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NOTES ON BOOKS

ETA AND THETA

OF

ARISTOTLE'S METAPHYSICS

being the record

by

MYLES BURNYEAT and others

of a seminar held in London, 1979-1982

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PREFACE

This monograph is a sequel to Notes on Zeta, published in 1979 by the Oxford Philosophy sub-Faculty. The London Group, started by G.E.L. Owen in 1976, and described by Christopher Kirwan in the preface to Notes on Zeta, has continued its discussions of the text of Aristotle's Metaphysics in the Institute of Classical Studies in Gordon Square, and we were encouraged, by reviewers of Notes on Zeta among others, to publish the record of our discussions of Books Eta and Theta.

The form in which the material is presented is much the same as before. No major revisions have been made; but I have rearranged some of the material so as to bring together all the discussions of a given passage of the text (and accordingly deleted references to the dates on which the sessions occurred), and tried to achieve some consistency of presentation; but some inconsistencies remain - for example in the transliteration of Greek words.

The majority of the minutes of sessions are the work of Myles Burnyeat, and a substantial number of others are by Bob Sharples; others were recorded by Lesley Brown and Alan Lacey. Apart from those persons, the meetings were attended fairly regularly by Julia Annas, Bob Heinaman, Gerald Hughes, Christopher Kirwan, Jonathan Lear, Geoffrey Lloyd, Malcolm Scholfield, Richard Sorabji, Julius Tomin, Kathleen Wilkes, and Michael Woods; and most of them were presided over by Gwilym Owen.

A focus to our discussions was given by some characteristically incisive and challenging Introductory Notes on individual chapters circulated or tabled by Gwilym Owen. These have been included in this Monograph in the appropriate place, as have been contributions by Bob Heinaman, Richard Sorabji and Bob Sharples. There is also included a paper read to one session by Sarah Waterlow, though, of course, the full development of her ideas on the subject of the paper can now be found in her Passage and Possibility (Oxford, 1982).

The meetings of the Group that discussed these two books of the Metaphysics took place between May 1979 and November 1982. Thus, our discussions of Book Theta were almost complete when Gwilym Owen died in July 1982. We should like to dedicate this Monograph to his memory. The debt to him, as the person who established the London Group and presided over it for seven years is only one of many that we, like so many other Aristotelian scholars, owe to him.

May 1984

MICHAEL WOODS

ABBREVIATIONS

The works of Aristotle are sometimes referred to by the following abbreviations:

An. Post. or A. PO.	Posterior Analytics
An. Prior	Prior Analytics
Cat.	Categories
De Gen. An. or GA	De Generatione Animalium
De Gen. et Corr. or G&C	De Generatione et Corruptione
De Int.	De Interpretatione
DMA	De Motu Animalium
De Mem.	De Memoria
E.E.	Eudemian Ethics
E.N.	Nicomachean Ethics
Met.	Metaphysics
Meteor.	Meteorologica
PA	De Partibus Animalium
Parv. Nat.	Parva Naturalia
Phys.	Physics
Rhet.	Rhetoric
Soph. El. or SE	De Sophisticis Elenchis
Top.	Topics

Capital Greek letters refer to books of the Metaphysics unless otherwise specified.

Unprefixed page numbers, as in '1019a 10' refer to the Metaphysics.

Other references:

Ackrill	Aristotle's Categories and De-Interpretatione, translated with notes by J.L. Ackrill, Oxford, 1963.
Apostle	Aristotle's Metaphysics, translated with commentaries by Hippocrates G. Apostle, Indiana, 1966.
Bonitz	Index Aristotelicus, H. Bonitz, Berlin 1870. or Aristotelis Metaphysica, H. Bonitz, Bonn 1848-9.

D.K.	Fragmente der Vorsokratiker, ed. H. Diels and W. Kranz, Berlin, 1903.
Jaeger	Aristotelis Metaphysica, W. Jaeger, Oxford Classical Texts, 1957.
Kirwan	Aristotle, <u>Metaphysics</u> translated with notes by Christopher Kirwan, Oxford 1970.
Oxford translation	Volume VIII (Metaphysica, translated W.D. Ross) in The Works of Aristotle translated into English, Oxford 1928.
Ps. Alexander	Commentary on Z (in fact by a later hand) in Alexander of Aphrodisias, In Aristotelis Metaphysica Commentaria, ed. M. Hayduck, Berlin 1891.
Reale	Aristotelis, la Metafisica, traduzione, introduzione e commento, Giovanni Reale, Loffredo 1968.
Ross	Aristotle's Metaphysics, text and commentary, W.D. Ross, Oxford 1924.

The convention has usually been followed of writing mentioned Greek words without inverted commas.

CHAPTER I

1042a 3-24 The first sentence as placed strongly suggests we are to have a summary of Z, but the next jolts our expectations. Where was it εἰρηται that the object of enquiry is the causes and principles and elements of substance? Not Z1 (pace Ross). Not E1 (Apostle), which seeks principles and causes of τῶν ὄντων as including not just substances but everything. Γ 1-2 (cf. 1003b 18)? A 1-2 fits better still, offering several parallels to what is to come in H1.

Further difficulties: (1) 1042a 6-10 goes against Z16 on parts and the elements ('agreed by all' might mean 'agreed by all but the speaker' but 1042a 24 resumes talk of agreed substances as if the list had not contained controversial items). (2) It seems remarkably bland to set τί ἦν εἶναι and ὑποκειμενον side by side as cases of substance which are established by argument / which are arrived at by consideration of what people will say under dialectical pressure. It is going back to where we started out at the beginning of Z3, before the hard work of Z was done. Still worse (3) to conjoin these with genus and universal. If the latter also are cases of substance established by argument (ἄλλωφ, it is not by Ar's arguments in Z, nor even by his opponents' arguments in Z. For these do not urge that genus is more substance than εἶδος, universal more than particular (1038b 7 is the nearest parallel but not good enough). You really have to go back to B for that line of argument. [It was thought possible to take καθόλου = γένος, τῶν καθ'ἕκαστα = εἰδῶν so that 14-15 advance just one case of substance, not two. If, however, two cases are intended, there is a problem as to how a single argument can yield both: e.g. definability selects universal over particular, plus Forms (1. 16), but not genus over εἶδος. Further, the two case reading would break with the narrower use of καθόλου as found in Z13.] More generally, (4) nothing is said to recall the challenge to ὑποκειμενον as substance (27-8 blandly accepts ὅλη with a justification in terms of the actual/potential distinction to which again nothing in Z corresponds). Nothing recalls Z 7-9. The hard work on essence has disappeared from memory. The conclusion of Z17 has gone for naught.

But now, having got to the point of being ready to consider that 1042a 3-24 may not be a summary of Z (we even tried, without plausible success, to make 1042a 3-4 look ahead rather than back), one meets the unmistakable backreferences $\xi\omega\rho\iota\sigma\tau\alpha\iota$ (l. 18), $\kappa\epsilon\rho\iota \mu\acute{\epsilon}\rho\omicron\upsilon\varsigma \tau\eta\nu \{\delta\epsilon\tau\nu$ (l. 20). The second is especially telling because nowhere else in the corpus is there anything like the discussion in Z10-11. Again, Z1-2, denying that universal or genus is substance, fits Z13.

So what we seem to have is (a) a summary of Z which (b) is not the sort of summary that a careful reader of Z would expect. Possible conclusions: (1) the summary is an editor's connecting work (Andronicus is known to have indulged in such). (2) There was a proto-Z without e.g. the critique of $\delta\pi\omicron\kappa\epsilon\{\mu\epsilon\nu\omicron\nu$, which adhered more closely than our Z to the 'keep all candidates but universal in play' line which predominates in H1 (cp. the way Z4 starts as if essence was merely the next candidate on a list of equals, without recognition of Z3's elimination of $\delta\pi\omicron\kappa\epsilon\{\mu\epsilon\nu\omicron\nu/\{\delta\lambda\eta$). Problem: what is then left for proto-Z to contain? (3) Proto-Z = H: the editor got H and Z in the wrong order, put the hard work before the soft, and spliced in the patchwork connection. (4) Z was essentially designed to remove onesided overemphasizing of various candidates for substance, and that done Ar leads off again on a positive note, not so much summarizing Z as reformulating the position he wants to start from after Z.

Note that some of these suggestions would have the consequence that 1042a 3-24 is no longer available as evidence for the 'be fair to all candidates' interpretation of Z.

1042a 31-b 8 The argument is: $\{\delta\lambda\eta$ is $\delta\omega\sigma\{\alpha$ because it is $\delta\pi\omicron\kappa\epsilon\{\mu\epsilon\nu\omicron\nu$ as shown by a Phys. I type examination of change. (Phys. I type because $\delta\lambda\lambda\omicron\omega\iota\sigma\iota\varsigma$ is the model, not Ar's alternative model of motion, which concentrates on the continuity of $\chi\acute{\iota}\nu\eta\eta\iota\varsigma$ and is free of the existential worries pressed by Elea.) Note that $\delta\pi\omicron\kappa\epsilon\{\mu\epsilon\nu\omicron\nu \omega\varsigma \kappa\alpha\tau\acute{\alpha} \sigma\tau\acute{\epsilon}\rho\eta\mu\epsilon\nu$ is not redundant: the subject in question is not the bronze as such but the bronze as unshaped. $\nu\{\delta\nu$ - $\kappa\acute{\alpha}\lambda\tau\iota\nu$ in 1042b 2-3 switch their previous roles.

The thesis at 1042 b 3-4 is not that substantial change is presup-

posed by the others, which would contradict 5-6, but that it entails the others, i.e. any substance which comes to be is liable to the other 3 types of change. Surprisingly perhaps, this thesis looked to be true.

Attention was called to M 1076a 8-10, where Ar says that the substance of perceptible things has been explained in two stages: matter in the Physics, substance as actuality later ($\{\delta\sigma\tau\epsilon\rho\omicron\nu$). Rose ad loc. refers later to ZH θ , but while a concern with substance as actuality is the mark of H, it is conspicuously not a mark of Z. On the other hand, M1 fits well as looking back to H1 (which itself refers forward to M at 1042a 22-3), while H1 in turn looks back to Phys. (1042b 8). Could there have been at some time a course which went from (some of) Phys. via H ($\{\theta$) to M? The difficulty we had in relating H1 to Z would then be due to Z having been grafted on to H, with the help of the one bit of decent Z-summary provided in H1, viz. 1042a 17-22. (Further evidence that H1 is patched together might be seen in the fact that within the space of a few lines we are in effect twice (a 11-12, 23-4) given the information that some people hold that Forms and mathematical are substances.) The objection that H3 1043b 16-18 refers back to Z7-9 was met with the reply (a) that the reference occurs in a passage usually thought to be highly parenthetical, (b) that Z 7-9 are anyway to be regarded as having been pressed into Z from another context (see Notes on Zeta p.54). The question was also raised whether the fact that 'substance as actuality' is not part of the working vocabulary of Z would prevent Ar using it to refer to his discussions in Z.

The suggestion was noted rather than accepted, but it seemed to raise interesting questions about how an Aristotelian 'course' should be conceived. For the more patching together of material we find, the stronger the presumption that Ar is his own tailor.

1042b 5 $\delta\nu\sigma\{\tau\nu$: what other change is such that $\gamma\acute{\epsilon}\nu\epsilon\sigma\iota\varsigma/\phi\theta\omicron\rho\acute{\alpha}$ does not follow it? None in Ar's scheme of things, but the rarefaction and condensation of Anaximenes' air would serve.

b 7-8 The reference to Phys. V. 1 may be editorial, but perhaps a

linking to the Phys. might alleviate some of the problems of linking H1 to Z.

CHAPTER II

1042b 9-25 The long list of differentiae at 15 ff. is structured as follows: (a) συνθέσει τῆς ὀλῆς, under which are subsumed κρᾶσει (though κρᾶσις usually contrasts with σύνθεσις - see Ross' note), δέσμῳ ... κλειροσι τοῦτων (concluding the subsection) (b) θέσει, (c) χρόνῳ, (d) τόπῳ, (e) the last section on κᾶθη 21-5 summed up by ὄλωσ ὑπεροχῆ / ἔλλειψει, which last therefore refers to the note and the less (rather than excess defect) in qualities (cf. differentiation by the more and the less in Ar's biology).

This open-ended list compares with Democritus' three geometrical differentiae (unlike Plutarch, Ar makes no mention of the weight of atoms), as illustrated by the letters of the alphabet in Met. A4. These distinguish kinds of atom and atomic arrangements, so only indirectly microscopic types of thing, but this would be entirely relevant to Ar's discussion if he is concerned with something closer to real than to nominal (linguistic) definition. Now, is it part of the ordinary speaker's notion of a book that it is constituted by gluing papyrus sheets to one another to make a roll? If not, a more theoretical type of definition is indeed to the point. Democritus can tell you of the atomic constitution which makes stone, or which makes something soft enough to eat, but his story cannot differentiate between threshold and lintel, breakfast and dinner, nor presumably between other, scientifically more significant, examples.

1042b 25-1043a 1 Is οὐτό in 27 an objection to the account offered by Owen in 'Aristotle on the Snares of Ontology', to the effect that the passage is giving an explanation of existence claims for specimen singular subjects (a particular threshold, etc.)? It is an objection if, οὐδός being masculine, οὐτό introduces a different subject, viz. the ὄλη. But οὐτό can pick up a masculine subject, and if Ar was

analyzing what it means to say of a stone that it is a threshold, of some water that it is ice, etc., he would not need a different in each case ('Snares' p. 81).

Owen's story requires not only singular subjects but also a tensed ἔστι, to avoid the charge that the analysis makes 'ἔστι' tautological (for if 'The ice on the pond is no longer solidified' is not self-contradictory, 'The ice on the pond is [now] solidified' is not a tautological analyzans for 'The ice on the pond exists'). Some qualms were felt about Ar giving no explicit indications either of his subjects' singularity or of his relying on the present tense. However, the perfect tense κεκυνῶσθαι, etc., goes some way to ease both difficulties. Ar is generalizing over singular statements such as 'The ice on the pond exists', not analyzing the general statement 'Some ice exists'. Thus ἔκαστον at 1043a 3 is specimen particulars, not species. At the generalizing level there remains the problem that 'no ice exists' should be contingent, while 'No ice is ice' would appear to be self-contradictory in a logic which has 'All A is A' as a theorem. But NB it was a main thesis of 'Snares' that in the present context neither 'The ice on the pond exists' nor the generalization 'Ice exists' is to be rendered, tenselessly, by the existential quantifier.

1043a 2-7 These lines encapsulate the difficulties of the chapter, difficulties which come to a head when one inquires into the reference of ἔν τοῦτοις (a 3), τοῦτων (a 3), οὐδὲν τοῦτων (a 4).

Ross translated: 'We must seek in these differentiae (ἐν τοῦτοις) what is the cause of the being of each of these things (τοῦτων = threshold, etc.). Now none of these differentiae (οὐδὲν τοῦτων is substance'. In the end we preferred this to the alternative of trying to make all three references to be to the threshold and other examples of things differentiated by the differentiae. For on the latter reading οὐσα (a 4) means substance in the Cat. sense of primary substance, and it is hard then to make sense of συνδυναζόμενον or τὸ ἀνάλογον ἐν ἐκδοσῳ.

The attempt to find an alternative reading to Ross' had been motivated by a worry about its being implausible to have Ar recommend that we look for substance ὡς ἐνέργεια ἐν τοῦτοις = among the type of dif-

ferentiae listed earlier. What chance has even a tarted-up version of Democritus of explaining real Aristotelian substances (living organic things), not merely artefacts and such things as the ice on the pond? (Note that at 1042b 31 hand and foot, which but for their incompleteness would be proper substances, only get in on an abstract promise of 'other differentiae'.) What would it take to redo the argument of 1042b 11-43a 1 in terms of proper substances? For Ar to turn round in a 4 and say that οὐδὲν τούτων is substance only seemed to make matters worse. What, in that case, is the point of 1042b 11-43a 1, which must appear something of a digression if all it leads to is a lame admission that we're still a good way off our goal of discovering the οὐσία ὡς ἐνέργεια of sensible things (1042b 10-11)?

These worries can be alleviated conjointly by a closer understanding of the sequence of thought in 1043a 2-7, read in accordance with the Ross translation. The limitations of the threshold type of example are already acknowledged by τούτων α 3: in these differentiae (ἐν τούτοις) seek the αἴτιον τοῦ εἶναι of these examples, although of course (α 4) finding the αἴτιον τοῦ εἶναι of these examples is not finding substance proper (for these examples are not - in the other sense of 'substance' - proper substances). Nevertheless, given that substance is αἴτια τοῦ εἶναι (α 2), finding the αἴτιον τοῦ εἶναι of these examples is finding what in them is analogous to substance (α 5). It is laying bare a structure which, when transferred to real substances, will put us on the track, not of these illustrative differentiae, but of the differentiae which are the object of our search.

The steps towards this general interpretation go as follows. 1042b 11-43a 1 is an essay on ἀρχαί τοῦ εἶναι (b 32-3), one of its chief lessons being that there are a good deal more of these than Democritus' three (on the importance of numbers, see below). This turns out to be closely relevant to the theme-question of the chapter, 'What is οὐσία ὡς ἐνέργεια of sensible things?', when we are reminded (α 2) that substance is αἴτια τοῦ εἶναι (cf. 217). Granted that (εἴπερ), it is clear from the earlier remarks (α 2) that it is to differentiae that we must look: to these differentiae for the αἴτιον τοῦ εἶναι of these examples, to others for that of other examples.

Next (α 4) the saving qualification: none of these differentiae are properly substance. οὐδὲ συνδυαζόμενον : (α) 'nor/nor even is

any coupling of them', or (b) 'nor/nor even when coupled with matter' (Ross), this latter to be understood either (i) in terms of a particular bit of matter, or (ii) in terms of a sort of matter such as gets into the definitions of 210-11 and those here at 7-11. συνδυαζόμενον does function as a technical term for τόδε ἐν τῷδε at 25 1030b 16, 31a 6, but it also applies to coupling generally. Against (a) (with or without 'even') is the consideration that it is hard to see how coupling the illustrative differentiae might be thought to improve the chance of achieving substance proper. Against (b) (i) is the consideration that it would involve switching mid-sentence to another sense of οὐσία to get in a denial that the concrete whole is οὐσία. Continuing then with (b) (ii) (which could, if necessary, bear 'nor even': water thickened does look somewhat more substantial than thickening by itself), how do we construe τὸ ἀνάλογον ἐν ἑκάστῳ (α 5)? The subject is easily got from οὐδὲν τούτων: the differentia in some specimen case. This is not substance but it is nevertheless, says Ar, what is analogous to substance (weakened by Bonitz to 'etwas analoges', tempting Jaeger to write τῆ for τὸ, but Al^c enforces τὸ - see Jaeger's apparatus).

Next (α 5-7) the analogy is spelled out (no need to be disturbed by the fact that the case of proper substances is placed first): 'as in substance that which is predicated of the matter is the actuality itself, in all other definitions also it is what most resembles full actuality'. So Ross, but how does he get the idea of approximation out of (not ὡς μάλιστα but) μάλιστα? It won't do to leave μάλιστα unsupplemented, for then Ar would be saying that you get the best cases of actuality in the examples which are not proper substances. So supplement as follows: in the other definitions <that which is predicated of the matter is> μάλιστα <the actuality itself>, i.e. as compared with other elements in the definition it is what is predicated of the matter which is most of all the actuality. In context this implies that the item in question is the closest you will get to actuality without the idea of approximation having to come into the meaning of μάλιστα.

To sum up: we won't dignify every differentia with the title of substance or actuality (the εἴπερ clause of α 2 is not convertible),

but since the differentia is the αἴτιον τοῦ εἶναι, as is shown sufficiently clearly by the threshold type of example, and since the οὐσία we are seeking, viz. οὐσία ὡς ἐνέργεια, is αἴτια τοῦ εἶναι, we must look for οὐσία ὡς ἐνέργεια in the differentia which a definition displays as predicate of the matter.

1043a 7-11 This doctrine is then exemplified in some specimen definitions, three of which (threshold, house, ice) reaffirm the relevance of 1042b 11-43a 1. That being so, methodologically no doubt the chapter is an example of Ar progressing from things γνώριμα ἡμῖν to things γνώριμα τῇ φύσει. Proper substances are what we want to understand, but the structure whereby to understand them is more accessible to us in familiar, not to say homely, examples like the threshold of our house and the ice on the road outside.

1043a 12-14 So we come to the main conclusion of the chapter. There is no one answer to the question 'What is substance as actuality?' (nor a mere three answers as Democritus supposed), but as many as the differentiae which our definitions connect with the equally various types of matter. On the variety of the types of matter, note that a 10-11 includes the high-low range of sound as matter in the definition of συμφωνία. But presumably we do not want to stop the same matter connecting with different differentiae, as e.g. a stone can become either a threshold or a lintel (1042b 19). Likewise, a given type of actuality, such as σύνθεσις or μῦξις (a 13), will admit of different realizations (cf. a 10-11: κεκρυμμένον ὄδι, μῦξις τοιαῶν). ἄλλη ἄλλης at a 12 is thus vague, but 1042b 31-6 shows Ar interested in a systematic classification of differentiae under their most general γένη.

ἄλλη ἄλλης is vague in another way again. The interpretation so far defended would not like Ar to state his conclusion in terms implying that every definition, including those of proper substances, will rely on a differentia drawn from the sensible contrarieties and modes of arrangement, etc., we have been working with. Does ἄλλο τι τῶν εἰρημένων (a 14) imply that? It need not. a 13's γάρ shows

that 13-14 serve to recap the grounds for the main conclusion of 12-13, and the grounds are indeed to be found in the preceding analysis of the illustrative examples. We can suppose that τῶν μὲν... τῶν δ'... τῶν δέ gives a summary coverage of all the illustrative examples without having to suppose that it thereby covers all the examples there are.

General points (1) All this can be said without prejudice to which side one takes on the question whether the essay on ἀρχαί τοῦ εἶναι at 1042b 11-43a 1 is about existence or the copula. We noted, however, that the shift to the notion of what something is at 7-11 need be no embarrassment to Owen's existence story. The connection between what it is for a patch of ice to exist and what sort of thing ice as such is is explicitly drawn at a 2: the οὐσία displayed in a definition of ice precisely is the αἴτια τοῦ εἶναι, what you get when you say what it is for a patch of ice to exist (so 'Snares', p. 82). This is a substantive thesis, and moreover it is a thesis that has to be understood, as Ar would understand it, with some appropriate restriction on the range of terms for which it is claimed true. For it is not the case that the definition of bachelor tells you what it is for a bachelor to exist; a bachelor does not cease to exist when he ceases to be an unmarried man.

(2) The chapter began by throwing the emphasis on the potentiality-actuality distinction, picking up on H1 1042a 27-8. If this is to be the route whereby we will make some advance on Z, or at least, more neutrally, if it is in terms of potentiality and actuality that H is to make its contribution, one might expect the distinction to do some work in H2. But does it?

We start off promisingly enough, with out thoughts focussed on the recipe for honey-water, or what you have to do to bits of papyrus to make an actual book, or such natural processes as the formation of ice. We seem to be thinking, by and large, in terms of the physical affections or operations which are needed to make matter into a determinate something. Which both makes it reasonable to start from Democritus and holds out the promise that we shall find work for the con-

cept of actuality which could not be done just as well by the notion of form or shape. But it was not clear to us, at the end of the day, that he couldn't have said it all with the matter-form distinction. The more dynamic aspect of the potentiality-actuality distinction has not - as yet - come into play.

1043a 14-26 A coda to the chapter. That there are two elements is a definition, one on the side of potentiality and the other on the side of actuality, is illustrated by the way some people emphasize one at the expense of the other when defining and others find a place for both. $\delta\iota\delta$ = which is why: it is because there are these two elements that people define as they do (cf. 19-21). The conclusion at 12-13 explains this, and is thereby confirmed.

1043a 21-2 Archytas He is not credited with a theory of definition (an early theory of definition which recognized both matter and form would surely have featured prominently in Ar's surveys of his predecessors), but with accepting certain definitions which had both elements in them. Are subsequent examples of still weather and a calm Archytan (so Ross, Commentary p. 229 and DK 47A2)? Or should we think of something more mathematical such as 'a line is twoness in length' (cf. 1043a 34), which might be represented as an improvement on the traditional Pythagorean habit of defining things by numbers alone? It is hard to believe that, if the cited definitions are his, they were of interest to him for their own sake and not for their connection with some wider thesis. ($\eta\rho\epsilon\mu\iota\alpha$ as $\sigma\theta\epsilon\iota\alpha$ (a 24) is no worse than many another Aristotelian casualness, though Ps.-Alex. took the precaution of writing $\epsilon\iota\delta\omicron\varsigma$ instead. A different sort of casualness is seen in the duplicated $\delta\tau\iota$ of 1043a 2-3 - if we leave both in, with Ross, rather than excise the second with Jaeger.)

Attention was called to DK 23A 23 (sequel in 58B 32 - cf. Burkart, Lore and Science in Ancient Pythagoreanism, 47 n. 106) where Eudemos reports that Archytas made $\tau\omicron\delta\omicron\rho\iota\sigma\tau\omicron\nu$, $\tau\omicron\delta\lambda\acute{\nu}\omega\mu\alpha\lambda\omicron\nu$, and the like $\alpha\iota\tau\iota\alpha$ $\kappa\iota\nu\eta\sigma\omega\varsigma$ which was better than Plato's identifying $\kappa\iota\nu\eta\sigma\iota\varsigma$ with

these. This might indicate Archytas' original interest in defining $\nu\eta\eta\epsilon\mu\iota\alpha$ and $\gamma\alpha\lambda\eta\eta\eta$. If calm is due to stillness and evenness (cp. $\delta\mu\omicron\lambda\delta\tau\eta\varsigma$ 1043a 24 with $\tau\omicron\delta\lambda\acute{\nu}\omega\mu\alpha\lambda\omicron\nu$ in Eudemos), then conversely unevenness or indefiniteness of shape will 'explain' motion - and the explanation of motion was a subject on which earlier Pythagoreans had had embarrassingly little to say (990a 8-12). There would not, on this suggestion, be any need for Archytas himself to have aimed at distinguishing matter and form (contra Burkart, 47), even embryonically. It would even suit Ar's context better to have a pair of theory-innocent definitions which his theory of definition can explain.

1043a 26-8 The search is over. $\kappa\omega\varsigma$ (a 27) corresponds to $\omega\varsigma$ $\psi\lambda\eta$, etc., meaning 'in how many senses/ways it exists'.

CHAPTER III

1043a 29-b 4 Ar records that an ambiguity may lurk in words like 'house' and 'line': $\sigma\eta\mu\iota\lambda\eta\iota$ (29-30) is meaning, not reference, since the evidence adduced is alternative definitions - 'A house is a shelter of bricks and stones thusly arranged' vs. 'A house is a shelter'. 'A line is two in length' vs. 'A line is two'. So far as H3 is concerned, it is a question whether in a given case this ambiguity lurks (cp. Z11 1037a 8 and the discussion in Z11 of the definition 'A line is two'), but where it does, something needs to be said about the relation between the two meanings. On the supposition (possibly counterfactual: $\epsilon\zeta\eta$ δ' $\tilde{\eta}\nu$ 36) that 'animal' is ambiguous between 'soul' and 'soul in a body', the two kinds of thing called animal are so called not in virtue of a single definition but $\omega\varsigma$ $\kappa\rho\theta\epsilon\varsigma$ $\xi\nu$. The two kinds are so called in relation to a single thing. Most of us agreed that this was best construed without importing a third thing besides the two kinds of 'animal'. Rather, one of the two definitions presupposes or makes reference to the other. Which is which?

(A) 'Soul' is included in 'soul in a body', and 1043b 3-4 might be thought to imply that the use of 'man' to mean just 'soul' is some-

thing of a rarity, or at least an addition (ἐὶ μὴ καί) to the more ordinary use of 'man' to mean the composite. So the claim could be that we can only understand 'man' as meaning just 'soul' if we understand this as secondary to and derived (by subtraction) from its use to mean 'soul in a body', which last is therefore *che êv in ôç kphç êv*.

(B) The claim that you do not understand composite 'man' = 'flesh and bones animate in a certain way' unless you understand 'animate in a certain way', so that the prior meaning of 'man' is just 'soul'. Objection: that claim is the claim that you do not understand composite 'man' unless you understand 'soul', not the claim that you do not understand composite 'man' unless you understand composite 'man'. Reply: if you must understand 'soul', that precisely shows that you must understand noncomposite 'man', though you need not of course understand it as the meaning of that word. Further problem: will not this line of thought give us, with equal validity, a third meaning of 'man' = 'flesh and bones'? Well, look at *GC* 321b 20 ff.: *φlesh and bones and each of such parts is εἰπεῖν, ὡς περ καὶ τῶν ἄλλων τῶν ἐν ἄλλῃ εἶδος ἔχόντων· καὶ γὰρ ἡ ἄλλη λέγεται καὶ τὸ εἶδος σάρκῃ ἢ ὀστούν*.

Can we decide between (A) and (B) by the independently puzzling statement at 1043a 37-b 1 that the phenomenon of ambiguity (*αἰῶτα*, 37) is in fact irrelevant to the inquiry into sensible substance? The reason given is that essence or *της* 'belongs to', which must here mean 'is identical with', form and actuality. Does that indicate (a) that because we are asking about sensiole substance we shall only be concerned with 'man' as meaning the composite? Or (b) that because we are asking about substance as actuality we shall only be concerned with 'man' as meaning form or soul? There was some inclination to warry (a) with (A), (b) with (B). No decision here.

A third possibility not considered is that what we do not need to settle for present purposes is whether 'animal' or any other word is in fact ambiguous in the manner sketched. Read 1043b 2-4 as explaining that we have a perfectly good word for the form, viz. 'soul', and 'man' for the composite, so it does not matter if on occasion 'man' is used synonymously with 'soul'. Note that 1043b 6 presupposes the composite definition of 'house' = 'shelter of bricks'.

Does Ar himself think that 'animal' is ambiguous? In Z11 1037a 7

it is 'some people' who think that Socrates is his soul and import an ambiguity into the name 'Socrates' (NB *καὶ ἡ ψυχὴ* again, I. 6). At Z10 1036a 16-17 it is Ar himself who entertains the thought that 'animal' is ambiguous, but as a hypothetical supposition (NB *καὶ*, 17 - these *καὶ*'s support (A)). The *GC* passage remains to be considered, together with this problem: on the face of it the ambiguity thesis is simply false, so why is it believed, whether by Ar or another? Or is it less a thesis actually espoused than a consequence deducible (on Aristotelian principles) from the type of Platonist definition discussed in Z11. Here, as elsewhere in the chapter, we face questions about the relation between H3 and Z10-11. Yet another reading would be that what is doubtful is which is the right definition, not whether the term is ambiguous. (But then what would be the point of 36-7?) The ambiguity thesis would commit one to the view that 'There's a man in the house' is 4-ways ambiguous - unless it can happen that a given sentential context selects one of the two meanings of the term. This possibility is interestingly exploited in a paper by M.J. Loux in *Mind*, Jan. 1979.

1043b 4-14 We approached this with some dismay, but eventually concluded that perhaps its bark was worse than its bite. Ar's general purpose seemed reasonably clear; the difficulties were those of detailed interpretation. Ar seems to make two main points: (a) Neither a *σύνθεσις* nor a *μίξις* is simply a conjunction of the ingredients concerned; when we have listed the ingredients, we have still to specify what sort of a *σύνθεσις* or *μίξις* is intended, e.g. in what ratio. (b) The *σύνθεσις* or *μίξις* must not be treated as itself an ingredient, either in the mixture which it itself is or in a sort of second-order mixture whose ingredients are the first-order mixture and the original ingredients. The point is similar to that made near the end of Z17 (1041b 11 ff.), though we did not pursue this in detail, nor ask whether it bore on the relations between Z and H.

The main questions of detail that puzzled us were these:

(i) Does *ἐκ* have the same meaning throughout the passage, or does it first mean 'consist of' (b 5) and then 'be adequately defined

in terms of (b7)? This latter view enables the γάρ clause to give a reason for the one before it. Again at b9 Ar is presumably saying not that either a threshold or a position 'consists in' the other, but that reference to position is more important for understanding threshold than reference to a threshold is for understanding position. (1041b 23, incidentally, says that something couldn't be ἐκ (= consist in?) just one thing without being identical with it.)

(2) Does ὁμοίως (b8) imply that all the cases that fail to do so for the same reason? If we are right under (1) we can presumably say yes, at any rate so far as the ensuing threshold example goes. τῶν ἄλλων presumably refers to the cases mentioned at 1042b 15 ff. (cf. 1043a 7-12). οὐδὲ δὴ introduces yet another kind of case, where a genus and differentia are brought in; but this sentence and the next need a section to themselves.

(3) b10-4 raises textual issues. Jaeger drops ἡ οὐσία at b12 (Christ dropped ἀλλ' as well, but Jaeger thinks the οὐτε clause requires ἀλλ'); he also reads οὐσίας, τοῦτο at b13 (with Bonitz), and drops οὐ at b14, with some mss.; Alexander seems to support Jaeger in the last two cases. (Jaeger's apparatus seems to attribute contradictory readings to π; though π is a conjunction of two mss., E and J, we wondered whether the first occurrence of 'π' in the apparatus was a misprint. J has οὐ unambiguously; E's position is less clear.) Ross follows Jaeger's text in his translation, but in his commentary (and in his translation as revised for the McKeon volume) he returns to the traditional text. All we could find in Jaeger's favour, apart from Alexander's support, was the awkwardness of ὅ referring back to an immediate preceding ἡ οὐσία. Alexander takes ἐξαίρουντες with τὴν ὕλην, but Ross thinks it irrelevant to bring in a reference to people who ignore the matter; we agreed, and thought that if ἐξαίρουντες referred to a new group of people, as Alexander's view suggests, it would need οὐ before it. We therefore interpreted as follows: 'nor is man animal - two-footed, but [if people should think he is, they would find that] something else is needed, if these (animal and two-footed) are matter - something which neither is nor consists of an element, but substance, which such people would be ignoring, mentioning only the matter. So if this (additional element) is responsible for

being, and this is substance, they would not be stating the substance itself'. Since Ar himself does not think of animal + two-footed as the matter, we wanted to make the sentence, from ἀλλὰ τινος onwards, counterfactual, despite the indicative δεῖ; the solution given would be not Ar's but one forced on anyone who thought man was animal + two-footed. We thought εἰ ταῦθ' ὕλη perhaps justified such an interpretation.

1043b 14-23 The ground for treating these lines as parenthetical is that ὥστε in 23 related to 4-14 (so Ross ad 23-5); but there may be questions to raise about this in due course.

The context of the passage was discussed in the light of R. Heinaman's paper 'Aristotle's Tenth Aporia'. Two main theses of that paper were taken up: (1) If the εἶδος is perishable, at least in the case of artefacts and other cases not excluded, then it is not the species but the substantial form which is referred to; for Aristotelian species are eternal. (2) If the εἶδος is perishable, it is individual, not universal (general, shareable, etc.).

There was some question, first, as to whether Ar in the present passage does actually assert the perishability of the forms of artefacts. What he asserts is that these forms are not χωρισταί and not παρὰ τὰ τινά. Heinaman argues that this means they do not survive the destruction of the composite, i.e. they are perishable. His chief grounds are (i) cp. with K2 1060b 23-8; to which it can be objected that strictly speaking that passage says only that perishability is a consequence of not being χωρισταί or παρὰ τὸ σύνολον not that the two things are one and the same; (ii) the claim that the target here could not be Platonic separation (existing apart) since after 28 (cf. esp. 1033b 20-1) and 213-16 Ar could not say it is 'not at all clear yet' (l. 19) whether there are Platonic forms of perishable things. (ii) was challenged by reference to H1, which does not regard the question of Platonism as wholly settled. One could suggest that a reference to Platonism could be quite in keeping with Ar's present agnosticism on whether forms are eternal or perishable without process of perishing. If forms are eternal, they can exist separately παρὰ τὰ τινά, as the Platonist wants, hence (contraposition) if with artefacts it is clear that they do not exist separately παρὰ τὰ τινά, in

those cases they must be perishable, not eternal (the same inference as K2). (If the ὅσα clause in 1. 20 specifies which forms cannot be χωριστά, it looks to be tautological: those forms cannot be separate which cannot exist besides the particulars. Better, therefore, to construe ὅσα not as specifying ἐνίων but as epexegetical to χωριστά: 'except that it is clear that the substance of some perishables cannot be separate, that is to say, cannot exist besides the particulars, e.g. house'.)

But the antecedent of (1) and (2) can stand as Ar's own without this passage. So what of the theses themselves?

In connection with (1) it was emphasized that the eternity of an Aristotelian species is Heraclitean rather than Platonic: one man succeeds another without any single entity enduring. Is this the kind of eternity which Ar here denies for artefacts and leaves open for other perishable things? It may be doubted, yet to doubt it is not to dispute the truth of (1) but to agree that Ar's topic is forms rather than kinds of species.

Discussion of (2) took us in two directions. First, can the opponents of individual forms find a satisfactory sense for this and other passages (e.g. Z15 1039b 20-7, A3 1070a 15-17) where forms are and are not or come to be and perish in a special way? Second, we looked at one of the key passages that have been adduced on behalf of individual forms.

As to the first, some at least of the opponents were anxious not to be stuck with defending, on Ar's behalf, a tame version of Platonism. The Aristotelian principle 'A universal exists if something instantiates it' should not be taken to assert a mysterious biconditional connection between two indistinguishable states of affairs, the existence of the universal and its instantiation. The existence of a universal just is its instantiation, it exists just insofar as it is instantiated somewhere. From this point of view its ceasing to be instantiated in a particular thing is its ceasing to exist there - though it may, of course, still exist as instantiated somewhere else. The opponents of individual forms should not be required to explain how Ar can both propound the above principle for the existence of universals and, compatibly with that, say that (universal) forms are and are not - as though

there were two separate tasks difficult to reconcile. Talk of the being and not being of forms is part and parcel with Ar's dedication to the proposition that universals do not exist except as realized in this particular individual or that. Consequently, the perishability of the forms of perishable things is not a difficulty for those who would view these forms as universal (in that they are predicable of multiple parcels of matter), but belongs with a committed Aristotelian understanding of that view. If the instance is perishable, that is the end of that realization of the form, and the form is nothing κατά its realizations here and there. This, of course, is compatible with Heraclitean eternity, but perhaps it will be thought an objection to the above that it allows for eternity and being/not being to hold of the same thing.

As to the second, A5 1071a 27-29 is a favourable text for individual forms: 'The causes of different individuals [sc. of the same species] are different, ἢ τε σὴ ἄλλη καὶ τὸ εἶδος καὶ τὸ κινῆσθαι καὶ ἡ ἐμῆ, while in their universal definition they are the same'. Opponents must press hard the objection that you and I may be siblings from the same κινῆσθαι and insist that Ar does not actually assert that each of the various causes (as opposed to the total causal story) is different, so as to leave themselves room to insinuate that the form may be the same so long as there is a different matter (note the feminine σὴ, ἐμῆ ± different κινῆσθαι to supply the required causal difference.

Alternatively, talk of your form and mine may be admitted on condition that it is construed as 'the form of you as a composite being', i.e. as identificationally posterior to the composite, not as prior to and explanatory of it. To the objection that form as universal is not needed to explain coming to be, since another concrete individual is all that is required, the reply was made that the same argument would apply to form as individual.

Another passage considered was A3 1070a 13-17, but we deadlocked on whether the items such as 'house without matter', which are and are not, were to be taken as individual or as universal. So no help here on the preceding statement that the form of house does not exist κατά the composite.

1043b 23-8: Antisthenes In 23-32 only 23-8 pertain to Antisthenes. 28-32, which was once commonly used to father the Theaetetus Dream theory on to Ant., is Aristotelian in language and content and its allowing definition for composites could not be the consequence (ὥστ', 28) of an ἀπορία about defining anything. This was accepted from Burnyeat's paper in Phronesis 1970, together with (i) a disinclination to think it necessary to follow Jaeger's emending of 26-7 [καί]... <ὀρ(ισ)σθαι δ' οὐ>, (ii) Ross' translation for καιρόν, 'timeliness' as against 'point' or 'plausibility', so that Ar should not himself endorse the ἀπορία or the grounds for it. Less approved was Burnyeat's understanding of ποῖον μὲν τί κτλ. as part of the ἀπορία (deriving from the Socratic τί-ποῖον contrast), not a concession of some sort. The objection here was that 'Silver is like tin' seems a striking example which should have some part to play, whereas on Burnyeat's reading any non-definitional descriptive statement would serve. 'Silver is like tin' does not say τί ἔστι, but unlike, say, 'Silver is found plentifully in Cyprus', it could be an (imperfect) instrument for getting someone to attach the name 'silver' to the right thing (note διδάξαι, 27). In this sense it might be the nearest one can get to definition.

The next question was how 1043b 23-8 fits with Δ29 1024b 32-4, which specifically names Ant. where H3 has the more diffuse reference 'the Antisthenians and similarly uneducated persons'. Perhaps Ant. was enough of a paradox-monger for there to be no call to make a consistent position out of the two passages, but if one does try, two problems arise at once: (i) Δ29 can be read as saying that (so far from definition being impossible) only a thing's proper definition can be said of it, nothing else; (ii) even if λόγος is broader than definition, only one λόγος is admitted for each thing, so: in the silver case, either that λόγος is 'It is like tin', which would mean excluding all other comparisons, or it is not, which would mean that Δ29 disallows the very thing that H3 allows. Any solution must be such as to explain further, why in consequence of his thesis Ant. was committed to the impossibility of contradicting and practically to the impossibility of falsehood (1024b 33-4). The suggested solutions we discussed can be distinguished by what they take to be the unit in ἔν ἑφ' ἐνόος (1024b 33).

(A) The units are e.g. silver, Socrates, 8: roughly, subjects for description, about which the thesis is that only one description applies. This fits Ant. into the context in Δ29, where 'double' is 2's own λόγος, hence something else's λόγος when you say '8 is double' (b 35-a 1). Thus understood, Ant. allows '2 is double' and rejects '8 is double'. The impossibility of ἀντιλέγειν would then follow either because 'not double' is not the λόγος of 2 (would negative descriptions be the λόγος of anything?) or because e.g. 'treble' is the λόγος of 3, not 2, so that 'not double'/'treble' cannot be meaningfully applied to 2. And if not meaningfully, nor falsely. The trouble is that this coherence with the rest of Δ29 spells incoherence with H3. For 'Silver is silverish' (or something of the sort) should be an acceptable λόγος of silver by (A) and 'Silver is like tin' should fail to say anything about silver.

(B) The units are states of affairs (cf. αὐτὸ κεκονθός, 30), e.g. silver's being like tin. ἀντιλέγειν would involve saying silver is not like tin, which fails to describe that state of affairs at all, even falsely. This makes the remarks about Ant. somewhat digressive to Δ29, cued by the thought (31-2, where perhaps the parentheses should be removed) that a false λόγος is not the λόγος of anything. Ar's point is that if you take that thought the wrong way, Ant's οἰκετός λόγος thesis results. Consistency between Δ29 and H3 is achieved because while Δ29 excludes all false statements, leaving true ones intact, H3 excludes a subclass of the latter, viz. definitional truths. One objection is that (B) allows an acceptable οἰκετός λόγος to be as long as you wish, which was thought not to be a natural reading of the rubric ἐν ἑφ' ἐνόος.

(C) The units are essences (cf. 1024b 29) and the thesis is that there is no room for ἀντιλέγειν between rival definitions, nor such a thing as a false definition. This is outright inconsistent with H3, fits less well than (A) with Δ29, and does not yield the general denial of ἀντιλέγειν and falsehood indicated *prima facie* in the text.

Note that it would be compatible with (A), supposing (A) can cope with H3 at all (see above), to take λόγον μακρόν (1043b 26) as any λόγος longer than one word, rather than in the specialized proverbial meaning (cf. Ross ad 1091a 7, Burnyeat p. 113, 115) 'evasive verbiage such as slaves tell to cover up failure to do the job assigned to them'.

1043b 28-32 28's ὥστ' has to be understood in conjunction with the ὥστε of 23 and its reference to 4-14. Burnyeat's account was accepted: the trick is to relate ὥστ' to the preceding sentence's main clause ἔχει τινὰ καιρὸν, not to the subordinate ἀπορία, and to see that the εἴπερ clause 30-3 (which shares the same consequent with ὥστ' for which reason Burnyeat punctuates with a comma rather than a colon after ἦ in 30) clarifies the connection. Thus: the moral of 4-14 is that we must recognize a certain complexity or predicative structure in a definiens. Just this complexity or predicative structure is what puzzles the Antisthenians and makes them say a definition cannot achieve its goal. Their ἀπορία is timely as focussing the very structure Ar wishes to affirm. The consequence - the consequence, that is (εἴπερ κτλ., 30-3), of this predicative structure in which one element stands to another as matter to form - is that only complex items can be defined.

If this is right, it confirms that 14-23 is parenthetical. The only difficulty is that 14-23 is mentioned in the terminal summary to the chapter, 1044a 11-14. But the summary (puzzlingly enough) refers only to 14-23 and to 1043b 32ff., not to 1043b 4-14, 23-32, so it remains that 14-23 is parenthetical to the chunk of the text into which it is sandwiched.

1043b 30 What are the πρώτα (cf. ἀδιαίρετα, 35)? Perhaps all we can say (as with Wittgenstein) is that there must be some. Definition comes to an end somewhere (and not usually with a category) - cf. 35-6. Of this we can be certain even if we cannot give examples of indefinables.

1043b 32-44a 11 The points of analogy between οὐσίαι and ἀριθμοί are: (1) Both are divisible until you come to indivisibles; (2) Neither will suffer subtraction or addition without loss of identity; (3) Both stand in need of a principle of unity, something in virtue of which it is ἐν ἑκ πολλῶν (text of 1044a 3 hard but sense clear); (4) Neither admit of more/less. We are speaking of ἡ κατὰ τὸ εἶδος οὐσία

(10-1) or τὸ τὲ ἦν εἶναι (44a 1): in what sense of ἀριθμός is this being compared to ἀριθμός? Jaeger worries about the text of 34, Ross p. 231 mistranslates 33-4 as 'If numbers are substances, it is in this way and not as assemblages of units'. Keep μονάδων and translate: 'If substances are in a certain way ἀριθμοί, it is in this way, viz. as (numbered or numerable) complexes of elements, not as some say as collections of abstract units. ἀριθμοί μονάδων = ἀριθμοί μοναδικοί are what we call numbers, and this (pace the Platonists) substance/essence is not (cf. 8). But substance/essence is, as has been seen (φανερὸν and οὕτως referring back) in a certain way a number of elements which is one common use of the Greek ἀριθμός (cp. ἀριθμός τις in 34 with the same phrase famously in the definition of time, Phys. 219b 5). So we are not to ask 'Is one of the substances, for instance, 8?', nor to seek analogies between substance/essence and e.g. 8, but to appreciate that one may, with some justice, say that οὐσία is ἀριθμός - provided one takes it in the right sense of ἀριθμός, not in the Platonists' sense of '(abstract) number'. For the preceding discussion has made it clear why (φανερὸν δὲ καὶ διότι 32-3) substance is in a certain way a number of elements.

We further discussed Burnyeat's contention that Aristotle is here maintaining that substance is a numbered collection of elements, rather than that by which we number. Against this it was argued that Aristotle is concerned to draw an analogy between substance and number as that by which we number.

(i) Of the four analogies he states (ibid. p. 4), (3), that a principle of unity is required (1044a 1-9) is something which he asserts elsewhere of number, not in the sense of a numbered collection (Metaph. A 9 992a 1; M 7 1082a 15 ff., 20 ff.). We agreed that we found it paradoxical that he should assert this even of number-by-which-we-number (see below); but he apparently did, and, it was maintained, there is no evidence that he asserted it of numbered collections (where also we found it difficult to see in what way a principle of unity could plausibly be required).

(ii) Analogies (2) (1043b 36-1044a 1) and (4) (1044a 9-11) are applied elsewhere to number rather than to numbered collections, at Metaph. Δ27 1024a 12 ff. and Cat. 6a 21 ff., respectively. It was agreed that

this point was weaker, in that these analogies would apply also to numbered collections (and indeed the point was raised: if the threes of which one is no more three than another (Cat. 6a 22) are not numbered collections, what are they?). But

(iii) in the context of the discussion in H3 as a whole, the point that a principle of unity is needed for substances is of more importance than the distinction between numbers and numbered collections. The important point about the analogy between substances and numbers is not the number of elements in a given essence, but the fact that there is something that unifies them.

Difficulties were raised against this interpretation. It was felt awkward that the first analogy (1043b 34-36) applies more easily to numbered collections than to numbers. The analogies between substance and number were felt to be rather weak to justify the assertion that substances are numbers in 1043b 33-34, even though this is qualified by πως and τις. εἴπερ in 33 was not felt to express much of a qualification, especially as it is followed up by the non-hypothetical statement in 34.

1043b 32 f. it was argued that φανερὸν in 32 and οὕτως in 33 referred forward rather than back, 1044a 7 being advanced as a parallel in the case of the latter.

1044a 2-9 The sense given by the various corrections in a 3 is confirmed by 1044a 7. It would in any case be odd to say that the number seven (e.g.) was a principle of unity among the things it numbered.

The Platonists referred to in 1043b 34 have a different understanding of number, and so can't, in Aristotle's view, meet his demand for a principle of unity (cf. M7 1082a 20 ff.); but does he himself have an answer to this demand, and does he have to have an answer of his own in order to make the objection against the Platonists? H6 1045a 7f. refers to the problem again, but the discussion that follows is concerned with substances rather than numbers, and it was suggested that καὶ περὶ τοὺς ἀριθμοὺς might even be a gloss inspired by the

present passage. At M7 1082a 15ff. the only possible answers the Platonists are allowed are μέθεξις, ἀρχή, μέξις and θέσις, none of which seems much help. In the case of numbered groups, the principle of unity could be derived from the operation of counting; Aristotle may hold that, as time could not exist if there were no souls, so other numbered things could not exist (as numbered things) unless there were souls that could do the counting (whether they ever actually count this particular set of numbered things or not). But this is no help where a principle of unity is needed for numbers themselves, as the act of counting presupposes the number-series. Is the number seven a unity in virtue of itself or in virtue of something else? The first of these alternatives is not paradoxical, for Aristotelian forms, too, are not unities in virtue of anything outside themselves. It was pointed out that, since numbers are, in any case, abstractions, the question what unifies them could not be discussed in the same terms as would apply to concrete things.

1044a 9-11 The composite substance may admit of the more and less, although substance κατὰ τὸ εἶδος cannot. This appears to contradict Cat. 3b 33 ff., which simply asserts that substance does not admit of more and less. The suggestion was made that the present passage might be explained by the doctrine of the imperfect mastering of matter by form (de Gen. An. 4. 3 767b 8ff.); is the suggestion that woman is no less ἄνθρωπος in form than man is, though less so as a σύνολον. It was objected that the distinction between male and female scarcely constitutes a scale; but μᾶλλον καὶ ἥττον need not imply that. For Aristotle (loc. cit.) a lesser degree still of mastery of matter by form produces what is animal, but not human at all. [Alex. Aphr. man-tissa 168 f. argues 'that male and female do not differ in εἶδος - which means species, but also form, since it is contrasted with accidental differences due to matter, 168. 33 f.] Alternatively, it was suggested that εἴπερ should not be pressed, and that this clause was a passing reference to some minor objection to the doctrine of Cat. 3b 33 ff., an objection which Aristotle felt need not be spelled out here.