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SELF-MOVERS AND UNMOVED MOVERS IN ARISTOTLE'S PHYSICS VII

Robert Wardy's recent *The Chain of Change* (Cambridge, 1990) has again brought to the fore the question of the role of *Physics* VII in the development of Aristotle's conception of motion.[1] Wardy reads VII in conjunction with VIII, and argues that the former is the precursor of the latter in the development of the conception of a cosmic unmoved mover. He also claims that this account is the only one that can save us from a version of self-motion made unacceptable by Aristotle's hylomorphic account developed elsewhere. This is what Wardy thinks enables him to infer that the account of motion in *Physics* VII leads directly into the argument about unmoved movers in *Physics* VIII. I want first to show why I think that Wardy's thesis about the conceptual links between VII and VIII need not hold. This disconnection of VII from its current context, taken together with the thesis of W. D. Ross and others that VII

[1] This has been a topic of a remarkable amount of discussion, together with ironic kinds of inattention to those discussions, over the last hundred or so years. Richard Shute in 'Aristotle's *Physics*, Bk. VII,' *Anecdota Oxoniensia*, Vol. I, pt. III (1882) opened the recent discussion of the interrelation of the texts and the traditions with the interpretation of the role of this book in Aristotle's philosophy, and continued it in his posthumous *On the History of the Process by which the Aristotelian Writings Arrived at their Present Form* (Oxford, 1888), in which he maintained that both versions are 'un-Aristotelian.' Ernst Hoffmann, *De Arist. Phys. septimi libri origine et auctoritate* (Berlin, 1905), offered a comprehensive discussion, in which he maintained that both versions of Book VII must have been student notes. W. D. Ross gives critical attention to these and other earlier studies, while adding his own account, in *Aristotle's Physics* (Oxford, 1936, 1979). P. Gohlke, 'Die Entstehungsgeschicte der naturwissenschaftlichen Schriften des Aristoteles,' *Hermes*, 1924, develops a thesis, elaborated in *Die Entstehung der aristotelischen Prinzipienlehre* (Tubingen, 1954), that Aristotle's 'doctrine of potency' was a watershed in his work, with the β version of VII before and the α version after. Howard E. Runner, *The Development of Aristotle Illustrated from the Earliest Books of the Physics* (Amsterdam, 1951), makes the issues of Book VII the centerpiece of his dissertation, claiming it separate, early, and the only book of the *Physics* 'which can be characterized as Platonic.' Ingmar During, *Aristoteles: Darstellung und Interpretation seines Denkens* (Heidelberg, 1966), offers a students' notes thesis similar to Hoffmann's, but with an earlier dating. Helen S. Lang, 'God or Soul: The Problem of the First Mover in *Physics* VII,' *Paedeia*, 1978, Special Aristotle volume, while not attending to questions of order or dating, and offering both a 'chain of change' interpretation of Chapter 1 and an account of the book's coherence that are similar to Wardy's, focuses on the stated problematic of the book to show how it is dissimilar to and conceptually independent from the arguments of Book VIII and of *Metaphysics* XII. Her *Aristotle's Physics and Its Medieval Varieties* (Buffalo, 1992) follows this up with more detail. Bernd Manuwald attends to much of the same material on the soul that catches Lang's eye (but with no note of Lang's work), but argues against the unity of the work on the grounds that Chapters II and III are not consistent with Aristotle's mature psychology. Of all these, Wardy attends only to Hoffmann, Manuwald and Ross in his book. G. Verbeke, 'L'Argument du livre VII de la *Physique*, une impasse philosophique', in *Naturforschung bei Aristotles und Theophrast*, I. During (ed.), (Heidelberg, 1969), gives some broader background to the perplexing variety of interpretations of the book. Many others, such as W. Jaeger, A. Mansion, A. Torstrik, F. Nuyens, F. Solmsen, D. Graham and J. Rist have had something to say on the issues. All except Wardy, Graham and Lang make explicit claim to the separate status of VII, and most all of those except Shute (1888) would place this as somehow a product of Aristotle's own work, but earlier than the hylomorphic accounts of Book II.

was originally a separate work,[2] and that of the two competing versions of VII, the α-version is the preferred text, opens the way to very different philosophical conclusions from the ones that Wardy offers.

I. WARDY'S THESIS

Wardy's broader thesis is that the argument in VII-1 finds its conclusion in VIII-5 (p. 89), and that the remaining chapters of VII find their *raison d'être* in that argument of the first chapter (p. 92). To critically appraise this thesis, we must at the outset come to terms with the interlacing of several issues: (i) the preferred version of the text; (ii) the place of the text relative to the rest of the treatise both in history and in conception; (iii) and the import of the text for understanding Aristotle's arguments about self-movers and unmoved movers.

Wardy has sought to establish that VII belongs where it is in the corpus, that it depends on V and VI, and that it gives important preliminary argument leading into VIII. Although he follows Ross fairly closely in his edition of the Greek texts and their translations, he does not follow Ross in his unqualified preference of the α text over the β. He places his edition of the α text and the β text side by side, and does the same with their translations, pointing out on occasion in his commentary how the β version may sometimes be superior to the α. He then undertakes to give a coherent interpretation of the text by exposing the argument of Chapter 1, and then showing how each of the subsequent chapters can be seen as offering support to the argument of the first chapter. Wardy maintains that the whole book is motivated by Aristotle's attempt to link changes together without their merging. 'Aristotelian changes are like the separate links in a chain, not the merging strands in a cable.'[3] Thus the significance of the title of his book.

For Wardy, the status of the two versions and the place of the book in the treatise are subsidiary to his exposition of the chain of change. Yet, these subsidiary concerns color our interpretation of the main thesis. He maintains, 'Bk. VII contributes to the elaborate series of arguments Aristotle propounds in order to establish the existence of a first, unmoved cosmic mover.'[4] Wardy maintains that even though there is no cross-reference from VIII-5 to VII [indeed, there are no explicit cross-references to VII in any of Aristotle's writings], still the argument of VIII-5 'cries out' for the supporting argument in VII.[5] The significance of the argument, then, on Wardy's account, depends upon our finding that the argument of VII 'legitimates'[6] the

[2] W. D. Ross, *Aristotle's Physics* (Oxford, 1936), pp. 8–19. In examining the MSS that Ross consulted, I found a number of interesting irregularities regarding Book VII which I think strongly corroborate the Ross thesis. These findings are to appear in my 'The Bastard Book of the *Physics*.'

[3] Robert Wardy, *The Chain of Change* (Cambridge, 1990), p. 89. Helen Lang (1978, pp. 90–94) had already made much the same point.

[4] Wardy, p. 84.

[5] Wardy, p. 89, n. 13. Wardy here stops short of the claim that VIII 'depends' upon VII, though he does note Hoffman's claim that VIII-5, 256a13–29 depends upon VII-1 as evidence that his own claim is not original.

[6] This claim as it stands does not forge any logical link between VII-1 and VIII-5, since it does not take the argument in VII to be presupposed by that in VIII. Rather, Wardy's point is that the proposition 'baldly stated' in VIII-5 is the same as the proposition in VII-1 for which an argument is given. That lends plausibility to supposing that VII-1 is the proximate antecedent to VIII-5 by way of seeming to be taken for granted in the latter. That Aristotle had this argument—or any other—in mind when writing VIII-5 is mere speculation. Wardy simply maintains that 'if it is right that VIII-5's thesis cries out for a supporting argument which VII very conveniently formulates, one reasonably associates the discussion of the two texts despite the absence of encouragement which explicit cross-references would provide' (p. 89, n. 13).

conclusion in VIII-5 that 'whenever something is changed, but not changed by itself, the ultimate source of the κίνησις must be an agent which *does* change itself,' and this conclusion is then key to the establishment of a cosmic unmoved mover.[7] In this way Wardy finds a conceptual and historical link to the arguments of Book VIII, and thus his claim to the integral order of VII's current place in the structure of the treatise as we now have it.[8]

This link that Wardy wants to forge between VII and VIII depends in part on supposing the dependence of VII on V and VI. For this he offers no argument other than the citation of Ross' claim for that dependence.[9] The procedure of relying on cross-referencing for ordering the treatises has in general come under some vigorous attack. Joseph Owens, for instance, in *The Doctrine of Being in Aristotle's Metaphysics* (Toronto, 1963), artfully points out that such an approach must lead in some cases to a text preceding itself. Richard Shute (1888, p. 177) wanted to maintain that all cross-references were the work of subsequent editors. While few might go that far, the very possibility calls any particular reference into question. We must later return to these issues in more detail, since claims to the structural independence of VII may require a more positive account.

Setting aside for the moment the question of cross-referencing leaves only Wardy's own argument to sustain his contention that VII finds its conceptual place as the immediate antecedent of VIII. His argument turns on seeing VII-1 as an argument in two stages, an 'opening gambit' and a reductio. The conclusion in both instances is that chains of change cannot be infinitely regressive. The conclusion of the 'opening gambit' in the α text is that 'it is necessary that everything that is changed is changed by something' (πᾶν ἀνάγκη τὸ κινούμενον ὑπό τινος κινεῖσθαι), and of the reductio that 'it is necessary that there be a stop, and there be some first thing that is moving and is moved' (ὥστε ἀνάγκη ἵστασθαι καὶ εἶναί τι πρῶτον κινοῦν καὶ κινούμενον) (242b53; 243a72, α text). The β text gives the conclusion of the 'opening gambit' a somewhat stronger interpretation than the α text. Both begin with the observation that if something does not have its origin of change within itself, it must be changed by something else (241b35), but where the α text concludes simply that it is necessary that everything that is changed is changed *by something* (ὑπό τινος, 242a47), the β text says 'by something other than itself' (τοῦθ ὑφ ἑτέρου, 242a13). Thus, the two versions diverge in their claims about the import of supposing the origin of change is within the moving thing itself (ἐν ἑαυτῷ). In the α text, we get the weak version that all that is required is that there be an agent as well as an undergoer of change, and this suggests no more than the discrimination of the movent and moved, which is found explicitly at the end of the reductio. In the β text, we get a stronger claim that

[7] Wardy, p. 89.

[8] Lang's thesis (1978) seems most pertinent here. She advocates that we take seriously the problematic as Aristotle has explicitly set it, and that this book is 'set against Plato's view that soul originates all motion.' (p. 86) Even though Aristotle does not himself set his problematic in terms of Plato's views about the soul, Lang's thesis seems more consistent with his setting than does Wardy's. She maintains that the proof of *Physics* VII is valid on its own conceptual and substantive grounds, and '[t]he proof of *Physics* VII is unique in that it alone considers indirect relations among movers and moved things.' Her point, in short, is that this book has a separate, independent and autonomous task, without reference to Book VIII. She gives a detailed analysis to show the argument as a whole valid, given its premises. In developing her thesis about the unity of Book VII, she holds no brief for the relation of the book to the whole treatise, or for its relative dating; only for its conceptual autonomy. Runner (1951), too, makes similar claims for unity in his analysis of the argument, but exceeds the Ross thesis, arguing that the book is not only early, but a conceptual watershed between the more platonic views of nature that precede it and the hylomorphic views that follow it.

[9] Wardy, p. 87, n. 7.

implies that the 'opening gambit' is an explicit argument against self motion, and that any moving thing ultimately be accounted for by a movent *other than itself*. We can see both versions as attacking ascriptions of self-motion to the whole, against the movent moving itself (241b39–44). This, as Wardy nicely points out, 'amounts to Aristotle's firmly withdrawing the concept [of the movent moving itself] from circulation.'[10] But the two versions lay out their claimed support differently (241b42–3/241b30–31), and that requires the difference in the strength of their conclusions.

Wardy notes that if we take the α text to be claiming only that 'in anything moved, one can always conceptually differentiate between active and passive factors' (p. 97) then we could save Aristotle from charges of a bad argument, where the β text 'plumps for a strong, undeserved conclusion.' Yet, the conclusion, 'if it does any work, serves as a premise supplementary to the argument developed at 242a49ff./242a15ff. [the reductio]. To be adequate for this purpose, the thesis must be strong enough to entail that there is always an actual distinction to be drawn between physically separate moving elements.' (p. 98ff.)

The reductio explicitly terminates in the conclusion in the α version, 'so that it is necessary that there be a stop and that there be some first thing which moves and is moved.' (242b72) This, as it stands, sounds like an echo of the conclusion to the opening argument, and seems open to the same weak interpretation. In the β version, however, the claim is 'Thus, it is evident that there will be a stop sometime and a sequence of things moved in turn by further things will not proceed without limit, but there will be some first moved thing.' While Wardy makes much of the different versions of the conclusion to the opening argument, he says nothing of these differences in the conclusions to the reductio. He simply states without argument, 'Surely, the ultimate conclusion at 242b71–2 [i.e. in the α version] claims that there is a first *moved* mover.' While he freely acknowledges that there is no evidence for claims *here* about the unmoved, cosmic mover, 'the argument is intended... to show that there must be a first *moved* mover in any given sequence. From this, of course, it follows that at least one mover is unmoved by anything else and perhaps unmoved. What moves a *first* moved mover is not itself a member of the finite, dependent sequence.' (p. 101ff.) Thus he imputes the conclusion of the β text to the α text, assumes the strong interpretation of the conclusion of the initial argument as an added premise (even after casting that argument as a gambit), and then concludes that a first moved mover requires an unmoved mover.

That a scholar might come to these conclusions working with the β text alone would not be surprising. Indeed, Thomas Aquinas apparently made much the same moves based on much the same text.[11] That Wardy comes to them with the texts side by side seems almost a sleight of hand. This is made all the more surprising when he subsequently notes that the use of the 'gambit' as a premise to extend the reductio to a conclusion about the unmoved mover poses an embarrassing dilemma: If the first argument is valid (following the weak interpretation of the α version), then it is inadequate; if it is strong enough (the β version) to carry forward to the extended conclusion, then it relies on faulty reasoning. (Wardy, p. 113) Wardy's way out here is to appeal forward to VIII-5: 'Aristotle's arguments in VIII for the termination of

[10] Wardy, p. 94.

[11] See his *On the Nature of Things*. In my 'Thomas' Conception of Causation,' *Nature and System*, 1980, I wrongfully chided him for the 'something else' reading of 242a17. It now seems clear to me that the β text was all that he had to work from, and that his extrapolations seem more reasonable for him from that base.

causal sequences in self-movers remain open to serious dispute unless fortified by VII.1's *reductio*...' (p. 115)[12] But this move by Wardy has a ring of circularity, since his point has been to show that VII-1's argument has this import, and this seems to presuppose that the case has been made.

The chain of argument for the chain of change can now be seen: The strong β version of the opening gambit is needed for the strong β version of the reductio, and that is needed, Wardy claims, for a condition he sees Aristotle as claiming without argument in VIII-5, that an infinite series of movents is impossible (p. 89). Seen in this light, what becomes clear is that his sub-theses about the relation of the α version to the β version and the place of VII in the corpus are not just byproducts of the main argument, but key supports for it. If VIII conceptually needs VII, then VII's proximate and vital place next to VIII seems assured, but it also needs that place to give plausibility to the interpretation that it serves that role. Without that place, it will not obviously fill that role (a need is not a necessity), and another explanation might be found to buttress VIII-5. If the reductio needs the strong conclusion of the gambit in VII-1 to extend it towards VIII, then it must rely on the gambit for that extension (and the 'gambit' now no longer appears to be a gambit), but without that extension the rationale for preferring the strong conclusion fails. If the strong conclusions in both the gambit and the reductio require the interpretation of the β version over the α, then the presumed superiority of the β treatments of the arguments in these cases relies upon the presumption of the whole of Wardy's argument. Thus, this chain of arguments itself turns out to be an intricate set of interlinked circles, in which the point of the argument, the relative value of the two versions and the place of the book in the treatise are all intermeshed.

This need not imply vicious circularity, but some of Wardy's own perplexities may give us pause. He himself acknowledges the dilemma about the strong and weak versions; he also acknowledges that even with the strong versions, one need not extrapolate to his extended argument regarding an unmoved mover (p. 118, conceding to an argument he attributes to Malcolm Schofield). Underlying these acknowledgements is the recognition that the need for an unmoved mover turns on dispensing with self-moved movers, and that his interpretation of VII-1 requires the 'conclusion that nothing *strictly* speaking is a self-mover,' whereas in the opening lines of VII-2 it is clear that 'self-movers are supposed to give no trouble.' (p. 125) This problem he passes off with the observation that 'Both VII.1 and VII.2 are inexplicit and unsatisfactory on the topic of self-motion—and that of natural motion, inadequately distinguished from it in the opening of VII.1, and neglected in the opening of VII.2.' In this dismissal lies, I think, the seeds for the development of another and more viable thesis. To clear the way to it, we must first find grounds for detaching VII from its current moorings between VI and VIII.

II. THE TEXTUAL PLACE OF VII IN ARISTOTLE'S *PHYSICS*

What I have characterized here as the Ross thesis is a modern version of documented contentions at least as old as Simplicius. Simplicius' account is that Book VII was not a part of the original *Physics*, having been left out of account already by the second generation of Peripatetics, as evidenced in the treatment of the seven books (without

[12] This again stands in counterpoint to Lang's contentions (1979, 1992) that the arguments of each book are to be understood according to their own subject-matters, and stand on their own explicit premises.

our Book VII) by Eudemus.[13] Simplicius then tells of the two versions of our Book VII, maintaining that the one (α) is clearly superior to the other (β). The β text was apparently dominant in the MSS tradition, at least as that is known to us. It was not until Aldus published the works of Simplicius that Erasmus was able to alter his Basel editions to follow something like parts of the α tradition. Soon after this, Morel published an appendix to his 1561 Paris edition based on a MS. that clearly followed the α text.

What Richard Shute added was a collection of four MSS which laid the basis for a recension of the α text, an argument that the α text must be more basic, and closer to the author than the β text, and an argument that the book as a whole was a separate treatise independent of the other books of the *Physics*. While Ross maintained against Shute that there were no appreciable differences between the α and β versions after the first three chapters of the book, he adapted and extended much of Shute's argumentation about the character and place of the book itself.[14] He added the argument that the two versions of the book were the basis for the accounts of single books on physics in the ancient lists of Aristotle's works, and that the absence of the seventh book from the received corpus would give a better account of the three books on motion being our received fifth, sixth and eighth books.[15] My own contribution has been an examination of the evidence of some of the prominent MSS for the *Physics*,[16] the majority of which showed special treatment for the seventh book in ways that suggest corroboration for the Shute/Ross thesis.

Ross would have us believe on the basis of such considerations as these that VII was a separate treatise on motion, written early in Aristotle's career, and while Aristotle was still under the influence of Platonic doctrine. He finds, however, what he regards as cross-referencing to books V and VI, and this leads him to conclude more than that they must have preceded VII in composition. '[B]ook vii itself does refer twice to book v... in such a way that it claims both to be by Aristotle and to be (in at least a wide sense) part of the same work as book v.'[17] However, since he contends that III–IV must come before V–VI, he is forced to the conclusion that all of III–VII must come early. While these apparent links to the antecedent books may not guarantee the place of VII between VI and VIII in composition, they certainly do not speak well for regarding VII as a separate treatise. I suppose that the links to V are not as clear or as strong as Ross thinks.

The one passage that does forge a clear conceptual link with V–VI is at α 242a67–b42 and β 242a33–b8. Here the discussion digresses to how change can be one

[13] Ross (1936) interprets Simplicius as maintaining that Eudemus 'omitted book vii' (Ross, p. 15) on the basis of 1036.13ff., that he 'passed over' it. (Ross, p. 3) Runner complains of this interpretation, translating '*τοῦτο παρελθὼν ὡς περιττόν*' as 'passed it by as being superfluous.' (Runner, p. 81) This he takes to presuppose that Eudemus not only had it to take into account, but that it was already in its present position, and Eudemus merely regarded it as not worthy of comment. However, we could just as well take '*περιττόν*' to mean here 'beyond the regular number' or 'extraordinary' and not conclude with Runner that it had already found its place in the corpus as we know it. This would give us a very different sense of 'passing by' from Runner's reading of it.

[14] Shute (1888, p. 119) acknowledged 'it is more than probable that in the later chapters (3, 4, 5) of the textus receptus, we have still either the second text, or at least a mixture of the two.' This was not in the 1882 piece that Ross considered.

[15] Erasmus, in his Basel editions, actually got to this realization before Ross, calling the first four books '*ἤ περὶ φυσικῶν ἀρχῶν*' and the last four '*ἤ περὶ κινήσεως.*'

[16] This work was based on research done at the Aristotelesarchiv in the Institute fur Altertumskunde of the Freie Universitat in Berlin. I am grateful to my hosts at the Institute, and for travel grants from the University of Kentucky Research Foundation and the Southern Regional Education Board, that helped make that research possible.

[17] Ross, p. 16.

in number, or in species, or in genus, and concludes, '*εἴπηται δὲ περὶ τούτου ἐν τοῖς πρότερον*', 'but concerning this, it was spoken to in prior times'.[18] The discussion of these same matters does take place at length in V-4, but in a much more coherent and sophisticated fashion than in VII-1. Ross tells us, 'The backward references refer to premises required for the argument at hand.'[19] But what is singularly absent from the VII-1 discussion is any reference to continuity, much less to the unqualified continuity which is the burden of delineating one in number from species and genus in V-4 (see esp. 228b1ff.). Indeed, whatever value we may place on the argument in V-4, it would seem pertinent to treat of continuity to make more powerful just the claims of the chain-of-change arguments about which VII-1 labors. If Aristotle had had the resource of the notion of continuous change discussed in V-4 at the time of writing VII-1, he surely would have used it. It is not clear from the passage at 242a33ff., just what usefulness this discussion of kinds of unity supplies to the argument at hand, with or without the elaborated support of V-4. In terms of conceptual development, it would make more sense to suppose that he had begun thinking of change in terms of number, species, and genus as early as *Categories* 11, using there the same contraries, good and bad, black and white, to illustrate his discussion, but not yet there considering their differences in terms of the different conditions for change. In VII-1, he extended the discussion to questions about differences in terms of time and place that he was only then beginning to sort out. He then did not complete the task until he undertook his discussion of continuity in V-4.

Such a speculation about conceptual development would still not account for the allusion to matters discussed as prior. Clearly, that would not be to the *Categories* passage, where the *change* from one contrary to the other is not the focus of concern. It seems it would only make sense with reference to V-4. However, a backward reference to a subsequent composition would not be unique to this passage. The argument against the Eleatics in *Physics* I-8 concludes with the note that this is not the only way to solve the difficulty, but that another way is in terms of potentiality and actuality, and 'this *has been done* with greater precision elsewhere (*ἐν ἄλλοις*).' (191b29) The standard, and I suppose correct, presumption is that this is a reference to *Metaphysics* IX. The standard, if not universal, and I suppose correct, presumption is that the former was composed significantly before the latter, and that the latter contains conceptual sophistications not available to the former. This makes the 'backward references' of I-8 and VII-1 singularly parallel on my interpretation, and would require that the references in both cases be editorial interpolations subsequent to the compositions of the passages in which they appear.[20]

If this makes sense of the allusion at α-242b42, it can't work as well for the one at α-247b13: '*... εἰς δὲ τὸ ἠρεμεῖν οὐκ ἔστι γένεσις· ὅλως γὰρ οὐδεμιᾶς μεταβολῆς, καθάπερ εἴρηται πρότερον*', '... there is no coming-to-be at rest; for on the whole, genesis is not a change, just as was said before.' This Ross takes as referring to V-2,

[18] α version, 242b42. Here, Hardie and Gaye give the unfortunate translation, 'We have dealt with this question above', implying the structure of the treatise as we now have it. If we took the reference to be regarding place rather than time, the plural would require more than one place. The β version at 242b8 has '*ταῦτα δ' εἴρηται καὶ ἐν τοῖς πρότερον*', 'But this *also* was spoken to in prior times.'

[19] *Aristotle's Physics*, p. 11.

[20] Who the editor was need not here concern us. We can imagine that Aristotle himself was the editor in the *Physics* I-8 passage, from the standpoint of the pedagogue rather than the composer. It seems less likely in the VII-1 passage, since VII seems so neglected in its Peripatetic use. It is not impossible that both were put into place as late as Andronicus' editing. Nothing is lost in either context by simply excising the references. That is, in neither case does the allusion enhance the effectiveness of the argument, in spite of Ross' claims for VII-1 to the contrary.

but there the discussion is not about whether becoming is a change, but about whether, and in what sense, change changes (and likewise, whether becoming comes to be), and the answer is that it does so only accidentally (226a19–22). Aristotle actually gives a variety of accounts of the relations between generation, motion and change, many of the explorations of which Solmsen puts in the context of Plato's Academy.[21] We might indeed find the seeds for Aristotle's contentions in VII-3 that genesis is not a change in Plato's own explorations of rest and motion in the *Cratylus*, the *Theaetetus* and the *Sophist*, where Plato also contends that knowledge is the soul's coming to rest and holding still. That Aristotle's own reflection on this matter may find its beginning in the discussion of all types of motion as changes between contraries (including between rest and locomotion) in *Categories* 14 may be a vague point from which it takes its rise, but it is a point that separates off generation from change by its implication. No passage in Plato's works seems readily specifiable. Yet, the phrasing of the allusion does not allow for such easy extraction as that at 242b42, and its 'just as' emphasis seems to call for a specific place or time. Nonetheless, it also calls for a more precise fit than Ross' selected passage provides.

Less clear yet is the allusion at β-242a6 that it has 'turned out' (Wardy's rendering of the import of '$\tilde{\eta}\nu$') that everything that is changed is divisible. Ross takes this as an allusion to VI-10, where this matter is indeed discussed. What makes this an implausible allusion is just the fact that in this case, no claim to a specific discussion is made, and the allusion suggests that the results are beyond the author's own control. Indeed, the passage more likely for the allusion is in Plato's *Timaeus*: 'Motion never exists in what is uniform. For to conceive that anything can be moved without a mover is hard or indeed impossible, and equally impossible to conceive that there can be a mover unless there be something that is moved.' (57e) Plato had thus presented already the contention that something uniform (undifferentiated, and therefore indivisible) could not be moved, and with it the discrimination of the mover and undergoer of change that is so basic to the argument of *Physics* VII-1. Perhaps this is the reference for what has already turned out which Aristotle can now take for granted in his own discussion.

If these considerations thus loosen us from Ross' presumptions that VII conceptually depends upon V–VI, they also give us a beginning glimpse at some of the differences between the α-version and the β. The 'also' at 242b8 in the latter ('This *also* was spoken to in prior times'—see n. 18) has no clear antecedent within that text itself, and would seem to require that the editor was reading that version along side of the other, thus taking the secondary allusion to have the same value as the first. This interpretation would seem to favor the interpolations by an editor who interjected the editorial note at the same time into both versions, regarded both versions as genuinely Aristotle's own works, and regarded the α version as primary in the sense of being the preferred version, the first to be consulted. If my speculation is correct about the acknowledged authority for β-242a6 being Plato's *Timaeus*, then the absence of the allusion from the α version may suggest that Aristotle there is not so dependent upon Plato or the Academic discussions for making his claim. This would indicate, if Aristotle were the author of both versions, that α was historically consequent to β, which would be consistent with regarding it as the preferred text.

Tradition, from Simplicius to Wardy (with Gohlke and Runner as the only clear exceptions), has presumed just the opposite. Simplicius took the β version to be an

[21] Friedrich Solmsen, *Aristotle's System of the Physical World*, (Ithaca, 1960), Chapters 2, 4, 9, 16.

inferior copy of α, and spoke of α showing instances of being *contaminated* by β, as though the agreement derived from changes in the texts to make the α version accord with the β after the latter had been copied from the former. Ross modified Hoffman's thesis about two student's versions of Aristotle's lectures by suggesting that the α version might be indeed an early work of the master, and the other a copy of it.

Wardy kept the question open at the outset of his study, but concluded in the end that something like Ross' conclusion might be true, having presented in his own fifth chapter a much more complete and detailed account of the differences between the versions than that offered in Ross' study. Wardy's more careful analysis is colored throughout by the presumption that α preceded β, whether both are taken as results of Aristotle's own work or the second was the account of some auditor or reader. This coloring is present in the direction of fit in the analysis, thus blocking any consideration of the opposite order. If indeed we conclude with the tradition that the α version is superior, and we entertain the possibility that both versions were from Aristotle himself (Wardy's 'strong theory'), the more plausible supposition would be that the better version superseded the worse, and so was written after it. This would also be corroborated by the general thesis of textual analysis that later versions tend to be longer versions, since throughout the three chapters, where significant differences have been delineated, the α version is consistently the longer one.

When we take up the details of some of the thirty-seven differences delineated by Wardy, laying aside his presumptions of direction of fit, we find a number of other possible supports to this reversal of tradition, especially viewed relative to proximate distance from Plato's *Timaeus*. Wardy himself delineates four (his 1, 4, 8, 17) where the two versions seem explicitly in conflict. Supposing the development is from β to α, #1 is the move from speaking about 'something else' to 'something' (242a47), and #4 from speaking categorically to subjunctively. These moves are plausible on the grounds of moving to more modest, defensible claims. To move the other way would not be plausible without fuller argument to justify the stronger claims.[22] #8 would be a move away from treating combination and separation as distinct kinds of change (243b8ff.), and thus away from what Plato took to be basic to change in the *Timaeus*. Indeed the contrast is striking, since the β version tells us 'all change in place is combination and separation'. In a similar vein, #17 would be a move away from treating alterations as predicated of qualities to treating them as predicated of the material out of which the thing has come to be (246a1ff.). The argument in both versions is to differentiate alteration from coming to be, but in the β version it is based upon a distinctly platonic property ontology, while in the α version, we find suggestions of a nascent hylomorphic conception.

Turning to instances of text present in α, but absent from β, this reversal of the traditional direction of fit takes on more impetus. At α 243b10–244a5, the argument is to reduce all locomotion to pushing and pulling, while in β, there is only the suggestion that rotation is a combination of pushing and pulling. As early as *Timaeus* 34a, Plato attempted a richer inventory of kinds of locomotion, and as late as *Laws*

[22] An example of the opposite, strengthening kind of moves can be seen in the claims to necessity regarding the accompanying of generation and destruction by qualitative change, even though generation is not an alteration. This apodictic force appears only in the α version (246b14; 247a6; a13), but in two out of three instances it is accompanied by added argument not in the other version which lends force to the stronger claim. By contrast, the only instance, other than the 'by something else' in VII-1, where a parallel section in β is longer is in the midst of this same discussion about generation and alteration, where the differences can be attributed to different ways of talking about matter, perhaps reflecting an improved economy of discourse in the α version, but no discernable difference in the import of the argument.

X (893d), he delineates gliding and rolling as kinds of motion, in stark counterdistinction to Aristotle's reducing carrying and rolling to pushing and pulling. If these were tensions of debate within the Academy, α offers not only fuller argument, but a position more clearly at odds with Plato's. The discussion of virtues as perfections, at α 246a10–b4, is totally absent from β, absent from Plato, but consistent not only with Aristotle's mature ethics, but with ideas put forth already as early as the *Protrepticus*. The discussion of the 'bodily virtues' that follows is similar in the two versions, but where β ends abruptly with the remark 'that in general there is no alteration involved with states', α continues with a discussion of ἕξις in terms of τὸ εἶδος καὶ τὴν μορφήν, treating the constitution of things in terms of form and shape, a formula familiar in Aristotle's mature metaphysics, but totally absent from the β version. Earlier in Chapter 3, the discussion in both versions is in terms of forms, shapes and states, but there the term for form is 'σχῆμα', and the α version adds a discussion in terms of 'σχηματιζόμενον καὶ ῥυθμιζόμενον', the formed and proportioned, a phrase we find no where else in Aristotle. It seems not too far fetched a supposition that in the α version, Aristotle is working his way toward his more mature discussions of form. In all of these cases, the α version seems to offer not only fuller argument, but conceptual advances.

By considering the β version as earlier, on which the α version attempts to improve, some of the perplexities about the relation of the two versions vanish. Those passages in β that seemed so 'un-Aristotelean' appear to be so because Aristotle has not yet worked his way to the conceptions we have come to take as marks of his work. When Ross observes, for instance, 'β 246a22–b21 is rather a jejune restatement of what is stated more fully, and in a thoroughly Aristotelean way, in α 246a1–b4' (1936, p. 14), we can see in a reversal of Ross' temporal presumptions a potential solution to his problem. The 'jejune' may indeed be more juvenile, and the revision in α may be the more mature Aristotelian way, which would also make more sense of the fuller exposition in the latter. β 247a29–b20, which Ross regards as garbled, and Wardy as so unAristotelean that it drives him to the conclusion that β is inauthentic, has knowledge arising 'through the presence of something else, since it is from experience of the particular that we acquire universal knowledge.' Both regard the phrase 'in the original condition of knowledge' (ἐν τῇ τῆς ἐπιστήμης ὑπαρχῇ, β 247b29) as suspect. But it is just such modes of expression that are likely to elicit for us an anticipation of *Posterior Analytics*, II-19, where Aristotle has attempted to show the derivation of the universal from the particular as an activity of νοῦς, which is not a potentiality. In like manner, we can see the 'original condition of knowledge' in the image of the rout when experience comes to 'a condition of standing still.' This would make sense of these passages in Aristotle as using what he has already thought through in his work on categories and working toward an account of change in relation to knowledge. By regarding the work in *Physics* VII as early, as work in progress, as two drafts of the same project, the β version preceding the α, we get a story that is both more exciting for the account of Aristotle's development and more satisfying for the account of the details of the text.

III. THE CONCEPTUAL PLACE OF VII IN ARISTOTLE'S DEVELOPMENT

While Robert Wardy has argued vigorously for the unity of VII, Bernd Manuwald has maintained that VII-2 and 3 are interpolated chapters by a foreign hand, presenting views of qualitative change narrower than other passages in Aristotle's

work, and arguing a position in contradiction to VII-1, 242a6–9, and to VII-4, 249a29ff. What Wardy and Manuwald share is the traditional conviction that VII (at least 1, 4, 5) serves the purpose of constructing an argument for a cosmic Unmoved Mover antecedent to the more elaborate account in VIII. This would place VII much later than I have suggested. Indeed, as Wardy suggests, this puts it in a conceptual scheme of things that presupposes the preceding books in our edition and anticipates the last book, however much later that may have been written. I have brought into question the traditional presumptions both about the compositional order of the two versions of VII and about the claims that it presupposes specific passages in other books of the *Physics*. But this is not enough to establish the place of this book early in Aristotle's career, at a stage before the hylomorphic concepts of the other books had been developed. For that we need attend to some conceptual features of the book itself. In this, we will find both the positive evidence to reinforce claims about early composition, and the basis for challenging the claims about arguments for a cosmic unmoved mover.

We, out of our familiarity with Aristotle, begin with presumptions about his hylomorphic conception of nature, about natural beings which have their work and their completion within themselves, about elements which move naturally up or down, about ensouled beings that move according to their organic constitutions, about change taking place substantially as well as in place, quality and quantity, about conditions for natural motion in which the final, efficient and formal cause are one. If we can for the moment bracket these presumptions and attend to *Physics* VII alone, as it *appears* to us, we will find that none of these familiar features of Aristotle's philosophy make their appearance here.[23]

Perhaps these claims about the absence of the familiar bear some qualification and elaboration. Substantial change is not listed among the types of change in VII-2 at 243a35, and generation is treated as distinct from qualitative change in VII-3. While substantial change is not denied,[24] it is never explicitly acknowledged, though we might take the discussion about coming to be of shapes, forms and states as very like what Aristotle treats elsewhere as substantial change. Here, he does not treat explicitly of substance, nor does he take generation to be a kind of change. Forms of '*ἐνέργεια*' are present here as well, but they are not the familiar forms denoting the actuality or the activity of an individual natural being. They have to do with the actualization of specific psychological states in the context of the discussion of alteration. There is also reference to becoming here, but again this is not to the becoming of an individual, but to the becoming of altered states. One question at hand in VII-3 is whether becoming can be reduced to alteration, but the becoming here treats of shapes and states, not explicitly of individual substances. There is no talk of elements (*στοιχεῖα*) at all, but rather only a consideration of the locus of alteration in the hot and cold, wet and dry, 'or that in which the states primarily occur' (246b17),[25] treated here possibly as primary qualities rather than as simple

[23] In spite of his own call that we attend to Aristotle's attention to phenomena, none of these absences are noted by Wardy. On the contrary, he presumes the standard homogenous view of Aristotle's accounts of motion. See p. 83ff. as a lead into the thesis of his book. These presumptions on his part clearly prejudice the development question.

[24] Manuwald takes this to be the import of the discussion in the first part of VII-3. See his C-1.

[25] Barnes follows the Hardie and Gaye translation of '*ἐν οἷς τυγχάνουσιν οὖσαι πρώτοις*' as 'or the elements, whatever they may be, on which the states primarily depend'. This gives the misleading appearance of elements talk where there is none, even though it is in a place where one would ordinarily expect it to be.

bodies. Again, simple bodies are not denied, just not taken into account. Virtues of bodies, such as health and fitness, 'we say' (*τίθεμεν*) are 'in mixture and symmetry' (*ἐν κράσει καὶ συμμετρίᾳ*) of such primary qualities. This relation of combination and separation to other ways of talking about change might possibly be in transition, if we are allowed our inversion of the traditional order of the versions. In Chapter 2, as we have seen, the α version has 'combination and separation do not constitute a separate kind of change' (243b11), and this has the appearance of a challenge to platonic accounts; where the β version has 'all change in place is combination and separation' (243b29), which has the appearance of accommodation to platonic accounts.[26]

The 'we' passages (α 246b5, 247b10) may suggest the context of the Academic community. It is academics, not peripatetics, that talked in terms of mixtures and proportions, and of combination and separation. 'We are said to know by the intellect having come to rest' was of course said by Plato himself, and needs no hypothesized source other than the master himself. The concerns about alteration here might plausibly have been prompted by the accounts of the property analysis of coming to be as presented in the *Timaeus*. Understood in this context, after the *Sophist*, and after the *Categories*, we could see the struggles with alteration in VII-3 as Aristotle's attempt to come to terms with change in relation to his own treatment of categorization on the one hand and with Plato's new-found efforts to account for the nature of change on the other. It would also account for the more than usual interest in categoreal determination throughout the book (categorizing virtues and vices as relatives at 246b4; classifications according to number, species, kind, and category; etc.). We can then read VII-3 as an effort to sort out the physical implications of Aristotle's subject-ontology founded linguistically (in terms of how we say things) in the *Categories*, taking the individual subject as the primary *οὐσία*, and to apply these implications to a critique of the treatments of change articulated by Plato in the *Timaeus*, where there is a predicate ontology of collections and alterations of properties. The claims limiting alteration to perceptible qualities, a narrower conception from the one in *Categories* 8, would then be a counter to the explanations by Plato of alterations of perceptual qualities in terms of alterations in mathematical proportions.[27]

Where this placing seems most proximate and specific is in relation to the opening argument of *Physics* VII-3 to *Timaeus* 49c–51d. Plato had argued in the *Timaeus* that

[26] Friedrick Solmsen, *Aristotle's System of the Physical World* (Ithaca, 1960), p. 179, takes both versions to be Aristotle, and attributes the inconsistency to the influence of ongoing Academic discussions. Lang (1979) follows Solmsen on this, and maintains that the whole of the book is devoted to a critique of Plato's conception of souls as self-movers.

[27] Whether this satisfies the Manuwald concerns about discrepancies is another story. He cites not only passages outside of VII at odds with the treatment of alteration in VII-3, but also passages within. He notes that at β 242a6–9, change from good to bad is a qualitative change, and the same is true for the restoration of health at β 249a29ff. But the reference in VII-1 has to do with exemplar contraries relative to change, and as I have already noted, these are the same examples he used in *Categories* 11 in his discussion of number, species and genus. Given that link, it seems a slight presumption that Aristotle simply carried over the same examples without thought to the treatment of qualitative change, but just to the contrariety. The passage in VII-4 embeds becoming healthy as undergoing alteration in the protasis of a conditional, which Aristotle often does when he is not committed to the truth of the clause. A comparable case is near at hand at 249b23, where he entertains, 'If substance is number....' Besides, the way this clause is structured would allow us to read the becoming and the alteration as constantly conjoined instead of identical, which would be consistent with the arguments in the α version of VII-3. These considerations may not be satisfying to the partisans of the Manuwald thesis, but they at least 'save the phenomena'.

only the receptacle ought properly to be called 'this' or 'that', and not any of the elements or qualities, or the things that are compounded of them (50a). In the ensuing consideration of change in qualities, he notes that their forms are likenesses of the eternal realities, and that the receptacle herself (sic!), 'which is to receive perpetually and through its whole extent the resemblances of all eternal beings ought to be devoid of any particular form (σχῆμα).' (51a) This position radically separates all forms from the nature of instantiation, and in so doing, makes coming to be and passing away always a matter of alteration (a change in quality). The denial of substance to instantiated forms and shapes goes hand in hand with the separation of form from instance on the one hand and the reduction of change to alteration on the other.

> Suppose a person to make all kinds of figures of gold and to be always remodeling each form into all the rest; somebody points to one of them and asks what it is. By far the safest and truest answer is, 'that is gold,' and not to call the triangle or any other figures which are formed in the gold 'these', as though they had existence, since they are in the process of change while he is making the assertion, but if the questioner be willing to take the safe and indefinite expression, 'such', we should be satisfied. (50b)

This is by implication—if not intention—an argument contrary to Aristotle's own substance-attribution treatment of the subject/predicate distinction in the *Categories*. It seems not too far fetched to find that conception an early interpretation of Plato's own subject/predicate distinction as put forth in the *Sophist*. This *Timaeus* passage also in effect denies the option of treating complex bodies in terms of δύναμις (the concession wrung from the 'giants'), since such bodies are here explicitly denied a nature, and it is that approach to nature that Aristotle himself explicitly pursued in the *Protrepticus*. Plato's argument, if it holds, denies the very principles of Aristotle's account of units of being and units of motion which undergird his whole philosophical orientation.

Understood against this background, Aristotle's argument at 245b3–246a9 has the thrust of defending the foundations of his own nascent research program in physics. The reason for limiting alteration to perceptible properties in both cause and effect, a departure from the *Categories* account, is that this separates his account from Plato's formal treatment of alteration. The reason for separating alteration from the coming to be of 'shapes, forms, and states' is that this counters Plato's move to reduce physical bodies to complexes of properties located in a formless spatial receptacle, thus preserving the primary sense of being as the individual informed by its specific and generic places in a natural order. In order to make his case, Aristotle needs to counter Plato's claims about how it is we speak of such things.

Aristotle's claim on this matter runs explicitly counter to Plato's. Plato has said that when we speak of gold in various figures (σχήματα), we best speak of such figures as gold, not as the figures, thus according existence to that out of which the figures are fashioned, not to the figures themselves, which may come and go even as we speak. He then drives the existential reference to its logical conclusion by pointing out that the receptacle itself is most properly called 'this'. Aristotle counters that when considering that which has become shaped (σχηματιζόμενον) and that which has become structured (ῥυθμιζόμενον), we do not call them that out of which they are fashioned: 'the statue "bronze" or the pyramid "wax" or the bed "wood", but rather adapting the words, we call them respectively "bronzen", "waxen", "wooden".' (245b11) On the other hand, we do so call them when considering some affection, 'designating the matter (ὕλη) by the same name as the affection.[28] So that,

[28] This seems already on the path to his notion of proximate matter.

since in the case of shape (σχῆμα) and form (μορφήν) the thing which has come-to-be wherein there is the shape (σχῆμα) is not referred to [in this way], whereas in the case of affections and alterations it is, it is evident that comings-to-be would not be alterations' (245b17–246a5).[29] Aristotle's contention is clearly that, contrary to what Plato has claimed, we do not refer to things in terms of that out of which they are constituted. Indeed, we devise a different locution for that out of which they are constituted, indicating a referential difference between that which has come to be and its affections and alterations.

Plato's account of qualitative change in the *Timaeus* is keyed to an understanding of geometrical shapes underlying the perceptible elements. He does indeed attempt to rationalize his account of the different shapes underlying the elements by appealing to how their shapes suggest perceptible qualities, but these suggestions are clearly no more than metaphorical. He has Timaeus ask, 'Is there any self-existent fire?' to which he himself gives answer, 'If mind and true opinion exist, then I say that there certainly are these self-existents unperceived by sense, and apprehended only by mind.' (51, c, d) The mixing of the higher forms results in mixing of mathematical forms, resulting in the physical elements, but these are not themselves yet perceptible! They become perceptible only when they become instantiated in the receptacle. Thus, Plato's account of the coming to be of the elements in terms of mathematically conditioned alteration is an account of qualitative change that is somehow taken to be pre-perceptible. Further, the changes in quality that produce the changes from one pre-instantiated element to another are themselves dependent on the rearrangement of the mathematical compounds of the basic triangles out of which the elements are composed. So, not only do we have pre-perceptible qualitative differences among the physical elements, whose changes can be construed as non-perceptible alteration, but we also have an account of alteration itself as being reduceable to combinations and separations of the geometric forms that underly them.

If we understand Plato's own proposal in this way, we can understand how Aristotle's treatment of the same matters stands as a direct critique. Aristotle would not only tie qualitative change to perceptibles, and defend the autonomy of qualitative change from a reduction to combination and separation, but he would also conceive of the essential structure of the thing as its final constitution, not as its antecedent components. Thus, when Plato speaks of σχήματα at 50a, b, he is talking about a resultant shape that is the consequence of the mixing of underlying forms, but is only a supervenient structure with no claim to existence. By contrast, Aristotle accords to σχῆμα, μορφή and ἕξις that which constitutes what the thing is. Thus his contention with Plato about naming.

It seems a plausible conjecture that Aristotle's use of 'σχῆμα' here is an exploratory one, to counteract Plato's claims in *Timaeus* 50a, b. He seems to be working toward a treatment of shapes, forms, states, as determinate wholes which constitute a unit of existence. His treatment of primary being in the *Categories* was

[29] Here, the conclusion is interestingly different in the two versions. The β version concludes, 'it is evident that alteration occurs only in perceptible qualities'. The argument is also different: 'that from which come the form and the shape and what has come to be is not referred to by the same name as the shapes that emerge from it'. The α version has 'in the case of shape and form the thing which has come to be wherein there is a shape is not referred to by means of its material'. This is a difference not noted in Wardy's list, and it is the one place where the β version takes more words. Even though they appear to be talking about the same things, there seems to be a firmer move toward a nascent hylomorphic treatment in α, propelled by Aristotle's beginning to speak of the out-of-which things are formed in terms of matter.

in terms of the logical status of a subject that could not be predicated. He gives there no treatment of the constitutional status of such logical subjects, but Plato's account clearly runs counter to treating the instantiated individual in such a way. That Aristotle speaks of σχῆμα in such a way here is a counterpoint to Plato's disclaimer. That he does so in conjunction with μορφή may remind us of the formulaic conjunction of εἶδος and μορφή in the middle books of the *Metaphysics*.

The latter formula does appear in this chapter, at 246b15, but in the α version only. On my conjecture, this is the first time it does so in the writings of Aristotle.[30] What Aristotle seems to be doing here is seeking out his own terminology that will satisfactorily counteract Plato's contentions about the constitution of individuals. His abandonment of 'σχῆμα' for 'εἶδος' is no doubt motivated by his awareness that in his own use as well as in Plato's, the former term had standardly been used for mathematical or perceptual shapes, always in an attributive sense, making it open for an interpretation as a quality, along with size and color, and thus subject to interpretation as coming to be by way of alteration.[31]

The discussion of psychological matters in VII-3 led Manuwald to associate this passage with Aristotle's treatise *On the Soul*. Indeed, Manuwald finds the dissonance between this chapter and the views expressed in II-5 of *De Anima* to be a reason for his contentions that VII-2 and VII-3 must be by a different hand from Aristotle.[32] But another thesis is close at hand. It may be more plausible to suppose that the psychological matters discussed in VII-3 have more in common with Aristotle's *Eudemus* than with his mature psychology. The ancient testimony on these matters tended to accent the contrasts between Plato and Aristotle, especially Simplicius' note that already in the *Eudemus* Aristotle was claiming that the soul is indivisible, 'that the soul is a form' (frag. 8), but modern scholars have generally noted that the psychology is more closely associatable with Plato's *Phaedo* than with Aristotle's *De Anima*. So too in *Physics* VII-3, we find treatments of 'virtues of the body' which have a platonic ring (noted by Jaeger and by Ross as a clear sign that this must be an early work), and the discriminations of the corporeal and intellectual more generally that suggest a platonic rather than hylomorphic conception. When Aristotle speaks here of the 'parts of the soul,' he speaks about the sensitive part of the soul as undergoing alteration (ἀλλοιουμένου τοῦ αἰσθητικοῦ μέρους), but about states of the intellectual part (αἱ τοῦ νοητικοῦ μέρους ἕξεις), a division reminiscent of Plato's discussions after the divided line, treating perception as becoming and intellection as being. We may find in the psychology of VII-3 some transitional suggestions of moves toward his more mature psychology, but it seems much more reasonable to associate it with that of the *Eudemus* than with that of the *De Anima*.

[30] Wardy gives the phrase the translation, 'substantial and geometrical form' with no apparent excuse.

[31] Wardy, except for the instance of 'substantial form' at 246b15, translates 'εἶδος' as 'species' throughout Book VII. It is interesting to translate it that way before the VII-3 passage, and as form afterward. This seems particularly pertinent where the locution 'ἔχει εἴδη' at 249b12 and 'εἴδη ἔχει' at b16 in VII-4 require a translation of *having* an εἶδος. In the *Categories* account, individuals do not *have* species (as a property), but rather belong to species (as members). On the other hand, in later writings, individuals do have forms, not as properties (supervenient or otherwise), but as the constitutions of their actual beings. This locution in VII-4 seems to invite this form-interpretation, and serves as a follow-up to the introduction of form-as-constitution in VII-3. Such an interpretation not only serves as a link between the uses of εἶδος in the *Categories* and those in the physical works, but it also serves as a link between VII-3 and VII-4, thus reinforcing the unity thesis (against Manuwald). It also gives us an enriched understanding of Aristotle's appropriation of one of Plato's terms for form for a contrasting conception of a unit of being.

[32] Manuwald, pp. 82; 128–32.

Whatever the interactions between Plato and Aristotle at the time may have been, the considerations of ὕλη in VII-3 are not yet themselves of a hylomorphic sort. It is only in the course of discriminating the forms from that out of which they come to be that Aristotle comes to talk about matter at all. His attribution at 246a1–5 of affections and alterations to the material, as something that undergoes change, presages his later linkage of the actual/potential distinction to the form/matter distinction. It is in his effort to counter Plato's claim that the out-of-which has the primary existential claim that Aristotle comes to the designation of the completed constituted thing in differentiation from its material composition. Indeed, the materials here in this discussion are singularly non-compositional. They are stuff of their own constitution, bronze or wax or wood, which is molded into a form to give individual existence to the resultant statue or pyramid or bed. Here, we have the beginnings of a new way of conceiving constitution which is different from Plato's compositional notions, but pursued in terms that were suggested by the position that Plato took. The hylomorphic conception is not yet present in VII-3, but it is aborning.

IV. UNMOVED MOVERS AND SELF-MOVED MOVERS

If this conceptual and historical placing of the text is correct, it gives us a perspective very different from Wardy's on puzzles about natural motion and self-motion. From this perspective, the standard account of natural motion cannot have been invented yet, at least not in its hylomorphic form.[33] In a sense, it may be seen as being teased out here for the very first time in the explorations of the conditions for motion. Two crucial points appear at the outset, even though they are expressed here in negative formulations (241b 44ff.): One is that the example at hand fails to produce a clear differentiation of the mover and the moved; the other is that understanding the motion of the whole in terms of the motion of a part does not give an account of the whole thing changing *per se* and primarily. The one gives us implicitly the requirement for distinguishing the mover from the undergoer in natural motion, and will lead ultimately to the form/matter distinction. The other leads to treating the individual as the unit that endures through change without itself changing, and thus being the substratum of change. These conditions, thus by implication, require the principles of motion from privation to fulfillment with a continuing substratum, yet to be exposed explicitly in *Physics* I.

The formula for what Wardy has taken as self-motion in the opening of VII-1 ('ἐν ἑαυτῷ μὴ ἔχει τὴν ἀρχὴν τῆς κινήσεως', entertained there by Aristotle in tandem hypotheticals of a μέν-δέ construction, where the negative option is considered first) is almost verbatim the formula for natural motion at the beginning of II-1 ('ἐν ἑαυτῷ ἀρχὴν ἔχει κινήσεως καὶ στάσεως'). This 'origin of motion within itself' in the hands of Plato was most certainly self-motion, where the soul was taken to be both the agent and the object of change in the initiation of motion. But in *Physics* II, this formula becomes clearly the basis for the famous four causes account of natural motion, in which the final, efficient and formal answers to the question 'why?' all turn out, for natural motion, to be the same (II-7). Here, in VII-1, the formula merely stands in

[33] This helps explain the peculiarities of another 'un-Aristotelean' expression in β that bothers both Ross and Wardy: 'λέγω δὲ τὸ βέλτιστον τὸ σῴζον καὶ διατιθὲν περὶ τὴν φύσιν.' ('I say the best is that which maintains and manages according to the nature of the thing.' 246b23, my translation) If we do not assume that Aristotle's philosophy of nature is already in place, we can see this as a nascent formulation of what eventually becomes his definition of happiness in his mature account of ethics. Something of this sort has already appeared in the *Protrepticus*.

tension with the principle that the agent and the object of change cannot be the same. Given this principle, the Platonic conception of self-motion can no longer be entertained, but the Aristotelean conception of natural motion has not yet come into being.

The treatment of this tension between formula and principle here in VII in terms of wholes and parts bears all of the marks of Platonic hangovers. So does consideration of mixing, in terms of sensible qualities, as a basis for becoming (VII-3). There is even one point at which the composition of the world in terms of number is seriously entertained (249b23). In the opening argument of VII-1, division into parts is treated geometrically, on analogy to segments of a line. Throughout the book, the individual as the unit of natural change can be seen as in dialectical tension with these Platonic notions of sensible composites of properties understood in mathematical terms.

In the *Categories* Aristotle asserts that parts of things (for example, limbs of organisms) are substances, and that their essence can be known definitely without reference to the whole of which they are parts (8b15ff.). Eventually, Aristotle came to the judgment that no substance has actual substances as parts, that no part of something can *actually* be something itself. In *Physics* VII, where in the last chapter he deals with the problem of shifts between the collective and distributive treatments of properties of Zeno's bushel of millet, he concludes, 'neither does any portion exist other than *potentially* in the whole bushel.' (250a24) Here, his point is to reaffirm the individual as a whole as the unit of being, and to treat the materials out of which such individuals are constituted as only potentially individual beings in their own right. This leads in to his conclusion of the whole discussion of the topic, that everything that is in motion must be moved by something, that for all types of motion, qualitative and quantitative as well as locomotion, the agent and the undergoer are not the same, but that this does not mean that one *part* moves another, nor that this can be cashed out in mathematical proportions. The agent/undergoer are not related as part/whole, part/part, or even whole/part. But the formulas of form/matter as actuality/potentiality are not yet available to Aristotle to inform these conclusions.

It behoves us to follow Lang's suggestion, and to take Aristotle at his word in his own setting of his problematics. For VII-1, he tells us that it is necessary that everything that is changed is changed by something. This requires the discrimination of source and undergoer of motion. For VII-2, he tells us that in all types of change, the source of change is together with what is changed. This requires that there is nothing intervening between the source and the undergoer. For VII-3, he tells us that every object of alteration is altered by perceptual qualities. This requires that there not be, as Plato held in the *Timaeus*, mathematical qualities, distinct from perceptual ones, which Plato took to be the source of change by composition and separation, treating the source as not together with the undergoer, and treating generation as a kind of alteration. Understood in this way, the third chapter but continues the argument of the first two about conditions of the relation of the source to the undergoer of change. In VII-4, he asks the question, Is every change comparable to every other? His explorations generate numerous follow-up questions that explore ways in which different kinds of change are largely incommensurate. In VII-5, he explores proportionalities of degree of change, time of change, and power of change, relative to commensurabilities within each of the several kinds of change. This makes on Aristotle's own terms a coherent and unified treatise on change within the confines of his own early reflections, without any projection to other projects, and without any particular focus on either self-movers or unmoved movers.

On this reading of the text, then, the opening argument is not a gambit, but is calculated to show the discrimination of the agent from the undergoer. On this reading, self-movers are denied, and unmoved movers not implied. Self-movers are denied in the sense that the mover and the moved cannot be one and the same. This, then, is implicit in the argumentation throughout the book, as Aristotle wrestles with Platonic presuppositions. Nowhere in the text is a cosmic unmoved mover mentioned, or even suggested. That handmaiden role of VII for VIII is a fabrication of the tradition which failed to see the links to Plato's discussions in the *Timaeus*, and needed a place for this early effort in Aristotle's own physical work. Where Wardy saw the argument for the chain of change leading to the need for a cosmic unmoved mover, I take the more proximate need to be a more proximate unmoved mover, the agent that does not undergo change, except incidently, the first mover in the natural motion of the individual, that which answers to the question 'Why?' in terms of source, definition and end, the constitution of that physical individual itself. This need is not so much implied by the text as it is called for by the conceptual conditions set in the text. It is a project yet to be worked out in the development of a hylomorphic account of natural motion in *Physics* II. The whole project of working it out must stand in between the writing of Book VII and the writing of Book VIII of the *Physics*.

University of Kentucky THOMAS M. OLSHEWSKY