended. Compare his interpretation, which makes explicit what Aristotle leaves to his readers to supply:

πρὸς ἄλλο δέ, φησί, κοῦφον, ὃ καὶ κουφότερον καλεῖται, τοῦτο ἐστίν, ὃ *δυσὶν ἐχόντων βάρος* ἢ μᾶλλον κουφότητα καὶ τῶν ὄγκων ἴσων ὄντων τὸ ἕτερον θάττον τοῦ ἐτέρου ἄνω φέρεται κατὰ φύσιν, βαρύτερον δέ, ὅταν βάρος ἀμφοῖν ἐχόντων καὶ ὄγκον ἴσον τὸ ἕτερον θάττον φέρηται (κάτω) κατὰ φύσιν. αὐτὸς δὲ τὸ κουφότερον ὡς πρὸς τὸ βαρύτερον λεγόμενον ἀποδέδωκεν ὡς τὸ μείζον πρὸς τὸ ἔλαττον.<sup>21</sup>

Furthermore, Simplicius' paraphrase (i.e., . . . ὃ *δυσὶν ἐχόντων βάρος* . . . τὸ ἕτερον θάττον τοῦ ἐτέρου ἄνω φέρεται . . .) shows that he did not question the correctness of ὃ here. He follows the *paradosis* rather closely, merely making the argument more explicit. Aristotle's Greek has caused trouble not only because he has indulged in a sense conflation, but also because there is a grammatical *anacoluthon*. Even in Simplicius the *anacoluthon* is present, since τὸ ἕτερον . . . τοῦ ἐτέρου is not really in "partial apposition" to ὃ, rather it is a substitution for ὃ, which thus leaves that word dangling. In Aristotle, where we have *θάτερον* alone, and not the fuller expression, the *anacoluthon* is more pronounced.

What has happened is this. Aristotle began to give a definition of the form "We define as 'light' and 'lighter' that which . . ." and, at that point, introduced the emphatic phrase *δυσὶν ἐχόντων βάρος*, which has caused him to lose sight of his original construction. He makes a new start. The fact that he proceeds as if he had written *βαρὺ καὶ βαρύτερον*, and not *κοῦφον καὶ κουφότερον* (compare the paragraph above), a mental shift itself caused by *βάρος* in the phrase *δυσὶν ἐχόντων βάρος*, is an indication of a certain confusion in the sentence. The real clincher, however, is *θάτερον*, where one might expect rather *θάτερον θατέρου*, phrasing that, as we have seen, Simplicius actually used after ὃ (τὸ ἕτερον . . . τοῦ ἐτέρου). *θάτερον* alone is explained by the fact that *δυσὶν θάτερον* is itself a distinct idiom,<sup>22</sup> and it is this idiom that Aristotle is using here. The combination *δυσὶν θάτερον* (*δυσὶν* easily being carried over from the genitive absolute) renders a further genitive (*θατέρου*) superfluous.

Moraux's ὅτε *pro* ὃ (compare Simplicius' ὅταν, 678.28H) may be flawless Greek, but it is not what Aristotle wrote. Rather, the merit of this conjecture, when compared with Simplicius' exegesis, is to help us understand Aristotle's *anacoluthon*: he began with a "that which" definition (ὃ) and then, under the influence of the temporal genitive clause, continued as if he were giving a "when" (ὅτε) definition. Such a

21. P. 678.25–30 Heiberg.

22. Plato, *Gorg.* 275A: ὅταν ἄρα *δυσὶν* καλοῖν *θάτερον* κάλλιον ᾗ; *Leg.* 843D: *δυσὶν* . . . *θάτερον* ἀπεργάζεται σχεδόν; *Ap.* 40C: *δυσὶν* γάρ *θάτερόν* ἐστὶν τὸ τεθνάναι. (I cite a few Platonic examples that are to hand; the usage is pan-Hellenic.)

syntactical adjustment in mid-sentence is natural to the lecturer's style. We may demonstrate the thought sequence by punctuating thus:

πρὸς ἄλλο δὲ κοῦφον καὶ κουφότερον [sc. λέγομεν] ὃ, δυοῖν ἐχόντων βάρος καὶ τὸν ὄγκον ἴσον—κάτω φέρεται θάτερον φύσει θάττον.

I give a paraphrase (nothing more) to help clarify the sense and syntax: "We call 'light' and 'lighter' that which, when two bodies possess weight and are equal in bulk—then the one (of said two) by nature moves downward more swiftly." The grammar breaks down, but it is Aristotle who is responsible for that. Here, as so often, the fact that the *paradosis* does not submit to one convincing correction, plain prose though it appear to be, suggests that the text is exactly as it left the hand of the author.

7. *Gen. Corr.* 315a26–28:

ὅλως τε δὴ περὶ γενέσεως καὶ φθορᾶς τῆς ἀπλῆς λεκτέον, πότερον ἔστιν ἢ οὐκ ἔστι καὶ πῶς ἔστιν, καὶ περὶ τὰς ἄλλας κινήσεις, οἷον περὶ αὐξήσεως καὶ ἀλλοιώσεως.

For περὶ τὰς ἄλλας κινήσεις in a27–28 the vulgate reading is περὶ τῶν ἄλλων ἀπλῶν κινήσεων (Bekker, Prantl, Mugler, Forster); it lacks manuscript authority. Joachim, who obelizes the phrase in his edition, puts the case succinctly:

περὶ τὰς ἄλλας κινήσεις. It is difficult, if not impossible, to defend the accusative here, since the examples are in the genitive. Perhaps Aristotle wrote περὶ τῆς ἄλλης κινήσεως. The reading of Db (περὶ τῶν ἄλλων κινήσεων) is an obvious attempt to emend the text. E adds ἀπλᾶς after ἄλλας (cf. also F and Γ): but this has probably arisen from a mere dittography of ἄλλας. For the distinction between ἀπλαῖ and μικταὶ κινήσεις (cf. *de Caelo* 302b6, 303b5, and also *Metaph.* 1053a9) is between 'simple' and 'composite' movements . . . and is totally irrelevant here. There is no manuscript authority for περὶ τῶν ἄλλων ἀπλῶν κινήσεων—the reading of Bekker and Prantl.

It is undeniable that the accusative phrase, both preceded and followed as it is by περὶ c. gen. phrases looks very odd to us. But if Aristotle used genitives here, whether singular or plural, it is very difficult to see how the accusatives got into the manuscripts—certainly not by conscious conjecture. Philoponus not only read the accusative, he comments upon it:

p. 315a27 Καὶ περὶ τὰς ἄλλας κινήσεις.

Κινήσεις εἶπεν ἀντὶ τοῦ μεταβολᾶς· ἡ γὰρ γένεσις, ὡς αὐτὸς ἔφη ἐν τῇ Φυσικῇ, μεταβολὴ μὲν οὐ μέντοι κίνησις. πτώσει δὲ ἀντὶ πτώσεως ἐχρήσατο, αἰτιατικὴν εἰπὼν ἀντὶ γενικῆς· ἔδει γὰρ εἰπεῖν 'περὶ τῶν ἄλλων κινήσεων'. ἔστι δὲ τοιοῦτον σχῆμα παρὰ τοῖς παλαιοῖς, καὶ παρὰ τῷ ποιητῇ

θρήνους ἐξάρχους, οἳ τε στονόεσαν αὐτὴν  
ἀντὶ τοῦ θρήνων ἐξάρχους. καὶ Ἀριστοφάνης ἐν Ἑκκλησιαζούσαις  
ὦ χρυσοχόε, τὸν ὄρμον ὃν ἐσκεύασας,  
ὄρχουμένης μου τῆς γυναικὸς ἐσπέρας  
ἡ βάλανος ἐκπέπτωκεν ἐκ τοῦ τρήματος.

τὸν ὄρμον γὰρ αἰτιατικὴν εἶπεν ἀντὶ τοῦ ὅρμου· ἡ βάλανος ἐκ τοῦ τρήματος τοῦ ὅρμου ἐκπέπτωκεν.<sup>23</sup>

It is of interest that Philoponus appeals to "classical" usage to justify Aristotle's language. No matter that the two passages are not particularly relevant and that he gives

a false reference.<sup>24</sup> The facts are these. Aristotle uses *περί* with both the genitive and the accusative, sometimes with no very apparent difference of meaning. But there are times when he distinguishes between the cases, the difference being that *περί* c. gen. has reference to a general area of inquiry, *περί* c. acc. to a more specific area to which attention is called. Both cases are found on occasion in the same sentence. As I discuss this usage elsewhere,<sup>25</sup> I shall not repeat myself, but cite in illustration a single passage, *Rh.* 1414a28–29:

περὶ μὲν οὖν τῆς λέξεως εἴρηται, καὶ κοινῇ περὶ πάντων καὶ ἰδίᾳ περὶ ἑκάστου γένους·  
λοιπὸν δὲ περὶ τάξεως εἰπεῖν.

Observe that in this passage Aristotle begins with *περί* c. gen. phrases (*περὶ τῆς λέξεως*, *περὶ πάντων*), switches to the accusative (*περὶ ἑκάστου γένους*), and then returns to the genitive (*περὶ τάξεως*), exactly as in our passage. The addition respectively of *κοινῇ* and *ἰδίᾳ* makes particularly clear the difference in connotation between *περί* c. gen. and *περί* c. acc. Current editions notwithstanding, there is no sufficient reason to tamper with *περὶ τὰς ἄλλας κινήσεις* at *Gen. Corr.* 315a27–28.

#### 8. *Gen. Corr.* 315b1–4:

οὔτε γὰρ περὶ αὐξήσεως οὐδεὶς οὐδὲν διώρισεν, ὥσπερ λέγομεν, ὅτι μὴ κἂν ὁ τυχὼν εἴπειεν, ὅτι προσιόντος αὐξάνονται τῷ ὁμοίῳ (πῶς δὲ τοῦτο, οὐκέτι), οὐδὲ περὶ μίξεως, οὐδὲ περὶ τῶν ἄλλων ὡς εἰπεῖν οὐδενός κτλ.

b3 (τοῦ ὁμοίου) τῷ ὁμοίῳ E. S. Forster

The interpreters appear to be in agreement on the sense and syntax of this sentence, whether they accept Forster's supplement (τοῦ ὁμοίου) or not. "Il convient d'entendre ὅτι προσιόντος αὐξάνονται τῷ ὁμοίῳ comme ὅτι προσιόντος αὐξάνονται τοῦ μοίου τῷ ὁμοίῳ," Mugler ad loc. Verdenius and Waszink take a similar view: "The common explanation of growth is, ὅτι προσιόντος αὐξάνονται τῷ ὁμοίῳ (315b3). Forster reads τοῦ ὁμοίου τῷ ὁμοίῳ, but Joachim rightly remarked that the subject of a genitive absolute is sometimes supplied from the context (cf. Bonitz, *Index* 149b37)."<sup>26</sup>

This is unsatisfactory Greek and unsatisfactory sense. That a genitive absolute may have its subject unexpressed when the context makes it sufficiently clear is familiar grammatical doctrine, but that the verb in such an elliptical absolute construction would be separated from its object, direct or indirect, by a main verb (*αὐξάνονται*) is exceedingly difficult to accept. Moreover, when the unexpressed subject (sc. τοῦ ὁμοίου) and the expressed indirect object are the same word, differing only in case (as here), it would be very unusual for the subject to be omitted, particularly so with τῷ ὁμοίῳ already thus awkwardly separated from προσιόντος. Greek usage is no different from English in this regard. That is to say, προσιόντος τοῦ ὁμοίου (sc. τῷ ὁμοίῳ) is idiomatic, προσιόντος (sc. τοῦ ὁμοίου) τῷ ὁμοίῳ is not. Forster seems to have understood this, but his own solution has little to recommend it, as will appear presently.

Inspection of comparable contexts in Aristotle leaves no doubt of his normal usage with this participle: *Gen. Corr.* 321a4–5: προσιόντος τινὸς αὐξάνεσθαι καὶ

24. The passages are, respectively, *Il.* 24.721, where θρήνου is a v.l., and *Ar. Lys.* (not *Eccl.*) 408–10.

25. "On Some Genitives and a Few Accusatives in Aristotle: A Study in Style," forthcoming in *Hermes*.

26. W. J. Verdenius and J. H. Waszink, *Aristotle "On Coming-to-Be and Passing-Away"* (Leiden, 1966): 8–9. Note that the present passage is the only example of an absolute προσιόντος cited by Bonitz, *Index*.

ἀπιόντος φθίνειν; 321a21: προσιόντος τινός; 321a25–27: μηδενός γε προσιόντος . . . καὶ μηδενός ἀπιόντος; 321b12–13: τὸ ὑπομένοντός τε τοῦ αὐξανομένου καὶ προσιόντος τινός αὐξάνεσθαι, ἀπιόντος δὲ φθίνειν; 321b22–23: τὸ . . . ὁτιοῦν μέρος αὐξάνεσθαι καὶ προσιόντος τινός κτλ.; *Ph.* 214b2: αὐξάνεσθαι οὐ μόνον εισιόντος τινός ἀλλὰ καὶ ἀλλοιώσει. It appears from this that Aristotle normally expresses a subject with προσιόντος and further that the subject is often the indefinite pronoun τινός.<sup>27</sup> Note that no dative governed by προσιόντος is to be found in these parallels.

Accidental omission of τινός after the letters -ιόντος would be very easy and I think it probable that Aristotle in fact wrote τινός in our passage.

I come now to τῷ ὁμοίῳ. Consider the following passage, *Gen. Corr.* 321b35–322a4:

μεῖζον μέντοι τὸ ὅλον γέγονε προσελθόντος μὲν τινος, ὃ καλεῖται τροφή καὶ ἐναντίον, μεταβάλλοντος δὲ εἰς τὸ αὐτὸ εἶδος . . . ἔστι μὲν γὰρ ὡς τὸ ὅμοιον ὁμοίῳ αὐξάνεται, ἔστι δ' ὡς ἀνομοίῳ.<sup>28</sup>

Here we see αὐξάνεται conjoined not with a genitive absolute, but with a plain dative, “in one sense like grows by like, in another by unlike.” Philoponus correctly expands the Greek thus: . . . τὸ αὐξόμενον προσθήκη τινός ὁμοίου αὐξεται κτλ. (p. 115.5–6 Vitelli). Compare also *Ph.* 260a30–31 (cited above in n. 28); *De Spiritu* 483a32–33: τῷ ὁμοίῳ τὸ ὅμοιον αὐξεται. Clearly αὐξάνονται τῷ ὁμοίῳ at 315b3 contains a comparable dative: “Things grow by means of what is like (sc. to themselves).” In other words, modern interpreters notwithstanding, τῷ ὁμοίῳ is not a dative governed by προσιόντος; it goes closely with αὐξάνονται. It thus appears that, whether we retain προσιόντος by itself or supply the only possible subject—τινός—the result is a double construction: “When something is added they grow by means of the like.” This can hardly stand.

Let us for the moment put to one side grammatical considerations and examine the sense of the passage. Joachim translated as follows: “For, as we are saying, none of the other philosophers made any definite statement about growth, except such as any amateur might have made. They said that things grow ‘by the accession of like to like’, but they did not proceed to explain the manner of this accession.” This rather free rendering obscures the fact that the clause ὅτι προσιόντος αὐξάνονται τῷ ὁμοίῳ is primarily dependent upon ὅτι μὴ κἂν ὁ τυχὼν εἴπειεν. Forster’s version brings this out more clearly: “. . . except such as any man-in-the-street might make, namely, that things grow by the coming together of like with like.” Now it seems to me that if one takes a hard look at this, the explanation of growth specifically as the accession of like to like is in fact a theoretical pronouncement and somewhat more technical than the average man-in-the-street is likely to have made. “Things grow when something is added to them”: that is what the layman would say and

27. ἀπιόντος in *Gen. Corr.* 321a4 and 321b13 illustrates a correct and idiomatic omission of the subject of a genitive absolute, namely τινός understood from the preceding προσιόντος τινός. It should be obvious how very different this is from the supposed omission of τοῦ ὁμοίου in προσιόντος αὐξάνονται τῷ ὁμοίῳ, where a preceding subject can hardly be “supplied” from a following indirect object. (Naturally, I do not intend to suggest that προσιόντος, or its aorist προσελθόντος, can never occur with unexpressed subject. Context decides.)

28. Forster conjectures, and prints: . . . ἔστι δ' ὡς (τὸ ἀνόμοιον) ἀνομοίῳ at 322a4. This is merely foolish. Compare *Ph.* 260a30–31: τὸ γὰρ αὐξανόμενον ἔστιν μὲν ὡς ὁμοίῳ αὐξάνεται, ἔστιν δ' ὡς ἀνομοίῳ; *De An.* 417a18–19: ἔστι μὲν ὡς ὑπὸ τοῦ ὁμοίου πάσχει, ἔστι δὲ ὡς ὑπὸ τοῦ ἀνομοίου.

nothing more. Compare *Ph.* 245a27 (from the “textus alter”): πρόσθεσις γάρ τις ἡ αὔξησις.

Furthermore, even as a formal theory the view that the process of growth was a case of “like by like” was less common than the competing “like by unlike” thesis. *De An.* 416a21–22: δοκεῖ δ’ εἶναι ἡ τροφή τὸ ἐναντίον τῷ ἐναντίῳ κτλ. 416a29–32: φασὶ γὰρ οἱ μὲν ὅμοιον τῷ ὁμοίῳ τρέφεσθαι, καθάπερ καὶ αὐξάνεσθαι, τοῖς δ’ ὥσπερ εἵπομεν τοῦμπαλιν δοκεῖ, τὸ ἐναντίον τῷ ἐναντίῳ, ὡς ἀπαθοῦς ὄντος τοῦ ὁμοίου ὑπὸ τοῦ ὁμοίου κτλ. In *Gen. Corr.* I.7, 323b1–15 Aristotle, in a discussion of action ~ passion (i.e., ποιεῖν ~ πάσχειν), explicitly identifies the theory that Like cannot be affected by Like as the common view of earlier thinkers, singling out Democritus, exceptionally, as an advocate of the contrary theory that Like does affect Like. (In our passage Democritus is also singled out, 315a34–35.) Now, if the average man, ὁ τυχών, were asked how growth occurs, he would say by the intake of food. Ask any parent: “Eat your dinner so you will grow up to be big and strong.” That is all. In the illustrative parallels cited above two patterns appear, either τὸ αὐξανόμενον αὐξάνεται τῷ ὁμοίῳ κτλ. or τὸ ὅμοιον τῷ ὁμοίῳ αὐξάνεται. The subject is either “that which grows” or “the like” followed by a verb in the singular. That is precise and scientific style. Here we find the generalizing plural, αὐξάνονται, with no subject expressed, “people grow.”<sup>29</sup> That is the everyday language that οἱ τυχόντες use. I therefore conjecture that Aristotle wrote:

οὔτε γὰρ περὶ αὐξήσεως οὐδεὶς οὐδὲν διώρισεν, ὥσπερ λέγομεν, ὅτι μὴ κἂν ὁ τυχών εἴπειν, ὅτι προσιόντος (τινὸς) αὐξάνονται [τῷ ὁμοίῳ] (πῶς δὲ τοῦτο, οὐκ ἐτί).

Unless I am very mistaken, this reconstruction and interpretation is strongly supported by Philoponus (p. 22.15–19 Vitelli), who betrays no awareness of τῷ ὁμοίῳ here:

καὶ περὶ αὐξήσεως δὲ οἱ μὲν ἄλλοι τοσοῦτον εἰρήκασιν, ὅσον περ ἂν λέγοι καὶ ὁ τυχών, ὅτι προσιόντος τινὸς γίνεται αὐξήσις (πῶς δὲ πρόσσεισιν, ἄρα διὰ πόρων ἢ σώμα διὰ σώματος διόν, οὐκ ἐτί προστεθείκασιν. ταῦτα γὰρ πάντα ἔχει ἀπορίαν. . .).

τῷ ὁμοίῳ does not belong here. To the objections against it already raised, add also that, as being part of a formal theory of explanation, it appears inconsistent with the immediately following words πῶς δὲ τοῦτο, οὐκ ἐτί, which imply the absence of any explicit formal explanation. Therein lies its genesis. τῷ ὁμοίῳ is a marginal or supralinear explanatory gloss on these very words, an explanation *in nucleo*.

#### 9. *Gen. Corr.* 325b24–29:

. . . ὥσπερ ἐν τῷ Τιμαίῳ γέγραφε Πλάτων. τοσοῦτον γὰρ διαφέρει τοῦ μὴ τὸν αὐτὸν τρόπον Λευκίπῳ λέγειν, ὅτι ὁ μὲν στερεὰ ὁ δ’ ἐπίπεδα λέγει τὰ ἀδιαίρετα, καὶ ὁ μὲν ἀπείροις ὀρίσθαι σχήμασι τῶν ἀδιαίρετων στερεῶν ἕκαστον ὁ δὲ ὀρισμένοις, ἐπεὶ ἀδιαίρετά γε ἀμφοτέροι λέγουσι καὶ ὀρισμένα σχήμασιν.

b28 τῶν ἀδιαίρετων στερεῶν ἕκαστον del. Joachim

Forster accepted and printed without comment Joachim’s deletion in b28, but Mugler retains the manuscript reading (silently ignoring Joachim’s proposal) as

29. The translators usually render αὐξάνονται here “things grow” vel sim. I think the average Greek (ὁ τυχών) would think primarily of people, but nothing hinges on this. For such a subject-less verb used primarily of humans see, for example, *De An.* 403a23–24: μηδενὸς γὰρ φοβεροῦ συμβαινόντος ἐν τοῖς πάθεσι γίνονται τοῖς τοῦ φοβουμένου.

does Williams in his 1982 translation, who renders the passage thus: “This account (of Plato’s) is to this extent different from that given by Leucippus, that in the latter solids, while in the former planes are regarded as the indivisibles, and in the latter each of the indivisible solids is bounded by (one of) an infinite number of shapes, in the former by a limited number, whereas both say that they are indivisible and defined by their shape. . . .” In a note ad loc. Williams expresses the opinion that “Aristotle writes carelessly. But it is simpler to make sense of his words by inserting (one of) in the translation, than by suppressing, as Joachim and Forster do, the words translated ‘each of the indivisible solids.’”

In short, Joachim’s proposed deletion has not carried the day. He gives his reason for removing the words in his commentary, at 325b28: “I have ventured to excise these words, since they would mean that *each* indivisible solid was defined by an infinity of figures and *each* indivisible plane by a finite number of figures—which is absurd.” Joachim’s objection to the sense has some force; Philoponus had already perceived the difficulty, but could do no better than point out what the sense ought to be and then, clearly dubious as to whether the Greek before him would admit of that sense, suggest an alternative interpretation of the Greek, which is impossible:

οὐ τοῦτο λέγει, ὅτι ἐκάστη ἄτομος ἄπειρα σχήματα ἔχει (ἐν γὰρ ἐκάστη εἶχεν), ἀλλ’ ὅτι αἱ ἄτομοι ἄπειρα σχήματα εἶχον μεριζόμενα καθ’ ἐκάστην. ἢ ἀντιστρόφως νοητέον· καὶ ὁ μὲν τῶν σχημάτων ἕκαστον ἀπείροις ἀδιαιρέτοις ὀρίσθαι, τοτέστιν ἕκαστον σχῆμα ἐν ἀπείροις ἐστὶν ἀτόμοις, οἷον τὸ σφαιρικὸν τὸ κυβικὸν καὶ τῶν ἄλλων ἕκαστον, ὥστε καὶ τὰ σχήματα ἄπειρα εἶναι καὶ τὰ ὑφ’ ἕκαστον σχῆμα ἄτομα.<sup>30</sup>

This exposition of doctrine is true enough, but the grammatical “inversion” (ἀντιστρόφως) to which Philoponus must resort to get it can hardly be extorted from the Greek. Clearly this passage contains a real problem—a greater one, I think, than has been perceived—and Williams’ appeal to “careless writing” is an inadequate explanation. There are no grounds for believing that Aristotle would or could use ἀπείροις σχήμασι loosely for τῶν ἀπείρων σχημάτων ἐνί, and, even if there were, a more fundamental objection to the transmitted text still remains.

Aristotle is quite explicit. Leucippus’s indivisibles (i.e., the atoms) are solids, Plato’s indivisibles are planes (i.e., the triangles of the *Timaeus*). This difference is fundamental and familiar. Consider now the grammatical form of the disputed sentence, ὁ μὲν [sc. λέγει] ἀπείροις ὀρίσθαι σχήμασι τῶν ἀδιαιρέτων στερεῶν ἕκαστον, ὁ δὲ [sc. λέγει ὀρίσθαι] ὀρισμένοις. Here the same verb, λέγει, is to be supplied with both subjects, ὁ μὲν . . . ὁ δὲ. That is crystal clear and no one would deny it. Equally clear it is that the infinitive, ὀρίσθαι, expressed only in the first half of the indirect statement, is to be supplied with the second half as well. The same must be true of the subject accusative of the indirect statement. If τῶν ἀδιαιρέτων στερεῶν ἕκαστον is expressed in the first clause and no subject in the second, then Greek idiom demands that τῶν ἀδιαιρέτων στερεῶν ἕκαστον be the subject of the second clause as well. This results in the impossible situation that Plato’s ἀδιαιρέτα are described as solid, contrary both to the facts and to Aristotle’s explicit statement in the immediately preceding clause. Williams has in fact so translated the passage, apparently without realizing the implications of his version: “. . . in the latter [sc. Leu-

30. P. 162.22–27 Vitelli.



cippus] each of the indivisible solids is bounded by (one of) an infinite number of shapes, in the former [sc. Plato] by a limited number. . . .” Not even Joachim grasped this serious objection to the manuscript reading, for in his notes he writes as if one could “understand” τῶν ἀδιαιρέτων ἐπιπέδων ἕκαστον in the second half (“ . . . *each* indivisible solid . . . *each* indivisible plane . . .,” quoted in full above). The sense may cry out for some such supplement implying planes, but to supply it would be to strain the Greek language beyond its limits. The natural supplement is clear, and clearly gives the wrong sense.

Mugler’s attempt to evade the difficulty that a natural rendering of the Greek entails is unconvincing: “ . . . l’un prétend que la totalité des corps solides indivisibles est définie par des formes dont le nombre est infini, et l’autre que *ses corps solides* (sc. *élémentaires*) [emphasis mine] admettent un nombre limité de formes. . . .” That is to say, Mugler does supply τῶν ἀδιαιρέτων στερεῶν ἕκαστον with the second clause, but apparently understands it to refer not to the Platonic triangles (which can hardly be described as *corps solides*), but to the elements determined by the five “Platonic” figures of the *Timaeus* (pyramid, cube, octahedron, dodecahedron, icosahedron). Such are certainly not what Aristotle means by τὰ ἀδιαίρετα in this passage, as is obvious from the entire context. He has just contrasted Plato’s ἀδιαίρετα with Leucippus’, the one being ἐπίπεδα, which must refer to Plato’s triangles, the other στερεά, a reference to the atoms. The following paragraph begins καὶ περὶ μὲν τῶν ἀδιαιρέτων ἐπιπέδων . . . περὶ δὲ τῶν ἀδιαιρέτων στερεῶν (325b33–35). Moreover, the concluding clause of the very sentence at issue, namely, ἐπεὶ ἀδιαίρετά γε ἀμφοτέροι λέγουσι καὶ ὁρισμένα σχήμασιν, further guarantees the sense. ἐπεὶ . . . γε here has a concessive force (= “although”), a well-established use of ἐπεὶ, especially when combined with γε; see LSJ s.v. ἐπεὶ B.4.a and Bonitz, *Index*, 266a55–56. The sequence is as follows: “Leucippus says that the indivisibles are solids, Plato that they are planes, and the former adds that these indivisibles are determined by an infinite number of shapes, the latter by a definite number—although both agree that (1) indivisibles exist which (2) are determined by shapes.”<sup>31</sup>

The conclusion seems inescapable that τῶν ἀδιαιρέτων στερεῶν ἕκαστον cannot be retained here, because it would erroneously attribute στερεὰ ἀδιαίρετα to Plato. Remove the words, and the subject accusative that must be supplied with both halves of the indirect statement instantly becomes τὰ ἀδιαίρετα (taken over from the immediately preceding clause, ὁ μὲν στερεὰ ὁ δ’ ἐπίπεδα λέγει τὰ ἀδιαίρετα). Such an ὑπακούμενον is as natural as one could wish in Greek and the resultant sentence is not only flawless syntax, but smoother style. (Note how τῶν ἀδιαιρέτων στερεῶν ἕκαστον interrupts the concise symmetry of the two balancing ὁ μὲν/ὁ δὲ clauses.) Joachim has the merit of pointing out one serious objection to the paradox; he failed to note the more decisive one.

31. The determinate number of triangular shapes or figures for Plato is two, the right-angled isosceles triangle (i.e., the “45-45-90 triangle”) and that particular right-angled scalene triangle whose hypotenuse is twice the length of its shorter side (the “30-60-90 triangle”). Philoponus, who became confused here, states that “ἐνὶ” would have been more correct than “ὁρισμένοις” in describing Plato’s position, the “one” figure for him being the triangle as such: τρίγωνα γάρ . . . τὰ πρῶτα στοιχεῖα. See Philoponus’s whole statement, p. 162.6–19 Vitelli, whence it will be apparent that he was in difficulties from which he never quite succeeded in extricating himself. (Incidentally, I suspect that Mugler’s interpretation is based on some of Philoponus’s remarks in this section. Possibly also Williams’ notion, that “(one of)” is to be understood, was suggested by Philoponus’s ἐνὶ, although the “one” in Philoponus has a quite different reference.)

Some anonymous scholar in antiquity may have felt the need of an explicit subject accusative and attempted to supply one by inserting τῶν ἀδιαρέτων στερεῶν ἕκαστον. The sense thereby imposed is doubly false, both limiting each several atom by an infinite number of shapes and attributing solids, not planes, to Plato as his ultimate elements. The materials for such an interpolation or gloss were ready to hand; see, to go no further, 326a1: ἕκαστον . . . τῶν ἀδιαρέτων and 326a10: ἕκαστον τῶν ἀδιαρέτων. In each instance Aristotle is writing—περὶ τῶν ἀδιαρέτων στερεῶν (325b34–35).

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