

NOTES AND DISCUSSIONS

ARISTOTELIAN EXPLICATIONS AND EMENDATIONS

II. PASSAGES FROM THE *DE ANIMA*, *DE PARTIBUS ANIMALIUM*, *DE GENERATIONE ANIMALIUM*, *DE MOTU ANIMALIUM*, *POLITICS*, AND *NICOMACHEAN ETHICS**

1) *De An.* 419a1–5:

οὐ πάντα δὲ ὁρατὰ ἐν φωτὶ ἔστιν, ἀλλὰ μόνον ἐκάστου τὸ οἰκεῖον χρώμα· ἓνια γὰρ ἐν μὲν τῷ φωτὶ οὐχ ὁρᾶται, ἐν δὲ τῷ σκότει ποιεῖ αἰσθησιν, οἷον τὰ πυρώδη φαινόμενα καὶ λάμποντα (ἀνώνυμα δ' ἔστι ταῦτα ἐνὶ ὀνόματι), οἷον μύκης, κέρας, κεφαλαὶ ἰχθύων καὶ λεπίδες καὶ ὀφθαλμοί.

Aristotle has already alluded to the phenomenon here in question, at 418a26–28, ὁρατὸν δ' ἔστι χρώμα τε καὶ ὃ λόγῳ μὲν ἔστιν εἰπεῖν, ἀνώνυμον δὲ τυγχάνει ὄν, where Ross tersely remarks, “This refers to phosphorescence.” Luminescence is the more accurate term, since phosphorescence is luminescence due to the absorption of radiant energy emitted afterwards as light, but the two terms are often interchanged. In a5 μύκης and κεφαλαὶ ἰχθύων καὶ λεπίδες καὶ ὀφθαλμοί are examples of luminescence, κέρας is not. In spite of this, κέρας is still printed in most standard editions and commentaries of the *De Anima*, including, for example, those of Bekker, Torstrik, Trendelenburg, and Hicks. In 1866 H. W. Chandler conjectured κρέας for κέρας. Exactly a century later Jannone and Barbotin in the Budé edition printed κέρας without comment. In his 1922 commentary to the *De Generatione et Corruptione*, H. H. Joachim quotes our passage with κέρας, in the note to 329b14–16. In 1969 Willy Theiler in his German translation of the *De Anima* rendered the Greek as “Horn”; he therefore read κέρας. Similarly, in 1986 Hugh Lawson-Tancred has “horn” in his English translation. Exceptionally, while printing κέρας in his 1956 OCT text, W. D. Ross remarked in the apparatus, “κρέας T^p (aliqui codices), an recte?” In his larger 1961 edition and commentary, he printed κρέας with the observation, “Some MSS in Themistius have κρέας, and κρέας is much more appropriate here.” Ross does not elaborate, nor, it seems, does any other commentator. (Strictly speaking, the manuscripts of Themistius’ paraphrase do not have κρέας, but the plural κέρατα τινων ζώων, along with the variant κρέα τ. ζ.)

There is no reason to assume that Aristotle did not have the facts straight. Pliny, *HN* 11.151 also refers to such phenomena: “quin et in tenebris multorum piscium [sc. oculi] refulgent, aridi sicut robusti caudices putresque vetustate.” For an excellent

* This is Part II of a two-part article. For Part I, “Passages from the *Physics*, *De Caelo*, and *De Generatione et Corruptione*,” see *CP* 91 (1996): 141–58. For a list of titles cited in this article, see p. 246 below.

account of luminescence, see E. Newton Harvey, *Living Light*.¹ In a later book of Harvey's, *Bioluminescence*, the first paragraph of the first chapter begins as follows:

Whenever dead fish, flesh of animals of all kinds including man, eggs, sausages, and various dead invertebrates become luminous, it is practically certain that the light results from the growth of luminous bacteria. If the luminous material is dead vegetable matter, wood, roots, beets, potatoes, fruit, etc., the light is usually due to luminous fungi. Phosphorescence of flesh was known to Aristotle and has aroused interest and curiosity among the learned from the sixteenth century on.²

The manuscript reading κέρας is easily explained. Many a scribe or scholar knew nothing of luminescent flesh; the reference was unintelligible. By contrast, κέρας, for more reasons than one, seemed to be appropriate. Aristotle is talking about things that shine (α4 λάμποντα) in the dark. Lamps do so, in a sense, and lamps made of horn were common. οἱ κεράτινοι λύχνοι λάμπουσιν ἐν τῷ σκότει is intelligible Greek; no matter that upon reflection it should become apparent that horn does not "shine" in the sense desiderated here. (Fire shines through horn.) Furthermore the color of horn in light bears a certain, if distant, resemblance to what is seen in luminescence. Aristotle, however, is explicitly discussing what is seen in darkness and what is not color, but something else for which he has no name. Another potential source of psychological error is the general context of the entire section, namely, ἡ ὄψις, sight. For ὁ κερατοειδής (sc. χιτών) was a very common term for the cornea of the eye, κερατοειδής . . . διὰ τὸ λάμπειν τὸ παρακείμενον ὕγρὸν ἔνδοθεν ὡς διὰ κέρατος.³ In such circumstances the corruption of κρέας to κέρας, involving no more than the simple metathesis of the letters ρ and ε, was all but inevitable.

What of the testimony of the Themistius manuscripts, which fluctuate between κέρατα and κρέα? Is κρέα a genuine trace of the original reading κρέας, or an intelligent guess? Simplicius and Philoponus skirt the issue. Neither mentions either horn or flesh; both introduce other examples. Perhaps, whether they had κρέας or κέρας, or both, in their texts, they could make nothing of either and remained discreetly silent. It matters little. There is no doubt at all that Aristotle wrote κρέας, an apt instance of luminescence. Of any future editor who does not print this word, let it be said that "when [he] waited for light, there came darkness."

2) PA 670a23–30:

καρδία μὲν οὖν καὶ ἥπαρ πᾶσιν ἀναγκαῖα τοῖς ζώοις, ἡ μὲν διὰ τὴν τῆς θερμότητος ἀρχὴν . . . τὸ δ' ἥπαρ τῆς πέψεως χάριν. πάντα δὲ δεῖται τὰ ἐναίμα δυοῖν τούτοις, διόπερ ἔχει πάντα τὰ ἐναίμα δύο τὰ σπλάγχνα ταῦτα μόνον· ὅσα δ' ἀναπνεῖ, καὶ πλεῖστονα τρίτον.

a29 μόνον om. P, probantibus Peck et Düring

Düring ad loc.: "Peck cancelled μόνον which is impossible with regard to the subsequent τρίτον, for here only these three viscera are concerned. The stress lies

1. Princeton, 1940. Harvey discusses fungi (μύκης) on pp. 36–41, and fish on pp. 30–34 and 82–87: "Fish are the highest group of animals in which self-luminosity is known." Luminous flesh is discussed on pp. 6, 20, 26, 123, 127.

2. *Bioluminescence* (New York, 1952), 1.

3. Ps.-Rufus, *Anat.* 10, p. 170.11–12 Daremberg-Ruelle; similar etymologies of κερατοειδής frequently occur in the medical writers.

ον καρδία καὶ ἥπαρ πᾶσιν ἀναγκαῖα τοῖς ζώοις. In ἔχει is involved the sense ἔχει ἐξ ἀνάγκης.” On the contrary, μόνον, placed emphatically at the end of the sentence, is certainly genuine. (Picture the sentence without μόνον and try to discover a motive for its interpolation.) The little word introduces an additional point: “All blooded animals need these two organs, for which reason they all have these two—only.” The sense is that these are the only two organs all blooded animals must have. The Greek is admittedly a bit abrupt, but the final position of μόνον is significant and deliberate. Note that Aristotle did not write, for example, διόπερ πάντα τὰ ἔναιμα μόνον ἔχει [or ἔχει μόνον] δύο τὰ σπλάγχνα ταῦτα, which would have been a very different matter. Had Aristotle explicitly said “always” or “necessarily” the sentence would have been clearer, and it is not impossible that αἰεῖ (vel sim.) has fallen out, perhaps before or after ἔχει. Presumably the omission of μόνον in P, a manuscript long known to contain Byzantine conjectures, was deliberate: someone did not understand the force of the word.

Düring is wrong to say that μόνον “is impossible with regard to the subsequent τρίτον.” The sense is: All ἔναιμα ζῶα *qua* ἔναιμα must have only heart and liver; in addition, those ἔναιμα ζῶα that breathe must also have a third organ, the lungs. Aristotle taught that there were ἔναιμα ζῶα that did not breathe, which consequently did not need lungs, namely, the fishes.⁴ For him the lungs were an organ of narrower extension than heart and liver; some animals could do without them. μόνον makes explicit the relative ranking of these three organs.

As for the phraseology, it is quite Aristotelian. With διόπερ . . . ταῦτα μόνον compare 675a4–5: . . . ὁ καλούμενος σκάρος, ὃς δὴ καὶ δοκεῖ μηρυκάζειν εὐλόγως διὰ ταῦτα μόνος. Aristotle in fact characteristically places forms of μόνος at the end of a clause or sentence: τῶν δ' ἄλλων οὐδὲν σπλάγχνων [sc. apart from the heart] ἀναγκαῖον ἐστὶ τοῖς ζώοις, τὸ δ' ἥπαρ μόνον· διόπερ καὶ τοῦτο συμβαίνει περὶ αὐτὸ μόνον (PA 677b5–7). A particularly clear example of this idiomatic usage of μόνον may be seen at PA 688b20–21: ὁ δὲ μεταξὺ τόπος τῶν ἔμπροσθεν σκελῶν καὶ τῶν ὀπισθεν ἔχει μῆκος μόνον, where the sense is that this bodily region alone, ὁ μεταξὺ τόπος, possesses the requisite length, not that “length” (μῆκος) is the only attribute that it possesses.

3) GA 770a18–20:

ὄσων δὲ συνεχεῖς καὶ μὴ διείργει μηδέν, ἐκ τούτων οἱ νεοττοὶ γίνονται τερατώδεις, σῶμα μὲν καὶ κεφαλὴν μίαν ἔχοντες, σκέλη δὲ τέτταρα καὶ πτέρυγας κτλ.

Peck, for example, renders “. . . they have one body and one head, but four legs and wings. . . .” The Greek however would be more strictly rendered “. . . they have a body and one head, but four legs and wings . . .”, which is rhetorically inferior. Read σῶμα μὲν (ἐν) καὶ κεφαλὴν μίαν κτλ. The haplography assumed is of the easiest sort. Compare Michael’s commentary, p. 187.23–26 Hayduck: . . . γίνονται οἱ τερατώδεις νεοττοὶ μίαν μὲν ἔχοντες κεφαλὴν καὶ ἓν σῶμα . . . ὅταν γὰρ γένηται ἓν ζῶον μίαν ἔχον κεφαλὴν καὶ ἓν σῶμα, τέτταρα δὲ σκέλη κτλ. I suppose that Michael reverses the order of “head” and “body” because in this context the parts rather than the whole are of primary interest. Note also Aristotle’s

4. See PA 676a26–28, 676b12–13; *De Resp.* 470b10, 480b12–20; *De An.* 411a1.

fullness of expression elsewhere: μίαν γὰρ ἀπόκρισιν ἀπὸ μιᾶς ἀναγκαῖον γίγνεσθαι συνουσίας καὶ μιᾶς διακρίσεως (GA 723b13–14); εἰ δὲ συμβαίνει ἐξ ἑνὸς σπέρματος πλείω γίγνεσθαι καὶ μιᾶς συνουσίας κτλ. (GA 769b36–770a1).

4) GA 775a16–18:

ἔσω μὲν οὖν διακρίνεται διὰ τὴν ψυχρότητα βραδέως (ἡ γὰρ διάκρισις πέψις ἐστί, πέττει δ' ἡ θερμότης, εὐπεπτον δὲ τὸ θερμότερον) κτλ.

Read . . . ἡ γὰρ διάκρισις πέψις (τίς) ἐστί. . . . To say that διάκρισις is a πέψις without qualification is unusual; the two processes can even be contrasted: τούτου δ' αἴτιον τὸ περιέχον καὶ πολλὰ τῶν εισιόντων, οἷον ἐνίων ἡ τροφή· πεττομένης μὲν γὰρ καθεύδουσιν, διακρινομένης δ' ἐγείρονται καὶ κινουσιν ἑαυτοὺς (Ph. 259b11–13). Note also PA 672a20 where the same two verbs are distinguished: διακρίνουσι καὶ πέττουσι τὴν ὑγρότητα. On the other hand to describe διάκρισις as “a kind of concoction,” πέψις τις, is unobjectionable sense; the addition of τις makes all the difference. It is also good Aristotelian usage. From the *De Generatione Animalium* alone compare the following examples: ἀπεψία γὰρ τις καὶ ἡ μώλυσις ἐστίν (776a7–8); σαπρότης γὰρ καὶ πέψις ἐναντίον, τὸ δὲ πύον σαπρότης τίς ἐστίν (777a11); βίος γὰρ τις καὶ πνεύματός ἐστί καὶ γένεσις καὶ φθίσις (778a2–3); ἀσθένεια δὲ τις ἡ γλαυκότης (779b12); ἥ τε γὰρ πολιότης ἀσθένειά τις ἐστί τοῦ ὑγροῦ τοῦ ἐν τῷ ἐγκεφάλῳ καὶ ἀπεψία (780b6–7); ἡ δὲ βαρύτης ὑπεροχὴ τις (787a2). In our passage a τις placed after πέψις and before ἐστί was at obvious risk of accidental omission.

5) MA 699a14–17:

εἴτε γὰρ αὐτὸ κινούμενον κινεῖ αὐτόν, ἀνάγκη τινὸς ἀκινήτου θιγγάνον κινεῖν, καὶ τοῦτο μὴδὲν εἶναι μόριον τοῦ κινούντος· εἴτ' εὐθὺς ἀκίνητόν ἐστι τὸ κινούν, ὁμοίως οὐδὲν ἔσσεσθαι τοῦ κινουμένου μόριον.

17. ἔσσεσθαι : ἔσται versio Leonici : ci. Jaeger quem Forster et Farquharson (ut vid.) secuti sunt

Nussbaum prints ἔσσεσθαι in a17: “Jaeger and Forster emend to ἔσται, relying on Leonicus’ *erit*. But Leonicus’ translation is too free to be good evidence in a case of this kind, and no emendation is necessary.” But surely Jaeger, and those who followed him, were not relying solely on the authority of Leonicus’ version. At issue is not the relative credibility of the witnesses, but correct Greek usage. Nussbaum’s statement that “no emendation is necessary” is just that—a statement—not demonstration.

If one retains ἔσσεσθαι, two difficulties immediately confront us, as Jaeger doubtless realized. The infinitive can only be governed by ἀνάγκη understood from a14, and so the translators take it: “Il faut également qu’il ne fasse pas partie de ce qui est mû,” Louis; “It must, equally, be no part of what is moved,” Nussbaum. First difficulty: Why a future infinitive with ἀνάγκη? Compare Goodwin, *GMT*² §112–13. That irregular tense is unmotivated here. Second difficulty: Why οὐδὲν and not μὴδὲν, the usual negative with infinitives not in indirect discourse? Thus two solecisms in two contiguous words. For correct usage, seek no further than this very sentence itself, a14–15: ἀνάγκη . . . τοῦτο μὴδὲν εἶναι μόριον τοῦ κινούντος. Compare also MA 698b18–20: ἀνάγκη δὲ τοῦτο ἕτερον εἶναι τοῦ κινουμένου . . . καὶ μόριον μὴδὲν εἶναι τοῦ κινουμένου τὸ οὕτως ἀκίνητον. For ἔσται (common)

see, for example, 698b17. Make the necessary correction to the indicative ἔσται and everything falls into place. It does not matter whether Leonicus translated freely, saw ἔσται in a manuscript, or consciously corrected a corrupt ἔσεσθαι—it is corrupt.

ἔσται and ἔσεσθαι (along with many other words ending in -σται ~ -σθαι) are frequently confused in the manuscripts. In the case of these two forms haplography or dittography of εσ was often a contributing factor. I give one illustration that at first glance may seem to offer support for ἔσεσθαι in MA 699a17, namely, GA 766a30–b4:

εἰ οὖν τὸ μὲν ἄρρεν ἀρχὴ τις καὶ αἷτιον—ἔστι δ' ἄρρεν ἢ δύναται τι, θῆλυ δὲ ἢ ἀδυνατεῖ—τῆς δὲ δυνάμεως ὅρος καὶ τῆς ἀδυναμίας τὸ πεπτικὸν εἶναι ἢ μὴ πεπτικὸν τῆς ὑστάτης τροφῆς, ὃ ἐν μὲν τοῖς ἐναίμοις αἷμα καλεῖται ἐν δὲ τοῖς ἄλλοις τὸ ἀνάλογον, τοῦτου δὲ τὸ αἷτιον ἐν τῇ ἀρχῇ καὶ τῷ μορίῳ τῷ ἔχοντι τὴν τῆς φυσικῆς θερμότητος ἀρχήν, ἀναγκαῖον ἄρα ἐν τοῖς ἐναίμοις συνίστασθαι καρδίαν καὶ ἢ ἄρρεν ἔσεσθαι ἢ θῆλυ τὸ γιγνόμενον, ἐν δὲ τοῖς ἄλλοις γένεσιν οἷς ὑπάρχει τὸ θῆλυ καὶ τὸ ἄρρεν τὸ τῇ καρδίᾳ ἀνάλογον. ἢ μὲν οὖν ἀρχὴ τοῦ θήλεος καὶ τοῦ ἄρρενος καὶ ἡ αἰτία αὕτη καὶ ἐν τούτῳ ἐστίν.

b1 ἔσεσθαι : ἔσται P

As A. L. Peck (Loeb edition ad loc.) has remarked, this is an extremely important passage for understanding Aristotle's views on the organic seat, that is, according to him, the cause and source of sexual differentiation, namely, the heart or, in the case of "bloodless" animals, what corresponds to the heart (τὸ ἀνάλογον). In a36–b1 we seem to have the sequence ἀναγκαῖον . . . συνίστασθαι . . . καὶ . . . ἔσεσθαι, a present infinitive and a future infinitive in coordinate dependence upon ἀναγκαῖον. Peck renders, "From this it follows of necessity that, in the blooded animals, a heart must take shape and that the creature formed *is to be* [emphasis added] either male or female, and, in the other kinds which have male and female sexes, the counterpart of the heart." There are cases of future infinitive, exceptionally, where a present or an aorist would be normal (see *GMT*² as cited above, p. 226), but they are rare. (I know of none elsewhere after ἀνάγκη or ἀναγκαῖον.) They are employed, irregularly, to achieve a particular emphasis. Such is not the case here, where εἶναι would have been normal and entirely satisfactory. One cannot avoid the strong suspicion that the solecistic ἔσεσθαι here is nothing but a corruption due to the influence of the preceding συνίστασθαι. On the other hand, the variant reading ἔσται could hardly be "governed" by ἀναγκαῖον, which is doubtless why it has not found support. What to do?

A careful reading of the whole paragraph will show that Aristotle's main purpose is to prove one thing, namely, that in "blooded" animals a heart must be formed, in "bloodless" animals its counterpart, in order to explain sexual differentiation. The conclusion of his argument, in its most succinct form, is this: ἀναγκαῖον ἄρα ἐν τοῖς ἐναίμοις συνίστασθαι καρδίαν, ἐν δὲ τοῖς ἄλλοις γένεσιν τὸ τῇ καρδίᾳ ἀνάλογον (a36–b3). The only infinitive governed by ἀναγκαῖον is συνίστασθαι, once expressed and once understood. ἔσται is sound; it occurs in an independent parenthetic clause. Merely repunctuate and everything falls into place, thus:

ἀναγκαῖον ἄρα ἐν τοῖς ἐναίμοις συνίστασθαι καρδίαν—καὶ ἢ ἄρρεν ἔσται ἢ θῆλυ τὸ γιγνόμενον—ἐν δὲ τοῖς ἄλλοις γένεσιν οἷς ὑπάρχει τὸ θῆλυ καὶ τὸ ἄρρεν τὸ τῇ καρδίᾳ ἀνάλογον.

The future indicative is particularly apt with τὸ γιγνόμενον as its subject: “and that which is in process of developing will be either male or female.” For a similar parenthesis see the beginning of this paragraph, a30–31 (cited above p. 227).

6) *MA* 699a17–24:

καὶ τοῦτό γ' ὁρθῶς λέγουσιν οἱ λέγοντες ὅτι κύκλῳ φερομένης τῆς σφαίρας οὐδ' ὅτι οὐν μένει μόριον . . . ἀλλ' ὅτι τοὺς πόλους οἶονταί τινα δύναμιν ἔχειν, οὐδὲν ἔχοντας μέγεθος ἀλλ' ὄντας ἔσχατα καὶ στιγμάς, οὐ καλῶς. πρὸς γὰρ τῷ μηδεμίαν οὐσίαν εἶναι τῶν τοιούτων μηδενός, καὶ κινεῖσθαι τὴν μίαν κίνησιν ὑπὸ δυοῖν ἀδύνατον· τοὺς δὲ πόλους δύο ποιοῦσιν.

The identity of the thinkers whose views are set forth in this passage is a matter of controversy. “Probably some of the Physicists (*Ph.* 193b29). Possibly these were Pythagoreans . . .,” conjectured Farquharson, and Louis agreed. Jaeger (*Aristotle*², p. 356) wrote, “The hypothesis that the motion of the universe requires an unmoved fulcrum, that the two poles serve as such, and that they are therefore the unmoved first principle of the motion of the heaven, is clearly astronomical in origin. . . . We may suppose that some astronomer of the Eudoxian kind, such as Callippus, had taken up this sort of attitude towards the bold metaphysical inferences that Aristotle had thought it necessary to make from Eudoxus’ theory of the spheres.” Cherniss, followed by Düring, argued for Speusippos. Nussbaum felt it “impossible to identify convincingly the thinkers in question,” but suggested tentatively that Aristotle might be, at least in part, criticizing his own earlier views.⁵ Nevertheless, my impression, inevitably subjective, is that Aristotle has in mind contemporary views and, given the specific philosophical concerns of Aristotle in the *De Motu Animalium*, Jaeger’s speculations may be on the right track. The relative scarcity, not to say total absence, of extant allusions before Plato to the plural πόλοι in this technical sense is perhaps not due to chance. Nussbaum observes, “. . . of early philosophers, Anaxagoras alone is actually recorded to have

5. As Nussbaum correctly remarks (p. 299), Aristotle sometimes uses a plural verb even when the primary reference is to one thinker. However, her appeal (p. 283) to *MA* 698a25 ὡς φασί and *Eth. Nic.* 1109a34 κατὰ τὸν δεύτερον, φασί, πλοῦν as plural verbs in parenthetical allusions specifically to Plato is unfortunate. φασί and ὡς φασί with unexpressed subject are generic expressions; this is particularly clear in *Eth. Nic.*, loc. cit., where φασί serves merely to modify the familiar proverb ὁ δεύτερος πλοῦς. For these usages see *HSCP* 75 (1971): 88, 104–5 and *SGT*, 146. Even the singular φησί can be used with generic force equivalent to φασί; compare *RhM* 113 (1970): 84 and *Dumbarton Oaks Papers* 38 (1984): p. 162, n. 24. For some examples of plural verbs with specific reference to one individual (λέγουσι . . . καὶ οἱ ποιηταὶ vel sim.) compare *Orientalia Christiana Analecta* 195 (1973) (= *The Heritage of the Early Church*, Rome), 41. and, for Aristotle in particular, *Pol.* 1252b7–8, 1330a1 (where see Newman). A. E. Taylor on *Pl. Ti.* 40 B8–C¹ (p. 230) notes, “. . . Aristotle’s common habit of introducing views which we can prove to be those of leading members of the Academy as the opinions of τινές. In the *Metaphysics*, it is hardly too much to say, a view ascribed to τινές regularly means an Academic theory.” For some instances of τινές referring to Plato and/or the Academy see *Cael.* 278a16–17, εἴτε γὰρ ἔστιν εἶδη, καθάπερ φασί τινες; *Gen. Corr.* 337b8, ὁ τινες ἀποροῦσιν (compare P. Shorey in *CP* 17 [1922]: 352 and Solmsen, p. 384, n. 18); *Sens.* 443b18, ὥσπερ τινές φασιν (see Ross ad loc.); Newman at *Pol.* 1327b38. Düring, *Aristoteles*, p. 259, n. 87 observes, “Es ist amüsant zu beobachten, dass [Aristoteles] von Xenokrates oft τις, ἄλλος τις oder ὁ δὲ sagt, von Speusipp aber stets οἱ δὲ, τινές.” Aristotle’s employment of τινές rather than explicit names when referring to Plato and the Academy was presumably a means of courteous disagreement. Naturally these phrases are not confined to references to the Academy. For φασί τινες of others see *De An.* 416b35; *Sens.* 446b18.

made poles an important part of his physical system" (p. 299). Strictly speaking, the testimonia to Anaxagoras have "pole" in the singular only; there is no talk of two poles (D-K A 1 [9]; A 42 [10,11]). Thus we find, for example, the expression ἐκ τῆς κινήσεως τοῦ πόλου. So also in Critias, frag. 18.5: τὸν Ἀτλάντειον τηροῦσι πόλον. Compare the Σ to Ar. Av. 179: πόλον γὰρ οἱ παλαιοὶ οὐχ ὥς οἱ νεώτεροι σημείον τι καὶ πέρας ἄξονος, ἀλλὰ τὸ περιέχον ἅπαν. The sense attributed here to the "νεώτεροι" is exactly that of Aristotle: πέρας = ἔσχατον, σημείον = στιγμή.⁶

Before proceeding, it is necessary to clarify the meaning of Aristotle's statement in a23–24: κινεῖσθαι τὴν μίαν κίνησιν ὑπὸ δυοῖν ἀδύνατον. The translators seem agreed as to the correct rendering of the Greek: "It is impossible for a single movement to be initiated by what is twofold," Farquharson; "It is also impossible for a single movement to be started by a dual agency," Forster; "It is impossible for a simple motion to be imparted by what is two," Nussbaum. This last scholar explicates the passage thus (pp. 297–98):

Farquharson refers us to *Ph.* 259a18, where Aristotle urges that it is better to hypothesize one unmoved mover rather than a plurality, if this is possible (cf. *Metaph.* 1076a4). But this seems a different point. . . . The passage can best be understood if we read τὴν μίαν κίνησιν to mean "a simple motion"—i.e., a motion which cannot be broken down into further simpler components. . . . Motion "according to the circle of the ecliptic" is a single motion, but has two components and a double origin (*GC* II.10, *DC* II.12). In *DC* II.6, Aristotle argues that if the moving heavenly sphere is primary and simple and unchanging, what moves it must be even more clearly so.

This interpretation will not bear scrutiny. A single motion (μία κίνησις) and a simple motion (ἀπλῆ κίνησις) are not identical concepts, as Nussbaum is aware, although the same motion may of course be both. If Aristotle's intention had been to introduce the concept of "a motion which cannot be broken down into further simpler components," he surely would have used the correct term—ἀπλῆν, not μίαν. He knew the difference; see *Cael.* 296b30–31: μία γὰρ φορὰ τοῦ ἐνὸς καὶ ἀπλῆ τοῦ ἀπλοῦ, and especially *Metaph.* 1072a32–34: ἔστι δὲ τὸ ἐν καὶ τὸ ἀπλοῦν οὐ τὸ αὐτό· τὸ μὲν γὰρ ἐν μέτρον σημαίνει, τὸ δὲ ἀπλοῦν πῶς ἔχον αὐτό. Ross notes ad loc.: "Aristotle seems to be intent on explaining what he means by 'simple', without any further motive."

There is a further objection to this and other current interpretations. Everyone appears to understand the words κινεῖσθαι τὴν μίαν κίνησιν ὑπὸ δυοῖν ἀδύνατον (a23–24) as a general statement. Compare the versions cited above ("a single movement," "a simple motion"). In fact it must be particular and refer to this one case only, as the neglected definite article τὴν proves. The sense demanded by this unexceptionable Greek is: "In addition to the other objection (πρὸς τῷ μηδεμίαν οὐσίαν κτλ.) it is also impossible for the one motion in question [sc. κύκλῳ φερομένης τῆς σφαίρας, a18, cited above p. 228] to be imparted by two agents. But they make the poles two in number." The Greek for "it is impossible for a single motion to be imparted by two agents" is κινεῖσθαι μίαν κίνησιν ὑπὸ δυοῖν ἀδύνατον. Such is the

6. For σημείον and στιγμή see Ross at *De An.* 427a20.

difference that the presence or absence of an article can make.⁷ Once it is perceived that τὴν μίαν κίνησιν must refer first and foremost to this particular case, it becomes clear that the number of movements, not their complexity, is the primary focus here. The following sentence, τοὺς δὲ πολλοὺς δύο ποιοῦσιν, further confirms this.

The significance of this latter sentence has not been appreciated. Aristotle proceeds thus: “Those who think that the poles possess δύναμις are wrong. . . . Also it is impossible for the single motion of the sphere to be caused by two movers.” The two movers are obviously the poles and in the plural the poles, οἱ πόλοι, are always two. There was never any question of three or more poles. This argument therefore seems complete at . . . ὑπὸ δυοῖν ἀδύνατον (a23–24). What we expect is no following sentence at all, or else, for example, οἱ δὲ πόλοι δύο, a correct, if unnecessary, addition. Michael Ephesius paraphrases οἱ δὲ πόλοι οὐχ εἷς, ἀλλὰ δύο. This is better, but ignores the crucial verb, ποιοῦσιν. (Compare p. 231 below.) Consider two passages. First, [Arist.] *Mund.* 391b19–392a1:

τοῦ δὲ σύμπαντος οὐρανοῦ τε καὶ κόσμου σφαιροειδοῦς ὄντος καὶ κινουμένου . . . ἐνδoleχῶς, δύο ἀκίνητα ἐξ ἀνάγκης ἐστὶ σημεῖα, καταντικρὺ ἀλλήλων, καθάπερ τῆς ἐν τὸρνῳ κυκλοφορουμένης σφαίρας, στερεὰ μένοντα καὶ συνέχοντα τὴν σφαῖραν, περὶ ἃ ὁ πᾶς ὄγκος κύκλῳ στρέφεται· καλοῦνται δὲ οὗτοι πόλοι· δι’ ὧν εἰ νοήσαιμεν ἐπε-
ξευγμένην εὐθεῖαν, ἦν τινες ἄξονα καλοῦσι, διάμετρος ἔσται τοῦ κόσμου, μέσον μὲν ἔχουσα τὴν γῆν, τοὺς δὲ δύο πολλοὺς πέρατα.

The similarities with our passage are obvious and the meaning of οἱ πόλοι is clear. Contrast with this passage *Cael.* 293b30–33: ἔνιοι δὲ καὶ κειμένην ἐπὶ τοῦ κέντρου φασὶν αὐτὴν ἴλλεσθαι καὶ κινεῖσθαι περὶ τὸν διὰ παντὸς τεταμένον πόλον, ὥσπερ ἐν τῷ Τιμαίῳ γέγραπται [= 40B]. The *Timaeus* passage is a famous crux, but the meaning of πόλος (singular!) is not in doubt. The word does not refer to the poles at each end of the axis, but to the axis itself; it answers to ἄξων in the *De Mundo* passage.

In older Greek πόλος had two fundamental meanings, first, the “vault of heaven” in a general sense, as we find it used in Aesch. *PV* 429, οὐράνιον . . . πόλον, of the Atlas myth (compare the meaning “concave sun-dial,” so called from this πόλος being shaped like the vault of heaven, as LSJ state⁸) and then, more specifically, “axis of the celestial sphere” (LSJ), as in *Timaeus* 40B. The oldest use survived in

7. Compare *Metaph.* 1073a23–31: ἡ μὲν γὰρ ἀρχὴ καὶ τὸ πρῶτον τῶν ὄντων ἀκίνητον καὶ καθ’ αὐτὸ καὶ κατὰ συμβεβηκός, κινοῦν δὲ τὴν πρώτην αἰδίων καὶ μίαν κίνησιν· ἐπεὶ δὲ τὸ κινούμενον ἀνάγκη ὑπὸ τινος κινεῖσθαι, καὶ τὸ πρῶτον κινῶν ἀκίνητον εἶναι καθ’ αὐτό, καὶ τὴν αἰδίων κίνησιν ὑπὸ αἰδίου κινεῖσθαι καὶ τὴν μίαν ὑφ’ ἐνός, ὁρῶμεν δὲ παρὰ τὴν τοῦ παντός τὴν ἀπλήν φορὰν, ἣν κινεῖν φαιμέν τὴν πρώτην οὐσίαν καὶ ἀκίνητον, ἄλλας φορές οὕσας τὰς τῶν πλανήτων αἰδίους κτλ. In a28 τὴν μίαν the article is anaphoric and refers back specifically to the “primary, eternal, and single movement” (τὴν πρώτην αἰδίων καὶ μίαν κίνησιν) of a25; so also τὴν αἰδίων κίνησιν in a27. Here too translators render loosely: “. . . one motion by some one thing” (Tredennick); “. . . a single movement by a single thing” (Ross). The specific movement uppermost in Aristotle’s mind is the single movement caused by the first unmoved mover, τὸ πρῶτον κινῶν ἀκίνητον. The immediately following words (ὁρῶμεν δὲ παρὰ τὴν τοῦ παντός τὴν ἀπλήν φορὰν, ἣν κινεῖν φαιμέν τὴν πρώτην οὐσίαν κτλ.) make this perfectly clear. The unconscious transition from particular to general is natural in a modern language.

8. This meaning of πόλος has been called into question by D. R. Dicks, *Early Greek Astronomy to Aristotle* (Cornell, 1970), 165–66, who prefers to interpret πόλος so used as merely another term for γνῶμων, “pointer” of a sun-dial. Whichever the meaning, my argument is not affected.

later poetry, Cleanthes, *Hymn to Zeus* v. 16: κατ' αἰθέριον θεῖον πόλον. These uses both normally occur in the singular. For the plural οἱ πόλοι, in the more usual sense "poles," there seems to be no unambiguous evidence before Aristotle. In Pl. *Crat.* 405C: . . . τὴν ὁμοῦ πόλησιν καὶ περὶ τὸν οὐρανόν, οὓς δὴ "πόλους" καλοῦσιν, καὶ [τὴν?] περὶ τὴν ἐν τῇ ψῆδῃ ἀρμονίαν, ἣ δὴ συμφωνία καλεῖται κτλ., it is not quite clear what he means by πόλοι, or indeed whether the word refers to πόλησιν or to οὐρανόν. Nevertheless the use of the plural is significant; it is proof that the sense of the term is changing. All the evidence suggests that "poles" is a more recent meaning, and the scholium on Ar. *Av.* 179 may well reflect genuine learning. Now the full import of Aristotle's statement τοὺς δὲ πόλους δύο ποιοῦσιν becomes clear. He does not say that the poles are two, as Michael explicates the passage, but that these philosophers posit two poles, that is, they are using πόλοι in its more recent meaning, "poles," not in the older senses "heaven" or "axis." Aristotle is writing at a time when several senses of the word were still in use. A passage from the spurious, and later, dialogue *Axiochus* (371B) illustrates this strikingly: . . . ἄτε τῆς μὲν γῆς ἐχούσης τὰ μέσα τοῦ κόσμου, τοῦ δὲ πόλου ὄντος σφαιροειδοῦς, οὗ τὸ μὲν ἕτερον ἡμισφαίριον . . . τὸ δὲ ἕτερον κτλ. To state that someone believed in two poles was by no means superfluous when there were still other beliefs involving the word πόλος circulating. The upshot of this inquiry is that the thinkers in question, whoever they were, were most probably contemporaries of Aristotle. οἱ πόλοι tells us that.

In stressing, as I have, that τὴν μίαν κίνησιν indicates that Aristotle, for his own reasons, has made a particular statement, it was not my intention to deny that a principle of wider validity is also implied. Clearly it is. While Nussbaum correctly states that *Ph.* 259a18, to which Farquharson made reference, makes a different point, nevertheless, the subject matter of that passage is closely related to the principle implied here and Farquharson's reference was apt.⁹ Had he referred to the entire section, *Ph.* 259a6–20, it would have been even more apt. Guthrie (*HGP* VI.244 n. 1) has pertinently observed: "Aristotle certainly anticipated William of Ockham in the demand for economy of *entia*. Cf. *Phys.* 259a8 (of the First Cause): 'We must assume it to be one rather than many, and finite rather than infinite in number, for given the same results, one must always prefer the limited number.'"

7) *MA* 700a6–11:

ἐπὶ δὲ τῶν ζώων οὐ μόνον τὸ οὕτως ἀκίνητον δεῖ ὑπάρχειν, ἀλλὰ καὶ ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον ὅσα κινεῖ αὐτὰ αὐτά. δεῖ γὰρ αὐτοῦ τὸ μὲν ἡρεμεῖν τὸ δὲ κινεῖσθαι, πρὸς ὃ ἀπηρειδόμενον τὸ κινούμενον κινήσεται, οἷον ἂν τι κινή τῶν μορίων· ἀπηρειδεται γὰρ θάτερον ὡς πρὸς μένον θάτερον.

a8 αὐτοῦ : αὐτῶν, αὐτοῖς vv. 11.

The general sense of this passage is not in doubt, but the syntax of the Greek has not been satisfactorily explained. The difficulties are two: (1) there is no apparent

9. Actually the reference is not original with Farquharson. Michael Ephesius at this point in his commentary remarks ὡς ἐν τοῖς Φυσικοῖς δέδεικται (p. 108.5 Hayduck); the modern editor supplies the reference—Θ6 p. 259a18.

subject for ἐν αὐτοῖς κινουμένοις in a7 and the sentence is consequently ungrammatical and dangling;¹⁰ (2) πρὸς ὃ in a9, as the Greek now reads, must refer back to τὸ δε κινεῖσθαι, which gives a sense the opposite of what is required. Jaeger in his edition of the *De Motu Animalium* clearly perceived that there was a problem: “9 πρὸς ὃ ἀπεριεχόμενον—11 θάτερον fort. ex altera huius loci recensione orta, cum ad τὸ δε ἡρεμεῖν nisi sensu referri nequeant; τὸ μὲν κινεῖσθαι, τὸ δε ἡρεμεῖν tr. [= translatio Nicolai Leonici].” This suggestion that the remains of a second “recension” may be embedded in our manuscript tradition might remove the second difficulty mentioned above, but the first would remain. The chief merit of Jaeger’s proposal lies in its diagnostic value; he saw that something was amiss. The fact is that πρὸς ὃ has no intelligible antecedent, expressed or implied, as the text now stands.

Düring attempted to set things right by a change of punctuation: “Kein Herausgeber hat bemerkt, dass 700a8–9 δεῖ–κινεῖσθαι eine Parenthese ist, und dass πρὸς ὃ sich auf τὸ ἀκίνητον ἐν αὐτοῖς bezieht.”¹¹ Nussbaum,¹² agreeing with Düring that δεῖ–κινεῖσθαι is a parenthesis, differed from him only insofar as she strongly favored the variant αὐτῶν (or even the other variant αὐτοῖς) over αὐτοῦ in a8. She prints the passage thus:

ἐπὶ δὲ τῶν ζώων οὐ μόνον τὸ οὕτως ἀκίνητον δεῖ ὑπάρχειν, ἀλλὰ καὶ ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον ὅσα κινεῖ αὐτὰ αὐτά (δεῖ γὰρ αὐτῶν τὸ μὲν ἡρεμεῖν τὸ δε κινεῖσθαι), πρὸς ὃ ἀπεριεχόμενον τὸ κινούμενον κινήσεται, οἷον ἂν τι κινή τῶν μορίων· ἀπεριεχόμενα γὰρ θάτερον ὡς πρὸς μένον θάτερον.

She observes: “Düring’s suggestion solves the difficulty and makes good sense. The main idea is that there must be something in the animal at rest, supporting itself against which what is moved will move: πρὸς ὃ refers back to (τὸ ἀκίνητον) ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον. The parenthesis is added to remind us that when we say there is something at rest in the animal, that is because animals, unlike the heavenly bodies, must have an internal division and moved parts.” It thus appears that, like Düring, Nussbaum explicitly supplies τὸ ἀκίνητον to be understood with ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον; in so doing they follow the main body of interpreters who, consciously or not, adopt such syntax. Farquharson, for example, translates, “Now in the animal world there must be not only an immovable without, but also within those things which move in place, and initiate their own movement.” That this represents Aristotle’s meaning I would be the last to deny; whether the Greek of the manuscripts admits such a meaning may be questioned. Before we consider this issue, however, we must examine the “parenthesis” interpretation.

Nussbaum, as we have seen, placed the δεῖ γὰρ clause between marks of parenthesis, thereby agreeing with Düring; she translates “. . . there must be something

10. The only way to construe the Greek as it now stands would be to supply τὸ οὕτως ἀκίνητον δεῖ ὑπάρχειν with ἐν αὐτοῖς τοῖς κινουμένοις, which would then be contrasted with ἐπὶ τῶν ζώων. The sense rules this out absolutely. ἐπὶ τῶν ζώων is not contrasted with ἐν αὐτοῖς (they are identical), but with περὶ δὲ τῶν ἀψύχων in a11, whereas τὸ οὕτως ἀκίνητον is contrasted with the subject (accusative) of the second clause.

11. Review of *Aristotele, “De Motu Animalium,”* ed. L. Torracca, *Gnomon* 31 (1959): 417.

12. See her detailed discussion of the passage in “The Text of Aristotle’s *De Motu Animalium*,” *HSCP* 80 (1976): 143.

unmoved not only in this sense, but also, within the actual creatures moving from place to place—those, that is, which move themselves—(since they must have one part at rest and one in motion), *there must be something against which* [emphasis added] the moved part supports itself when it moves, as, for example, if it moves one of its limbs. . . .” Again, the sense is unexceptionable, not so the syntax. The δεῖ γάρ clause is rendered “(since they must have. . .)”, that is to say, what is in Greek a coordinate clause is treated as if it were entirely subordinate. In fact δεῖ γάρ begins a new and independent sentence, and earlier editors were correct to the extent that they recognized this and punctuated accordingly, with a strong pause before δεῖ γάρ.¹³ This results in two grammatically incomplete cola, one before the δεῖ γάρ sentence (ἀλλὰ καὶ ἐν αὐτοῖς—αὐτά) and one after it (πρὸς ὃ ἀπεριδόμενον κτλ.).

To put this differently. Everyone agrees that δεῖ ὑπάρχειν must be understood and must go closely with πρὸς ὃ ἀπεριδόμενον κτλ. (Compare Nussbaum’s version: “. . . but also . . . there must be something against which . . .”). But if the entire sentence has been interrupted by a coordinate parenthesis beginning δεῖ γάρ, how can one then leap over that δεῖ, as it were, to supply another unexpressed δεῖ with πρὸς ὃ? Such acrobatics are not credible.

A closer analysis of the language will bring out more clearly the difficulties that the paradosis presents. The sense is not in doubt. Aristotle maintains that for motion to take place there must be something external to the moving object, something itself at rest and unmoved. See, for example, 698b8–9: πᾶσα ἡ ἐν αὐτῷ ἡρεμία ὅμως ἄκυρος, ἂν μὴ τι ἔξωθεν ἢ ἀπλῶς ἡρεμοῦν καὶ ἀκίνητον; 698b18–20: ἀνάγκη . . . τοῦτο ἕτερον εἶναι τοῦ κινουμένου, καὶ ὅλον ὅλον, καὶ μόνον μὴδὲν εἶναι τοῦ κινουμένου τὸ οὕτως ἀκίνητον. In the case of τὰ ζῷα, there must be not only something external to the animal at rest, but also something within it that remains (relatively) motionless, in order for motion to occur. Aristotle stresses this doctrine in the early chapters of the *De Motu Animalium*, for instance 698b12–14, ὥσπερ γὰρ καὶ ἐν αὐτῷ δεῖ τι ἀκίνητον εἶναι, εἰ μέλλει κινεῖσθαι, οὕτως ἔτι μᾶλλον ἔξω δεῖ τι εἶναι τοῦ ζῴου ἀκίνητον (a passage that, incidentally, illustrates by its clarity how incoherent and abrupt the passage we are concerned with is). The difference between the sentence just quoted and our sentence is that in the former Aristotle is stressing the necessity of an external ἀκίνητον, in the latter of an internal ἀκίνητον, the emphasis in each instance corresponding to the neighboring context.

If we paraphrase in Greek 700a6–11, it will be possible to isolate and illustrate the first specimen of bad Greek in the manuscripts. Aristotle might have written ἐπὶ δὲ τῶν ζῴων οὐ μόνον ἔξω δεῖ ὑπάρχειν τι ἀκίνητον ἀλλὰ καὶ ἐν αὐτοῖς κτλ. (ἐν = “within” and is in contrast to ἔξω; this is normal usage, as at 698b8 and 12, both cited in the previous paragraph). Had he done so, there would have been no problem; δεῖ ὑπάρχειν τι ἀκίνητον could easily and naturally be supplied with ἐν αὐτοῖς: “And in the case of animals not only must there be something unmoved

13. It is not my intention to deny the reality of parenthetic γάρ clauses; see J. D. Denniston, *The Greek Particles*² (Oxford, 1954), 68–69 and, for a clearer exposition, E. Fraenkel’s note to Aesch. Ag. 800. One need only read the examples adduced by Denniston and Fraenkel to see that the present instance would hardly fit into such a category.

outside, but also inside said animals that move locally etc.” In such a sentence $\tau\iota$ ἀκίνητον, the subject accusative of the infinitive clause, is generic and unqualified; it refers specifically neither to external nor to internal immobility. What kind of ἀκίνησις is involved we learn only from an additional predication (ἔξω-ἐν); when $\tau\iota$ ἀκίνητον is carried over to be understood with the second clause, it does not take ἔξω with it. By contrast, in the sentence that the manuscripts actually present, the subject accusative of the first clause is $\tau\omicron$ οὕτως ἀκίνητον, in which οὕτως represents ἔξω or ἔξωθεν (compare 698b20, quoted above, p. 233). That is, the subject of the first clause is specifically “that which is externally unmoved,” not the generic “something unmoved,” and it is impossible to carry this over to the second clause for the obvious reason that the consequent thought would be a contradiction. What editors have been forced to do, as we have seen, is to generate an unqualified $\tau\omicron$ ἀκίνητον from $\tau\omicron$ οὕτως ἀκίνητον to make do as the subject accusative of the second clause. Whether such an extreme sense-construction is ever possible I hesitate to say. However, having admitted it, the editors do not stop there but proceed to translate not $\tau\omicron$ ἀκίνητον, but $\tau\iota$ ἀκίνητον, which is, of course, what the sense requires.¹⁴

The following remedy will satisfy both sense and syntax:

ἐπὶ δὲ τῶν ζώων οὐ μόνον τὸ οὕτως ἀκίνητον δεῖ ὑπάρχειν, ἀλλὰ καὶ ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον ὅσα κινεῖ αὐτὰ αὐτά [δεῖ γὰρ αὐτοῦ τὸ μὲν ἡρεμεῖν τὸ δὲ κινεῖσθαι] πρὸς ὃ ἀπεριεχόμενον τὸ κινούμενον κινήσεται· (δεῖ γὰρ αὐτοῦ τὸ μὲν ἡρεμεῖν τὸ δὲ κινεῖσθαι), οἷον ἂν $\tau\iota$ κινή τῶν μορίων· ἀπεριέδεται γὰρ θάτερον ὡς πρὸς μένον θάτερον.

With ἀλλὰ καὶ ἐν αὐτοῖς κτλ. supply δεῖ ὑπάρχειν from the preceding clause; that is unexceptionable and presupposed on any interpretation of the sentence. The subject of this “understood” ὑπάρχειν is then the unexpressed antecedent contained in πρὸς ὃ: “. . . but also there must exist (something) against which . . .”. This is correct Aristotelian usage: . . . οὐ κινεῖ τὸ πλοῖον διὰ τὸ ἀναγκαῖον εἶναι πρὸς ὃ ἀποστηρίζεται μένειν, “. . . because it is essential that that against which he is leaning should remain still” (699a7–8, tr. Forster). The subject of the infinitive μένειν is πρὸς ὃ ἀποστηρίζεται or the antecedent implied by and contained in πρὸς ὃ; grammatically it may be explained either way (it amounts to the same thing) and makes no difference for our purposes. The crucial point is that the $\tau\iota$ or ἐκεῖνο that we expect before πρὸς ὃ is unexpressed exactly as here. It may be relevant to recall that πρὸς ὃ had become a fixed phrase, almost a formula, as is clear from 698b1–2: ἡ ἀρχὴ ἢ πρὸς ὃ, ἢ ἀρχή, ἡρεμεῖ κινουμένου τοῦ μορίου; see Nussbaum’s note ad loc.

There is more evidence. In the paragraph that immediately follows, which begins περὶ δὲ τῶν ἀψύχων (a11), thereby answering to ἐπὶ δὲ τῶν ζώων (a6), Aristotle wrote the following (a17–20):

τῶν δὲ τοιούτων περὶ μὲν τῶν ζώων εἴρηται.¹⁵ τὰ γὰρ τοιαῦτα πάντα ἀνάγκη καὶ ἐν αὐτοῖς ἔχειν τὸ ἡρεμοῦν, καὶ ἔξω πρὸς ὃ ἀπερείσεται.

14. I do not misrepresent here; see, for example, the translations of Forster and Nussbaum. The inconsistency is particularly clear in Nussbaum.

15. For the collocation of these two genitives of respect, one with and one without preposition expressed, see my forthcoming paper in *Hermes*, “On Some Genitives and a Few Accusatives in Aristotle.” These usages are frequent in Aristotle (and are well documented elsewhere in Attic Greek).

For all such beings must have (1) inside themselves that which is at rest and (2) outside (that) against which they will support themselves. This is the same use of πρὸς ὃ with an unexpressed antecedent in a sentence of identical content.¹⁶

A complicating factor in the understanding of our passage was the fullness of expression in α7–8, ἐν αὐτοῖς τοῖς κινουμένοις κατὰ τόπον ὅσα κινεῖ αὐτὰ αὐτά. Since the medio-passive form κινουμένοις was ambiguous, Aristotle added ὅσα κινεῖ αὐτὰ αὐτά in order to make it clear that self-movers (in his restricted, non-Platonic sense of the term) were meant. Substitute a bare ἐν αὐτοῖς for this long phrase and it will become evident how close the parallelism between these two passages is.¹⁷ One may wish to consider rather the possibility of an anacoluthon caused by this long phrase ἐν αὐτοῖς—αὐτά; Aristotle often breaks off in mid-sentence. The reason why such an approach fails here is that, in the case of such anacolutha, the syntax of the new beginning after the break ceases to be anacoluthic, whereas here we would still be left with a dangling πρὸς ὃ clause.

A *ratio corruptelae* for the transposition of the sentence δεῖ γὰρ αὐτοῦ τὸ μὲν ἡρεμεῖν τὸ δὲ κινεῖσθαι is ready to hand. In the new position the preceding clause ends . . . τὸ κινούμενον κινήσεται, this clause . . . τὸ δὲ κινεῖσθαι. A copyist, his eye going from τὸ κινούμενον κινήσεται (or simply from κινήσεται) directly to οἷον ἄν τι, omitted the intervening δεῖ γὰρ—τὸ δὲ κινεῖσθαι clause by a routine lipography. Note that the two groups of words have almost the same number of letters (thirty-nine and thirty-six respectively). The bypassed clause, as often, was later added in the margin and then restored to the text proper in the wrong place.¹⁸

Still to be considered is the question of the variant readings αὐτοῦ and αὐτῶν in the δεῖ γὰρ clause. (The third variant αὐτοῖς deserves not a moment's thought.) Nussbaum comes out strongly in favor of αὐτῶν; to me it seems a patent *lectio facilior* introduced after its clause had been misplaced in the manuscripts to follow ἐν αὐτοῖς τοῖς κινουμένοις . . . ὅσα κινεῖ αὐτὰ αὐτά, where a plural seemed in place (and where there was no motivation whatsoever for a change to the singular αὐτοῦ: *utrum in utrum abiturum erat?*¹⁹). Once the δεῖ γὰρ clause is restored to what I believe was its original position, the reason for Aristotle's shift to the singular by a sense construction becomes clear. With the clause so placed Aristotle will have already mentioned the internal division in animals into that which is at rest and that which is moving. The particular situation, a moving component supporting itself against a component at rest, naturally suggests, in any given instance, a single ζῷον, and it is not difficult to see why Aristotle wrote αὐτοῦ. In fact, the singular

16. It is unnecessary, and awkward, to carry over τὸ ἡρεμεῖν as the understood antecedent of πρὸς ὃ. To judge from the translations, interpreters do not so take the clause and 699a7–8 (cited above, p. 234) positively argues against such syntax here. (Cases such as 698b5–6 and b14, where the antecedent of πρὸς ὃ is τι, are somewhat different.)

17. Thus: ἐπὶ τῶν ζώων οὐ μόνον τὸ οὕτως ἀκίνητον δεῖ ὑπάρχειν ἀλλὰ καὶ ἐν αὐτοῖς [sc. δεῖ ὑπάρχειν] πρὸς ὃ ἀπεριεχόμενον τὸ κινούμενον κινήσεται ~ τὰ τοιαῦτα ἀνάγκη καὶ ἐν αὐτοῖς ἔχειν τὸ ἡρεμεῖν, καὶ ἔξω [sc. ἔχειν] πρὸς ὃ ἀπερείσεται.

18. Compare Johan Nicolai Madvig, *Adversaria Critica* (Copenhagen, 1871), 46–47: “Cum praetermissis oculo transiliente verbis coniuncta est transpositio quaedam, cum aliquid primum a scriba ad inferiora aberrante praetermissum postea aut ab ipso statim, animadverso errore, loco non suo inseritur, aut in margine sive ab ipso sive ab alio annotatum deinde ab alio novi exempli librario in contextu alieno loco ponitur, interdum etiam plurium versuum sententiae.”

19. Note that even if my transposition be not accepted, this argument holds true. αὐτοῦ remains the *lectio difficilior* and should be printed.

αὐτοῦ is itself a minor piece of additional evidence in support of this transposition. αὐτοῦ fits better in this position; the preceding singular τὸ κινούμενον should be noted. For such a shift from plural to singular compare 698b10–15: ἔχει γὰρ τὴν θεωρίαν οὐ μόνον ὅσον ἐπὶ τὰ ζῷα συντείνουσιν, ἀλλὰ καὶ πρὸς τὴν τοῦ παντὸς κίνησιν καὶ φοράν. ὥσπερ γὰρ καὶ ἐν αὐτῷ [sc. τῷ ζῷῳ] δεῖ τι ἀκίνητον εἶναι, εἰ μέλλει κινεῖσθαι, οὕτως ἐστὶ μάλλον ἔξω δεῖ τι εἶναι τοῦ ζῶου ἀκίνητον, πρὸς ὃ ἀπεριεσόμενον κινεῖται τὸ κινούμενον. Observe that the context is very similar.²⁰

8) MA 700b29–701a2:

ὥστε δῆλον ὅτι ἔστι μὲν ἢ ὁμοίως κινεῖται τὸ αἰεὶ κινούμενον ὑπὸ τοῦ αἰεὶ κινούντος καὶ τῶν ζώων ἕκαστον, ἔστι δ' ἢ ἄλλως, διὸ καὶ τὰ μὲν αἰεὶ κινεῖται, ἡ δὲ τῶν ζώων κίνησις ἔχει πέρας. τὸ δὲ αἰεὶ καλόν, καὶ τὸ ἀληθῶς καὶ πρῶτως ἀγαθὸν καὶ μὴ ποτὲ μὲν ποτὲ δὲ μὴ, θεϊότερον καὶ τιμιώτερον ἢ ὥστ' εἶναι πρότερον. τὸ μὲν οὖν πρῶτον οὐ κινούμενον κινεῖ, ἡ δ' ὄρεξις καὶ τὸ ὀρεκτικὸν κινούμενον κινεῖ. τὸ δὲ τελευταῖον τῶν κινουμένων οὐκ ἀνάγκη κινεῖν οὐδέν.

b35 πρότερον : πρὸς ἕτερον P : πρότερόν (τι) Jaeger

In 700b35 πρότερον, the reading of all the manuscripts but P, cannot be correct, for it makes no sense (“the eternally beautiful and truly and primarily good . . . is too divine and deserving of honor to be prior”). Jaeger’s conjecture πρότερόν (τι) would remove this objection (“ . . . too divine and precious than to have anything prior to it,” Forster) and the variant πρὸς ἕτερον also makes sense (“ . . . too divine and too honorable to be relative to anything,” Nussbaum). Bekker and Farquharson (neither of whom knew Jaeger’s conjecture²¹ and who were therefore choosing between a meaningless πρότερον and an intelligible πρὸς ἕτερον) and, more recently, Torracca and Nussbaum accept P’s πρὸς ἕτερον. Forster, Louis, and Düring²² all come out in favor of Jaeger’s πρότερόν (τι).

20. There is a further objection to αὐτῶν, involving a question of Greek usage. Nussbaum understands αὐτῶν as referring to the moving animals, which have just been mentioned. Query: What is then the most natural translation of δεῖ γὰρ αὐτῶν τὸ μὲν ἡρεμεῖν τὸ δὲ κινεῖσθαι? Answer: “For it is necessary that in the case of animals the one be at rest, the other in motion.” In other words, ζῶον, not μόριον (not mentioned until 700a10), would normally be understood with τὸ μὲν . . . τὸ δὲ . . . , and that gives an impossible sense.

21. Farquharson, however, observed, “Perhaps Mich. had really ὥστ' εἶναι τι πρότερον [sic]. Leon. ‘quam ut illo quicquam sit prius.’” This is echoed by Nussbaum (p. 339): “Michael and Leonicus write as though they read πρότερόν τι, and on the strength of this Jaeger emends the text:” Michael’s text is perfectly straightforward and refutes these inaccurate statements outright: . . . τὸ ‘δὲ’ ἀντὶ τοῦ ‘γάρ’, ἵν’ ἢ “τὸ γὰρ αἰεὶ καλόν” . . . ἐπήγαγε [sc. Ἀριστοτέλης] “τὸ γὰρ αἰεὶ καλόν καὶ τὸ πρῶτως καὶ ἀληθῶς ἀγαθὸν καὶ μὴ ποτὲ μὲν ποτὲ δ’ οὐ . . . θεϊότερον καὶ τιμιώτερον ἢ ὥστ' εἶναι πρότερον.” τουτέστιν οὕτως ἐστὶ θεϊότερον, ὥστε μὴ ἔχειν αὐτοῦ πρότερόν τι κατὰ τὸ τίμιον κτλ. (p. 114.10–15 Hayduck). Michael first quotes Aristotle’s actual words, including the phrase ὥστ' εἶναι πρότερον, in that form, and then proceeds to paraphrase and interpret them. The beginning of his explication is clearly marked by τουτέστιν, and only thereafter does πρότερόν τι make its appearance. So far from proving that Michael read πρότερόν τι in his text of Aristotle, this demonstrates the very opposite. Michael had the same corrupt phrase ὥστ' εἶναι πρότερον as is found in the majority of the MSS and, as so often in such a situation, a meaning was forced out of the defective text. The interesting thing is the particular meaning that Michael gave to the words, for it shows what a Greek commentator thought the sense should be. (Nussbaum misrepresents Jaeger when she writes that he conjectured πρότερόν τι “on the strength of” the possibility that Michael and Leonicus read this phrase in the MSS of Aristotle. He knew better, as his *apparatus criticus*, by its silence, makes clear: “πρότερον : πρὸς ἕτερον P τι add Jaeger.” He may have been influenced by Michael’s interpretation, but that is another matter.)

22. “700b35 wählt Torracca wieder mit P πρὸς ἕτερον, besser scheint mit E, Michael und Jaeger πρότερόν (τι).” review of Torracca’s edition, 417.

Both texts make sense; the question is which of the two is more relevant to this context. In support of πρὸς ἕτερον Farquharson compared *Ph.* 260a3–5: τὸ μὲν γὰρ ἀκίνητον αἰεὶ τὸν αὐτὸν κινήσει τρόπον καὶ μίαν κίνησιν, ἅτε οὐδὲν αὐτὸ μεταβάλλον πρὸς τὸ κινούμενον. This makes the legitimate point that an unmoved mover is in no way changed in relation to that which is moved by it. Beyond illustrating the familiar use of πρὸς = “relative to” the passage has no particular relevance to the passage under discussion. If Aristotle’s main purpose in the ὥστε clause had been to stress the immutability of the primary good (= unmoved mover), he surely would have been more explicit;²³ nothing here corresponds to the word μεταβάλλον in *Ph.* 260a5, and that is significant. The main objection to ὥστ’ εἶναι πρὸς ἕτερον is that the remark is too abrupt and allusive in this context.²⁴

Nevertheless, Nussbaum is emphatic in support of this reading: “The πρὸς ἕτερον of P and Γ . . . gives a satisfactory sense and fits well with the passage. . . . πρότερόν τι . . . makes a point that is not strictly relevant in the context. . . . In making the contrast between ἔμψυχα and the unmoved mover, Aristotle sharpens the contrast between animals and spheres by pointing to the superior and unchanging nature of the latter’s object of desire” (p. 339, emphasis added). “Superior nature” would be expressed by πρότερόν τι far more emphatically than by πρὸς ἕτερον. “Unchanging nature”: the key word here, “unchanging,” as we have seen, is not conveyed by πρὸς ἕτερον; moreover, Aristotle has already made this point, explicitly, in the preceding line, . . . μὴ ποτὲ μὲν ποτὲ δὲ μὴ (b34). Here he is making a new and distinct point, which, pace Nussbaum, seems most relevant to me.

τὸ βέλτιον καὶ τὸ τιμιώτερον πρότερον εἶναι τῇ φύσει δοκεῖ. So wrote Aristotle in the *Categories*,²⁵ and the Greek commentator appears to have had the right instincts when he interpreted πρότερον as πρότερόν τι in our passage.²⁶ This fits well with the immediately following sentences: τὸ μὲν οὖν πρῶτον οὐ κινούμενον κινεῖ, ἡ δ’ ὁρεῖς καὶ τὸ ὁρεκτικὸν κινούμενον κινεῖ. τὸ δὲ τελευταῖον τῶν κινουμένων οὐκ ἀνάγκη κινεῖν οὐδέν (700b35–701a2). Nevertheless, one recalls that Aristotle has a fondness for introducing a form of ἕτερος in statements expressive of relative worth, for example: ὅλως δ’ αἰεὶ τὸ βέλτιον καὶ τιμιώτερον, ὅπου μᾶλλον μεῖζον ἕτερον ἐμποδίζει κτλ. (*PA* 665a22–23). I would therefore propose the following slight modification of Jaeger’s conjecture:

. . . θειότερον καὶ τιμιώτερον ἢ ὥστ’ εἶναι (ἕτερον) πρότερον.

ἕτερον makes the point even more explicitly than τι. Moreover, ἕτερον πρότερον would explain the two manuscript variants more readily: (1) πρότερον in most manuscripts could easily be the remnant of an original ἕτερον πρότερον, the first word

23. In fact he already has; compare next paragraph.

24. Nussbaum’s reference to *Eth. Nic.* 1101b10–1102a4, where Aristotle distinguishes between τὰ ἐπαινετὰ (τῷ ποῖόν τι εἶναι καὶ πρὸς τί πως ἔχειν) and τὰ τίμια, these latter being above praise and not relative to anything else, proves only how obscure an expression πρὸς ἕτερον would be here, if it be sound. In this passage of the *Ethics*, Aristotle takes some pains to make his distinction clear, and the issue that he raises there, namely whether εὐδαιμονία is to be classed with τὰ ἐπαινετὰ or rather with τὰ τίμια, is quite distinct from the subject under discussion here.

25. *Cat.* 14b4–5. For similar phraseology see Hicks’ note to *De An.* 430a18.

26. Note that Michael writes πρότερόν τι κατὰ τὸ τίμιον (p. 114.15 Hayduck); πρότερος, as is well known, is not confined to a temporal sense in Aristotle’s philosophy, and one and the same thing may be “prior” in several senses at once. Such is probably the case here.

having dropped out by homoeoteleuton; (2) to explain P's πρὸς ἕτερον one need only assume that πρότερον was first omitted, for the same mechanical reason, and then added above ἕτερον, where, especially if it were abbreviated, it could have been mistaken for a πρὸς to go with ἕτερον. See *Eth. Nic.* 1173b1 where πρότερον and πρὸς ἕτερον actually occur as variants.²⁷

But it is something more than either paleographical considerations or even general Aristotelian usage which leads me to think that (ἕτερον) πρότερον may be correct. It is the evidence of *Ph.* 8.7, a chapter that, unlike *Eth. Nic.* 1.12 (see above, n. 24), is of great relevance to the *De Motu Animalium*, both in general and in reference to this passage in particular.²⁸ In that chapter the following expressions are to be found: ἀλλ' ἕτερον ἀνάγκη κινούμενον εἶναι κατὰ φορὰν πρότερον . . . ἕτερον ἀναγκαῖον πρότερον τι κινεῖσθαι τῶν γιγνομένων ὃν αὐτὸ καὶ μὴ γιγνόμενον, καὶ τούτου ἕτερον πρότερον.²⁹ Note also *GA* 742a19, πέφυκεν ἕτερον ἐτέρου πρότερον.

9) *Pol.* 1303b17–31:

γίγονται μὲν οὖν αἱ στάσεις οὐ περὶ μικρῶν ἀλλ' ἐκ μικρῶν, στασιάζουσι δὲ περὶ μεγάλων . . . διόπερ ἀρχομένων εὐλαβεῖσθαι δεῖ τῶν τοιούτων, καὶ διαλύειν τὰς τῶν ἡγεμόνων καὶ δυναμένων στάσεις· ἐν ἀρχῇ γάρ γίγνεται τὸ ἀμάρτημα, ἢ δ' ἀρχὴ λέγεται ἥμισυ εἶναι παντός, ὥστε καὶ τὸ ἐν αὐτῇ μικρὸν ἀμάρτημα ἀνάλογόν ἐστι πρὸς τὰ ἐν τοῖς ἄλλοις μέρεσιν.

What is the precise sense of the ὥστε clause at b30–31? Here are some typical renderings:

1. H. Rackham. “. . . the beginning as the proverb says is half of the whole, so that even a small mistake at the beginning stands in the same ratio to mistakes at the other stages.” He explains in a footnote “i.e. the ratio of being a half to a whole: a bad start does as much harm as all the later mistakes put together.”

2. E. Barker. “. . . since, as the proverb goes, ‘The start is half of the job,’ a small mistake at the start is equal to all the mistakes made in the rest of the business.”

3. T. A. Sinclair and T. Saunders. “. . . ‘well begun is half done,’ as the proverb says, so that a small error at the start is equivalent in the same proportion to those of the later stages.” Footnote: “i.e. a bad start which vitiates the first half is as serious as all the mistakes of the second half and so stands in the ‘same proportion’ to the whole as they all do, i.e. the proportion of a half.”

4. Newman's note to b30 ἀνάλογόν ἐστι πρὸς τὰ ἐν τοῖς ἄλλοις μέρεσιν reads “‘bears a similar portion to the errors in all the other parts,’ i.e. is half of the whole, and therefore is equal to them, as they can be no more.”

Aristotle's words seem, at a first reading, straightforward enough, but the attempts to render and explain them tell a different tale. Despite the too literal interpretations of the commentators, ἀρχὴ ἥμισυ παντός is but an old and popular

27. This was noted by I. Bywater, *Contributions to the Textual Criticism of Aristotle's "Nicomachean Ethics"* (Oxford, 1891), 15: “In 1173b2 the K¹ reading πρότερον, for πρὸς ἕτερον, is apparently a misinterpretation of πρῆτερον.” (πρ is a known abbreviation for πρὸς.)

28. For the significance of *Physics* 8.7 to the *De Motu Animalium*, see Nussbaum, pp. 322–28.

29. 261.a1–7. Note ἕτερον . . . πρότερον τι in 261a6. Jaeger's πρότερον (τι) is correct Greek (compare, for example, *Metaph.* 1057b5, 1087a32), but, for the reasons given, (ἕτερον) πρότερον seems preferable here.

proverbial saying (explicitly stated to be ἐν ταῖς παροιμίαις at Pl. *Leg.* 753E) and hardly to be pressed *au pied de la lettre*. (Comparable in tone is Hes. *Op.* 40, οὐδὲ ἴσασιν ὅσῳ πλέον ἡμῖν παντός.) It means simply that the beginning of any undertaking is extremely important. By contrast, ἀνάλογόν ἐστι πρὸς is a technical expression with a precise meaning. In order to extract a sense from this passage scholars have been forced (1) to treat both expressions with the same degree of precision, a doubtful procedure, and (2) to understand “all” with τὰ ἐν τοῖς ἄλλοις μέρεσιν (compare, e.g., Barker’s “equal to all the mistakes”). In fact, the sentence, as it stands, appears to be a conflation of two distinct thoughts:

1. One mistake in the beginning is equivalent to all other mistakes later.

2. Even a small mistake in the beginning is equivalent to large mistakes later.

Scholars tend, perhaps only half-consciously, to introduce the first of these statements here. Note that “all” appears in all four accounts above, either in the translation or in the explanation of it. Even if one were to grant that the notion “all” can be supplied with τὰ ἐν τοῖς ἄλλοις μέρεσιν, this interpretation seems excluded by the presence of μικρόν. The natural contrast would be “one mistake” ~ “all mistakes.” If one interprets as Newman, “the errors in all the other parts,” a similar objection applies; the contrast to that is “an error in the beginning,” not “a small error in the beginning.” The second statement seems more apt here, and is favored by b17–18, γίγνονται μὲν οὖν αἱ στάσεις οὐ περὶ μικρῶν ἀλλ’ ἐκ μικρῶν, στασιάζουσι δὲ περὶ μεγάλων. The difficulty is that this thought cannot be gotten out of the Greek, where idiom demands that with τὰ ἐν τοῖς ἄλλοις μέρεσιν in b31 one supply ἀμαρτήματα—and only ἀμαρτήματα. Perhaps read:

ὥστε καὶ τὸ ἐν αὐτῇ μικρὸν ἀμάρτημα ἀνάλογόν ἐστι πρὸς τὰ ἐν τοῖς ἄλλοις μέρεσι (μεγάλα).

For the concept compare αἱ γὰρ ἀρχαὶ μεγέθει οὐσαι μικραὶ τῇ δυνάμει μεγάλας εἰσίν (*GA* 788a13–14) and ὅτι δὲ μικρὰ μεταβολὴ γιγνομένη ἐν ἀρχῇ μεγάλας καὶ πολλὰς ποιεῖ διαφορὰς ἀποθεν οὐκ ἄδηλον (*MA* 701b24–26). See also *Cael.* 271b11–13 (cited by Newman who did not perceive its significance): τοῦτου δ’ αἴτιον ὅτι ἡ ἀρχὴ δυνάμει μείζων ἢ μεγέθει, διόπερ τὸ ἐν ἀρχῇ μικρὸν ἐν τῇ τελευτῇ γίγνεται παμμέγεθες. For μέγας in “ἀρχή” proverbs compare ἀρχὴ παντός ἔργου μέγιστον (*Pl. Resp.* 377A), and μέγιστον δὲ παντὸς ἄρξασθαι κατὰ φύσιν ἀρχήν (*Ti.* 29B). So too in Aristotle, μέγιστον γὰρ ἴσως ἀρχὴ παντός, ὥσπερ λέγεται (*SE* 183b22–23); see also [Pr.] 892a29–30. The falling out of ΜΕΓΑΛΑ after ΜΕΡΕΣΙ is not difficult. Observe that this proposal produces an exact correspondence both in sense and in style: τὸ ἐν ἀρχῇ μικρὸν ἀμάρτημα ~ τὰ ἐν τοῖς ἄλλοις μέρεσι μεγάλα (sc. ἀμαρτήματα).

10) *Pol.* 1331a19–23:

ἐπεὶ δὲ δεῖ τὸ μὲν πλῆθος τῶν πολιτῶν ἐν συσσιτίοις κατανεμεῖσθαι, τὰ δὲ τεῖχη διελθῆναι φυλακτηρίους καὶ πύργοις κατὰ τόπους ἐπικαίρους, δῆλον ὡς αὐτὰ προκαλεῖται παρασκευάζειν ἔνια τῶν συσσιτίων ἐν τούτοις τοῖς φυλακτηρίοις.

a21 αὐτὰ : αὐτὸ Bonitz : ταῦτα Ross

Few have understood that αὐτὰ in a21 is an example of a well-established idiom. Newman, who retains it in his text, compares 1325b33, ἐπεὶ δὲ πεφοροῖσθαι τὰ

νῦν εἰρημένα περὶ αὐτῶν, which is irrelevant. Bonitz (p. 125a35–36) compared *Cat.* 8a38, *Top.* 102a11, b21, where marginally relevant expressions such as ὅτι . . . πάντα τὰ νῦν ῥηθέντα τοιαῦτ' ἐστί, δῆλον ἐξ αὐτῶν (= *Top.* 102a10–11) occur, yet strangely conjectured αὐτὸ for αὐτὰ, a conjecture which Susemihl pronounces “certainly right.” Susemihl-Hicks compare (after Vahlen) *De An.* 416a11, αὐτὸ [sc. τὸ πῦρ] φαίνεται μόνον . . . τρεφόμενον, which explains nothing. Ross, obviously dissatisfied with both αὐτά and αὐτό, printed ταῦτα; this gives a satisfactory sense but is stylistically flat, especially as the next sentence begins καὶ ταῦτα μὲν δὴ τοῦτον ἄν τις διακοσμήσειε τὸν τρόπον, where ταῦτα has a somewhat different and more general reference.

The basic idiom involved here can be seen at *Ar. Lys.* 375: A. τοῦμὸν σὺ πῦρ κατασβέσεις; B. τοῦργον τάχ' αὐτὸ δείξει, where Wilamowitz remarks concisely “später lässt man τοῦργον fort.” For examples of the full expression see Demosthenes, ὡς αὐτὸ τὸ ἔργον ἐδήλωσεν (35.17); ἐδήλωσε δ' αὐτὸ τὸ ἔργον (56.13). Sometimes the αὐτό is unexpressed, ὡς τὸ . . . ἔργον ἐδήλωσεν (*Dem.* 57.25); τὸ ἔργον δεδήλωκε (*Isae.* 7.12). Often the substantive rather is omitted, αὐτὸ σε διδάξει (*Pl. Prot.* 324A), αὐτὸ σοι τάχα δηλώσει (*Cri.* 108C), ἔφη . . . δείξειν αὐτό (*Theaet.* 200E, where see the scholiast). Compare further Jebb on *S. OT* 1294; van Leeuwen on *Ar. Ran.* 1261; Pearson on *S. Fr.* 388; Dodds on *E. Bacch.* 973–76; LSJ s.v. αὐτός I.1. On occasion the verb alone, with no subject at all expressed, makes do, δείξειν ἔοικεν (*Ar. Vesp.* 994, see MacDowell ad loc.); δοκεῖ δ' ἔμοιγ' . . . δείξειν (*Dem.* 2.20); προῖον δ' ἔτι σαφέστερον δείξει (*Pl. Phlb.* 20C: “The regular formula is αὐτὸ δείξει . . . But δείξει and δηλώσει are used also without αὐτό.” Bury ad loc.).

δῆλον ὡς αὐτὰ προκαλεῖται παρασκευάζειν is an elegant elaboration of this idiom; in balder prose it would have been αὐτὰ δηλοῖ ὡς δεῖ παρασκευάζειν. Bonitz seems at one time to have understood this, for, although the commentators appear not to have noticed, he ignores his own conjecture αὐτό elsewhere in the *Index Aristotelicus* (p. 639a25–27, s.v. προκαλεῖσθαι): “monere, hortari ut', αὐτὰ (τὰ πράγματα) προκαλεῖται παρασκευάζειν ἕνια τῶν συσσιτίων Πη 12.1331a22.” (The explanation in LSJ s.v. προκαλέομαι I.3: “. . . sc. τὰ πράγματα . . .” presumably goes back directly to Bonitz.) Two objections will perhaps be raised to this interpretation. First, in such expressions the singular αὐτό appears to have been usual (this may have influenced Bonitz to conjecture αὐτό, although he does not say so in so many words); second, if a noun is expressed or understood, it is normally ἔργον, which is not quite suitable here. Neither objection is valid. One need only adduce a few passages from the “best” authors: τᾶργα καὶ τὰ πεπραγμέν' αὐτὰ δηλώσει (*Dem.* 19.167); ὡς αὐτὰ τὰ πράγματα δεδήλωκε (*Aeschin.* 3.141); ὡς αὐτὸ τὸ πρᾶγμα ἔδειξεν (*id.* 2.13; contrast *id.* 3.62 ὡς αὐτὸ ἔδειξε τὸ ἔργον). Another variation on this pattern can be seen at *Pl. Cri.* 44D: αὐτὰ δὲ δῆλα τὰ παρόντα νυνὶ ὅτι οἱοί τ' εἰσὶν οἱ πολλοὶ κτλ. (δηλοῖ pro δῆλα Cornarius; see Burnet ad loc.); ὡς αὐτὰ δηλοῖ (*Prot.* 329B). The note of the Adamsses ad loc. seems to have gone quite unnoticed: “ὡς αὐτὰ δηλοῖ. The MSS read αὐτά, which most recent editors change to αὐτό with Stephanus, regarding the idiom as analogous to that in 324A αὐτό σε διδάξει . . . ὡς αὐτὰ δηλοῖ is simply ‘as things themselves’, i.e., ‘as facts shew’: the reference is to the speech which Protagoras has just delivered. Compare *Arist. Pol.*

IV 12.1331a21 δῆλον ὡς αὐτὰ προκαλεῖται κτλ. and (with Heindorf) Xen. Cyr. VI 1.7 οὐκ οἶδα μὲν ἔγωγε, εἴ τι δεῖ λόγων, ὅπου αὐτὰ τὰ ἔργα δείκνυσι τὸ κράτιστον.” This is basically correct, although the Adamses are wrong to regard such expressions as αὐτὸ διδάξει and αὐτὸ δηλοῖ as distinct usages.

Finally, προκαλεῖται itself is but an elevated substitute for the verb βοᾶν, which is more common in such contexts: τὸ πρᾶγμα φανερόν ἐστιν· αὐτὸ γὰρ βοᾷ (Ar. *Vesp.* 921); τὰ πεπραγμέν’ αὐτὰ βοᾷ (Dem. 19.81; note the plural subject); φαίνεται δὲ καὶ αὐτὰ τὰ στοιχεῖα . . . βοᾶν (Arist. *Metaph.* 1091a9–10). So far therefore from being corrupt, δῆλον ὡς αὐτὰ προκαλεῖται is as good an example as any of the Attic elegance of which Aristotle is capable. Even the introductory phrase δῆλον ὡς may have been deliberately chosen: the more common δῆλον ὅτι, coming before αὐτά, would have produced hiatus, which Aristotle often avoids in his more carefully composed passages.³⁰

11) *Eth. Nic.* 1097b8–13:

τὸ δ’ αὐταρκὲς λέγομεν οὐκ αὐτῷ μόνῳ, τῷ ζῶντι βίον μονώτην, ἀλλὰ καὶ γονεῦσι καὶ τέκνοις καὶ γυναικί καὶ ὅλως τοῖς φίλοις καὶ πολίταις, ἐπειδὴ φύσει πολιτικὸν ὁ ἄνθρωπος. τούτων δὲ ληπτέος ὅρος τις· ἐπεκτείνοντι γὰρ ἐπὶ τοὺς γονεῖς καὶ τοὺς ἀπογόνους καὶ τῶν φίλων τοὺς φίλους εἰς ἄπειρον πρόεισιν.

b12 γονεῖς : γονεῖς (τῶν γονέων) Rassow : προγόνους H. Rackham

Burnet observes at b12, “ἐπὶ τοὺς γονεῖς. This is not consistent with 10, even if γονεῖς can stand for προγόνους. Rassow’s γονεῖς τῶν γονέων (*Forsch.* p. 111) is a highly probable conjecture.” Unless I am misunderstanding his note, Burnet is putting too fine a point on it when he asserts that γονεῖς in the sense of πρόγονοι would be inconsistent with b9–10. If the text is sound, the sense is as Ross translates: “But some limit must be set to this; for if we extend our requirement to ancestors and descendants and friends’ friends we are in for an infinite series.” Note that τῶν φίλων τοὺς φίλους in b13 is not support for such an expression as τοὺς γονεῖς τῶν γονέων. The former phrase is “horizontal” in time, and had to be used (for want of any other means of expressing the thought); the latter phrase, by contrast, is “vertical” in time and expresses a somewhat different type of relationship. The parallelism is illusory. Note also that γυναικί and πολίταις in b10 are not taken up in b12; neither admits of such extension. In sum, Aristotle in b12–13 takes into account as much as possible all the entities mentioned in b9–10. The question is whether he expanded upon γονεῦσι καὶ τέκνοις by introducing specifically “grandparents and grandchildren” (as, for example, Rassow, Burnet, Thomson, and Tredennick take it) or rather by a more extended allusion to “ancestors and descendants.” The latter is surely to be preferred. τοὺς ἀπογόνους in b12 is

30. Approximately three out of every four instances of δῆλον ὡς in Aristotle occur before a word beginning with a vowel (ca. 77 out of 103 occurrences). There are about 450 examples of δῆλον ὅτι; of these less than half (ca. 192 cases) occur before vowels and even in this group more than fifty percent occur before οὐ, οὐκ, οὐδὲν vel sim. There is an obvious tendency to avoid hiatus. This pattern, incidentally, does not favor Ross’s conjecture ταῦτα. Had Aristotle used that word, he would more probably have simply written ὅτι ταῦτα (δῆλον ὅτι being commoner than δῆλον ὡς).

clear proof of this, and εἰς ἄπειρον πρόεισιν in b13 argues for the terms of wider extension.³¹

If this analysis is correct, the only stumbling block is γονεῖς in b12. Can it be used in the sense of “ancestors” or must it be emended? Some scholars, as we have seen, have decided the latter. Rackham actually suggested replacing γονεῖς by προγόνους, although he stopped short of printing in his text this Gordian solution. That γονεῖς may mean “ancestors” is recognized by LSJ, who cite Hdt. 1.91, Is. 8.32, and Arist. *GA* 722a8. Bonitz adds *HA* 586a1. However, in all these passages the word is further modified, so that its meaning is not in doubt, for example, πέμπτος γονεὺς, οἱ ἄνωθεν γονεῖς.³² At *Eth. Nic.* 1097b12 γονεῖς seems to have no such qualifying modifier and occurs but two lines after the same word has been used in its ordinary sense of “parents.” It is understandable that some have found this excessive.³³

Another passage from this same book of the *Ethics*, 1100a26–30 (missing both from LSJ and from Bonitz), is strong evidence that γονεῖς is sound here:

δῆλον δ' ὅτι καὶ τοῖς ἀποστήμασι πρὸς τοὺς γονεῖς παντοδαπῶς ἔχειν αὐτοὺς ἐνδέχεται. ἄτοπον δὲ γίγναιτ' ἄν, εἰ συμμεταβάλλοι καὶ ὁ τεθνεὺς καὶ γίγνοιτο ὅτ' ἐμὲν εὐδαίμων παλιν δ' ἄθλιος· ἄτοπον δὲ καὶ τὸ μηδὲν μὴδ' ἐπὶ τινα χρόνον συνικνεῖσθαι τὰ τῶν ἐκγόνων τοῖς γονεῦσιν.

The antecedent of αὐτοὺς in 27 is τοὺς ἐκγόνους (a24). Ross: “. . . and clearly too the degrees of relationship between them and their ancestors may vary indefinitely . . . it would also be odd if the fortunes of the descendants did not for *some* time have *some* effect on the happiness of their ancestors.” This passage not only provides two examples of γονεῖς = πρόγονοι (a26, 30), but clearly favors the view that Aristotle in the earlier passage was not thinking of the narrower pair “grandparents ~ grandchildren” (a26–27 τοῖς ἀποστήμασι πρὸς τοὺς γονεῖς παντοδαπῶς ἔχειν).

The imaginary difficulties raised here are as good an illustration as any of the advantages that a native speaker enjoys. We are troubled by the seemingly abrupt use of γονεῖς in two distinct senses in such quick succession; an ancient Greek would have taken the transition in stride and, in particular, Aristotle's own proclivity for using the same word twice in close proximity but with different meanings is well known. In reality the shift of meaning is not abrupt at all, but clearly demarcated by the adjacent language. In b12 γονεῖς is explicitly contrasted with ἀπόγονοι and that alone would show that “parents” is not its meaning; the opposite of γονεῖς in that sense is τέκνα, as in b9–10 above. Moreover, the preceding words

31. Beware of appealing to Aspasius' commentary in support of τοὺς γονεῖς (τῶν γονέων). His remarks ad loc. are expansive; he fills out Aristotle's language to give the following contrasting pairs: γονέων γονεῖς καὶ οἱ ἐπὶ τὸ ἄνω πάντες ~ τέκνα τέκνων καὶ ὅλως οἱ ἐκγονοί. That is a general “ancestors/descendants” scheme. Compare Aristotle himself at *Eth. Nic.* 1100a20–21 καὶ τέκνων καὶ ὅλως ἀπογόνων. Various expressions for “descendants” are found in the literature, for example *Il.* 20.308: καὶ παῖδων παῖδες, τοὶ κεν μετόπισθε γένωνται; *Tyrt.* 12.29–30W: παῖδες . . . καὶ παῖδων παῖδες καὶ γένος ἐξοπίσω; *Solon* 13.32W: ἡ παῖδες τούτων ἡ γένος ἐξοπίσω; *Eur. HF* 8: παῖδων παῖσί, 796: τέκνων τέκνοις.

32. Compare R. Renahan, “Aristotle as Lyric Poet: The Hermias Poem,” *GRBS* 23 (1982): 261.

33. It is curious that no one has conjectured what Aristotelian usage clearly points to, were any change necessary, namely τοὺς (ἄνωθεν) γονεῖς. See *GA* 722a7–8; *HA* 586a1.

announce unambiguously the introduction of additional entities over and above those mentioned in b9–10: “One must set a limit (ὅρος). For if one extends to . . .” ἐπεκτείνοντι states explicitly that it is a question of going beyond parents and children to more distant relatives. The force of the double preverb ἐπεκ- is pronounced; the English verb “extend” captures the real flavor of the Greek word very imperfectly. This the native speaker could hear for himself without need of exegetical commentary.

All this is well and good, but, one may object, why did not Aristotle simply write προγόνους instead of γονεῖς in b12? πρόγονοι, not γονεῖς, seems the natural counterpart to ἀπόγονοι. With this question we come to the heart of the matter. Aristotle wrote γονεῖς because it was *le mot juste* for his argument. The lexica and the commentators tell us that γονεῖς, in its transferred sense, is a synonym of πρόγονοι and, for convenience, hitherto I have been writing as if that were true. In fact, they are not synonyms. πρόγονοι, literally “those born before,” can be used in the most general way and often connotes ancestors of a people or nation collectively rather than of particular families. γονεῖς, when used of ancestors, can only mean direct, lineal ancestors—parents, grandparents, great-grandparents and so forth. Aristotle’s argument in our passage requires that he mention such direct, lineal ancestors and no others, hence his choice of γονεῖς rather than the more general term πρόγονοι.³⁴ He knew exactly what he was doing—and in so doing he was writing correct classical Greek, not some idiosyncratic or solecistic version thereof.

For my assertion that γονεῖς always means ancestors in a direct line of ascendancy I can refer to no modern authority. I confine myself therefore to a higher authority, the texts themselves. That such is the meaning in Herodotus, where the sins of the fathers are visited upon Croesus, is clear: τὴν πεπρωμένην μοῖραν ἀδύνατά ἐστι ἀποφυγεῖν καὶ θεῶ. Κροῖσος δὲ πέμπτου γονεὸς ἀμαρτάδα ἐξέπλησε κτλ. (1.91). Isaeus is explicit: γονεῖς . . . εἰσὶ μήτηρ καὶ πατὴρ καὶ πάππος καὶ τήθη καὶ τούτων μήτηρ καὶ πατήρ, ἂν ἔτι ζῶσιν (8.32). Note the qualification, “if they are still alive.” Isaeus is discussing the law that required one to support one’s γονεῖς. It would be so exceptional for great-great-grandparents to be still living, that he need not mention them. In other words, Isaeus restricts γονεῖς here to three generations only from practical considerations; there is no such limitation of meaning inherent in the word, as other passages prove. Most significant of all is a passage from the Aristotelian corpus where, in a “parents and more distant ancestors” collocation, a different word is used for parents in order to save γονεῖς for the most distant lineal ancestors: ἐοικότες . . . τοῖς γεννήσασιν ἢ τοῖς ἄνωθεν γονεῦσιν.³⁵ Here two other collocations are avoided, (1) τοῖς γονεῦσιν ἢ τοῖς ἄνωθεν γονεῦσιν, because this would have been intolerably awkward, and (2) τοῖς

34. That πρόγονοι also includes ancestors in a direct familial line is of course true; my point is merely that, unlike γονεῖς, it is not restricted to such, and hence would have been a less precise word here, as Aristotle appears to have felt instinctively. In fact, had he wished, he could have written τοὺς προγόνους, as GA 769a4–5 shows.

35. HA 586a1. This passage is from Book 8 (9) of the HA, the genuineness of which some scholars have questioned, in whole or in part. See Düring, *Aristoteles*, p. 506 and F. Solmsen, “The Fishes of Lesbos and their Alleged Significance for the Development of Aristotle,” *Hermes* 106 (1978): 469–70 with n. 8 for further references. Whether Aristotle or some Peripatetic wrote these words makes little difference; I am illustrating Greek usage, not some special vocabulary of Aristotle’s.

γεννήσασιν ἢ τοῖς γονεῦσιν, because this would have been intolerably unclear.³⁶ As parallels for γονεῖς used of ancestors compare the plurals πατέρες and μητέρες. The former (= “forefathers”) is not uncommon; for the latter see Hdt. 1.173.5: καταλέξει ἑωυτὸν μητρόθεν καὶ τῆς μητρὸς ἀνανεμέεται τὰς μητέρας.

That Aristotle writes τοὺς ἀπογόνους in b12, so far from being an argument against γονεῖς (i.e., by seeming to expect its usual opposite, τοὺς προγόνους), is in fact in perfect accord with it. πρόγονοι, “those born before,” as we have seen, need not imply a family connection; by contrast, ἀπόγονοι, “those born or descended from,” explicitly connotes descent (ἐπίγονοι and μεταγενεῖς are the more precise analogues to πρόγονοι). “Sometimes ἀπό denotes remote, and ἐκ immediate descent,” LSJ s.v. ἀπό III.1.a, who cite τοὺς μὲν ἀπὸ θεῶν, τοὺς δ’ ἐξ αὐτῶν τῶν θεῶν γεγονότας (Isoc. 12.81); ἡμεῖς νομίζομεν Πέρσῃν εἶναι ἀπ’ οὗ ἡμεῖς γεγόναμεν (Hdt. 7.150.2; Xerxes is the speaker). Here Aristotle has in mind primarily lineal descendants after the first generation and ἀπόγονοι serves his purpose very well. So too Herodotus in the famous story of Glaucus son of Epicydes (6.86.δ), points the moral thus: Γλαύκου νῦν οὔτε τι ἀπόγονον ἔστι οὐδέν. In other words, at 1097b12, ἐπὶ τοὺς γονεῖς καὶ τοὺς ἀπογόνους, the choice of the word ἀπόγονοι (= “descendants”), placed in collocation with γονεῖς, helps to define the specific meaning of this latter word here.

To return to the general sense of the passage for a moment. As noted above, some scholars take the reference in b12 to be explicitly to grandparents and grandchildren only. This is why Rassow’s conjecture γονεῖς (τῶν γονέων) has found some favor. Thus the Penguin translation of the *Ethics* by J. A. K. Thomson (revised by Hugh Tredennick in 1976) has “. . . if we extend the application to grandparents and grandchildren and friends of friends it will proceed to infinity.” Let us be clear that, whether or not one accepts my defense and explanation of ἐπὶ τοὺς γονεῖς in b12, Aristotle here wrote not of “grandparents and grandchildren” but of “ancestors and descendants.” (How can grandparents and grandchildren “proceed to infinity”?) The Greek itself establishes this beyond doubt: ἀπόγονος does not mean “grandchild.” υἰδοῦς and υἰδῆ, υἰωνεύς and υἰωνῆ (these latter said to be less Attic) are the words for that. At a later period ἔκγονος and ἔγγονος sometimes mean “grandchildren,” but not ἀπόγονος.³⁷

12) *Eth. Nic.* 1160a14–25:

αἱ μὲν οὖν ἄλλαι κοινωνίαι κατὰ μέρη τοῦ συμφέροντος ἐφίενται, οἷον πλωτῆρες μὲν τοῦ κατὰ τὸν πλοῦν πρὸς ἐργασίαν χρημάτων ἢ τι τοιοῦτον, συστρατιῶται δὲ τοῦ κατὰ τὸν πόλεμον, εἴτε χρημάτων εἴτε νίκης ἢ πόλεως ὀρεγόμενοι, ὁμοίως δὲ καὶ φυλέται καὶ δημόται. [ἔναι δὲ τῶν κοινωνιῶν δι’ ἡδονὴν δοκοῦσι γίγνεσθαι, θιασῶν καὶ ἑρانيστῶν· αὗται γὰρ θυσίας ἔνεκα καὶ συνουσίας.] πᾶσαι δ’ αὗται ὑπὸ τὴν πολιτικὴν εἰκόσιν εἶναι· οὐ γὰρ τοῦ παρόντος συμφέροντος ἡ πολιτικὴ ἐφίεται, ἀλλ’ εἰς ἅπαντα τὸν βίον * * * θυσίας τε ποιοῦντες καὶ περὶ ταύτας συνόδους, τιμὰς (τε) ἀπονέμοντες τοῖς θεοῖς, καὶ αὐτοῖς ἀναπαύσεις πορίζοντες μεθ’ ἡδονῆς.

36. For this reason the presence of ἄνωθεν in the collocation at *HA* 586a1 is not a decisive argument for inserting (ἄνωθεν) at *Eth. Nic.* 1097b12, where there is no such collocation. Compare above, n. 33.

37. ἔγγονος, which seems to have acquired a life of its own, is actually the same word as ἔκγονος in origin. See on this Wilamowitz, *Sappho and Simonides* (Berlin, 1913), p. 92, n. 2; Wyse on Isaeus, *Or.* 5.19; W. S. Barrett on Eur., *Hipp.* 447–50.

I have reproduced Bywater's text of this troublesome passage, which has exercised scholars. Bywater himself also suggested that a19–20, ἔναι δὲ . . . συνουσίας, should perhaps be transposed to go after βίον in a23.³⁸ Burnet writes, "It is clear that Bywater is right in holding that b23 θυσίας τε ποιῶντες κ.τ.λ. is continuous with a19–20 ἔναι δὲ . . . συνουσίας. I think it safer, however, to assume an interpolation than a dislocation, and b21 πᾶσαι . . . b23 βίον is not wanted here." Accordingly he deletes these words. One more specimen of criticism must suffice: Richards states: "1160a14–25. In this difficult passage Muretus' transposition of sentences seems to me to deserve very serious consideration. He puts ὁμοίως . . . δημόται after συνουσίας in 20, and then ἔναι δὲ . . . δημόται (in its new place) after τὸν βίον in 23, thus making ποιῶντες etc. agree properly with φυλέται καὶ δημόται."³⁹ (Muretus thus appears to have partially anticipated Bywater's transposition.) A completely satisfactory solution is probably not attainable. One thing seems certain to me. Those who, like Fritzsche, Grant, and Burnet, explain the participles in a23–25 (ποιῶντες . . . ἀπονέμοντες . . . πορίζοντες) as governed by a κοινωνοί implied in κοινωνιῶν (a19), are assuming a sense construction that is impossible here. There are numerous anacolutha in Aristotle's writings. If we analyze them carefully and strive to hear them as an ancient Greek would, almost invariably the reason for the anacoluthon becomes apparent and it can be seen that Aristotle is actually expressing himself quite naturally. *aliud est Graece, aliud grammaticè loqui*. For this extremely abrupt shift no such explanation is forthcoming, and no true parallel from Aristotle has been adduced. It follows that either some transposition or the positing of a lacuna after βίον in a23 seems unavoidable.

I have but one slight contribution to make. The following sentence occurs in Isaeus: ἀδικοῦμαι γὰρ ὑπὸ τῶν δημοτῶν, οὓς περιορᾶν μὲν ἀποστεροῦντας οὐ ῥάδιον, ἀπέχθασθαι δὲ ἀηδὲς [Sylburg: ἡδέως MSS], μεθ' ὧν ἀνάγκη †καὶ† συνουσίας κοινὰς ποιεῖσθαι (frag. 4 Thalheim = Dion. Hal. *Isoc.* 10). One manuscript has an erasure of two or three letters after ἀνάγκη καὶ and, whatever that may mean, something does appear to be missing. Sauppe conjectured ἀνάγκη καὶ (θύειν καὶ) συνουσίας κοινὰς ποιεῖσθαι, which Thalheim printed; Radermacher filled the lacuna with (συνθύειν καὶ). I proposed μεθ' ὧν ἀνάγκη †καὶ θυσίας† καὶ συνουσίας κοινὰς ποιεῖσθαι, comparing *Isoc.* 4.43 . . . εὐχὰς καὶ θυσίας κοινὰς ποιησαμένους and 19.10 . . . οὔτε θυσίαν οὔτε θεωρίαν οὔτ' ἄλλην ἐορτήν οὐδεμίαν χωρὶς ἀλλήλων ἤγομεν.⁴⁰ Since theta and omicron are often confused in uncials, accidental omission of καὶ θυσίας before καὶ συνουσίας would have been easy. The collocation θυσίας ἔνεκα καὶ συνουσίας in a20 is a good parallel for my proposed supplement in Isaeus; compare also θυσίας τε ποιῶντες καὶ περὶ ταῦτας συνόδους in a23–24.

What is of interest for the Aristotle passage is that Isaeus specifically associates θυσίαι καὶ συνουσίαι with δημόται (and this is equally true, if one prefers a verbal supplement there, θύειν or συνθύειν). There is the same association in the *Ethics* passage, a18 ὁμοίως δὲ καὶ φυλέται καὶ δημόται—especially so if one transposes those words along the lines, say, of Muretus. Indeed it is perhaps not excessive

38. I. Bywater, "Aristotelia. III," *JPh* 17 (1888): 69–71.

39. H. Richards, *Aristotelica* (London, 1915), 33–34.

40. R. Renehan, "Isocrates and Isacus: *Lesefrüchte*," *CP* 75 (1980): 252–53.

to adduce the Isaeus fragment as some slight support for the transposition. On the other hand, a procedure such as Bywater's, which deletes α19–20 as an interpolation, thereby taking along with it the words θυσίας ἔνεκα καὶ συνουσίας, would remove the reference and that is scarcely an improvement. θυσίας . . . συνόδους in α23–24 may compensate somewhat for this, but so long as the possibility of a lacuna after βίον in α23 has not been excluded, doubts about this must remain.

The evidence is somewhat less positive than one would wish, as is so often the case in philology. One does what one can.

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